COURSE CURRICULUM FOR THIRD PROFESSIONAL B.S.M.S
(PRESCRIBED BY NCISM)

Aruvai including Kan, Kathu, Mookku, Thondai, Pal and Thol Maruthuvam
(Surgery including Ophthalmology, ENT, Dentistry and Dermatology)

(SUBJECT CODE : SIDUG-AM)

(Applicable from 2021-22 batch, from the academic year 2024-25 onwards for 5 batches or until further notification by NCISM, whichever is earlier)

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BOARD OF UNANI, SIDDHA AND SOWA-RIGPA
NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE
NEW DELHI-110026

NCISM

III Professional SIDDHA MARUTHUVA ARIGNAR
(Bachelor of Siddha Medicine and Surgery (B.S.M.S))
Subject Code : SIDUG-AM

Aruvai including Kan, Kathu, Mookku, Thondai, Pal and Thol Maruthuvam
(Surgery including Ophthalmology, ENT, Dentistry and Dermatology)

Summary

Total number of Teaching hours: 410			
Lecture (LH) - Theory		**140**	**140(LH)**
Paper I	70		
Paper II	70		
Non-Lecture (NLHT)		**80**	**270(NLH)**
Paper I	40		
Paper II	40		
Non-Lecture (NLHP)		**190**	
Paper I	95		
Paper II	95		

Examination (Papers & Mark Distribution)					
Item	**Theory Component Marks**	**Practical Component Marks**			
		Practical	**Viva**	**Elective**	**IA**
Paper I	100	100	20	10 (Set-TC)*	20
Paper II	100				
Sub-Total	200	150			
Total marks	350				

Important Note :- The User Manual III B.S.M.S is a valuable resource that provides comprehensive details about the curriculum file. It will help you understand and implement the curriculum. Please read the User Manual III before reading this curriculum file. The curriculum file has been thoroughly reviewed and verified for accuracy. However, if you find any discrepancies, please note that the contents related to the MSE should be considered authentic. In case of difficulty and questions regarding curriculum write to **syllabus24sid@ncismindia.org**

PREFACE

Surgical management is essential for certain clinical conditions that cannot be effectively treated through medical interventions alone. Recognizing this need, Aruvai Maruthuvam (Siddha Surgery) is an integral part of the Siddha medical curriculum, ensuring that students develop the necessary skills to diagnose and manage surgical conditions accurately. The subject is rooted in classical Siddha texts, such as Agathiyar Nayana Vithi, Nagamuni Nayana Vithi, Agathiyar Rana Nool, Yugimuni Vaidhya Chinthamani, Theran Tharu, and Theran Karisal, which provide a detailed understanding of traditional surgical practices. With advancements in science and technology, Siddha medicos must not only master traditional surgical knowledge but also integrate modern surgical techniques and diagnostic methods. To facilitate this, each Siddha teaching hospital is equipped with an Outpatient Department (OPD) for Siddha surgery, Inpatient facilities, fully functional Operation Theatres (OTs), and experimental surgical labs to provide hands-on training.

Under the Competency-Based Dynamic Curriculum, Siddha classical surgical principles are integrated with modern advancements in surgery, such as radiation principles, ethics in surgery, organ donation guidelines, and advanced diagnostic techniques. The teaching methodology has been enhanced with expanded demonstration hours, interactive activities, and clinical discussions. Students actively participate in group discussions, seminars, presentations, and role-playing sessions to reinforce their clinical reasoning and surgical skills. The syllabus also extends beyond general surgery, covering ophthalmology (Kan Noikal), ENT, dermatology (Thol Noikal), and dental diseases (Pal Noikal), while also training students in Siddha surgical medicament preparation and large-scale production, fostering entrepreneurial opportunities in Siddha medicine.

This curriculum ensures that BSMS graduates develop comprehensive expertise in surgical diagnosis and treatment while maintaining a strong foundation in Siddha principles. It emphasizes humoral analysis, evidence-based Siddha surgical procedures, research orientation, critical thinking, and patient-centered care. The mission of this syllabus is to standardize Siddha surgical practice, ensure high-quality healthcare, and cultivate research-oriented practitioners. With its student-centric and patient-centric approach, this syllabus empowers Siddha graduates to excel as clinicians, educators, researchers, entrepreneurs, and healthcare leaders, enabling them to thrive in the evolving healthcare industry.

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Course Code and Name of Course

Course code	Name of Course
SIDUG-AM	Aruvai including Kan, Kathu, Mookku, Thondai, Pal and Thol Maruthuvam

Table 1 : Course learning outcomes and mapped PO

SR1 CO No	A1 Course learning Outcomes (CO) SIDUG-AM At the end of the course SIDUG-AM, the students should be able to-	B1 Course learning Outcomes mapped with program learning outcomes.
CO1	Apply of classical Siddha surgical and Para surgical techniques in managing appropriate surgical conditions and adopt effective measures to manage and prevent complications.	PO1,PO2,PO5,PO6
CO2	Construct an integrated treatment plan based on Siddha’s three humoral principles, ensuring ethical practice while determining suitability for Siddha or modern surgical management and referral.	PO1,PO3,PO4,PO6,PO9
CO3	Demonstrate the skills to maintain a sepsis-free hospital environment and implement effective measures to manage and prevent hospital-acquired infections and adopt Operation theatre maintenance measures.	PO7,PO8
CO4	Identify and assess circulatory insufficiencies, accurately evaluate blood loss and initiate appropriate first aid interventions.	PO4,PO9
CO5	Appraise explaining preventive measures and healthy lifestyle practices to minimize recurrence and complications of various surgical conditions with ethics. Cultivate the skills to organize effective counseling sessions, address the social stigma associated with certain surgical conditions, and promote holistic healing and patient well-being in a supportive environment.	PO7,PO8,PO10,PO11,PO12
CO6	Analyze the foundational principles of the Siddha system, bridging classical Siddha terminologies with modern scientific terms to facilitate interdisciplinary communication and enhance collaboration with experts from other healthcare systems.	PO10,PO11,PO12
CO7	Illustrate various specialized medicines and surgical instruments to develop innovative marketing techniques and build entrepreneurial skills to establish a Siddha career.	PO5,PO11,PO12
CO8	Demonstrate effective treatment measures and outcomes in Surgical conditions and to explore it to contribute evidence-based practices in Siddha through research publications and presentations.	PO10,PO11,PO12

Table 2 : Contents of Course

Paper 1 (ARUVAI MARUTHUVAM & KAN MARUTHUVAM (GENERAL SURGERY & OPTHOLMOLOGY))						
Sr. No	**A2 List of Topics**	**B2 Term**	**C2 Marks**	**D2 Lecture hours**	**E2 Non-Lecture hours Theory**	**F2 Non-Lecture hours Practical**
1	**Siddha Classical Surgical methods (Asurarurai)** 1.1 *Aruvai, Agni, Karam* and 25 sub divisions, Study on (1).*Aruvai* (Surgical excision), 2.*Keeral* (Incision) 3.*Kuruthi vangal* (Blood letting), 4.*Attai vidal* (Leech therapy), 5.*Salagai* (Probing), 6.*Varthi* (Medicated wick), 7.*Oodhal* (Blowing), (8).*Peechu* (enema/ douch) 9.*Urinchal* (Sucking), 10. *Kattudhal*(bandaging), 11. *Chuttigai* (cauterization), 12. *Vedhu* (Steam therapy), 13. *Pugai* (Fumication), 14.*Karam* (caustic applications) (15). *Kombu kattal* (Splinting), 16. *Murichal* (Breaking bones artificially), 17. *Thokkanam* (Physical manipulations), 18.*Ottradam* (Fomentation) 19.*Pottanam* (Medicated bundle applications) (20).*Seelai* (Medicated wick), 21. *Kalimbu* (Ointment-Prepared with Cow's butter), 22. *Podi* (Dusting Powders), 23. *Neer* (Solutions), 24. *Kali* (Paste-Prepared with rice powder), 25. *Pasai* (Ointment-Prepared with bee wax) 1.2. *Chathrayudangal* (Siddha classical surgical instruments)	1	10	3	2	4
2	**Introduction to Eye diseases** 2.1 Definition of normal healthy eye 2.2 Prophylactic measures for healthy vision 2.3 Causes of eye diseases 2.4 Hygiene of Eye. 2.5 Classification of Eye Diseases according to *Agathiyar Nayana vithi & Nagamuni Nayana vithi*	1	05	2	1	3
3	**Inflammation and Ulcers**	1	10	7	4	9

	3.1. *Veekam* — (Inflammation) 3.2. *Kattikal* - (Abcesses) 3.3.*Punkal* (Ulcers) 3.3.1 Treatment for *Punkal* (Ulcers) 3.4.*Silaippun* (Sinus ulcers & its treatment)3.5 Kiranthi noi (Chronic ulcers) 3.6 *Mega kattikal* (Diabetic skin leisions)					
4	**Karuvizhi Noikal (Diseases of Cornea)** 4.1. *Kasam*-8, *Padalam*-7, *Kumudam*-3, *Vizhi undal*-3, *Thimiram*-7 4.2 *Vari*-3, *Sukkiran*-5, *Nerisal*-3, *Kuntham*-3, *Poo*-3	1	05	2	1	3
5	**Basic principles of Surgery and infectious diseases** 5.1 Basic principles of surgery 5.1.1.Communication and Counselling 5.1.2.Ethics in General surgery 5.1.3.Perioperative care 5.1.4.Pain Management 5.1.5.Biomedical waste management 5.1.6.Metabolic response to Injury. 5.2 Acute specific infections 5.2.1.Tetanus, 5.2.2.Gas gangrene 5.3 Non Specific infections & Chronic infection 5.3.1.Cellulitis 5.3.2.Gangrene.	1	05	5	3	7

	5.3.3 Actinomycosis					
6	**Burns, Hemorrhage and Shock** 6.1 Burns & Haemorrhage 6.2 Types of Shock 6.2.1.Hypovolaemic shock 6.2.2.Cardiogenic shock 6.2.3. Septic shock 6.2.4.Anaphylactic shock 6.2.5.Neurogenic shock	1	05	2	1	3
7	**Anorectal diseases** 7.1 *Moola noikal* (Ano rectal diseases) 7.2 *Vireki thapitham* (Proctitis), 7.3 *Asana vai vedippu* (Fissure in ano) 7.4 *Pavuthiram* (Fistula in ano)	2	10	4	2	6
8	**Study on the following Surgical conditions** 8.1 *Yanaikkaal* (Filariasis) 8.2 *Kalladaippu noi* (Renal calculi) 8.3 *Kandamalai* (Cervical adenitis) 8.4. Gall stones (Cholelithiasis) 8.5. Acute & Chronic Pancreatitis 8.6. Appendicitis 8.7. Paralytic ileus	2	10	7	6	7
9	**Velvizhi Noikal(Diseases of Sclera)** 9.1.*Ezhuchi*-5, *Padarthi*-3, *Nerisal*-3 9.2 *Putru*-3, *Kumulam*-3, *Vari*-3, *Ratchai* treatment for *Ezhuchi noi*	2	05	2	1	3

10	**Imai Noikal(Diseases of Eyelids)** 10.1 *Pillam*- 3, *Imai thadippu*-1, *Mudamayir, Ezhichakan* -1, *Parparoham*- 3 10.2 *Kazhalai*- 3, *Imai naar paichal*-1, *Suttrukulaivu*-1, *Puzhukkadi*-1, *Imaiuyarchi*-1, Surgical treatment for *Mudamayir.*	2		2	1	3
11	**Kadaikkan Noikal (Diseases of Canthus)** 11.1 *Kannokkadu, Poochathiram, Neerpadarthi, Raktha padarthi, Thasai padarthi, Neerkuvai, Rakthakuvai, Mangisakuvai, Vizhi vatham, Viranapparu* 11.2 *Vippuruthi, Imaikurudu, Imaikkumizh, Nethira vayu, Kannoi, Other clinical conditions of Eye as mentioned in Agathiyar Nayana Vithi*	2		2	1	3
12	**Tumors and Cysts** 12.1 Benign tumours 12.1.1 Myoma 12.1.2 Lipoma 12.1.3 Neurofibroma 12.2 Malignant Tumours 12.2.1 Carcinoma 12.2.2 Sarcoma 12.2.3 Melanoma 12.3 Carcinoma of Penis 12.4 Carcinoma of Rectum 12.5 Cysts 12.5.1 Dermoid cyst 12.5.2 Sebaceous cyst 12.5.3 Baker’s cyst	2	10	6	3	8

13	**Diseases of Blood and Lymphatic Vessels** 13.1 Diseases of arteries 13.1.1 Haemangioma 13.1.2Aneurysm 13..2.Embolism &Thrombosis 13.3 Diseases of veins 13.3.1 Thrombosis of vein 13.3.2 Varicose vein 13.4 Venous ulcer & Thrombophlebitis 13.5 Diseases of lymphatic vessels and lymph nodes 13.5.1 Lymphangioma 13.5.2 Lymphadenoma (Hodgkin's disease)	2	05	5	2	8
14	**Comparision with Modern diagnosis** 14.1 *Suzhal vanderithal* - Vitreous opacities, *Naga padalam* - Pterygium, *Mayir puzhuvettu* - Ulcerative blepharitis 14.2 *Amaram* - Opthalmia neonatorum, *Kuvalai vippuruthi* - Dacryocystits 14.3 *Vellezhuthu* - Presbyopia, *Thurmamisa valarchi* — Episcleritis, *Mudamayir* – Trichiasis	3	05	3	1	5
15	**Medicines commonly used for Eye Diseases** 15.1 *Padalathi mathirai, Kankasa mathirai, Matcha Rethinadhi mathirai, Ilaneer kuzhambu* 15.2 *Chandrodhaya mathirai, Narikelanjanam, Pazha kirambu pakkuva vennai, Kandu Parpam, Anda neer.*	3		2	1	3
16	**Diseases of Male Genital organs** 16.1 *Aankuri noikal* (Diseases of Male Genitalia)	3	10	7	4	9

	16.2 Diseases of Urethra, Phymosis, Paraphymosis, Testicular tumours 16.3 *Vithai Noi* (Diseases of Testis & Scrotum) 16.4 Orchitis, Hydrocele, Haematocele, Varicocele, 16.5 Herniae 16.6 Prostatism- Acute & Chronic Prostatitis, Benign Prostatic Hypertrophy, 16.7 Carcinoma Prostate.					
17	**Study of most prevalent Eye Diseases** Study of causes, clinical features, classification, diagnosis and treatment (medical & surgical) with scientific correlations for the following Eye diseases. 17.1 Conjunctivitis (other than Viral) and its treatment 17.2 Glaucoma and its treatment 17.3 Presbyopia 17.4 Myopia 17.5 Astigmatism 17.6 Nystagmus 17.7 The causes and prevention of blindness 17.8 Viral Infections of Eye	3	05	9	6	11
Total Marks			**100**	**70**	**40**	**95**

Paper 2 (THOAL MARUTHUVAM, KATHU, MOOKKU, THONDAI & PAL MARUTHUVAM (DERMOTOLOGY, ENT AND DENTISTRY))						
Sr. No	**A2 List of Topics**	**B2 Term**	**C2 Marks**	**D2 Lecture hours**	**E2 Non-Lecture hours Theory**	**F2 Non-Lecture hours Practical**

18	**Aids to healthy Skin** 1. Principles of Skin, Dietary advices & Medicines for bath *(Kuliyal podi, Nalankuma & Panchakarpam).*	1	15	1	2	0
19	**Ovammai Noikal (Allergic skin diseases)** 2.1 *Karappan-* Dermatitis / Eczema (*Yugi Chinthamani Classifications of Karappan*) 2.2 Eczematous diathesis, Atopic Eczema 2.3 Contact dermatitis & Air Borne Contact Dermatitis 2.4 Neuro Dermatitis, Infectious Eczematoid Dermatitis , Dyshidrotic Eczema 2.5 *Kaanakadi, Silvidathadippu* - Urticaria 2.6 Papular Urticaria, Angioneurotic oedema, Purpura, Anaphylaxis	1		6	3	9
20	**Noi Ethirppu Mandala Kolaral Varum Thol Noikal (Auto Immune related skin Disorders) & Thol Nirami Kuraipattu Noigal(Hypopigmentory diseases of the skin)** 3.1. *Kalanjagapadai* (Psoriasis- Various types) 3.2 *Puzhuvettu* (Alopecia – Various types) 3.3 *Thol nirami kuraipattu Noikal* (Hypopigmentations of skin) 3.3.1 *Venpadai* (Vitiligo/ Leucoderma) 3.3.2 Achromia 3.3.3 Albinism and Naevus depigmentosus	1	10	8	4	11
21	**Diseases of the Ear** 4.1 Perichondritis, Hematoma of the oricle , Otomycosis 4.2 Otitis externa, Impacted wax, Bullous myringitis, Diseases of eustachian tube	1	10	6	3	9

	4.3 Acute & Chronic Suppurative Ottitis Media 4.4 Vertigo, Vestibulitis 4.5 Tinnitus 4.6 Deafness, Otological aspect of facial paralysis					
22	**Infectious conditions of the skin** 5.1 *Peru Noi* -(Leprosy) 5.2 *Sirangu* (Scabies) 5.3 Bacterial infections 5.3.1 Sycosis Barbae (Pseudofolliculitis barbae) 5.3.2 AKN Acne Keloides Nuchae (Sycosis Nuchae) 5.3.3 Follicular Infective Eczema 5.4 Trichomycosis Axillaris (Trichobacteriosis), Erythrasma 5.5 Viral Infections- *Palunni* (Molluscum contagiosum) 5.6 *Maru* (Verrucae/Warts), Genital Warts (Condiloma acuminatum) 5.7 Herpes Simplex Virus 1 &2 5.8 *Akki noi* – (Herpes Zoster Virus) 5.9 HIV- Skin Rash, ORF (Ecthyma contagiosum), Millers nodes 5.10 Hand- Foot Mouth Disease (HFMD) 5.11 Fungal Infections 5.11.1 *Padarthamarai* (Tinea infections) 5.11.2 Rhinosporidiosis 5.11.3 Chromoblastomycosis	2	10	11	8	13

23	**Diseases of Hair, Nail and Foot** 6.1 Diseases of Hair 6.1.1 Podugu (Pityriasis capitis) 6.1.2 Hypertrichosis 6.1.3 Greying Hair (Canities) 6.2 Diseases of Nails 6.2.1 Dystrophy of nails 6.3 Koilanychia, Pachyonychia, Paronychia 6.4 Pterygium of the nails, Onycholysis, Subungual Hyperkeratosis 6.5 Diseases of the Sebaceous gland 6.5.1 *Mugaparu* (Acne Vulgaris) 6.5.2 Sebaceous cyst 6.5.3 Cradle cap (Milk crusts) 6.6 Diseases of the Sweat Gland 6.6.1 Miliaria and types 6.6.2 Anhidrosis 6.7 Bromhidrosis, Hyper Hidrosis 6.8 Diseases of the Foot 6.8.1 *Kaal ani* (Corn) 6.8..2 Callus	2	10	8	4	12
24	**Mooku Noigal (Diseases of the Nose)** 7.1. *Peenism* (Sinusitis) 7.2. *Nasigapedam, Karapan, kazhalai, Paru, Pilavai*	2	10	7	3	10

	7.3 Disease of external nasal 7.3.1. Furunculosis 7.3.2. Cavernous sinus thrombosis 7.4. Erysipelas, Lupus erythematosus , Rhinophyma 7.5 *Raktha peenisam* (Epistaxis) 7.6 Disease of internal nasal 7.6.1 Nasal septal disease 7.7.1 Different types of rhinitis 7.7.2 Nasal polyposis					
25	**Arpaviranam (Minor Skin diseases)** 8.1 *Viyarkuru* (Prickly heat), *Koppulam* (Vesicles / Bullae), *Thavalai chori* (Phrynoderma) 8.2 *Akkul Koppulam / Akul katti* (Hidradenitis suppurativa), *Setrupun*(Tinea pedis), *Varagu koppulam*	2	05	2	1	3
26	**Special medicines in Siddha for Skin diseases** 9.1 *Rasa Chendurum, Kanthaga Sudar thailam, Parangipattai Rasayanam* 9.2 *SIvanarvembu Chooranam, Karunkozhi Chooranam, Sarvanga Rasayanam*	3		2	1	3
27	**Vaai Noikal (Diseases of Oral Cavity)** 10.1 *Naaku Noikal* 10.2 *Ulnakku noikal* 10.3 Stomatitis, Cyst of mouth, Pemphigus, Common symptoms oro pharynx 10.4 Carcinoma of Tongue 10.5 Carcinoma of cheek 10.6 Diseases of salivary gland 10.6.1 Carcinoma of Parotid gland	3	10	6	3	8

	10.6.2 Sialolithiasis					
28	**Thondai Noikal (Diseases of Throat)** 11.1 Disease of Pharynx 11.1.1. Tonsilitis 11.1.2. Types of Pharyngitis 11.2 Tumours, Pharyngeal paralysis 11.3 Trismus 11.4 Cleft palate 11.5 Disease of larynx 11.5.1. Common symptoms of laryngeal disease 11.5.2. Types of laryngitis 11.5.3. Laryndeal paralysis 11.6 Disorders of voice	3	10	6	4	7
29	**Pal Noikal (Dental Diseases)** 12.1 .Types of *Pal Noigal* 12.2. *Palladi Noigal* 12.3 Disease of Tooth and Tooth structures 12.3.1 Attrition, Abrasion, Erosion 12.3.2 Resorption of Teeth 12.4. Diseases of Gingiva 12.4.1. Hereditary gingival fibromatosis 1.2.4.2 Gingivitis 12.4.3. Gingivual abscess 12.4.3.Gingival recession 12.5 Cancer of Gingiva	3	10	7	4	10

	12.6 Aids to healthy teeth, Oral hygiene, Flurosis 12.7 Dental carries					
Total Marks			**100**	**70**	**40**	**95**

Table 3 : Learning objectives of Course

Paper 1 (ARUVAI MARUTHUVAM & KAN MARUTHUVAM (GENERAL SURGERY & OPTHOLMOLOGY))										
A3 Course outcome	**B3 Learning Objective (At the end of the session, the students should be able to)**	**C3 Domain/sub**	**D3 MK / DK / NK**	**E3 Level**	**F3 T-L method**	**G3 Assessment**	**H3 Assessment Type**	**I3 Term**	**J3 Integration**	**K3 Type**
Topic 1 Siddha Classical Surgical methods (Asurarurai) (LH :3 NLHT: 2 NLHP: 4)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO1, CO5	Classify the major and minor sub divisions of Siddha classical surgical methods (*Asurarurai*), and explain *Chatrayuthangal* (Ancient classical surgical instruments), *Aruvai* (Surgical excision) and *Keeral* (Incision).	CC	MK	KH	L,L_VC ,REC	QZ ,DEB	F&S		-	LH
CO1, CO2	Explain *Urinchal* (Sucking), *Kattudhal* (Bandaging), *Chuttigai* (Cauterization), *Vedhu* (Steam therapy), *Pugai* (Fumigation) and *Karam* (Caustic applications)	CC	MK	KH	L,L_VC	O-GAME, M-CHT	F&S		-	LH
CO1, CO2	Define *Kuruthi vangal* (Blood letting), *Attai vidal* (Leech therapy), *Salagai* (Probing), *Varthi* (Medicated wick), *Oodhal* (Blowing) and *Peechu* (Enema/ Douch)	CK	MK	K	L_VC,L	M-POS,PUZ	F&S		-	LH
CO1, CO5, CO6	Demonstrate Preparation of the *Peechu* (Enema) & *Varthi* (Medicated wicks)	PSY-GUD	MK	SH	KL,D	P-POS,M-CHT,P-PRF	F		H-VPS	NLHT1.1
CO1, CO5, CO6	Describe SoP for *Attai vidal* (Leech Therapy, *Chuttigai* (Cauterization), *Varthi* (medicated wick), *Pugai* (Fumigation), *Karam* (Caustic applications), *Vedhu* (Steam therapy).	CC	DK	KH	KL,L&GD	M-CHT,P-PRF	F		-	NLHT1.2
CO1	Explain and describe the criteria to write the Complaints and duration, History of Present illness, Past illness, Personal history	CAP	MK	SH	CBL,D-BED	P-CASE,CH	F&S		-	NLHP1.1

	and Family History, Local and Systemic examination, and Express Differential diagnosis, Diagnosis, Line of Treatment.					K				
CO1, CO2, CO5	Demonstrate various Siddha and Modern Surgical instruments, Various surgical procedures by using Siddha and Modern Surgical instruments	PSY-GUD	MK	SH	SDL,D-M	P-PRF,P-ID	F&S		-	NLHP1.2
CO1, CO2, CO5	Demonstrate selection criteria and Procedure for *Attai vidal* (Leech application) in the suitable location of the given patient.	PSY-GUD	MK	SH	CBL,D-BED	P-PS,P-EN	F&S		-	NLHP1.3
CO1, CO2, CO5	Perform *Chuttigai* (Cauterization), *Varthi* (medicated wick),*Vedhu* (Steam therapy), *Pugai* (Fumigation), *Karam* (Caustic applications) in a given patient.	PSY-GUD	MK	SH	KL,D-BED	DOAP,P-PS	F&S		-	NLHP1.4

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 1.1	Preparation of *Peechu* (Enema) & *Varthi* (Medicated wicks)	Begin with demonstration of preparation methods for *Peechu* (Enema) & *Varthi* (Medicated wicks) provided by the teacher. Students are divided into 3-5 teams to engage them in team based activities to teach and learn from each other. For each group given topic like collection of the necessary raw drugs for the preparation, purification of the raw drugs(If necessary) ,preparation of *varthi* and *peechu* as per the procedure mentioned in the text and also the procedure which already demonstrated by the teacher. At the end,Students from each team are encouraged to contribute their insights for the future practice. Duration: 1Hour
NLHT 1.2	SoP for *Attai vidal* (Leech Therapy, *Chuttigai* (Cauterization), *Varthi* (medicated wick), *Pugai* (Fumigation), *Karam* (Caustic	Students divided into 5-6 small groups to engage in group based activities to teach and learn from each other . Each group is assigned topic (such as Siddha surgical procedure methods, preparation of the necessary

	applications), *Vedhu* (Steam therapy).	instruments for performing the procedures , history taking , necessary investigations, vital signs, consent, performing the concerned procedure ,monitoring the patient after completion of procedure) Explore with the members contributing their unique insights crucial for the practice. Duration: 1Hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 1.1	Criteria to write the case sheets.	Students divided into 5 groups . For each group, teacher should eloborate the importance of patient details ,criteria to write complaints and duration ,history of present illness,Past illness, personal history and Family history. Method to express local and systemic examination, differential diagnosis,diagnosis,line of treatment. At the end groups present their findings and the activity concludes with the reflection on the learning process emphasizing a systematic approach of how to write case sheets. Duration: 1Hour
NLHP 1.2	Various Siddha and Modern Surgical instruments, Various surgical procedures by using Siddha and Modern Surgical instruments.	Identification and explanation about the uses of Siddha and modern surgical instrument to be taught by the teacher and also explore the uses of Siddha and modern surgical instruments for the appropriate procedure . Now the students divided into sub groups Identification and Performance of the specific surgical Procedures for the given condition using suitable siddha and modern surgical instruments to be done by students from each group . Duration: 1Hour
NLHP 1.3	Selection criteria and Procedure for *Attai vidal* (Leech application) in the suitable location of the given patient.	The teacher should demonstrate the selection criteria and Procedure for Attai vidal (Leech application) as follows,

		• Preparation of the necessary instruments for performing the procedures • Ascertaining any chronic illness through history taking. • Necessary investigations carried out to rule out contagious diseases, Haemophilia & etc. • Patient centric activities like consent,counselling and vital signs etc to be done. • Performing the procedure as per the SoP.. • Monitoring the patient after completion of procedure. After the demonstration, form small groups and have students share their observations focusing on key findings and their significance for performing the procedure. Duration: 1Hour
NLHP 1.4	Procedure for *Chuttigai* (Cauterization), *Varthi* (medicated wick),*Vedhu* (Steam therapy), *Pugai* (Fumigation), *Karam* (Caustic applications) in a given patient.	Performing the stepwise procedure as per the SoP by the students 1. Preparation of the necessary instruments for performing the procedures 2. Ascertaining chronic illness through history taking 3. Necessary investigations to be carried out to rule out contagious diseases, Haemophilia & etc 4. Patient centric activities like consent,counselling and vital signs etc.to be done. 5. Performing the concerned procedure as per the SoP. 6. Monitoring the patient after completion of procedure. Duration: 1Hour

Topic 2 Introduction to Eye diseases (LH :2 NLHT: 1 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2, CO5	Define healthy Eye and describe causes of eye diseases and Classification of Eye Diseases according to *Agathiyar Nayanavithi & Nagamuni Nayanavithi,*	CK	MK	K	L_VC,L ,L&PPT ,L&GD	M-CHT,QZ ,T-OBT,INT	F&S		-	LH

CO2, CO5	Explain prophylactic measures for healthy vision and Hygiene of Eye.	CC	MK	K	L&PPT,L,L&GD,L_VC	T-OBT,M-CHT,QZ	F&S		-	LH
CO2, CO5	Observe visual acuity by using the SNELLEN'S DISTANT VISION CHART.	PSY-GUD	DK	D	D,SIM	SP,PP-Practical	F		-	NLHT2.1
CO2, CO5	Demonstrate accurate observation of physical examination techniques of an eye to support diagnosis and treatment.	PSY-GUD	NK	KH	FV,D	DEB,PRN,P-CASE	F&S		-	NLHP2.1
CO2, CO5	Demonstrate the evidence-based treatment options for various eye diseases, including Siddha pharmacological and surgical interventions.	PSY-GUD	MK	SH	FV,D	INT,PRN	F&S		-	NLHP2.2
CO1, CO2	Demonstrate the instruments used in Ophtholmology	CAP	MK	SH	D,D-M	P-VIVA,P-REC	F		-	NLHP2.3

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 2.1	Visual acuity by using SNELLEN'S DISTANT VISION CHART.	A specific straight area of 6 mtr is to be selected for conducting this examination procedure. SNELLEN'S DISTANT VISION CHART (Bilingual) is to be fixed in one end with adequate illumination. On the opposite end at the specific distance of 6 meter, patient's seat is to be fixed. On the lateral aspect the physician can be seated with necessary supporting tools for examination. The patient is to be educated with the SNELLEN'S DISTANT VISION CHART. Ask the patient to remove the contact lens or glass Wear a dummy frame with one side of vision is blocked and ask the patient to read out the letters through the open side.- Observe the results. The same procedure is to be repeated to the opposite eye and observe results. Duration :One Hour

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 2.1	Physical examination techniques of an eye to support diagnosis and treatment.	Demonstrating the eye on inspection- Size, shape, colour, injuries, visible pulsation, Oedema, abnormal growth in sclera, eyelids, canthus are to be discussed. Demonstrating the eye on Palpation- Size, shape, colour, injuries, visible pulsation, Oedema, abnormal growth in sclera, eyelids, canthus are to be discussed. Suitable investigations are to be correlated. In correlation with the physical findings and investigations diagnosis is to be derived. Suitable treatment according to the cause is to be taught. Duration: One Hour
NLHP 2.2	Presenting evidence-based treatment options for various eye diseases, including Siddha pharmacological and surgical interventions.	There are many number of home remedies commonly used for eye diseases. Their safety and efficacy is to be assessed. The standard way of production and storage, advisable way of eye application are to be educated by the Teacher. Literary resources of eye applications are also to be evaluated. The knowledge should be shared to the students. Duration : One Hour Literature review from standard research publications are to be made available to the students. The teacher can also write case studies as research papers. Duration: 1Hour
NLHP 2.3	The instruments used in Ophtholmology.	List out the common equipments used in Ophtholmology Show them to the students and explain their usage. Demonstrate the procedure to handle each instrument.

		The methodology to preserve each instrument is also to be taught. Duratiojn : One Hour

Topic 3 Inflammation and Ulcers (LH :7 NLHT: 4 NLHP: 9)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO5	Describe the definition, Cause, Classification with clinical features,Complications and differential diagnosis of *Veekam* (Inflammation)	CK	MK	K	L&PPT ,L	O-QZ,M-POS	F&S		-	LH
CO1, CO2, CO5	Define and describe cause, and classification with clinical features, complications, and differential diagnosis of *Kattikal* (Abcesses).	CC	MK	K	L,L&PPT	T-OBT,M-CHT	F&S		-	LH
CO1, CO2	Explain the definition, cause, classification with clinical features, Complications and differential diagnosis of *Punkal* (Ulcers)	CC	MK	K	L,L&PPT	S-LAQ,M-MOD	F&S		-	LH
CO1, CO2, CO5	Discuss the line of treatment of *Punkal* (Ulcers) on the basis of Three humours.	CAN	MK	KH	L,L&GD	P-PS,O-QZ	F		-	LH
CO1, CO2, CO5	Define and describe cause, classification with clinical features, Complications and differential diagnosis of *Silaippun* (Sinus ulcers)	CC	MK	K	L,L&PPT	M-MOD,WP	F&S		-	LH
CO1, CO2, CO5	Describe the definition, cause, classification with clinical features, Complications and differential diagnosis of *Kiranthi noi* (Chronic ulcers)	CC	MK	K	L,L&PPT	O-GAME, C-INT	F&S		-	LH
CO1, CO2, CO5	Explain the definition, cause, classification with clinical features, Complications and differential diagnosis of *Mega kattikal* (Diabetic skin lesions)	CC	MK	K	L&PPT ,L	CL-PR,PUZ	F&S		-	LH

CO1, CO2, CO5	Demonstrate the treatment for *Veekam* (Inflammation).	CE	MK	KH	L&GD, BS,PER	Log book,SBA	F&S		-	NLHT3.1
CO1, CO2, CO5	Illustrate the treatment for *Kattikal* (Abcesses).	CAP	MK	KH	L_VC,LRI	DOPS,DOPS,P-ID	F&S		-	NLHT3.2
CO1, CO2, CO5	Illustrate the treatment for *Punkal* (Ulcers).	CAP	MK	KH	BS,IBL	T-CS,DOAP	F&S		-	NLHT3.3
CO1, CO2, CO5	Describe the treatment for *Kiranthi noi* (Chronic ulcers).	CAP	MK	KH	BS,DA	P-PS,DOAP	F&S		-	NLHT3.4
CO1, CO2, CO5	Demonstrate the Size, Shape, Location, Edges, Discharge and Surrounding skin of the Ulcer.	PSY-GUD	MK	SH	CBL,SIM	Mini-CEX,OSCE	F&S		-	NLHP3.1
CO1, CO2, CO5	Perform the examination of *Punkal* (Ulcer) to assess the Differential Diagnosis and Complications.	PSY-GUD	MK	SH	LRI,X-Ray,CBL	P-CASE,DOAP	F&S		-	NLHP3.2
CO1, CO2, CO5	Discuss the diagnosis and Line of treatment for each type of Ulcer.	CAN	MK	KH	DA,CBL,LRI	DOPS,Mini-CEX,DOPS	F&S		-	NLHP3.3
CO1, CO2, CO5	Interprets the methods of incision and drainage of abscess, excision of cysts and *kattuthal* (bandaging).	CC	MK	KH	D,CBL, D-BED, LRI	Mini-CEX,SP	F&S		-	NLHP3.4
CO1, CO2,	Perform incision and drainage of abscess, excision of cysts and various types of *kattuthal* (bandaging) in a given patient	PSY-GUD	MK	D	CBL,SIM	OSPE,SBA	F&S		-	NLHP3.5

CO5										
CO1, CO2, CO5	Interpret the physical examination including location, length, course and discharge of a Sinus or Fistula.	PSY-GUD	MK	SH	D-BED, SIM	OSPE,Mini-CEX	F&S		-	NLHP3.6
CO1, CO2, CO5	Discuss the diagnosis and Line of treatment for Sinus or Fistula.	CAN	MK	KH	X-Ray	Mini-CEX,CHK	F&S		-	NLHP3.7
CO1, CO2, CO5	Perform suturing on the skin of an Orange	PSY-GUD	MK	D	D-M,SIM	OSPE,SP	F&S		-	NLHP3.8
CO1, CO2, CO5	Perform sutures on the fresh injuries of a patient	PSY-GUD	MK	D	D,D-BED	OSPE,DOPS,DOPS	F&S		-	NLHP3.9

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 3.1	Management of *Veekam* (Inflammation).	Begin with teacher's demonstration of • Usage of *Vellai mezhugu*/ heated *Aloe vera* pulp/ *Aazhi vidhai kali* / boiled *Thuththi* leaves. • The preparation of the affected area and application on the affected site. • Making bandages. • Follow up examination and Observation of the improvements. . Students divided into 5 groups . Explore with group members contributing their unique insights necessary for the practice. Duration: 1Hour

NLHT 3.2	Management of *Kattikal* (Abcesses).	**Incision and drainage of pus is to be demonstrated by the teacher as follows,** 1. To determine that the abcess is suitable for incision or not. 2. If suitable, exact site for incision is to be selected. 3. The procedure of incision, appropriate depth and extension is to be decided. 4. Making incision 5. Letting out pus. 6. Observe the floor 7. Clean the floor and dress the ulcer with suitable medicines. Students divided into 5-6 small groups to engage in group based activities to teach and learn from each other .Explore with group members contributing their unique insights necessary for the practice. Duration: 1Hour
NLHT 3.3	Management of *Punkal* (Ulcers).	Students divided into subgroups. For each group teacher should assign topics like, Application of three humoural principles to differentiate the ulcer. After achieving a decision, selection of suitable decoction/ medicated solutions to wash the ulcer. Selection of suitable oils / ointment/ powder according to the nature of ulcer. Application of the medicine and making bandage . Analyze with group members about their understanding which is crucial for the practice. Duration: 1Hour
NLHT 3.4	Management of *Kiranthi noi* (Chronic ulcers).	Teacher should provide students with details of, • Application of three humoural principles to differentiate the manifestation of Kiranthi • Examination to assess whether the condition is suitable for incision.

		• If not, usage of external medicines/ therapy • Incision and drain the pus. • Insertion of wicks or application of suitable ulcer healing agent and making bandage. • Selection of appropriate medicine to nourish and rejuvanate concerned physical constituent . Then form small groups and students have to share their observations and contribute their understanding. Explore with team members for their insights for better treatment of chronic ulcer. Duration: 1Hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 3.1	Physical Examination of an Ulcer.	Teacher should demonstrate the physical examination of an Ulcer stepwise as, Assessment of • The cause of an ulcer through history taking • The location and number of ulcers • The nature of Pain • The edges, floor, Margin and base of an ulcer. Discussion of • Appropriate investigation procedures for achieving diagnosis • Application method of three humoural principles. Following this ,students share and reflect key points on the physical examination of ulcer,emphasizing

		the systematic procedural skill . Duration: 1Hour.
NLHP 3.2	Examination of *Punkal* (Ulcer).	Teacher should provide students with detailed case examination that includes, • Finding out the cause of an ulcer through history taking • Identification of the location and number of ulcers • Assessment of the nature of pain • Assessment of the edges, floor, margin and base of an ulcer. Then discussion about the appropriate investigation procedures to rule out and achieving the diagnosis & also discussion about some possible complications of ulcer. After that students divided into subgroups. Students from each group allowed to perform the examination procedures and have to share their analyses, interpret the investigations, discuss the possible complications and consider the differential diagnosis The activity concludes with reflections on the learning procedural skills, emphasizing a systematic approach to diagnosis and assess complications. Duration: 1Hour
NLHP 3.3	Diagnosis and Line of treatment for each type of Ulcer.	Teacher should provide students with detailed patient case studies that include patient history, symptoms, and physical examination,investigation findings used for the diagnosis of ulcer. Finalise Line of treatment and treatment for Ulcer. Students divided into subgroups. Students from each group, Disscuss about physical examination, assessment of the three humoural vitiations and necessary

		investigatory procedures, Integration of the results of observations. Discuss differential diagnosis and achieve a diagnosis Draw the line of treatment and have to arrive the treatment. The activity concludes with reflections on the learning process, emphasizing a systematic approach to diagnosis and treatment. Duration: 1Hour
NLHP 3.4	Incision and drainage of abscess, excision of cysts and demonstration of *kattutha*l (bandaging).	Students divided into 5 groups,. For each group teacher should demonstrate Incision and drainage of pus (using Incision and Drainage trainer) by the steps as follows, 1. It is to determine that the abcess is suitable for incision or not. 2. If suitable, exact site for incision is to be selected. 3. The procedure of incision, appropriate depth and extension is to be decided. 4. Making incision 5. Letting out pus. 6. Observe the floor 7. Clean the floor and dress the ulcer with suitable medicines. Each group will present their observations, including the rationale behind the procedures and any different treatment methods considered. The activity concludes with reflections on the learning procedural skill, emphasizing a systematic approach to the surgical treatment methods crucial for the practice. Duration: 1Hour Additional activity: Demonstration of bandage technique by the teacher using Basic bandaging simulator

		1. Preparation (washing hands,gather materials for bandaging,assessing the wound) 2. Cleaning and dressing the ulcer (cleaning of ulcer,pat drying,applying ointments,covering with gauze) 3. Applyingthe bandage (selection of correct size bandage, unrolling of bandage, wrapping, securing with medical tape) 4. Final check (check for not too loose or too tight ,monitor for bleeding, adjustment if needed). Following this ,students should record, share and reflect key points on the basic bandaging technique,emphasizing the systematic procedural skill . The activity concludes with a post-class reflection procedure where students do the procedure, and the teacher provides feedback, emphasizing systematic approaches to procedural skill neccssary for the treatment.
NLHP 3.5	The incision and drainage of abscess, excision of cysts and various types of *kattuthal* (bandaging)	Students divided into subgroups Student from each group should perform the incision and drainage of abscess, excision of cysts and *kattuthal* (bandaging) as demonstrated by the teacher by stepwise procedure , 1. Determination of the abcess/cyst is suitable for incision or not. 2. If suitable, selection of exact site for incision . 3. Incising appropriately& letting out pus in case of Abscess /in the case of cyst complete excision to be done. 4. Then observation of the floor 5. Cleaning the floor and dressing the ulcer with suitable medicines. The activity concludes with a post-class reflection procedure where students do the surgical procedure, and the teacher provides feedback, emphasizing systematic approaches to procedural skill neccssary for the treatment. Duration: 1Hour

NLHP 3.6	Physical examination of a Sinus or Fistula.	Students will begin with a demonstration done by the teacher , • To observe the external opening,surrounding skin and discharge from the Sinus/ Fistula. • Sterile techniques which are essential for probing. • Gentle insertion of probe into sinus or fistula to determine the depth and direction . • Identify the branching or connections. • Check for pain sensation and mobIlity. Sonography,Endoscopy and other imaging studies may also be used for the diagnosis. At the end, students present their findings of the demonstration followed by an open floor for questions and feedback. The activity concludes with a reflection session where students summarize key insights and emphasize the systematic approach to the diagnose Sinus or Fistula. Duration: 1Hour Additional activity: Demonstration of Basic wound care by the teacher using simulator as follows, 1. Wound Care Principles (Assessment,cleaning,debridement,dressing,monitoring) 2. Wound care interventions (Topical treatments,compression therapy,wound debridement,biological therapies,hyperbaric oxygen therapy) 3. Wound care goals (promote healing, prevent infection, manage pain,improve quality of life) At the end, students present their findings of the demonstration followed by an open floor for questions and feedback. The activity concludes with a post-class reflection procedure where students do the procedure, and the teacher provides feedback, emphasizing systematic approaches to procedural skill neccessary for the treatment.
NLHP 3.7	Diagnosis and Line of treatment for Sinus or	Teacher should provide students with detailed patient case studies that include patient history,

	Fistula.	symptoms, and physical examination findings,Sonography,Endoscopy and other imaging studies may also be used for the diagnosis of Sinus or Fistula. Ask students to individually analyze the case studies and document their observations and initial diagnoses Finalise Line of treatment and treatment for sinus or fistula Students are divided into groups,Groups present their findings and receive feedback, followed by discussion on diagnostic reasoning and best practices. The activity concludes with reflections on the learning process, emphasizing a systematic approach to diagnosis and treatment. Duration: 1Hour
NLHP 3.8	Suture on the skin of an Orange.	Students divided into sub groups,. For each group, teacher should perform suturing technique stepwise as follow, • How to clean and prepare the wound area that is going to suture(orange) with antiseptic solution. • Administration of local aneasthesia if necessary • Usage of sterile gloves and instruments • Assessment of wound depth and length to determine the number of sutures are to be taught. • Appropriate suture material and size should be choosed. • Insert the needle into the skin on one side of orange, about 1/8 inch from the edge • Pass the needle through the skin of an orange and out through the skin on other side. • Pull the skin tight to close and make a knot. • Repeat the procedure, spacing sutures 1/4 inch apart,tie knots to secure the sutures. Students pair up to practice these techniques, observe each other, and provide feedback. Groups discuss common mistakes and best practices, sharing tips to reinforce each procedure's importance. Duration: 1Hour Additional activity: Demonstration of suturing technique by the teacher using Basic incision and suture trainer

		Steps same as the above .
NLHP 3.9	Suturing of fresh injuries.	Students divided into 5 groups,. For each group teacher should demonstrate and students should follow how to clean and prepare the wound with antiseptic solution. Administration of local aneasthesia if necessary Sterile gloves and instruments should be used . Assessment of wound depth and length to determine the number of sutures. Appropriate suture material and size should be choosen. Insert the needle into the skin on one side of wound, about 1/8 inch from the edge Pass the needle through the underlying tissue and out through the skin on other side. Pull the suture tight to close the wound Repeat the procedure, spacing sutures 1/4 inch apart,tieknots to secure the sutures. Apply antibiotic ointment or mathan thylam and cover with dressing. . Students pair up to practice these techniques, observe each other, and provide feedback. Groups discuss common mistakes and best practices, sharing tips to reinforce each procedure's importance. Duration: 1Hour

Topic 4 Karuvizhi Noikal (Diseases of Cornea) (LH :2 NLHT: 1 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO6	Describe the definition, Cause, Classification with clinical features and treatment of the following *Karuvizhi noikal* (Diseases of Cornea) *Kasam, Padalam, Kumudam, Vizhi undal, Thimiram.*	CC	MK	K	L,REC	O-QZ,T-OBT	F&S		-	LH
CO1, CO2	Describe the definition, Cause, Classification with clinical features and treatment of the following *Karuvizhi noikal* (Diseases of Cornea) *Vari, Sukkiran, Nerisal, Kuntham and Poo.*	CC	MK	K	L	O-QZ,WP	F&S		-	LH

CO1, CO2	Demonstrate surgical technique for Cataract and Pterygium through video presentation	CAP	MK	KH	DIS,L_ VC	INT,DEB	F&S		-	NLHT4.1
CO2, CO5	Demonstrate the importance of Organ Donation in saving life, common fears and misconceptions about organ donation,ethical and legal frameworks governing Organ Donation through Guest or Video lecture.	AFT-REC	NK	SH	PER,L& PPT	O-QZ,INT	F		-	NLHP4.1
CO2, CO5	Demonstrate the importance of Organ Donation in saving life, common fears and misconceptions about organ donation,ethical and legal frameworks governingOrgan Donation.	AFT-REC	NK	SH	DIS,L& PPT ,D	QZ ,DEB	F&S		-	NLHP4.2
CO2, CO5	Demonstrate the importance of Organ Donation in saving life, common fears and misconceptions about organ donation,ethical and legal frameworks governing Organ Donation through Guest or Video lecture.	AFT-REC	NK	SH	BS,DIS, D	M-POS,TR	F&S		-	NLHP4.3

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 4.1	Video presentation on surgery of Cataract and Pterygium.	Students are divided into sub groups to engage them in group based activities to teach and learn from each other. Students are assigned to download the videos of Cataract surgery or Pterygium surgery shared by the teacher. Display that video in the class room Provide necessary explanation by the teacher in between the presentation. Ask students to individually analyze about the surgical procedures and document their observations The activity concludes with a reflection session where groups summarize key insights and emphasize the important surgical techniques for Cataract and Pterygium. Duration: 1Hour

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 4.1	Guest lecture or Video lecture on Organ Donation	Eminent surgeon /HoD of Surgery department in the nearest Medical college or from a reputed organisation can be invited to deliver guest lecture or video lecture on the given topic. Duration:1 hour.
NLHP 4.2	Guest lecture on Organ Donation.	Eminent surgeon /HoD of Surgery department in nearest Medical college or from a reputed organisation can be invited to deliver guest lecture on the given topic. Duration: 1 hour.
NLHP 4.3	Guest or Video lecture on Organ Donation	Eminent surgeon /HoD of Surgery department in nearest Medical college or from a reputed organisation can be invited to deliver Guest or Video lectureon the given topic. Duration: 1 Hour

Topic 5 Basic principles of Surgery and infectious diseases (LH :5 NLHT: 3 NLHP: 7)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO3, CO5	Describe the Basic Principles of Surgery, Communication and Counselling, Ethics in General Surgery, Perioperative care.	CC	DK	K	L,L&PPT	O-GAME, CL-PR	F&S		-	LH
CO3, CO5	Explain the Pain Management, Biomedical waste management, Metabolic response to Injury.	CK	DK	K	L&PPT	WP,M-CHT	F&S		-	LH
CO3, CO5	Define the Cause, Classification with Clinical Features, Investigations, Prophylaxis and Treatment of the Tetanus & Gas gangrene.	CC	MK	K	L&PPT	WP,Log book	F&S		-	LH
CO3, CO5	Describe the Cause, Classification with clinical features, investigations, prophylaxis and treatment of the Cellulitis,Gangrene.	CC	MK	K	L&PPT	O-QZ,WP	F&S		-	LH

CO3, CO5	Define the Cause, Clinical Features, Investigations, Prophylaxis and Treatment of the Chronic infectious disease - Actinomycosis	CC	DK	K	L&PPT ,DIS	O-GAME, M-CHT,V V-Viva	F&S		-	LH
CO3, CO5	Demonstrate Segregation, Disposal and Record maintenance of Bio Medical Waste.	CAP	MK	SH	FC,KL, PER	M-CHT,WP	F		-	NLHT5.1
CO3, CO5	Demonstrate the Procedure of infection control in a hospital	CAP	DK	SH	EDU,K L	WP,CHK	F		-	NLHT5.2
CO3, CO5	Maintain the Infection control register's records per the hospital protocols.	CAP	MK	SH	FC,TBL	C-INT,COM	F		-	NLHT5.3
CO3, CO5	Demonstrate the structured steps to be taken for aseptic or antiseptic procedures & sterilization of surgical instruments and Operation theater maintenance measures.	PSY-GUD	MK	SH	D	DOAP,P-PRF	F&S		-	NLHP5.1
CO2, CO5	Demonstrate the local anesthetic techniques in minor surgical procedures	PSY-GUD	MK	SH	D-M	DOAP,SP	F&S		-	NLHP5.2
CO3, CO5	Perform the structured techniques of aseptic, antiseptic & sterilization procedures of surgical instruments.	PSY-GUD	MK	D	RP,D	DOAP,CHK	F&S		-	NLHP5.3
CO3, CO5	Demonstrate measures for preventing hospital infections.	PSY-GUD	MK	SH	D,PL	DOAP,CHK	F&S		-	NLHP5.4
CO3, CO5	Demonstrate measures for isolating the infected patient in a hospital.	PSY-GUD	MK	SH	D,PL	CHK,PA	F&S		-	NLHP5.5
CO3, CO5	Discuss documentation procedures of different types of hospital records by manual work and software skills.	CC	DK	KH	PL,D	COM,PA	F&S		-	NLHP5.6
CO3, CO5	Maintain the different types of hospital records through manual works and software skills.	AFT-RES	DK	SH	PL,KL	CHK,COM	F&S		-	NLHP5.7

Non Lecture Hour Theory		
S.No	**Name of Activity**	**Description of Theory Activity**
NLHT 5.1	Segregation, Disposal and Record maintenance of Bio Medical Waste.	Students divided into subgroups For each group teacher should assign topics on previous day, Under Segregation- details of color code system and segregation of waste according to catogeries Under Disposal - various methods like incineration,autoclaving,landfill,recycling and chemical treatment according to the waste catogeries Under Record maintenance - maintenance of various records like waste generation records,waste disposal records,training and inspection records and their importance. Groups present their findings and receive feedback, followed by discussion on various disposal methods and best record keeping. Explore with group members contributing their unique insights for the better Biomedical Waste Management crucial for sepsis free hospital. Duration: 1Hour.
NLHT 5.2	Procedures of infection control in a hospital	Students divided into 5-6 small groups to engage in group based activities to teach and learn from each other . Students from each group are given topics , • In Infection control protocol like hand hygiene,personal protective equipment(PPE),sterilization& disinfection,linen&laundry,waste management,environmental cleaning,survillence &monitoring,staff education &training,vaccination &immunization • Specific infection control procedures for blood borne pathogens, Airborne pathogens and contact precautions . Groups present their findings and receive feedback, followed by discussion on infection control protocol and best practices

		Explore with group members contributing their insights for prevention and control the spread of infections in hospitals and the comprehensive procedures crucial for maintaining sepsis free hospital. Duration: 1Hour.
NLHT 5.3	Documentation and Mainteinance of records in the Infection control registers.	Students are divided into 5 teams to engage them in team based activities to teach and learn from each other. Each team members are assigned topics like, In Infection Control Register Documentation: 1. Date and time of incident/report 2. Patient ID and name (if applicable) 3. Type of infection/control issue 4. Location of incident (ward/department) 5. Description of incident/control issue 6. Actions taken (e.g., isolation, cleaning, disinfection) 7. Follow-up actions (e.g., testing, treatment) 8. Outcome/Resolution Maintenance of Infection Control Registers: 1. Ensure timely and accurate documentation 2. Review and update records regularly 3. File records in chronological order 4. Maintain confidentiality and secure storage 5. Provide access to authorized personnel only 6. Conduct regular audits for accuracy and completeness Teams present their findings and receive feedback, followed by discussion on documentation and record keeping in infection control. Explore with team members contributing their insights for the maintenance of essential registers. Duration: 1Hour.
Non Lecture Hour Practical		

S.No	Name of Practical	Description of Practical Activity
NLHP 5.1	Aseptic or antiseptic procedures & sterilization of surgical instruments and Operation theater maintenance measures.	Students divided into subgroups,for each group teacher should Demonstrate the techniques of 1. Aseptic Technique: Demonstrate proper hand hygiene (washing and using hand sanitizers). Show how to put on sterile gloves, masks, and gowns. Demonstrate preparing a sterile field (unwrapping sterile packs, arranging sterile instruments). 2. Antiseptic Technique: Show the use of antiseptics (alcohol or iodine) for cleaning the skin before a procedure. Demonstrate wiping instruments with alcohol pads to clean them before use. 3. Sterilization: Demonstrate how to clean surgical instruments first (removing any blood or tissue residues using brushes and disinfectants). Show how to load instruments into an autoclave for sterilization. Explain how to check if the instruments are sterile after the process (e.g., use of autoclave indicators, and packaging). . Each group presents their findings followed by an open floor for questions and feedback. The activity concludes with a reflection session where groups summarize key insights and emphasize the importance of aseptic procedures in maintaining the sterilization of surgical instruments. Additional activity: Demonstration of Operation theater maintenance measures by the teacher as follow Pre-Operative Measures: 1. Cleaning and Disinfection*: Clean and disinfect all surfaces, equipment, and furniture in the OT. 2. Sterilization: Sterilize all surgical instruments and equipment. 3. Ventilation: Ensure proper ventilation and air filtration in the OT. 4. Temperature Control: Maintain a consistent temperature between 68°F and 73°F (20°C and 23°C). 5. Humidity Control: Maintain a relative humidity of 50-60%. Intra-Operative Measures: 1. Surgical Site Preparation: Prepare the surgical site according to established protocols.

		2. Surgical Team Preparation: Ensure the surgical team follows proper hand hygiene and attire protocols. 3. Equipment Maintenance: Regularly inspect and maintain surgical equipment. 4. Anesthesia Equipment Maintenance: Regularly inspect and maintain anesthesia equipment. Post-Operative Measures: 1. Cleaning and Disinfection: Clean and disinfect the OT after each procedure. 2. Waste Disposal: Properly dispose of biohazardous waste. 3. Sterilization: Sterilize all surgical instruments and equipment after each use. 4. Equipment Maintenance: Regularly inspect and maintain surgical equipment. Daily Maintenance Measures: 1. Cleaning Schedules: Establish and follow regular cleaning schedules. 2. Equipment Inspection: Regularly inspect all equipment and report any issues. 3. Supply Management: Manage supplies and ensure adequate stock levels. Weekly Maintenance Measures: 1. Deep Cleaning: Perform deep cleaning of the OT, including floors, walls, and ceilings. 2. Equipment Calibration: Calibrate all equipment according to manufacturer instructions. Monthly Maintenance Measures: 1. Air Quality Testing: Test the air quality in the OT to ensure proper ventilation. 2. Equipment Maintenance: Perform routine maintenance on all equipment. Quarterly Maintenance Measures: 1. OT Inspection: Conduct a thorough inspection of the OT to identify any maintenance or repair needs. 2. Staff Training: Provide training to staff on OT maintenance and infection control protocols. Annual Maintenance Measures: 1. OT Renovation: Plan and execute any necessary renovations or upgrades to the OT. 2. Equipment Replacement: Replace any equipment that is no longer functional or is outdated. Duration: 1Hour.

NLHP 5.2	Local anesthetic techniques in minor surgical procedures	Students divided into small groups,for each group teacher should demonstrate local anesthetic technique steps: 1. Prepare patient and surgical site. 2. Choose appropriate local anesthetic agent and technique. 3. Administer local anesthetic. 4. Wait for onset of anesthesia (varies by agent and technique). 5. Perform surgical procedure. 6. Monitor patient for anesthesia efficacy and potential complications. Precautions and Contraindications: 1. Allergic reactions to local anesthetics. 2. Bleeding disorders or anticoagulation therapy. 3. Liver or kidney disease. 4. Heart conditions (e.g., arrhythmias). 5. Pregnancy or breast feeding. Complications Management: 1. Systemic toxicity (e.g., seizures, cardiac arrest). 2. Local complications (e.g., infection, nerve damage). 3. Allergic reactions are also should be explained. . Students pair up to practice these techniques, observe each other, and provide feedback. Groups discuss common mistakes and best practices, sharing tips to reinforce each procedure's importance. Duration: 1Hour.
NLHP 5.3	Aseptic, antiseptic & sterilization procedures of surgical instruments.	Students divided into subgroups, each group Teacher should perform the Techniques stepwise as, 1. Aseptic Technique: Demonstrate proper hand hygiene (washing and using hand sanitizers). Show how to put on sterile gloves, masks, and gowns. Demonstrate preparing a sterile field (unwrapping sterile packs, arranging sterile instruments). 2. Antiseptic Technique: Show the use of antiseptics (alcohol or iodine) for cleaning the skin before a procedure.

		Demonstrate wiping instruments with alcohol pads to clean them before use. 3. Sterilization: Demonstrate how to clean surgical instruments first (removing any blood or tissue residues using brushes and disinfectants). Show how to load instruments into an autoclave for sterilization. Explain how to check if the instruments are sterile after the process (e.g., use of autoclave indicators, and packaging). Groups present their observations and receive feedback, followed by discussion on aseptic procedures and best practices . The activity concludes with a reflection on the experience and the importance of maintaining proper aseptic procedures and infection control. Duration: 1Hour.
NLHP 5.4	Arrangements required for preventing hospital infections.	Students divided into subgroups For each group teacher organise the arrangements required for preventing hospital infections like I. Infection Prevention and Control (IPC) Program II. Environmental Cleaning and Disinfection III. Hand Hygiene IV. Personal Protective Equipment (PPE) V. Sterilization and Disinfection of Equipment VI. Waste Management VII. Surveillance and Monitoring VIII. Staff Education and Training IX. Patient Education and Empowerment X. Quality Improvement Students take turns demonstrating proper techniques to their peers, followed by practicing in pairs and providing feedback. Groups discuss observations and share best practices, and students assess each other's techniques using a checklist. The activity concludes with a reflection on the experience and the

		importance of organising the arrangements required for preventing hospital infection. Duration: 1Hour.
NLHP 5.5	Arrangements required for isolating the infected patient in a hospital.	Students divided into subgroups, for each group teacher organise the arrangements required for isolating the infected patient in a hospital, • Pre-isolation preparations • Isolation room preparation • Patient isolation catogeries and isolation procedures • Staff precautions, • Communication &educate the patient also his/her family • Logistics and supplies • Isolation room cleaning and disinfection • Isolation room termination • Also the regulation and guidelines for infection control standards . Groups discuss observations and share best practices, and students assess each other's techniques using a checklist. The activity concludes with a reflection on the experience and the importance of organising the arrangements required for isolating the infected patient in a hospital. Duration: 1Hour.
NLHP 5.6	**D**ocumentation procedures of different types of hospital records by manual works and software skills.	Students divided into small group for each group teacher should demonstrate how to document the different types of hospital records by manual works and software skills. Manual Documentation Procedures 1. Patient Registration Records 2. Medical Records 3. Nursing Records

		4. Lab &Radiology Records Software Documentation Procedures 1. Electronic Health Records (EHRs) 2. Hospital Information Systems (HIS) 3. Picture Archiving and Communication Systems (PACS) Also Software Used and Documentation Standards are to be demonstrated. Each group presents their findings , followed by an open floor for questions and feedback. The activity concludes with a reflection session where groups summarize key insights and emphasize the importance of manual works and software skills for maintaining the documentation procedures of different types of hospital records. Duration: 1Hour.
NLHP 5.7	Different types of hospital records through manual work and software skills.	Students divided into subgroups Student from each group should perform, • Maintenance of hospital records which are importantant for patient care,quality improvement and regulatory compliance • Advantages and disadvantages of maintenance of hospital records • Various hospital records like patient registration, medical, surgical, lab, radiology, pharmacy, billing&insurance, employee and administrative record maintenance & their importance . Groups discuss different skills and share best practices, and students assess each other by using a checklist. The activity concludes with a reflection on the experience and the importance of proper maintenance of hospital records through manual works and software skills. Duration: 1Hour.

Topic 6 Burns, Hemorrhage and Shock (LH :2 NLHT: 1 NLHP: 3)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO4	Describe the Definition, Classification, Pathology, Extend of Burns, Complications as local and systemic changes of Burns. Describe Definition, Classification, Pathophysiology of haemorrhagic shock and Principles of management of Haemorrhage.	CC	DK	K	L,L&PPT	QZ ,T-OBT	F&S		-	LH
CO4	Describe Definition, Classification,Mechanism of Shock, General principles of resuscitation and specific treatment for various types of Shock- Hypovolaemic shock, Cardiogenic shock,Septic shock, Anaphylctic shock & Neurogenic shock.	CC	DK	K	L&PPT ,L	T-OBT,O-QZ	F&S		-	LH
CO4	Demonstrate the ability to assess and manage the conditions related to Alkalosis, Acidosis and Water metabolism.	PSY-GUD	DK	SH	BS,L&GD	SP,SBA	F		-	NLHT6.1
CO4	Demonstrate the steps for infusing IV fluids	PSY-GUD	MK	SH	D-M,SIM	OSPE,P-PRF	F&S		-	NLHP6.1
CO4	Perform infusion of IV fluids in a given patient or on simulation.	PSY-GUD	MK	D	SIM,D-BED	DOPS,DOPS,DOAP	F&S		-	NLHP6.2
CO4	Identify the signs of circulatory insufficiency in patients experiencing Hypovolemic shock.	CAN	MK	KH	CBL,PBL	P-RP,P-PRF,P-PS	F		-	NLHP6.3

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 6.1	Assessment and management of the conditions related to Alkalosis, Acidosis and Water metabolism.	Students divided into small groups,for each group teacher should demonstrate, 1. In Alkalosis Management: Causes, symptoms and treatment of Respiratory Alkalosis and Metabolic Alkalosis 2. In Acidosis Management: Causes, symptoms and treatment of Respiratory Acidosis and Metabolic

		Acidosis 3.In Water Metabolism Management: Causes, symptoms and the treatment of Dehydration and Fluid Overload 4.In Assessment and Monitoring: • Laboratory tests: Arterial blood gas (ABG), electrolyte panel, complete blood count (CBC). • Physical examination: Vital signs, neurological assessment, cardiovascular evaluation. • Imaging studies: Chest X-ray, Electrocardiogram (ECG) and 4.In interventions : Pharmacological and non-pharmacological Interventions . Followed by this, the groups will present and discuss their proposed measures, concluding with a summary of key points and the importance of the ability to assess and manage the conditions related to Alkalosis, Acidosis and Water metabolism. Duration: 1Hour.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 6.1	Steps for infusing IV fluids.	Students divided into small group for each group teacher should demonstrate stepwise procedure for infusing IV fluids in simulation/model as follows, • Pre-Infusion Checks: 1. Verify patient's identity. 2. Check IV fluid expiry date and integrity. 3. Ensure patient's vein patency and accessibility. 4. Prepare necessary equipment.

		• Infusion Steps: Step 1: Prepare IV Site 1. Clean and disinfect IV site with alcohol swab. 2. Apply tourniquet. Step 2: Insert IV Cannula/Needle 1. Insert IV cannula/needle at 20-30° angle. 2. Advance needle/cannula until blood flashback is seen. Step 3: Secure IV Cannula/Needle 1. Remove tourniquet. 2. Secure IV cannula/needle with tape. Step 4: Connect IV Tubing 1. Connect IV tubing to IV cannula/needle. 2. Ensure tubing is securely attached. 3. Ensure there is no air bubbles interveining Step 5: Infuse IV Fluids 1. Squeeze drip chamber to fill with fluid. 2. Adjust flow rate according to physician's order. 3. Monitor IV flow and patient's response. • Post-Infusion Checks 1. Monitor patient's vital signs. 2. Check IV site for signs of complications (e.g., infiltration, phlebitis). 3. Document infusion details. . Groups discuss observations and share best practices, and students assess each other's techniques using a checklist. The activity concludes with a reflection on the experience and the importance of IV fluid infusion in suitable conditions. Duration: 1Hour.

NLHP 6.2	Infusing IV fluids in a given patient or on simulation.	Students divided into small group, from each group student should perform infusing IV fluids step by step Pre-Infusion Checks: 1. Verify patient's identity. 2. Check IV fluid expiry date and integrity. 3. Ensure patient's vein patency and accessibility. 4. Prepare necessary equipment. Infusion Steps: Step 1: Prepare IV Site 1. Clean and disinfect IV site with alcohol swab. 2. Apply tourniquet. Step 2: Insert IV Cannula/Needle 1. Insert IV cannula/needle at 20-30° angle. 2. Advance needle/cannula until blood flashback is seen. Step 3: Secure IV Cannula/Needle 1. Remove tourniquet. 2. Secure IV cannula/needle with tape. Step 4: Connect IV Tubing 1. Connect IV tubing to IV cannula/needle. 2. Ensure tubing is securely attached. 3.Ensure there is no air bubbles interveining in the tube. Step 5: Infuse IV Fluids 1. Squeeze drip chamber to fill with fluid. 2. Adjust flow rate according to physician's order. 3. Monitor IV flow and patient's response. Post-Infusion Checks 1. Monitor patient's vital signs. 2. Check IV site for signs of complications (e.g., infiltration, phlebitis). 3. Document infusion details. as demonstrated by the teacher. Groups discuss common mistakes and best practices, sharing tips to

		reinforce each procedure's importance. Duration: 1Hour.
NLHP 6.3	Signs of circulatory insufficiency in patients experiencing Hypovolemic shock.	Students divided into small group for each group teacher should demonstrate, Hypovolemic Shock Stages: 1. Compensatory (mild) 2. Progressive (moderate) 3. Irrversible (severe) and Signs of Circulatory Insufficiency & additional signs Then about the Assessment Tools: 1. Vital signs (BP, HR, RR, Temp) 2. Physical examination (skin, pulses, capillary refill) 3. Laboratory tests (CBC, electrolytes, lactate) 4. Imaging studies (e.g., chest X-ray, ultrasound) 5. Hemodynamic monitoring (e.g., CVP, SvO2). . Groups present their findings and receive feedback, followed by discussion on diagnostic reasoning and best practices. The activity concludes with reflections on the learning process, emphasizing a systematic approach to diagnosis and treatment. Duration: 1Hour.

Topic 7 Anorectal diseases (LH :4 NLHT: 2 NLHP: 6)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO8	Explain causes, clinical features, Complications and differential diagnosis,Investigations, diagnosis, treatment (medical & surgical) of *Moola noikal* (Ano rectal diseases).	CC	MK	K	L,EDU	QZ ,INT,T-OBT,CL-PR	F&S		-	LH
CO1,	Describe causes, clinical features, Complications and differential	CC	MK	K	L_VC,B	T-OBT,VV-	F&S		-	LH

CO2, CO8	diagnosis, Investigations, diagnosis, treatment (medical & surgical) of *Vireki thapitham* (Proctitis),.				L	Viva				
CO1, CO2, CO8	Detail the causes, clinical features, complications, and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) of *Asana vai vedippu* (Fissure in ano).	CC	MK	K	L&PPT ,TBL	PA,PUZ	F&S		-	LH
CO1, CO2, CO8	Recall the causes, clinical features, Complications, and differential diagnosis, Investigations, diagnosis, and treatment (medical & surgical) of *Pavuthiram* (Fistula in ano).	CC	MK	K	L&PPT ,FC	COM,S-LAQ	F&S		-	LH
CO1, CO2	Demonstrate the Siddha Pre & Post operative preparation of the patient.	PSY-GUD	MK	SH	DIS,D-BED,CBL,RP	PM,CHK	F&S		-	NLHP7.1
CO1, CO2	Perform the Siddha Pre & Post operative preparation of the patient.	PSY-GUD	MK	SH	KL,PSM,D-M,FC	P-RP,Mini-CEX,P-PRF	F&S		-	NLHP7.2
CO1, CO2	Demonstrate the techniques for rectal examination.	PSY-GUD	MK	KH	SIM,D-M	SP,P-MOD	F&S		-	NLHP7.3
CO1, CO2	Perform the techniques of rectal examination.	CAP	MK	SH	SIM,D-BED,D-M	PM,P-EXAM	F&S		-	NLHP7.4
CO1, CO2, CO8	Perform application of the *kara nool* in Fistula-in-ano.	PSY-GUD	MK	SH	D-M,SIM,D-BED	SP,P-RP	F&S		-	NLHP7.5
CO1, CO2, CO8	Perform *Peechu* (Enema / Douch) in a given patient	PSY-GUD	MK	SH	D-M,CBL,D-BED,PBL	P-RP,SP	F&S		-	NLHP7.6
CO2,	Formulate a dietary plan for anorectal diseases.	PSY-	MK	SH	SIM,DI	M-POS,M-	F&S		V-	NLHT7.1

CO5		GUD			S	CHT,PRN			NAVO	
CO1, CO8	Describe *Peechu* (Enema/Douch).	CC	MK	K	D-BED, SIM,D, DIS,D-M	SP,P-PRF,P-EXAM	F&S		-	NLHT7.2

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 7.1	Dietary Plan for Anorectal Diseases.	Discussion: Divide students into small groups to discuss the nutritional needs for anorectal disease patients. Each group creates a comprehensive dietary plan, including meal suggestions and nutritional information. Groups present their plans to the class for a discussion on the effectiveness and practicality of each plan. Duration : 1 hour Simulation: Students simulate planning and preparing meals for patients using hypothetical scenarios. They devise meal plans that meet specific dietary needs and assess their nutritional balance and feasibility. The students then present and review their meal plans, receiving feedback on their nutritional content. Duration : 1 hour Bedside Demonstration: Conduct practical sessions on preparing high-fiber meals. Students observe and discuss the preparation process and the health benefits of these meals. This is followed by a discussion on the importance of diet in managing anorectal diseases, accompanied by Q&A sessions to clarify any doubts. Duration : 1 hour
NLHT 7.2	*Peechu* (Enema/Douch) Application.	Discussion: Discuss the purpose, benefits, and preparation of *Peechu* in small groups. The session is followed by a Q&A to clarify doubts and reinforce understanding. Duration : 1 hour Simulation: Students simulate the preparation and application process of *Peechu* using models in a controlled environment. This allows them to practice the technique, followed by a review of the simulations to highlight proper techniques and common mistakes. Duration : 1 hour Bedside Demonstration: As an experienced practitioner, the teacher can demonstrate the *Peechu* application. Students observe the preparation and application of *Peechu* in a clinical setting. This is followed by debrief sessions to discuss observations and reinforce key learning points. Duration : 1 hour

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 7.1	Siddha Pre & Post operative preparation of the patient.	Demonstrate Bedside: Conduct a bedside demonstration of the Siddha pre and post-operative preparation of a patient. This involves showing the specific steps taken before and after surgery to ensure patient safety and recovery. Duration : 1 hour Case-Based Learning: Present case studies to illustrate different scenarios and outcomes in pre and post-operative care. Students analyze these cases to understand the rationale behind each step and discuss best practices. Duration : 1 hour
NLHP 7.2	Siddha Pre & Post operative preparation of the patient.	Problem Solving Method: Present students with common pre and post-operative challenges. Students work in groups to identify and solve these problems, enhancing their critical thinking skills. Duration : 1 hour Flipped classroom : Students can watch video lectures and participate in online discussions before class. In-class activities can include group discussions, hands-on demonstrations, role-playing, and problem-solving exercises to apply their knowledge practically.Duration : 1 hour
NLHP 7.3	Methods of the Rectal examination.	Simulation: Use simulation models to allow students to practice rectal examination techniques in a controlled environment. This helps them gain confidence and proficiency. Duration : 1 hour. Demonstration on Model: Teacher will show a live demonstration of the rectal examination on a model or using per rectal examination trainer, emphasizing proper techniques and common findings. Duration : 1 hour
NLHP 7.4	Examination of Rectum.	Simulation: Have students perform rectal examinations on simulation models. This hands-on practice helps them refine their skills. Duration : 1 hour Demonstration on Model: Conduct a demonstration on a model or per rectal examination trainer, guiding students through each step and correcting any mistakes. Duration : 1 hour Demonstrate Bedside: Show the procedure in a real clinical setting, allowing students to observe and

		understand the nuances of performing a rectal examination on an actual patient. Duration : 1 hour
NLHP 7.5	Application of the *kara nool* in Fistula-in-ano.	Simulation: Use simulation models to practice the application of *Kara Nool* in treating Fistula-in-Ano. This helps students understand the procedure's intricacies. Duration : 1 hour Demonstration on Model: Demonstrate the application step-by-step on a model, highlighting key techniques and precautions. Duration : 1 hour Demonstrate Bedside: Provide a bedside demonstration in a clinical setting, showing how the technique is applied to real patients and discussing the outcomes. Duration : 1 hour
NLHP 7.6	Procedure - *Peechu* (Enema / Douch)	Problem-Based Learning: Present a problem scenario where *Peechu* is indicated. Students work in groups to devise a treatment plan and discuss the procedure's benefits and potential issues. Duration : 1 hour Case-Based Learning: Analyze case studies where *Peechu* was used, discussing the indications, methods, and outcomes. This helps students understand the practical application of the technique. Duration : 1 hour Demonstration on Model: Perform a demonstration on a model, showing the preparation, application, and expected results of *Peechu*. Duration : 1 hour

Topic 8 Study on the following Surgical conditions (LH :7 NLHT: 6 NLHP: 7)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO8	Explain causes, clinical features, classification,Complications and differential diagnosis Investigations, diagnosis, treatment (medical & surgical) with scientific correlations of *Yanaikkaal noi* (Filariasis)	CC	MK	K	L&PPT ,DIS	QZ ,T-OBT,DEB	F&S		-	LH
CO1, CO2, CO8	Describe causes, clinical features, classification,Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) with scientific correlations of *Kalladaippu noi* (Renal calculi)	CC	MK	K	DIS,L	CHK,DEB, CL-PR	F&S		-	LH

CO1, CO2, CO8	Explain causes, clinical features, Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) with scientific correlations of *Kandamalai* (Cervical adenitis)	CC	MK	K	L&PPT ,BL	CR-W,PA	F&S		-	LH
CO1, CO2, CO8	Describe the causes, clinical features,Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) with scientific correlations of *Piththappai kal* - (Gall stones (Cholelithiasis)	CC	DK	K	L&PPT ,IBL	VV-Viva,C L-PR	F&S		-	LH
CO1, CO2, CO8	Explain causes, clinical features, classification,Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) with scientific correlations of *Kanaya thapitham* – (Acute & Chronic Pancreatitis)	CC	DK	K	L&GD, L	INT,M-CHT,Log book	F&S		-	LH
CO1, CO2, CO8	Describe the causes, clinical features, classification,Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) with scientific correlations of *Nangoozh thapitham* – (Appendicitis)	CC	DK	K	L&GD, L	CHK,RS	F&S		-	LH
CO1, CO2, CO8	Explain causes, clinical features,Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) with scientific correlations of *Kudal vatham*-(Paralytic ileus)	CC	DK	K	L,L_VC	DEB,COM	F&S		-	LH
CO1, CO2, CO8	Create the dietary plan for Renal stones.	PSY-GUD	MK	SH	PL,L&GD	Portfolios, VV-Viva	F&S		-	NLHT8.1
CO1, CO2, CO8	Prepare the dietary plan for Gall stones & Pancreatitis.	PSY-GUD	MK	SH	TBL,BS	M-MOD,INT	F&S		-	NLHT8.2
CO1,	Distinguish advantages and disadvantages of Heat application.	CC	MK	KH	LRI,D-	PRN,PM	F		-	NLHT8.3

CO2, CO8					BED,CBL					
CO1, CO2, CO8	Differentiate the Advantages and disadvantages of Ice application.	CAN	MK	KH	D,TBL	M-CHT,DEB	F		-	NLHT8.4
CO2, CO8	Practice insertion of both male and female catheters on the model.	PSY-GUD	MK	KH	D,SIM	DOPS,P-RP,DOPS	F&S		-	NLHT8.5
CO1, CO2, CO5, CO8	Interpret the given X-Rays,IVP, ECG, USG,CT, Scan and MRI reports.	CE	MK	KH	LRI,CBL,D-BED	Log book,PM	F&S		-	NLHT8.6
CO1, CO2, CO8	Demonstrate the Physical examination of the neck	PSY-GUD	MK	D	D-M	OSPE,Mini-CEX,P-PRF	F&S		-	NLHP8.1
CO1, CO2, CO8	Perform the physical examination of the neck and point out the size, consistency and tenderness of lymph nodes in the neck.	PSY-GUD	MK	D	D-BED,PT	DOPS,SP,OSPE,DOPS	F&S		-	NLHP8.2
CO1, CO2, CO8	Demonstrate the features of Acute abdomen & Chronic abdomen through examination of inspection, palpation, percussion, and auscultation.	PSY-GUD	MK	KH	PSM,SIM	OSCE,Mini-CEX	F&S		-	NLHP8.3
CO1, CO2, CO6, CO8	Perform the physical examination methods of Acute abdomen & Chronic abdomen through inspection, palpation, percussion, and auscultation.	PSY-GUD	MK	SH	D,SIM	P-RP,P-PRF	F&S		-	NLHP8.4
CO1, CO2, CO8	Demonstrate physical examination of the abdominal lump	PSY-GUD	MK	SH	SIM,D-M	P-CASE,DOAP	F&S		-	NLHP8.5

CO1, CO2, CO8	Perform physical examination of the abdominal lump.	PSY-GUD	MK	SH	PBL,SIM	PM,SP	F&S		-	NLHP8.6
CO1, CO2, CO8	Discuss the diagnosis and treatment of Acute abdomen and Chronic abdomen cases.	CAN	MK	KH	CD,LRI	Log book,PA	F&S		-	NLHP8.7

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 8.1	Dietary plan for Renal stones.	Lecture and Group Discussion : The teacher will deliver a lecture on the causes, types, and dietary management of renal stones. Key topics will include the role of hydration, dietary oxalate, calcium intake, and other nutritional factors. After the lecture, students will engage in a group discussion to explore different dietary strategies, share insights, and ask questions. Duration : 1 hour Peer Learning : Students will be divided into small groups to design a comprehensive dietary plan for renal stone prevention and management. Each group will research and discuss dietary recommendations, including foods to avoid and those that may help reduce the risk of stone formation. Groups will then present their dietary plans to their peers, receiving feedback and refining their strategies. Duration : 1 hour
NLHT 8.2	Dietary plan for Gall stones & Pancreatitis.	Brainstorming : Organize a discussion session where students can brainstorm and share ideas on creating dietary plans for gallstones and pancreatitis. Focus on identifying foods that can help manage symptoms and prevent complications. Encourage students to consider the nutritional needs, potential food triggers, and overall health benefits of different dietary choices. Duration : 1 hour Team-Based Learning : Divide students into teams and assign each team the task of creating a comprehensive dietary plan for gallstones and pancreatitis. Provide them with guidelines and resources on the recommended foods and those to avoid for each condition. Each team will research, discuss, and compile their findings into a detailed dietary plan. Teams will then present their plans to the group, followed by a discussion to compare different approaches and refine the plans. Duration : 1 hour

NLHT 8.3	Advantages and disadvantages of Heat application.	Case-Based Learning : The teacher presents clinical cases where heat application was used as a treatment modality. Students will work in groups to analyze these cases, identify the advantages (such as muscle relaxation, improved blood flow, and pain relief) and disadvantages (like potential burns, increased inflammation, and contraindications in certain conditions) of heat application. Each group will present their findings, followed by a class discussion to compare insights and deepen understanding. Duration : 1 hour Demonstration Bedside :The teacher will conduct a bedside demonstration, showing the proper techniques for heat application and discussing its advantages and disadvantages in real-time. This includes demonstrating various methods (such as hot packs, warm baths, and heat lamps), explaining their effects, and discussing safety precautions. Students will observe the demonstration, practice the techniques on simulation models or peers. Duration : 1 hour
NLHT 8.4	Advantages and disadvantages of Ice application.	Team-Based Learning : Students will be divided into teams and provided with materials on the advantages and disadvantages of ice application. Each team will research, discuss, and compile their findings, focusing on aspects like pain relief, swelling reduction, potential skin damage, and contraindications. Teams will present their conclusions to the class, followed by a discussion to compare insights and understand different perspectives. Duration : 1 hour Demonstration :The teacher will perform a live demonstration of ice application on a volunteer or simulation model. The process will include the correct techniques for applying ice, duration, and precautions to avoid skin damage. The teacher will discuss the immediate effects observed, highlighting both benefits and potential risks. Students will observe, ask questions, and practice the technique under supervision. Duration : 1 hour
NLHT 8.5	Insertion of both male and female catheters on the model.	Demonstration on Model or Simulation : The teacher will start the session by explaining the procedure's importance, indications, and potential complications. Emphasize aseptic techniques and identify anatomical landmarks on the models for both male and female catheterization. Show the proper insertion of the catheter, the application of lubricant gel, and the inflation of the balloon. Attach the catheter to a drainage bag, secure it, and discuss post-procedure care. Allow students to practice the procedure under supervision, providing guidance and feedback. Conclude with a discussion and Q&A session to reinforce key points and

		address any questions.Duration : 1 hour
NLHT 8.6	X-Rays,IVP, ECG,USG,CT, Scan and MRI reports Interpretation.	Case-Based Learning : The teacher will present clinical cases withX-Rays,IVP, ECG,USG, CT, and MRI reports. Students will work in groups to analyze and interpret these reports, identify key findings, and correlate them with patient history and symptoms. Each group will present their interpretations and engage in a class discussion to compare different perspectives and enhance understanding. Duration : 1 hour Lab Report Interpretation or Demonstration Bedside The teacher will conduct a bedside demonstration, interpreting X-Rays,IVP, ECG,USG, CT, and MRI reports in the context of a patient case. This includes discussing the imaging findings, explaining their clinical relevance, and demonstrating how to integrate this information into patient care. Students will observe the demonstration, ask questions, and participate in discussions to solidify their understanding. Duration : 1 hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 8.1	Physical examination of the neck	Demonstration on Model: Use simulation models to practice the physical examination of the neck, focusing on palpation and identification of anatomical structures. Duration : 1 hour Demonstration on Bedside: Provide a bedside demonstration to show the examination procedure in a clinical setting, emphasizing real patient interaction. Duration : 1 hour
NLHP 8.2	Physical examination of the neck and point out the size, consistency and tenderness of lymph nodes in the neck.	Practical :The teacher will guide students in a hands-on activity where they practice the physical examination of the neck on simulated patients or peers. This will include inspection, palpation, and assessment of lymph nodes to evaluate their size, consistency, and tenderness. Students will take turns performing the examination and discussing their findings. Duration : 1 hour Demonstration Bedside:The teacher will perform a bedside demonstration on a patient, showing the correct techniques for inspecting and palpating the lymph nodes in the neck. Key aspects such as size, consistency, and tenderness will be highlighted. Students will observe the demonstration, ask

		questions, and then practice the techniques under supervision to ensure proper understanding and application. Duration : 1 hour
NLHP 8.3	Methods of Examining the case of acute abdomen.	Problem Solving Method :The teacher will demonstrate the examination of acute and chronic abdomen features through inspection, palpation, percussion, and auscultation. Students will then work on problem-solving cases where they apply these techniques to diagnose simulated patients. This activity promotes practical skills, critical thinking, and collaborative problem-solving in diagnosing abdominal conditions. Duration : 1 hour Simulation :The teacher will demonstrate inspection, palpation, percussion, and auscultation, highlighting key differences between acute and chronic abdomen features. Students will practice these techniques on simulation models or peers, discuss their findings, and analyze case studies to differentiate between the conditions. Duration : 1 hour
NLHP 8.4	Physical Examination methods of Acute abdomen & Chronic abdomen through inspection, palpation, percussion, and auscultation.	Demonstration or Simulation : The teacher provides an overview of the differences between acute and chronic abdominal conditions and the importance of a thorough physical examination.Students are divided into small groups, each group will practice on an anatomical model or a simulated patient.Each group starts with inspecting the abdomen for visible abnormalities, such as swelling, scars, or discoloration. They document their observations.Groups practice palpation techniques, starting from non-tender areas and systematically moving to tender areas, assessing for lumps, tenderness, and organ size. They differentiate between the findings for acute and chronic conditions.Students perform percussion to evaluate the underlying structures, distinguishing between solid, fluid-filled, and air-filled areas. They document their findings and note differences between acute and chronic conditions.Using a stethoscope, groups listen for bowel sounds and vascular bruits, documenting normal and abnormal findings that can indicate acute or chronic conditions.Each group presents their findings, including any differences observed between acute and chronic abdominal conditions. Duration : 1 hour
NLHP 8.5	Physical examination of the abdominal lump	Demonstration or simulation : The teacher introduces the importance of a thorough physical examination in diagnosing abdominal lumps.The teacher demonstrates proper hand hygiene and the use of gloves before starting the examination.The teacher begins with a visual inspection of the

		abdomen, looking for any visible abnormalities such as swelling, asymmetry, or skin changes.The teacher demonstrates the technique for palpating the abdomen, starting from the non-tender areas and moving systematically. They explain how to assess the lump's size, shape, consistency, mobility, and tenderness. Using a stethoscope, the teacher shows how to listen for bowel sounds and vascular bruits, which can provide additional information about the lump.The teacher explains and demonstrates how to use percussion to evaluate the underlying structures and differentiate between solid and hollow areas.The teacher emphasizes the importance of accurately documenting findings, including the lump's characteristics and any associated symptoms. Duration : 1 hour
NLHP 8.6	Methods of physical examination in an abdominal lump case.	Problem-Based Learning or simulation: The teacher introduces the topic, emphasizing the importance of a thorough physical examination (Inspection,Palpation,Percussion) in diagnosing abdominal lumps.Students are divided into small groups and assigned different case scenarios involving patients with abdominal lumps. Each case provides a detailed patient history and initial findings.Each group researches the possible causes of abdominal lumps, focusing on signs, symptoms, and physical examination techniques. Groups formulate specific questions to guide their physical examination, such as:location, size, shape, and consistency of the lump.lump movable or fixed,associated symptoms, such as pain or changes in bowel habits using models or simulated patients, the groups practice the physical examination techniques, documenting their findings and observations. Duration : 1 hour
NLHP 8.7	Diagnosis and the line of treatment of Acute abdomen and Chronic abdomen cases.	Case diagnosis : Students are divided into small groups and assigned different case scenarios, with some cases depicting acute abdomen conditions and others chronic abdomen conditions.Each group reviews their assigned case,conducts research on potential diagnoses, and outlines possible treatment plans. They document their findings and prepare to present their analysis.Groups present their case analysis to the class, including the patient's history, physical examination findings, diagnostic tests, and proposed treatment plans. They explain their reasoning and decision-making process.The teacher facilitates a class discussion, encouraging students to ask questions, provide feedback, and compare different approaches to diagnosing and treating the cases.The teacher provides additional insights and clarifies any misconceptions. Duration : 1 hour Interpretation of Lab Reports :Students are divided into small groups and assigned different lab reports

		to interpret. Each lab report comes with a brief patient history to provide context.Each group reviews their assigned lab report, conducts research using provided materials, and analyzes the results. They document their findings, noting any abnormal values and their potential implications.Groups present their interpretation of the lab report to the class, including the patient's history, lab findings, possible diagnoses, and recommended follow-up actions. They explain their reasoning and how they arrived at their conclusions.The teacher facilitates a class discussion, encouraging students to ask questions, provide feedback, and compare different approaches to interpreting the lab reports. The discussion should cover the significance of various lab values and their relevance to the patient's condition.The class evaluates the accuracy and comprehensiveness of each group's interpretation. Duration : 1 hour

Topic 9 Velvizhi Noikal(Diseases of Sclera) (LH :2 NLHT: 1 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO8	Describe the definition, Cause, Classification with clinical features and treatment of the following *VelvizhiNoikal -Ezhuchi,Padarthi,Nerisal,Putru,Kumulam,Vari.*	CC	MK	K	L&PPT ,FC	S-LAQ,COM	F&S		-	LH
CO8	Describe the definition, indications and the method of *Ratchai* (surgical) treatment for *Ezhuchi noi.*	CC	MK	K	L_VC,EDU	PM,T-OBT	F&S		-	LH
CO1, CO2, CO8	Assess the field of vision.	CAP	MK	SH	PBL,CBL	PM,SP	F		-	NLHT9.1
CO1, CO2, CO8	Demonstrate the Eye Exercises for Squint (Strabismus).	PSY-GUD	MK	SH	RP,D	P-RP,P-PRF	F		-	NLHP9.1
CO1, CO2, CO7, CO8	Demonstrate the skills to manage acute ophthalmic emergencies such as chemical injuries, and traumatic eye injuries on simulation or models.	PSY-GUD	MK	KH	SIM,CBL	P-EXAM,P-PRF	F		-	NLHP9.2

CO1, CO2, CO3, CO5, CO8	Demonstrate the communication skills for educating and counseling patients about eye conditions, treatment options, and preventive measures through interactive discussions.	AFT-VAL	MK	SH	D,D-BED	CHK,SBA	F		-	NLHP9.3

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 9.1	Field of vision	Problem-Based Learning : In a problem-based learning session, students are presented with a clinical scenario involving a patient with visual field defects. The teacher provides minimal initial guidance, encouraging students to identify the problem, research relevant information, and develop a plan for assessing the patient's field of vision. Students will work in groups to discuss potential causes of visual field loss, appropriate assessment techniques (such as confrontation visual field test or automated perimetry), and interpret their findings. Each group will present their approach and reasoning, followed by a class discussion to compare different strategies and enhance understanding. Duration : 1 hour Case-Based Learning : The teacher will present detailed case studies of patients with various visual field defects. Students will analyze these cases, focusing on the history, symptoms, and examination findings related to the field of vision. Each group will discuss the methods used to assess the visual field, such as manual perimetry and automated visual field tests, and interpret the results. Students will develop a comprehensive understanding of how to assess and manage visual field defects by correlating clinical findings with the underlying pathology. Duration : 1 hour

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 9.1	Eye Exercises for Squint(Strabismus).	Role Play : The teacher will organize a role-playing session where students take turns acting as healthcare providers and patients. The teacher will first demonstrate various eye exercises for squint, such as pencil push-ups, focus shifting, and convergence exercises. Students will then role-play, with one acting as the healthcare provider guiding the patient (another student) through these exercises.

		Duration : 1 hour Demonstration : The teacher will demonstrate various eye exercises for squint to the students.then allow them to practice. Duration : 1 hour
NLHP 9.2	Skills to manage acute ophthalmic emergencies such as chemical injuries, traumatic eye injuries.	Simulation : The teacher will create a simulated environment to demonstrate the management of acute ophthalmic emergencies such as chemical injuries and traumatic eye injuries. Using mannequins or simulation models, the teacher will guide students through the step-by-step process of handling these emergencies, including initial assessment, immediate interventions, and stabilization. Key skills such as irrigating chemical injuries, managing bleeding, and protecting the eye will be practiced. Students will then take turns in the simulation, applying the demonstrated techniques in a controlled setting. Duration : 1 hour Case-Based Learning : The teacher will present detailed case studies of patients with acute ophthalmic emergencies. Students will work in groups to analyze these cases, identify the critical steps in managing the injuries, and discuss the reasoning behind each intervention. Each group will develop a management plan for their assigned case and present it to the class. Discussions will focus on best practices, potential complications, and the importance of timely intervention. Duration : 1 hour
NLHP 9.3	Communication skills for educating and counseling patients about eye conditions, treatment options, and preventive measures	Demonstration : The teacher will demonstrate effective communication techniques for educating and counseling patients about various eye conditions, treatment options, and preventive measures. This will include role-playing scenarios where the teacher acts as the healthcare provider and a student or volunteer plays the patient. Key skills such as using clear and simple language, showing empathy, active listening, and providing detailed explanations of eye conditions and treatments will be emphasized. Duration : 1 hour Simulation : The teacher will conduct a demonstration, communicating with an actual patient or a simulation model about eye conditions, treatment options, and preventive measures. The teacher will demonstrate how to engage the patient, explain medical information in an understandable manner, address patient concerns, and ensure the patient feels informed and supported. Students will observe the interaction, take notes on effective communication strategies, and practice these techniques in supervised role-playing exercises. Duration : 1 hour

Topic 10 Imai Noikal(Diseases of Eyelids) (LH :2 NLHT: 1 NLHP: 3)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO5, CO8	Describe the definition, Cause, Classification with clinical features and treatment of the following *Imai noikal.Pillam,Imai thadippu,Mudamayir,Ezhichakan,Parparoham,Kazhalai,Imai neer paichal,Suttrukulaivu,Puzhukkadi,Imaiuyarchi.*	CC	MK	K	DIS,L& PPT	S-LAQ,COM	F&S		-	LH
CO8	Describe the definition,Cause,Clinical features and Surgical treatment for *Mudamayir.*	CC	MK	K	L_VC,B L	PA,Portfolios	F&S		-	LH
CO8	Describe Surgical treatment for *Mudamayir*(Trichiasis).	CC	MK	K	EDU	VV-Viva,INT	F&S		-	NLHT10.1
CO6, CO8	Discuss the diagnosis and line of treatment for *Imai noikal* (diseases of eyelids)	CC	MK	KH	LRI,L& GD,PSM	PM,SP	F&S		-	NLHP10.1
CO5, CO6, CO8	Discuss on the points of Spotter diagnosis for assessing *Nagapadalam* and Pterigiyam comparatively.	CC	MK	KH	PER,FC ,DIS	PA,SP	F&S		-	NLHP10.2
CO1, CO2, CO5	Demonstrate the correct technique for eyelid hygiene and warm compress application for the management of blepharitis.	PSY-GUD	MK	KH	D-BED, SIM	TR,DOPS, DOPS	F		-	NLHP10.3

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 10.1	Surgical treatment for *Mudamayir.*	Edutainment : Show a video clip demonstrating the surgical treatment for *Mudamayir* (Trichiasis). The clip should cover the entire procedure, including patient preparation, anesthesia, surgical techniques (such as epilation, electrolysis, or cryotherapy), and post-operative care. Duration : 1 hour Lecture & Group Discussion : Conduct a discussion session where students can ask questions, share

		their observations, and discuss the surgical techniques used. Focus on the indications for surgery, potential complications, and the expected outcomes. Encourage students to compare surgical treatment with other management options and explore the best practices for ensuring patient comfort and successful treatment. Duration : 1 hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 10.1	Diagnosis and line of treatment for *Imai noikal* (diseases of eyelids)	Problem Solving Method : Students will be presented with a clinical scenario involving a patient with eyelid diseases *(Imai Noikal)*. The teacher will provide minimal initial guidance, encouraging students to identify the problem, research relevant information, and develop a diagnostic and treatment plan. Students will work in groups to discuss potential causes, diagnostic techniques (such as visual examination, patient history, and specific tests), and treatment options. Each group will present their approach and reasoning, followed by a class discussion to compare different strategies and enhance understanding. Duration : 1 hour Discussion : Students will explore the diagnosis and treatment of *Imai Noikal* in depth. The teacher will present detailed information on various eyelid diseases, their symptoms, and diagnostic criteria. Students will engage in a guided discussion, sharing their insights on the most effective diagnostic methods and treatment options. The discussion will focus on understanding the underlying causes of eyelid diseases, such as infections, allergies, or structural abnormalities, and the appropriate medical or surgical interventions. Duration : 1 hour
NLHP 10.2	Points of Spotter diagnosis for assessing *Nagapadalam* and Pterigiyam comparatively.	Discussion : Students will explore the diagnostic features of *Nagapadalam* and Pterigiyam using spotter diagnosis techniques. They will compare and contrast the clinical presentations, risk factors, and diagnostic criteria for both conditions. The discussion will focus on identifying key visual indicators, such as the presence of a wing-shaped fibrovascular growth in Pterigiyam and the specific signs of *Nagapadalam*. Students will also examine the role of patient history, including exposure to environmental factors like UV light, in diagnosing these conditions. Duration : 1 hour. Flipped class room : Students should research about Pterigiyam beforehand. During the session, the teacher facilitates a discussion comparing *Nagapadalam* and Pterigiyam and allow the students to

		diagnose the spotters. Duration : 1 hour.
NLHP 10.3	Correct technique for eyelid hygiene and warm compress application	Simulation or Demonstration: Students will be presented with scenarios involving acute ophthalmic emergencies, such as chemical injuries and traumatic eye injuries. The teacher will provide minimal initial guidance, encouraging students to identify the necessary interventions, research relevant information, and develop a plan for managing these emergencies. Students will work in groups to discuss immediate actions, appropriate assessment techniques, and treatment protocols. Each group will present their approach and reasoning, followed by a class discussion to compare different strategies and enhance understanding. Duration : 1 hour

Topic 11 Kadaikkan Noikal (Diseases of Canthus) (LH :2 NLHT: 1 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO5, CO6	Describe the definition, Cause, Classification with clinical features and treatment of the following *Kadaikkan Noikal* (Diseases of the Canthus), *Kannokkadu, Poochathiram, Neerpadarthi, Rakthapadarthi, Thasaipadarthi, Neerkuvai, Rakthakuvai, Mangisakuvai, Vizhivatham, Viranapparu, Vippuruthi, Imaikurudu, Imaikkumizh, Nethira vayu, Kannoi.*	CC	MK	K	L&PPT ,L&GD	QZ ,T-OBT	F&S		-	LH
CO1, CO2, CO6	Describe cause,Clinical features, diagnosis and treatment of other clinical conditions of Eye as mentioned in *Agathiyar Nayana Vithi*	CC	MK	KH	L_VC,EDU	Portfolios,S-LAQ	F&S		-	LH
CO1, CO2, CO5	Demonsterate the application of *Kalikkam and Anjanam*	PSY-GUD	MK	SH	D,SIM	M-POS,INT,DEB	F&S		-	NLHT11.1
CO1, CO2,	Diagnose and infer the line of treatment of *Kadaikkan noikal.*	CAN	MK	SH	TBL,RP	OSCE,SP	F		-	NLHP11.1

CO6										
CO1, CO2, CO5, CO6	Interpret the Spotter diagnosis for assessing *Mudamayir* and Trichiasis comparatively.	CAP	MK	SH	DIS,PBL	DOAP,VV-Viva	F&S		-	NLHP11.2
CO1, CO2, CO5	Demonstrate the correct technique for applying eye drops in patients with canthal diseases, ensuring effective medication delivery and minimizing contamination risk.	PSY-GUD	MK	KH	SIM,D-BED	OSPE,SP,DOPS,DOPS	F		-	NLHP11.3

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 11.1	Application of *Kalikkam and Anjanam*	Demonstration : The teacher will perform a live demonstration of the application of *Kalikkam and Anjanam* on a simulation model or volunteer. This will include: Kalikkam Application: Demonstrating the proper technique for instilling *kalikkam*,ensuring the correct dosage and method to avoid contamination. Anjanam Application: Showing the correct way to apply Anjanam to the inner eyelid, emphasizing hygiene and patient comfort. Students will observe the demonstration, ask questions, and practice the techniques under supervision to ensure they understand the correct procedures. Duration : 1 hour Simulation : The teacher demonstrates the *Kalikkam and Anjanam* application using a mannequin or volunteer, emphasizing hygiene and safety. Students practice the techniques in pairs or small groups under supervision, receiving feedback and corrections. A discussion follows to address benefits, challenges, and questions. Conclude by summarizing key steps and best practices, reinforcing the importance of proper application. Duration : 1 hour

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity

NLHP 11.1	Diagnosis and Line of treatment of *Kadaikkan noikal.*	Team-Based Learning : Students will be divided into small groups to explore the diagnosis and treatment of *Kadaikkan Noikal* . Each team will be given clinical scenarios and tasked with researching relevant information on the condition. They will discuss the symptoms, diagnostic methods, and potential causes. Teams will develop a comprehensive treatment plan, including potential medical interventions. Duration : 1 hour Role Play : Students will simulate the doctor-patient interaction for diagnosing and treating *Kadaikkan Noikal*. One student will act as the healthcare provider, while another plays the role of the patient presenting with *Kadaikkan Noi.* The "doctor" will conduct a mock examination, asking about symptoms and performing diagnostic tests. They will then explain the diagnosis to the "patient" and outline a treatment plan, discussing the importance of compliance and follow-up care. Duration : 1 hour
NLHP 11.2	Spotter diagnosis for assessing *Mudamayir* and Trichiasis comparatively.	Discussion : Students will examine the diagnostic features of *Mudamayir* (Trichiasis) using spotter diagnosis techniques. The discussion will focus on the clinical presentation, risk factors, and diagnostic criteria for *Mudamayir* compared to Trichiasis. Key points of comparison will include the presence of misdirected eyelashes in Mudamayir, causing irritation and potential corneal damage, versus the broader condition of Trichiasis, which can result from various etiologies. Duration : 1 hour Problem-Based Learning : Students will be presented with clinical scenarios involving patients with symptoms of *Mudamayir* and Trichiasis. They will work in groups to identify the problem, research relevant information, and develop a plan for diagnosis and management. Students will discuss the appropriate diagnostic techniques, such as slit-lamp examination and fluorescein staining, to identify and differentiate between *Mudamayir* and Trichiasis. Duration : 1 hour
NLHP 11.3	Correct technique for applying eye drops in patients with canthal diseases	Simulation: Teacher will Use simulation models to demonstrate the correct technique for applying eye drops. This provides students with a controlled environment to learn and perfect their skills without the pressure of a real patient. Duration : 1 hour Demonstration Bedside: Teacher will conduct bedside demonstrations where students can observe and practice the technique on real patients under supervision. This hands-on experience ensures that students understand the practical aspects of the procedure, including patient interaction and comfort. Duration : 1 hour

Topic 12 Tumors and Cysts (LH :6 NLHT: 3 NLHP: 8)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO1, CO2, CO5, CO8	Explain causes, clinical features, classification,Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) with scientific correlations of the following Benign tumours, Myoma, Lipoma, Neurofibroma	CC	MK	K	BS,L&PPT	M-CHT,O-GAME	F&S		-	LH
CO1, CO2, CO8	Describe the causes, clinical features,classification, Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) with scientific correlations of the following Malignant Tumours:Carcinoma,Sarcoma.	CC	MK	K	L&PPT ,LS	T-OBT,Log book	F&S		-	LH
CO1, CO2, CO6, CO8	Explain causes, clinical features, classification, Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) with scientific correlations of the Melanoma	CC	MK	K	FC,L&PPT	COM,S-LAQ	F&S		-	LH
CO1, CO2, CO5, CO8	Describe the causes, clinical features, classification,Complications and differential diagnosis, Investigations, diagnosis and treatment (medical & surgical) with scientific correlations of Carcinoma of Penis.	CC	MK	K	EDU,L	CWS ,VV-Viva,PRN	F&S		-	LH
CO1, CO2, CO6, CO8	Explain causes, clinical features, Classification,Complications and differential diagnosis, Investigations, Diagnosis and treatment (medical & surgical) with scientific correlations of Carcinoma of Rectum	CC	MK	K	L_VC,BS	T-OBT,CL-PR	F&S		-	LH
CO1, CO2, CO8	Describe the causes, clinical features, Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) with scientific correlations of the Dermoid cyst, Sebaceous cyst, Baker's cyst	CC	MK	K	L&PPT ,BL	QZ ,DEB	F&S		-	LH

CO2	Demonstrate the use and function of essential equipments in a Minor Operating Theatre.	PSY-GUD	MK	SH	FC,GBL	CHK,SA	F		-	NLHT12.1
CO2, CO8	Maintain register for Surgical Procedures.	PSY-GUD	MK	SH	TBL,RP	Log book,RK	F		-	NLHT12.2
CO2, CO5	Identify and differentiate the characteristics and clinical significance of benign and malignant tumors, as well as the differences between carcinoma and sarcoma.	CC	MK	KH	L&PPT ,L&GD	M-CHT,PRN	F		-	NLHT12.3
CO2, CO5	Discuss the different modalities of radiation , Radiation hazards and its prevention as Guest lecture.	CC	DK	KH	L_VC,SDL,PER ,DIS	PRN,VV-Viva,INT	F&S		-	NLHP12.1
CO2, CO5	Discuss the practices for minimizing radiation exposure to patients and health care workers including the principles of ALARA (As Low As Reasonably Achievable) as invited talk.	CC	MK	KH	BS,DIS	M-CHT,INT,PRN,QZ	F&S		-	NLHP12.2
CO2, CO5	Apply the principles of tumor staging and grading to assess the severity and progression of cancer.	CAP	MK	KH	DIS,PER,CD,CBL	M-POS,QZ ,PRN,INT, DEB	F&S		-	NLHP12.3
CO2, CO5, CO8	Interept imaging techniques (X-ray, MRI, CT) and pathological investigations to detect and differentiate tumors.	PSY-GUD	MK	SH	PBL,L_VC	P-EXAM,OSCE	F		-	NLHP12.4
CO2, CO5	Analyze and address ethical issues in the treatment of cancer patients.	CAN	DK	KH	CBL,BS	PRN,COM	F		-	NLHP12.5
CO2, CO5	Discuss the role of nutrition in cancer care and recovery.	CAP	MK	KH	CBL,DIS	PRN,INT, M-CHT	F		V-NAVO	NLHP12.6
CO2	Discuss the concepts of Chemotherapy - Cell cycle regulation and Anti cancer drugs, The cytotoxics including plant alkaloids, Immunotherapy and multi disciplinary approach in management	CC	DK	KH	IBL,DIS	M-CHT,QZ ,PM,VV-Viva	F		-	NLHP12.7

	of cancer as invited talk.									
CO2, CO5	Appraise the ethical issues in the treatment of cancer patients.	AFT-REC	DK	KH	FC,TBL	COM,RS	F		-	NLHP12.8

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 12.1	Use and function of essential equipment in a Minor Operating Theatre.	Flipped Classroom : Students will first learn about the essential equipment in a Minor Operating Theatre (MOT) through pre-recorded video lectures, reading materials, and online resources provided before the class. These materials will cover the use and function of key equipment such as surgical instruments (e.g., scalpels, forceps, scissors), sterilization devices (e.g., autoclaves), monitoring devices (e.g., ECG, pulse oximeter), and lighting systems. During the in-class session, students will engage in hands-on activities where they can practice using the equipment under supervision. Duration : 1 hour Game-Based Learning : Create an interactive game or simulation where students must navigate a virtual Minor Operating Theatre. They will be tasked with identifying, selecting, and correctly using various pieces of equipment in different surgical scenarios. For example, the game can present a scenario requiring the use of specific instruments and monitoring devices, and students will earn points for correctly identifying and using each item. Duration : 1 hour
NLHT 12.2	Register for Surgical Procedures.	Role play : Divide students into small groups and assign scenario cards depicting various surgical procedures and potential issues with maintaining registers. Each group prepares and performs a roleplay, demonstrating the process of maintaining a surgical register and addressing potential challenges. Following the presentations, facilitate a discussion to debrief, discuss challenges, propose solutions, and explore alternative approaches. Conclude by summarizing key points and emphasizing the importance of best practices for maintaining accurate and secure surgical registers. Duration : 1 hour Team-based learning : Divide students into small teams and assign scenario cards depicting various surgical procedures and potential issues with maintaining registers. Each team prepares and performs a roleplay, demonstrating the process of maintaining a surgical register and addressing potential challenges. Following the presentations, facilitate a discussion to debrief, discuss challenges, propose

		solutions, and explore alternative approaches. Conclude by summarizing key points and emphasizing the importance of best practices for maintaining accurate and secure surgical registers. Duration : 1 hour
NLHT 12.3	Identification and Differentiation Between Benign and Malignant Tumors.	Lecture with PowerPoint presentation : In the lecture, use a PowerPoint presentation to compare benign and malignant tumors, highlighting their characteristics, clinical significance, and differences between carcinoma and sarcoma with images and clinical examples.Duration : 1 hour Group discussion :Organize a group discussion where students can delve deeper into real-life cases and discuss the impact of tumor behavior on patient management, biological mechanisms of invasiveness, and the challenges in diagnosing and treating different types of tumors. Duration : 1 hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 12.1	Different modalities of radiation, Radiation hazards and its prevention as Guest lecture.	Lecture with Videoclip :Provide an overview of different radiation modalities used in medical practice, including X-rays, CT scans, MRI, and radiation therapy. Use a videoclip to visually demonstrate how each modality works and its specific applications in diagnosing and treating various conditions. Highlight the benefits and limitations of each technique. Duration : 1 hour Discussion : Organize a discussion session focusing on the hazards of radiation exposure and strategies for prevention. Discuss the biological effects of radiation, such as cell damage and increased cancer risk. Emphasize the importance of adhering to safety principles like ALARA (As Low As Reasonably Achievable), proper use of shielding, and monitoring exposure levels. Encourage students to share their insights, ask questions, and discuss real-world scenarios where radiation safety measures are crucial.Duration : 1 hour
NLHP 12.2	Practices for minimizing radiation exposure to patients and health care workers including the principles of ALARA (As Low As Reasonably Achievable) as invited talk.	Discussion :Students can explore radiation protection principles, such as time, distance, and shielding, and delve into the ALARA approach, which involves using the lowest effective dose, optimizing imaging protocols, and shielding sensitive body parts during diagnostic imaging and radiotherapy. Duration : 1 hour

		Brainstorming : Students can generate innovative ideas for reducing patient exposure during imaging procedures, enhancing worker safety in radiology departments, and educating patients and staff about radiation risks and safety. Duration : 1 hour
NLHP 12.3	Application of the principles of tumor staging and grading to assess the severity and progression of cancer.	Discussion :Organize a discussion session focused on the principles of tumor staging and grading to assess the severity and progression of cancer. Topics to cover include the TNM classification system (Tumor size, Node involvement, Metastasis), different grading systems (such as the Gleason score for prostate cancer), and the significance of staging and grading in treatment planning and prognosis. Encourage students to share their understanding, ask questions, and discuss how these principles are applied in various types of cancer. Duration : 1 hour Case-Based Learning :Present detailed case studies of patients with different types of cancer. Each case will include clinical information, imaging results, and pathological findings. Students will work in groups to apply the principles of tumor staging and grading to these cases, determining the stage and grade of the cancer based on the provided information. They will discuss the implications of their assessments for treatment options and prognosis.Duration : 1 hour
NLHP 12.4	Intereptation of imaging techniques (X-ray, MRI, CT) and pathological investigations to detect and differentiate tumors.	Lectures with Video Clips : Conduct a series of lectures that cover the principles and applications of various imaging techniques such as X-ray, MRI, and CT scans in detecting and differentiating tumors. Integrate video clips into the lectures to visually demonstrate how each imaging technique works, what the images look like, and how to interpret them. These clips should include examples of different types of tumors and how they appear in each imaging modality. Problem-Based Learning : Engage students in problem-based learning by presenting clinical scenarios that involve detecting and differentiating tumors using imaging techniques and pathological investigations. Students will work in groups to analyze the scenarios, identify the appropriate imaging technique or pathological test, and interpret the results. For example, they might be given MRI or CT scan images and asked to distinguish between benign and malignant tumors based on specific characteristics. Duration - 1hour
NLHP 12.5	Ethical issues in the treatment of cancer patients.	Brainstroming : Divide students into small groups to brainstorm and list ethical issues on sticky notes

		or index cards, then share and organize these into thematic categories. Facilitate a group discussion to delve deeper into the issues, encouraging participants to share experiences and hypothetical scenarios. Following this, brainstorm potential solutions within the groups and present them. Conclude by summarizing key points and proposed solutions, emphasizing the importance of ethical considerations in cancer treatment. Duration : 1 hour Case-Based Learning : Present detailed case studies that highlight various ethical dilemmas in the treatment of cancer patients. Students will analyze these cases, considering factors such as patient autonomy, informed consent, treatment decisions, and end-of-life care. Each group will discuss the ethical issues presented in their assigned case, develop a resolution plan, and present their findings to the class. Duration : 1 hour
NLHP 12.6	Role of Nutrition in Cancer Care and Recovery	Discussion : Organize a group discussion where students explore the role of nutrition in cancer care and recovery. Topics can include the impact of nutrition on treatment side effects, the importance of maintaining a healthy weight, and specific dietary recommendations for different types of cancer. Encourage participants to share their knowledge, experiences, and questions. Duration : 1 hour Case-Based Learning : Present case studies of cancer patients with different nutritional needs and challenges. Students will analyze these cases, considering factors such as the type of cancer, treatment regimen, and individual patient needs. Each group will develop a nutritional plan tailored to their assigned case, focusing on optimizing the patient's recovery and quality of life. Groups will present their plans to the class, discussing the rationale behind their recommendations and potential challenges. Duration : 1 hour
NLHP 12.7	Concepts of Chemotherapy.	Discussion : Facilitate a discussion on chemotherapy, focusing on cell cycle regulation, anti-cancer drugs, cytotoxic agents (like plant alkaloids), immunotherapy, and the multidisciplinary approach in cancer treatment. Encourage students to share insights, ask questions, and explore the challenges and advancements in these areas. Duration : 1 hour Inquiry-Based Learning : Engage students in inquiry-based learning by assigning specific topics related to chemotherapy and cancer management. Each group will research, formulate questions, and present their findings. Topics include cell cycle regulation, anti-cancer drug mechanisms, cytotoxic agent efficacy, immunotherapy principles, and multidisciplinary team roles. Duration : 1 hour

NLHP 12.8	Ethical issues in the treatment of cancer patients.	Flipped classroom : Students can watch video lectures and participate in online discussions before class. In-class activities can include group discussions, role-playing, debates, and problem-solving exercises to apply their knowledge practically.Duration : 1 hour Team-based learning :team-based learning involves students researching topics such as informed consent, end-of-life care, resource allocation, patient autonomy, communication, and cultural sensitivity. Pre-class activities include reading assignments and video lectures. In-class activities involve team discussions, case analysis, role-playing, debates, and team projects to develop comprehensive ethical care plans.Duration : 1 hour

Topic 13 Diseases of Blood and Lymphatic Vessels (LH :5 NLHT: 2 NLHP: 8)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO4, CO7	Describe the causes, clinical features, Complications and differential diagnosis , Investigations, diagnosis, treatment (medical & surgical) with scientific correlations of the following Diseases of arteries, Haemangioma, Aneurysm and EmbolismThrombosis	CC	DK	K	L&PPT ,L_VC	Log book,Portfolios	F&S		-	LH
CO1, CO2, CO4, CO5, CO6, CO8	Explain causess, clinical features, Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) with scientific correlations of the following Diseases of veins -Thrombosis of vein,Varicose vein,	CC	MK	K	L&GD, L&PPT	QZ ,S-LAQ	F&S		-	LH
CO1, CO2,	Describe causes, clinical features,Complications and differential diagnosis, Investigations, diagnosis, treatment (medical &	CC	MK	K	L&GD, L&PPT	PUZ,CL-PR,DEB,QZ	F&S		-	LH

CO4, CO5, CO8	surgical) with scientific correlations of the following Diseases of veins - Venous ulcer, Thrombophlebitis				,L					
CO1, CO2, CO4, CO5	Describe causes, clinical features, Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) with scientific correlations of the following Diseases of lymphatic vessels and lymph nodes -Lymphangioma	CC	DK	K	L&GD, L	M-POS,INT	F&S		-	LH
CO1, CO4, CO5	Explain causes, clinical features,Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) with scientific correlations of the following Diseases of lymphatic vessels and lymph nodes - Lymphangitis, Lymphangioma, Lymphadenoma (Hodgekin's disease)	CC	DK	K	L&PPT ,L	CL-PR,S-LAQ	F&S		-	LH
CO2, CO5	Enlist clinical signs of ischemia, identify symptoms, and perform diagnostic procedures to accurately detect and assess the condition.	CE	MK	SH	RP,FC	PM,P-PRF,SBA	F		-	NLHT13.1
CO2, CO5	Diagnosis and assessment of saphenofemoral incompetence, including identifying clinical signs, performing diagnostic procedures, and understanding treatment options.	PSY-GUD	MK	KH	DIS,SIM	Mini-CEX,CHK	F		-	NLHT13.2
CO2, CO4, CO5	Demonstrate the physical examination of a vascular leision.	PSY-GUD	MK	KH	D,SIM	P-PRF,OSCE	F		-	NLHP13.1
CO2, CO4	Demonstrate the physical examination including Perthes Test & Trendelenburg Test.	PSY-GUD	MK	KH	D,GBL	OSPE,DOAP,DOPS	F&S		-	NLHP13.2
CO2, CO4	Perform the physical examination of a vascular leision.	PSY-GUD	MK	SH	CBL,D-M,D,SIM,D-BED	P-PRF,P-RP,OSCE	F&S		-	NLHP13.3

CO2, CO4	Demonstrate the examination of Prostate.	PSY-GUD	MK	KH	RP,SIM	OSCE,DOPS,DOPS	F&S		-	NLHP13.4
CO2, CO4	Demonstrate the physical examination of the lymphatic system.	PSY-GUD	MK	SH	DIS,SIM	P-EXAM,SP,OSPE	F&S		-	NLHP13.5
CO2, CO4	Perform physical examination of the lymphatic system.	PSY-GUD	MK	D	PER,CBL,SIM,D,DIS	P-PRF,PRN,SP	F&S		-	NLHP13.6
CO2, CO4	Demonstrate the steps in pleural and ascitic fluid aspiration using appropriate techniques.	PSY-GUD	MK	KH	D-M,SIM	P-MOD,OSPE	F&S		-	NLHP13.7
CO1, CO4, CO5	Discuss the diagnosis and line of treatment of the diseases of veins, arteries and lymphatic vessels	CAN	MK	KH	PBL,CBL	CHK,CWS	F&S		-	NLHP13.8

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 13.1	Clinical signs of ischemia, including identifying symptoms and diagnostic procedures to accurately detect and assess the condition.	Role play :Divide students into pairs or small groups where one person acts as the patient with ischemic symptoms and the other(s) perform the examination and diagnostic procedures. Duration : 1 hour Flipped classroom : Start with video lectures and supplementary reading materials for pre-class activities. In class, perform a live demonstration of the physical examination and diagnostic procedures, such as physical examination, Ankle-Brachial Index (ABI), Doppler ultrasound, and angiography, on a volunteer or mannequin. Allow students to practice the techniques under supervision, provide feedback, and facilitate group discussions on interpreting findings and their clinical implications.Duration : 1 hour
NLHT 13.2	Diagnosis and assessment of saphenofemoral	Simulation:Using realistic models or volunteers, students can practice identifying clinical signs such as

	incompetence, including identifying clinical signs, performing diagnostic procedures, and understanding treatment options.	varicose veins, swelling, and skin changes. They will learn how to perform diagnostic procedures like Trendelenburg test to assess the function of the saphenofemoral junction. Duration : 1 hour Group discussion:Divide students into small groups and provide detailed case studies, including patient history, symptoms, and diagnostic findings. Each group will analyze the cases, discuss the diagnosis, and explore various treatment options in siddha. Duration : 1 hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 13.1	Demonstration of the the physical examination of a vascular leision.	Simulation : use a realistic models or volunteers with simulated lesions. teacher will demonstrate the steps of inspection, palpation, and documentation, focusing on identifying abnormalities such as color changes, size, shape, texture, and tenderness.Duration : 1 hour Demonstration : Teacher will Perform a live demonstration on a volunteer or mannequin, explaining each step and its significance. Allow students to practice the examination techniques under supervision, provide feedback, and facilitate group discussions on interpreting findings and their clinical implications.Duration : 1 hour
NLHP 13.2	Demonstration on the physical examination including Perthes Test & Trendelenburg Test.	Demonstration :In class, perform live demonstrations on a volunteer or mannequin, explaining each step and its significance. Allow students to practice the tests under supervision, provide feedback, and facilitate group discussions on interpreting test results and their clinical implications.Duration : 1 hour Game-based learning : To demonstrate the Perthes and Trendelenburg tests using game-based learning, start with interactive online modules and video tutorials for pre-class activities. In class, use simulation games and team challenges where students practice the tests and interpret results. Incorporate role-playing activities to help students understand different perspectives and improve their communication skills.Duration : 1 hour
NLHP 13.3	Perform the physical examination of a vascular leision.	Case-Based Learning :Students are presented with detailed patient cases involving vascular lesions. Each case includes patient history, symptoms, and images of the vascular lesion. Students work through the cases to identify the lesion, discuss diagnostic methods, and propose examination

		techniques.Duration : 1 hour Simulation : Students can practice performing a physical examination of vascular lesions using realistic models or volunteers with simulated lesions. The simulation should include steps such as inspection (looking for color changes, size, shape), palpation (feeling for temperature, texture, tenderness), and documenting findings.Duration : 1 hour
NLHP 13.4	Demonstration of the Prostate examination.	Demonstration or simulation :The teacher begins with an overview of the examination's importance and procedure, then demonstrates the technique on a model or patient, highlighting key steps. Students practice in small groups, taking turns to perform the digital rectal examination (DRE) while receiving guidance and feedback from the instructor. This is followed by a debriefing session for reflection and discussion, ensuring students gain confidence and proficiency in conducting prostate.Duration : 1 hour
NLHP 13.5	Demonstration of physical examination of the lymphatic system,	Simulation:Use a simulation, mannequins or standardized patients presenting with various lymphatic system abnormalities.Teacher will demonstrate physical examinations, including inspection and palpation of lymph nodes, and student will document their findings.Duration : 1 hour Group Discussions:Provide students with clinical cases involving lymphatic system disorders.Students discuss the cases in small groups with teacher, identifying clinical signs, examination techniques, and management plans.Duration : 1 hour
NLHP 13.6	Performing physical examination of the lymphatic system.	Simulation:Using realistic models or volunteers to practice inspection and palpation of lymph nodes. Record findings accurately during this hands-on practice, focusing on identifying any abnormalities and gaining proficiency in the examination techniques.Duration : 1 hour Discussion:Students can share their observations, discuss any challenges they encountered, and review the proper techniques for examining the lymphatic system.Duration : 1 hour
NLHP 13.7	Demonstration of the steps in pleural and ascitic fluid aspiration using appropriate techniques .	Simulation or Demonstration : The teacher begin the session with a brief explanation of the procedures' purpose and potential complications. then the teacher demonstrate how position the trainer

		appropriately: sitting for pleural aspiration and supine for ascitic aspiration.The teacher shows how tp identify anatomical landmarks, maintain aseptic techniques, simulate local anesthesia administration, and insert a needle or catheter to collect simulated fluid. Conclude by simulating post-procedure care and discussing the importance of monitoring for complications. This activity provides hands-on practice in a controlled environment. Duration : 1 hour
NLHP 13.8	line of treatment of diseases of veins, arteries, and lymphatic vessels	Problem-Based Learning (PBL) :Students are presented with real-life clinical problems related to venous, arterial, and lymphatic diseases. They work in small groups to research and discuss the diagnosis and treatment options for these conditions. For example, a case might involve a patient with chronic venous insufficiency, peripheral arterial disease, or lymphedema. Students would explore the pathophysiology, diagnostic tests (e.g., Doppler ultrasound, angiography, lymphoscintigraphy), and treatment modalities (e.g., compression therapy, lifestyle changes, surgical interventions, medications). Duration : 1 hour Case-Based Learning (CBL) :Students are given detailed patient cases and work through them step-by-step to diagnose and develop treatment plans. Each case provides comprehensive patient history, symptoms, lab results, and imaging studies. For instance, a case might describe a patient with deep vein thrombosis (DVT) presenting with leg swelling and pain. Students would discuss the diagnostic process, including risk factors, physical examination findings, and the use of D-dimer tests and venous Doppler ultrasound. They would then propose treatment options such as anticoagulation therapy, lifestyle modifications, and monitoring for complications like pulmonary embolism. Duration : 1 hour

Topic 14 Comparision with Modern diagnosis (LH :3 NLHT: 1 NLHP: 5)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2, CO6	Distinguish the clinical features of following eye diseases with modern diagnosis - *Suzhal vanderithal* (Vitreous opacities),*Naga padalam* (Pterygium), *Mayir puzhuvettu* (Ulcerative blepharitis)	CAN	MK	K	L_VC,L &GD,L	PRN,T-OBT	F&S		V-NN2	LH

CO2, CO6	Distinguish the clinical features of following eye diseases with modern diagnosis - ***A**maram*(Opthalmia neonatorum), ***K**uvalai vippuruthi* (Dacryocystits)	CAN	MK	K	L,DIS,L &PPT	QZ ,CL-PR,T-OBT	F&S		V-NN2	LH
CO2, CO6	Interprete the clinical features of following eye diseases with modern diagnosis - ***V**ellezhuthu* (Presbyopia), **T**hurmamisa valarchi (Episcleritis), ***M**udamayir*(Trichiasis)	CAN	MK	K	DIS,L& GD,L,L _VC,L &PPT	PUZ,T-OBT,QZ ,T-CS	F&S		V-NN2	LH
CO2, CO6	Identify common eye dieases like ***A**maram* (Opthalmia Neonatorum) and ***N**agapadalam* (Pterygium)	CAP	MK	K	L_VC	INT,SBA	F&S		-	NLHT14.1
CO2, CO7	Demonstrate examination of a patient with the condition of ***N**aga Padalam* (Pterigyum)	CAP	MK	SH	CBL,D	DOPS,OSCE,DOPS	F		-	NLHP14.1
CO2, CO5	Examine a patient with the condition of ***S**uzhal vanderithal* (Vitreous opacities)	CAP	MK	KH	SIM,CBL	P-VIVA,CBA	F&S		-	NLHP14.2
CO2, CO5	Perform examination of a patient with the condition of ***M**udamayir* (Trichiasis)	CAP	MK	D	D,CBL	OSCE,P-PRF,P-VIVA	F&S		-	NLHP14.3
CO2, CO5	Examine a patient with the condition of ***V**ellezhuthu* (Presbyopia)	CAP	MK	KH	CBL,PT	DOPS,P-PRF,DOPS	F&S		-	NLHP14.4
CO2, CO5	Demonstrate examination of a patient with the condition of ***T**hurmamisa valarchi* (Episcleritis)	CAP	MK	KH	D,SIM	DOPS,P-EXAM,DOPS	F&S		-	NLHP14.5

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 14.1	Identification of the modern diagnostic techniques to identify common eye dieases like ***A**maram* (Opthalmia Neonatorum) and ***N**agapadalam*	Teacher should divide the students into two groups.

	(Pterygium)	• First group is assigned the topic: The modern diagnostic techniques to identify ***A****maram* (Opthalmia Neonatorum). • Second group is assigned the topic: The modern diagnostic techniques to identify ***N*** *agapadalam* (Pterygium). The students are asked to create video on the assigned topic and instructed to present the video to the other group. Duration : 1 Hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 14.1	Demonstration of eye examination of a patient with the condition of ***N****aga Padalam* (Pterigyum)	The teacher starts with the demonstration of examination of ***N****aga Padalam* (Pterigyum) Divide the students into groups. Each group is instructed to do the procedure • Greets the patient and introduces themselves • Explain the procedure, and obtain consent. • Inspect for triangular growth on the conjunctiva extending onto the cornea. • Perform slit lamp examination for size, vascularity, and corneal involvement. • Test visual acuity and assess tear film. • Discuss findings, conservative care, and surgical options, ensuring patient The students are allowed to discuss the examination procedures to confirm diagnosis Duration : 1 Hour
NLHP 14.2	Examination of a patient with the condition of ***S*** *uzhal vanderithal* (Vitreous opacities)	The teacher demonstrate the examination of ***S****uzhal vanderithal* (Vitreous opacities). Divide the students into groups. Each group is instructed to do the procedure

		• Greets the patient and introduces themselves • Explain the procedure, and obtain consent. • Examine for floaters, visual disturbances, or blurred vision. • Check for any underlying conditions like diabetic retinopathy or retinal detachment. • Perform fundoscopy and assess for signs of inflammation or hemorrhage, if needed The students are allowed to discuss the examination procedures to confirm diagnosis Duration : 1 Hour
NLHP 14.3	Performing eye examination of a patient with the condition of ***M****udamayir* (Trichiasis)	The teacher starts with the demonstration of examination of ***M****udamayir* (Trichiasis) Divide the students into groups. Each group is instructed to do the procedure, • Greet the patient, introduce yourself, • Explain procedure, and obtain consent. • Inspect eyelids and lashes for inward misdirection, redness, or corneal abrasions. • Use slit lamp and fluorescein staining for detailed examination if needed. • Check for irritation signs and document it. The students are allowed to discuss the examination procedures to confirm diagnosis Duration : 1 Hour
NLHP 14.4	Examination a patient with the condition of ***V****ellezhuthu* (Presbyopia)	The teacher starts with the demonstration of examination of ***V****ellezhuthu* (Presbyopia) Divide the students into groups. Each group is instructed to do the procedure • Greets the patient and introduces themselves • Explain the procedure, and obtain consent. • Examine for difficulty in reading small print or seeing close objects. • Assess visual acuity at near distances.

		• Check for accommodative dysfunction. • Rule out other refractive errors or underlying eye conditions. The students are allowed to discuss the examination procedures to confirm diagnosis Duration : 1 Hour
NLHP 14.5	Demonstration of eye examination of a patient with the condition of ***T****hurmamisa valarchi* (Episcleritis)	The teacher should demonstrate the students to Greet the patient, obtain the consent and progress with the examination such as, • Examine for localized redness, inflammation, and tenderness in the episcleral tissue. • Assess for discomfort, mild pain, and lack of discharge. • Rule out any Autoimmune disorders like rheumatoid arthritis or lupus. The students are allowed to discuss the examination procedures to confirm diagnosis Duration : 1 Hour

Topic 15 Medicines commonly used for Eye Diseases (LH :2 NLHT: 1 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2, CO6	Describe the ingredients ,method of preperations of *Padalathi mathirai, Kankasa mathirai, Matcha Rethinadhi mathirai, **I** laneer kuzhambu* along with the mode of application	CK	MK	K	L&PPT ,FC,REC,L	CL-PR,QZ	F&S		-	LH
CO2, CO6	Describe the ingredients and method of preperation of ***S****anthirodhaya mathirai, Naarikelanjanam, Pazha kirambu pakkuva vennai, Kandu Parpam, Anda neer* along with the mode of application	CK	MK	K	FC,L&PPT ,L	T-OBT,PRN	F&S		V-GMK	LH
CO2,	Advice the preparation of simple medicines for eye application by	CAP	MK	SH	L_VC,D	DOPS,DOP	F		-	NLHT15.1

CO6	video clippings					S				
CO1, CO2, CO6	Perform the various treatment options for various eye diseases by visiting a traditional Eye hospital	PSY-GUD	NK	KH	FV,CBL	PM,CBA	F		-	NLHP15.1
CO1, CO2, CO6	Demonstrate the various treatment options for various eye diseases by visiting a traditional Eye hospital	PSY-GUD	NK	KH	CBL,FV	PM,CBA	F		-	NLHP15.2
CO1, CO2, CO6	Demonstrate the examination techniques with instruments used for diagnosis and treatment of eye diseases by visiting a traditional Eye hospital	PSY-GUD	NK	KH	FV,RLE	C-INT,TR	F		-	NLHP15.3

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 15.1	Discovery of preparation techniques of simple medicines for eye application by video clippings	The teacher should collect and present video clips demonstrating preparation of eye medicines like *Pazhakirambu pakkuva vennai, Kandu Parpam,Anda neer* etc. Students should observe the clippings and replicate the process such as selecting raw drugs, purifying and preparing the medicines . Discuss the method of application and usage of the prepared medicine. Duration : 1 Hour

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 15.1	Perform the various treatment options for various eye diseases by visiting a traditional Eye hospital	The teacher should divide the students into four groups, instructed to do the following activities in a rotatory manner,

		• Group 1: Raw drug Identification and analysation of its Properties • Group 2: Preparation of Eye drops in various forms like Medicated Oils, Ghee and its application techniques • Group 3: Observing traditional minor surgical interventions • Group 4: Lifestyle Practices and Preventive Care Each group are allowed to discuss the observed examination procedures with others for diagnosis. Duration : 1 Hour
NLHP 15.2	Demonstrating the various treatment options for various eye diseases by visiting a traditional Eye hospital	The teacher should divide the students into four groups, each group focusing on given aspects in a rotatory manner • Group 1: Raw drug Identification and analysation of its Properties • Group 2: Preparation of Eye drops in various forms like Medicated Oils, Ghee and its application techniques • Group 3: Observing traditional minor surgical interventions • Group 4: Lifestyle Practices and Preventive Care Each group are allowed to discuss the observed examination procedures with others for diagnosis. Duration : 1 Hour
NLHP 15.3	Demonstrating the examination techniques with instruments used for diagnosis and treatment of eye diseases by visiting a traditional Eye hospital	The teacher should divide the students into two groups, each focusing on eye examinations including • GROUP 1:Visual acuity and Pupil examination • GROUP 2: Extraocular muscles examination Each group are allowed to discuss the observed examination procedures with others for diagnosis. Duration : 1 Hour

Topic 16 Diseases of Male Genital organs (LH :7 NLHT: 4 NLHP: 9)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO1, CO2, CO4, CO6, CO8	Describe causes, clinical features, Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) with scientific correlations of ***A****ankuri noikal* (Diseases of Male genitalia)	CK	MK	K	L&PPT	CL-PR	F&S		-	LH
CO1, CO2, CO4, CO6, CO8	Describe causes, clinical features,Complications and differential diagnosis, Investigations, diagnosis and treatment (medical & surgical) of the diseases of Urethra, Phymosis, Paraphymosis, Testicular tumours	CK	DK	K	L&GD	QZ	F		-	LH
CO2	Define the diseases of ***V****ithai Noikal* (Testis & Scrotum)	CK	MK	K	L&GD	PUZ	F		-	LH
CO1, CO2, CO6, CO8	Explain causes, clinical features,Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) of the following ***V****ithai Noikal* (Diseases of Testis & Scrotum) - Orchitis, Hydrocele, Haematocele, Varicocele	CK	MK	K	L&PPT	DEB	F&S		-	LH
CO1, CO2, CO4, CO6, CO8	Explain causes, clinical features,Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) of ***V****anchanagatha pithukkam* (Hernia)	CK	MK	K	L,L&PPT ,L_VC	PRN,T-OBT	F&S		-	LH
CO1, CO2, CO4, CO6, CO8	Explain causes, clinical features,Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) of ***P****urasthakola Thabitham* (Prostatism) - Acute & Chronic Prostatitis, Benign Prostatic Hyperplasia,	CC	MK	K	L,L&GD	T-CS	F&S		V-UK	LH

CO1, CO2, CO8	Explain causes, clinical features, Complications and differential diagnosis, Investigations, diagnosis, treatment (medical & surgical) of ***P****urasthakola putru* (Carcinoma Prostate)	CK	DK	K	L	PRN	F&S		-	LH
CO2	Discuss on the causes of Male infertility	CC	DK	D	TBL	DEB	F		-	NLHT16.1
CO2	Describe the causes of Impotence	CC	DK	D	PER,FC	CL-PR	F		-	NLHT16.2
CO2, CO5	Perform counselling for cases diagnosed as hernia	CAP	NK	D	RP,SIM	SBA	F		-	NLHT16.3
CO1, CO2, CO4	Identify the complications of Hernia and the ways and means to overcome.	CAN	MK	D	SIM	SP	F		-	NLHT16.4
CO2	Demonstrate the physical examination of inguinoscrotal swellings.	PSY-GUD	MK	D	PT,CD	P-ID	F		-	NLHP16.1
CO2	Perform the physical examination of inguinoscrotal swellings.	PSY-GUD	MK	SH	PT	P-PRF	F&S		-	NLHP16.2
CO2, CO8	Identify the diagnosis and line of treatment after examination of inguinoscrotal swellings	PSY-GUD	NK	K	CD	DOPS,DOPS,P-PRF	F&S		-	NLHP16.3
CO2, CO6	Demonstrate the Physical examination of the male external genitalia.	PSY-GUD	MK	KH	CBL,SIM	OSCE,P-PRF	F		-	NLHP16.4
CO1, CO2	Perform the physical examination of the male external genitalia.	PSY-GUD	MK	SH	CBL,KL	OSPE,P-PRF	F		-	NLHP16.5
CO2, CO6	Diagnose the line of treatment after examination of male external genitalia	PSY-GUD	NK	K	PBL,D-M	P-PS,P-PRF	F&S		-	NLHP16.6
CO2, CO6	Demonstrate the techniques of physical examination of a hernia	PSY-GUD	MK	KH	D,CBL	SP,CBA	F&S		-	NLHP16.7

CO2, CO6	Perform physical examination of hernia	CAP	MK	SH	SIM,CBL	P-PRF,DOPS,DOPS	F		-	NLHP16.8
CO2, CO6	Identify the diagnosis and line of treatment after examination of ***v****anchanagatha pithukkam* (Hernia)	PSY-GUD	MK	K	CBL,D-BED	SP,Mini-CEX	F&S		-	NLHP16.9

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 16.1	Disscussion on the causes of male infertility	The teacher should divide the students into two groups • One group analyse and deliver their collected points in the topic of Hormonal imbalances and infections • Another group analyse and deliver in the topic of genetic issues and Life style factors are the cause of infertility After the debate, the teacher should carify misunderstandings and gasp the complexity and variety of factors involved. Duration : 1 Hour
NLHT 16.2	Description of the causes of Impotence	The teacher should divide the students in four groups Each group is instructed to prepare materials for the given topic by using various source materials. Any one of the student from each group deliver the lecture in the following topics, • Psychological causes • Hormonal causes • Vascular causes • Neurological causes

		Duration : 1 Hour
NLHT 16.3	Performing the Counselling for cases diagnosed as hernia	The teacher should divide the students into two groups , In group 1 everyone act as doctor in Group 2 everyone act as patients.All the students in group 1 are asked to council their patients in given scinerio like • Clear information about the types of hernia - Inguinal, Umbilical, Femoral, etc. • Underlying causes for the development of hernia • Siddha managemet to reduce symptoms and aggravation. • Dietary and lifestyle changes such as avoiding heavy lifting, managing weight, and engaging in gentle exercises to strengthen the abdominal muscles. Duration : 1 Hour
NLHT 16.4	Identification of the complications of Hernia and the ways and means to overcome.	The teacher should demonstrate the following steps to identify complications of hernia and overcome them in a simulated patient: • Assess patient history: Note symptoms, medical history. • Identify complications: Look for signs of incarceration, strangulation, obstruction. • Develop management plans: Create treatment plans for each complication. • Refer the patient for surgical intervention if needed Instruct the students to perform the same procedure to identify the complications of hernia and to overcome it Duration : 1 Hour

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 16.1	Physical examination of inguinoscrotal swellings.	The teacher should demonstrate the students to Greet the patient, obtain the consent and progress with the examination such as, • Inspect the the inguinal canal, scrotum, and surrounding structures (spermatic cord, testicles, and epididymis). • Analyse the swelling and discuss potential conditions, including inguinal hernias, hydroceles, varicoceles, and testicular masses. • Differentiate conditions based on characteristics, such as fluctuation, reducibility, and consistency. The students are allowed to discuss the examination procedures to confirm diagnosis Duration : 1 Hour
NLHP 16.2	Physical examination of inguinoscrotal swellings.	The teacher should divide the students into groups. Each group is instructed to do the procedure as following • Greet and introduce yourself to the patient. and obtain the consent • Inspect the inguinal canal, scrotum, and surrounding structures (spermatic cord, testicles, and epididymis). • Analyse the swelling and discuss potential conditions, including inguinal hernias, hydroceles, varicoceles, and testicular masses. • Differentiate conditions based on characteristics, such as fluctuation, reducibility, and consistency. The students are allowed to discuss the examination procedures to confirm diagnosis

		Duration : 1 Hour
NLHP 16.3	Identification of diagnosis and line of treatment after examination of inguinoscrotal swellings	Provide students with detailed patient case studies that include patient history, symptoms, and physical examination findings Based on the history and physical examination the teacher should educate the students to • Formulate a list of possible differential diagnosis. • Obtain the radiological and specialised tests to narrow down the possibilities and arrive the most likely diagnosis. • Based on the derranged *mukkutram, uyir thathukkal, udar thathukkal, envagai thervu,* investigation results, arrive a personalized line of treatment, internal and external medications, and council the patient for diet, lifestyle modification and for further follow up for inguinoscrotal swelling Students are divided into groups, Groups present their findings and receive systematic approach to diagnosis and treatment. The students will gain a vast clinical knowledge in the case of inguinoscrotal swellings Duration : 1 Hour
NLHP 16.4	Physical examination of the male external genitalia.	The teacher should demonstrate the students to start with the basics of clinicals and progress with the exaamination like • Greet and introduce yourself to the patient. and obtain the consent • Demonstrate the examination of male external genitalia, including structures such as the penis, scrotum, testes, epididymis, and spermatic cord. • Demonstrate correct palpation techniques to assess any abnormality in size, consistency and tenderness.

		The students are allowed to discuss the examination procedures to confirm diagnosis Duration : 1 Hour
NLHP 16.5	Physical examination of the male external genitalia.	The teacher should divide the students into groups. Each group is instructed to do the procedure as following • Greet and introduce yourself to the patient and obtain the consent • Perform the examination of male external genitalia, including structures such as the penis, scrotum, testes, epididymis, and spermatic cord. • Perform correct palpation techniques to assess any abnormality in size, consistency and tenderness. Students are allowed to discuss the observed examination procedures for diagnosis. Duration : 1 Hour
NLHP 16.6	Diagnose the line of treatment after examination of male external genitalia	The teacher should provide detailed patient case studies to the students that include patient history, symptoms, and physical examination findings Based on the history and physical examination the teacher should educate the students to • Formulate a list of possible differential diagnosis. • Obtain the radiological and specialised tests to narrow down the possibilities and arrive the most likely diagnosis. • Based on the derranged mukkutram, investigation results, arrive a personalized line of treatment, internal and external medications, • Council the patient for diet, lifestyle modification and for further follow up for diagnosed condition of male external genitalia Students are divided into groups, Groups present their findings and receive systematic approach to

		diagnosis and treatment. Through this the students will gain a vast clinical knowledge in the diseases Duration : 1 Hour
NLHP 16.7	Techniques of physical examination of a hernia	The teacher should demonstrate the students to Greet the patient, obtain the consent and progress with the examination such as, • Greet and introduce yourself to the patient and obtain the consent • Inspect the inguinal canal, scrotum, and surrounding structures (spermatic cord, testicles, and epididymis). • Analyse the swelling and discuss potential conditions, including inguinal hernias, hydroceles, varicoceles, and testicular masses. • Differentiate conditions based on characteristics, such as fluctuation, reducibility, and consistency. • Educate examination of Cough impulse test and Transillumination test The students should disscuss the appropriate examination procedures to confirm the diagnosis Duration : 1 Hour
NLHP 16.8	Physical examination of hernia	The teacher should divide the students into groups. Each group is instructed to do the procedure as following • Greet and introduce yourself to the patient. and obtain the consent • Inspect the inguinal canal, scrotum, and surrounding structures (spermatic cord, testicles, and epididymis). • Analyse the swelling and discuss potential conditions, including inguinal hernias, hydroceles, varicoceles, and testicular masses. • Differentiate conditions based on characteristics, such as fluctuation, reducibility, and

		consistency. • Perform examination of Cough impulse test and Transillumination test. Students are allowed to discuss the examination procedure to confirm the diagnosis. Duration : 1 Hour
NLHP 16.9	Identification of the diagnosis and line of treatment after examination of ***v****anchanagatha pithukkam* (Hernia)	The teacher should provide detailed patient case studies to the students that include patient history, symptoms, and physical examination findings Based on the history and physical examination the teacher should educate the students to • Formulate a list of possible differential diagnosis. • Obtain the radiological and specialised tests to narrow down the possibilities and arrive the most likely diagnosis. • Based on the derranged mukkutram, investigation results, arrive a personalized line of treatment, internal and external medications, and council the patient for diet, lifestyle modification and for further follow up for hernia. Groups present their findings and receive systematic approach to diagnosis and treatment. Through this the students will gain a vast clinical knowledge in the case of Hernia. Duration : 1 Hour

Topic 17 Study of most prevalent Eye Diseases (LH :9 NLHT: 6 NLHP: 11)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2, CO5	Describe the clinical significance, prevention and treatment of Conjunctivitis (other than Viral) and its treatment.	CK	MK	K	L,L_VC	QZ ,M-POS	F&S		-	LH
CO2	Describe the causes, clinical features and diagnosis of Glaucoma.	CK	DK	K	L,L&PPT	QZ ,PRN	F&S		-	LH

CO2, CO5, CO6	Describe the clinical significance, prevention and treatment of ***V****ellezhuthuNoi* (Presbyopia)	CK	MK	K	L,L&PPT ,L_VC	O-QZ,CL-PR	F&S		-	LH
CO2, CO5, CO6	Explain the clinical significance, prevention and treatment of ***K****ittapparvai* (Myopia)	CK	MK	K	SY,L,L&PPT	CL-PR,QZ	F&S		-	LH
CO2, CO5	Explain the clinical significance, prevention and treatment of Astigmatism	CK	DK	K	L,L&PPT	DEB,O-GAME	F&S		-	LH
CO2, CO5	Describe the clinical significance, prevention and treatment of Nystagmus	CK	MK	K	L,SY,L&PPT	PRN,WP	F&S		-	LH
CO2, CO6	Explain the causes and prevention of ***K****urudu* (Blindness)	CK	MK	K	L&GD,L	PRN,M-CHT	F&S		-	LH
CO2	Describe the prevention and treatments of Glaucoma	CK	DK	K	L&PPT ,CD,DIS,L	QZ ,PRN	F		-	LH
CO2, CO5	Demonstrate preventive measures of viral infections of eye.	CAP	DK	KH	RP,D	DEB,O-GAME	F		-	NLHT17.1
CO2, CO5	Demonstrate the preventive measures to be taken to retain the vision in Glaucoma	PSY-GUD	DK	D	DIS,KL	M-CHT,INT	F		-	NLHT17.2
CO2, CO5	Describe the causes, clinical features, diagnosis and treatment of other viral infections of Eye	CK	MK	K	L,L&PPT	QZ ,T-OBT	F&S		-	LH
CO2	Interpret the causes, clinical features, Diagnosis and treatment of Astigmatism, Nystagmus.	CAP	DK	SH	CBL,TBL	SP, C-VC	F&S		-	NLHT17.3
CO2	Describe the causes, clinical features, Diagnosis and treatment of Conjunctivitis.	PSY-GUD	DK	KH	RLE,PSM	SP,CHK	F&S		-	NLHT17.4

CO2	Interpret the causes, clinical features, Diagnosis and treatment of Presbyopia, Myopia	CAN	DK	KH	SIM,DIS	PM,PUZ	F&S		-	NLHT17.5
CO2, CO5	Demonstrate the methods of Physical examination to evaluate Glaucoma.	PSY-GUD	NK	SH	D-M,IBL	P-PRF,OSCE	F&S		-	NLHP17.1
CO2	Practice the counseling strategies to educate a patient about possible causes that lead to blindness and preventive care.	AFT-VAL	NK	D	RP,PER	PM,INT	F&S		-	NLHP17.2
CO2, CO5	Demonstrate clinical examination to evaluate a patient with suspected Nystagmus	CAP	NK	D	D,CBL	P-PS,P-PRF	F&S		-	NLHP17.3
CO2	Plan the prophylactic measures to prevent different types of Conjunctivitis.	CAP	NK	D	CBL,RLE	P-PRF,Log book	F&S		-	NLHP17.4
CO1, CO7	Prepare and apply ***S****irukala poo thylam* for ***P****adalam* (Pterygium).	PSY-GUD	NK	SH	DL,KL,PT	PM,INT	F		-	NLHP17.5
CO7	Demonstrate the procedure of visualizing moon through ***p****alagani pinnal* to prevent Eye diseases.	PSY-GUD	NK	SH	KL,SIM	SP,INT	F		-	NLHP17.6
CO1, CO7	Apply *palakirambu pakkuva vennai* for ***V****aratchi thimiram* (Xerophthalmia).	PSY-GUD	NK	KH	D,CBL,PT	CL-PR,P-PRF	F&S		-	NLHP17.7
CO1, CO5	Organise guest lecture on principles of eye donation.	PSY-GUD	NK	KH	SY	CL-PR,TR	F		-	NLHT17.6
CO2, CO7	Aspire to be an entrepreneur in the Management of eye health.	AFT-VAL	NK	D	DA,PT	PM,PRN	F		-	NLHP17.8
CO2	Identify the different conditions of Eye Diseases by the given OCT, CT and MRI Reports.	CAP	DK	KH	LRI,CD	P-ID,PRN	F&S		-	NLHP17.9
CO2	Discuss on the points of Spotter diagnosis for assessing ***K****uvalai vippuruthi* and Dacryocystitis comparatively.	CC	DK	D	CD,PER	P-ID,INT	F&S		-	NLHP17.10

CO2	Compare Spotter diagnosis for *Mayir Puzhuvettu* and Ulcerative blepharitis.	CC	NK	SH	ML,PBL	P-ID,INT	F		-	NLHP17.11

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 17.1	Demonstration of preventive measures of viral infections of eye.	The teacher will divide the students in to 5 Groups and in each group one student acts as the Doctor and another as a patient. • Educate the importance of clean hands in preventing viral spread to the eyes. • Highlight the risks of transferring viruses by touching the eyes and promote alternatives. • Use tissues to wipe the eyes and dispose of them immediately in a covered bin. • Teach the importance of personal hygiene and avoiding shared items to prevent cross-infection • The teacher facilitates discussions among groups and summarises the keypoints Duration : 1 Hour
NLHT 17.2	Demonstration of the preventive measures to be taken to retain the vision in Glaucoma	The teacher should divide the students into 2 groups. • One group is instructed to prepare models to show how elevated IOP affects the optic nerve • Another group is instructed to prepare charts to understand warning signs for blurred vision, halos around lights, or eye pain need immediate attention. The students are assigned to discuss the conditions among themselves using the prepared models and charts. Duration : 1 Hour
NLHT 17.3	Interpretation the causes, clinical features,	**Team Based Learning:**

	Diagnosis and treatment of Astigmatism, Nystagmus.	The teacher will give a brief explanation about the topics. Then, students will be divided into two groups, and each group will be assigned a topic. The groups will collaborate to research their assigned topics, prepare a material and present the topic to others. **Duration :** 1 Hour
NLHT 17.4	Description of the causes, clinical features, Diagnosis and treatment of Conjunctivitis.	The teacher will present a real-life scenarios of conjuctivities to the students .students will be divided into groups and each group will analyze the causes, clinical features, diagnosis of conjunctivitis and suggest treatment plan.The teacher facilitates discussions among groups and summarises the keypoints **Duration :** 1 Hour
NLHT 17.5	Interpret the causes, clinical features, Diagnosis and treatment of Presbyopia, Myopia	The teacher will present a case scenarios on myopia and pressmyopia.Students will be divided in to groups to analyze causes, symptoms, and preventive strategies.Advice the treatment options such as Ponnangani Nei (internal) wearing glasses, contact lenses, or refractive surgery (LASIK) if needed,The teacher facilitates discussions among groups and summarises the keypoints **Duration :** 1 Hour
NLHT 17.6	Organization of guest lecture on principles of eye donation.	The teacher should invite an esteemed ophthalmologist to deliver a presentation on this topic, covering • Medical aspects, eligibility criteria and corneal transplantation procedures. • Emphasize awareness strategies through engaging talks. • Incorporate an interactive Q&A session to foster student engagement. • Highlight the significance of eye donation in restoring sight. The students are supposed to gain atmost knowledge from the talk. Duration : 1 Hour

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 17.1	Demonstration of the methods of Physical examination to evaluate Glaucoma.	• Inspection: Observe the patient's general appearance, posture, skin, and visible abnormalities in the targeted area. • Palpation: Use hands to feel for texture, temperature, tenderness, and masses. • Percussion: Tap the area gently to assess underlying structures for resonance or dullness. • Auscultation: Use a stethoscope to listen for abnormal sounds in lungs, heart, or abdomen. • Documentation: Record all findings systematically for analysis and diagnosis. **Duration :** 1 Hour
NLHP 17.2	Demonstrating the counseling stratagies to educate a patient about possible causes that lead to blindness and preventive care.	In a role-play, The teacher will demonstrate the causes and preventive measures of blindness in a stimulated patient. • Counsel patients on blindness prevention by explaining causes like diabetes, glaucoma, cataracts, infections, and injuries • .Emphasize regular eye exams for early detection and control of conditions like hypertension and diabetes. • Encourage avoiding smoking and seeking prompt treatment for eye issues to maintain vision health. • Highlight protective measures like wearing sunglasses and timely treatment for infection. **Duration :** 1 Hour
NLHP 17.3	Demonstration of the clinical examination to evaluate a patient with suspected Nystagmus	• The teacher should demonstrate and ask the students to Greet and introduce yourself to the patient. • Choose an appropriate clinical site and ensure it has adequate facilities to conduct the procedure and obtain the consent from the patient

		• Asses the patient's vital elements, uyir thathukkal, udar thathukkal and envagai thervu • Perform general examination and systemic examination. • Evaluate nystagmus through history taking (onset, triggers, symptoms), gaze testing (direction, intensity),and associated signs like vertigo or oscillopsia. **Duration :** 1 Hour
NLHP 17.4	Demonstration of the prophylactic measures to prevent different types of Conjunctivitis.	• Evaluate the patient's imbalanced mukkuttram, naadi and analyse the cause for the disease. • Administer siddha formulations like Triphala chooranam, Ponnangani nei and Brahmi nei to nourish the nervous system. • Stimulate specific varma points for eye diseases. • Recommend yoga, meditation, and dietary modifications Monitor progress and adjust therapies as needed. **Duration :** 1 Hour
NLHP 17.5	Preparation and application of ***S****irukala poo thylam* for ***P****adalam* (Pterygium).	The teacher should demonstrate the procedure for preparation and application of ***s****irukala poo thylam,* • Take an earthen mud part and add sesame oil along with ***s****irukala poo* (*Carissa carandas*) • Close the mud pot with a thin clean cloth • Keep the mud pot in sunlight *(**S**uriya pudam*) and let the essence seep into the oil. • Instill 2 drops of prepared oil every night into the affected eye. The students are asked to document the prognosis. Duration : 1 Hour
NLHP 17.6	Demonstrate the procedure of visualizing moon through ***p****alagani pinnal* to prevent Eye diseases.	The teacher should demonstrate the procedure as

		• Looking at the moon for sometime through the fingers of the hands making them in the shape of a latticed window (***p****alagani pinnal)* • See the moon through the fingers for 24 minutes when the sky is clear. • After this eye should be rinsed with clean water and eyelids are rubbed gently. The students are instructed to do the procedure as a prophylactic measures for eye disease. Duration : 1 Hour
NLHP 17.7	Application of *palakirambu pakkuva vennai* for ***V****aratchi thimiram* (Xerophthalmia).	The teacher should demonstrate the procedure of application of ***p****alakirambu pakkuva vennai,* • Externally apply ***p****alakirambu pakkuva vennai* on the lacrimal caruncle of the eye. • This procedure induces lacrimation in the eye thus reducing dryness of the eye (***V****aratchi* thimiram) • Students are instructed to perform the demonstrated procedure in a patient sufferring with ***V****aratchi thimiram* (Xerophthalmia). • Document the prognosis. Duration : 1 Hour
NLHP 17.8	Build entrepreneurship in Management of eye health.	The teacher should encourage the students to do the following steps involved in entrepreneurship • Analyse market research and Identify needs in eye care products • Assess technical, financial, and regulatory aspects. • Develop eye drops incorporating natural extracts from flowers like *Nanthiyavattai, Kala,* and *Sirunerunjil*, among others. • Develop capsules or powders containing herbs such as *ponnanganni*, *triphala*, and others to enhance vision and eye health. • Prepare pre-packaged herbal powder as cooling eye masks using Neem, Turmeric, and

		Sandalwood • Prepare an eye mask using Aloe vera, cucumber, and rose water for a calming treatment. Duration : 1 Hour
NLHP 17.9	Identification of the different conditions of Eye Diseases by the given OCT, CT and MRI images	The teacher should divide the students in groups and make them to • Examine OCT Reports by looking for retinal layer abnormalities and fluid accumulation • Analyze CT Scans by evaluating orbit anatomy for fractures, tumors and calcifications • Interpret MRI Scans by assessing soft tissues for optic nerve compression, ischemia or vascular abnormalities. • Combine imaging results with clinical symptoms to differentiate conditions. The students are instructed to conclude and document the suspected eye disease, suggesting further tests if needed. Duration : 1 Hour
NLHP 17.10	Discussion on the points of Spotter diagnosis for assessing ***K****uvalai vippuruthi* and Dacryocystitis comparatively.	The teacher should divide the students into five groups Each group should Identify and discuss the mentioned key points in the given spotter and confirm the diagnosis with modern terminology in rotatory manner. Spotter Preparation: Select clinical images of eye conditions such as • Swelling at the site of the sac • inflammed conjunctiva • Mucus or Mucopus discharge Duration : 1 Hour

NLHP 17.11	Comparison of Spotter diagnosis for *Mayir Puzhuvettu* and Ulcerative blepharitis.	The teacher will divide the students into 5 groups. Each group should Identify and discuss the mentioned key points in the given spotter and confirm the diagnosis with modern terminology in rotatory manner. Spotter Preparation: Select clinical images of the condition such as • Yellow crusts adhere the lashes together • Small ulcers with bleeding present around the bases of the lashes. • Eye lashes fall out • Redness of the edges of the eye lids Duration : 1 Hour

Paper 2 (THOAL MARUTHUVAM, KATHU, MOOKKU, THONDAI & PAL MARUTHUVAM (DERMOTOLOGY, ENT AND DENTISTRY))										
A3 Course out come	**B3 Learning Objective (At the end of the session, the students should be able to)**	**C3 Domain/sub**	**D3 MK / DK / NK**	**E3 Level**	**F3 T-L method**	**G3 Assessment**	**H3 Assessment Type**	**I3 Term**	**J3 Integration**	**K3 Type**
Topic 18 Aids to healthy Skin (LH :1 NLHT: 2 NLHP: 0)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO2, CO5, CO7	Explain Principles of Skin care, Dietary advices & Medicines for bath *(Kuliyal podi,Nalanguma & Panchakarpam)*	CC	MK	KH	L&PPT,L,L_VC	T-CS,T-OBT	F&S		V-NAVO	LH
CO2,	Describe relevant prophylactic measures to overcome common	CC	MK	KH	FC,BS	P-POS,P-	F		-	NLHT18.1

CO5	skin lesions					VIVA				
CO1, CO2, CO5	Demonstrate home made herbal cosmetics for the prevention of common skin lesions and to improve skin complexion	CAP	DK	KH	D,PT	P-VIVA,PRN	F&S		-	NLHT18.2

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 18.1	Prophylactic measures to overcome common skin lesions	Brainstroming : (Duration : 1 Hour)The teacher starts the session with a brief introduction to the importance of prophtlactic measures and an overview of common skin lesions. Teams then brainstorm specific preventive measures for assigned skin lesions and present their findings. The session concludes with a wrap-up and discussion on implementing these measures in daily life, emphasizing the importance of preventive care in maintaining skin health. Flipped Classroom : (Duration : 1 Hour) Students will first independently study provided materials, including readings and a video lecture, and summarize key points along with proposing new preventive measures. In class, they'll review these materials, discuss and refine their ideas in groups, present their refined measures, and finally, reflect on their learning and its practical applications. This approach promotes active learning and collaboration.
NLHT 18.2	Home made herbal cosmetics for the prevention of common skin lesions and to improve skin complexion.	Practical or Demonstration : The teacher will introduce the concept, discussing the benefits of natural herbal cosmetics. Following this, the teacher demonstrates how to prepare a Face Mask, Face Scrub, and a Face Pack by using natural herbs. Students are then divided into small groups to practice making these cosmetics under the teacher's guidance. Duration : 1 Hour

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity

Topic 19 Ovammai Noikal (Allergic skin diseases) (LH :6 NLHT: 3 NLHP: 9)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO2, CO5, CO6, CO7	Describe the Definition, Causes and Classification with clinical features of *Karappan*(Dermatitis / Eczema) as per *Yugi Vaidhya Chinthamani*	CK	MK	KH	L,DIS,L &PPT	P-CASE,T-OBT	F&S		-	LH
CO2, CO5, CO6, CO7	Differentiate each type of Karappan (Dermatitis / Eczema) as per the classifications mentioned in Yugi Chinthamani.	PSY-GUD	MK	KH	TBL,BS	M-CHT,P-VIVA	F&S		-	NLHT19.1
CO2, CO5, CO6, CO7	Explain Eczematous diathesis.	CC	MK	KH	L,L&PPT	CL-PR,T-OBT	F&S		-	LH
CO2, CO5, CO6, CO7	Differentiate Papular urticaria, Angio neurotic oedema, Purpura, Anaphlaxis.	CC	MK	KH	L&PPT ,L,L_VC	O-QZ,T-OBT	F&S		-	LH
CO2, CO5, CO6, CO7	Distinguish between Contact Dermatitis & Air Borne Contact Dermatitis.	CC	MK	KH	L_VC,L &PPT ,L	O-QZ,DEB	F&S		-	LH
CO2, CO5, CO6, CO7	Describe Neuro Dermatitis,Infectious Eczematoid Dermatitis and Atopic Dermatitis.	CK	MK	KH	L,L_VC	DEB,PRN	F&S		-	LH

CO2, CO5, CO6, CO7	Describe *Kanakadi,Silvidathadippu*(urticaria).	CK	MK	K	L,L_VC	QZ ,CL-PR	F&S		-	LH
CO2	Demonstrate exact blood letting practice (*Kuruthivangal)* to cure chronic local eczematous lesions.	PSY-GUD	MK	KH	SY,SIM	T-OBT,QZ	F&S		-	NLHT19.2
CO2, CO5, CO6, CO7	Describe the treatment of *Karappan* (Eczema) with reference to the type of presentation.	CK	MK	K	CBL,L &PPT	PRN,P-CASE,P-ID,T-CS,Log book	F&S		-	NLHT19.3
CO2, CO5, CO6, CO7	Demonstrate the humoural predominance based on *Envagai thervu* (Siddha diagnostic tools) of the *Karappan* patient.	PSY-GUD	MK	KH	PBL,D	P-EXAM,P-VIVA	F&S		-	NLHP19.1
CO2, CO5, CO6, CO7, CO8	Display the similarities and differences between Endogenous and Exogenous Eczema features.	PSY-GUD	NK	SH	FC,CBL	P-REC,P-VIVA,QZ ,Log book	F&S		-	NLHP19.2
CO1, CO2, CO5, CO7	Analyse the effects of applying facial foundations, powders & facial blushes	CAN	DK	SH	DIS,PER	P-PRF,P-VIVA	F&S		-	NLHP19.3
CO1, CO2, CO5, CO6, CO7	Analyse the effects of applying facial masks, face packs & skin cleansers.	CAN	MK	SH	RLE,CBL	P-VIVA,PRN,P-EXAM	F&S		-	NLHP19.4

CO2, CO5, CO6, CO7	Demonstrate the methods of physical examination to differentiate the Thadippu (Urticarial weal) and Angioneurotic oedema for the given patient.	PSY-GUD	NK	KH	PBL,D-BED	P-PRF,PRN	F&S		-	NLHP19.5
CO1, CO2, CO5, CO6, CO7	Demonstrate patient centric relevant external therapy *Vamanaam/ Viresanam/ Peechu*) to correct digestion, absorption and to tone up immune system.	PSY-GUD	MK	KH	SIM,D	PRN,P-VIVA	F&S		-	NLHP19.6
CO1, CO2, CO3, CO4, CO5, CO6, CO7	Perform *Attai vida*l (Leech application) in treating Eczema	PSY-GUD	MK	SH	D-BED,PT	P-VIVA,P-PRF	F&S		-	NLHP19.7
CO1, CO2, CO3, CO4, CO5, CO6, CO7	Perform P*eechu* for treating *Karappan* according to humoural predominance.	PSY-GUD	MK	SH	SIM,PT	P-PRF,P-EXAM	F&S		-	NLHP19.8
CO1, CO2, CO3, CO4, CO5, CO6,	Perform the techniques of Vamanam(Emetic therapy) for Karappan.	PSY-GUD	MK	SH	CBL,D-BED	P-VIVA,P-PRF	F&S		-	NLHP19.9

CO7										

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 19.1	Types of *Karappan* (Dermatitis / Eczema).	Team-Based Learning:Students are divided into small teams and assigned different types of *Karappan* (Dermatitis/Eczema) as classified in *Yugi Chinthamani*. Each team analyzes a case study related to their assigned type, discusses key symptoms and diagnostic features, and presents their findings to the class. The instructor provides feedback, clarifies misconceptions, and emphasizes accurate diagnosis and individualized treatment plans based on *Siddha* medicine principles. This collaborative activity promotes critical thinking and a deeper understanding of *Karappan* classifications.Duration : 1 Hour Brainstorming:Students are divided into small groups to differentiate the types of *Karappan* (Dermatitis/Eczema) as classified in *Yugi Chinthamani.* Each group brainstorms the key symptoms, diagnostic features, and treatments for their assigned type, referring to provided materials. The groups then share their findings, compiling a comprehensive list of differentiating factors, followed by an open discussion. The instructor summarizes key points, emphasizing the importance of accurate diagnosis and individualized treatment plans based on *Siddha* medicine classifications.Duration : 1 Hour
NLHT 19.2	Blood letting practice *(Kuruthivangal*) to cure chronic local eczematous lesion	Symposium or Simulation:The teacher demonstrates the *Siddha* practice of bloodletting (*Kuruthivanga*l) to treat chronic local eczematous lesions using a simulation model or patient. The session includes a brief introduction, a historical context of the practice, and a detailed demonstration of the bloodletting procedure, emphasizing proper technique and patient safety. This is followed by an interactive Q&A session where students can ask questions and discuss the procedure.Duration : 1 Hour
NLHT 19.3	Treatment methods for *Karappan* Eczema) with reference to the type of presentation.	Lecture with PowerPoint presentation: The teacher uses a PowerPoint presentation to explain the treatment of *Karappan* (Eczema) based on its type of presentation in *Siddha* me, using visual aids to illustrate specific Siddha medicines. Real-life case studies are pdicine. The lecture covers symptoms and treatments for *Vata, Pitta,* and *Kapha*-dominant *Karappan* resented, followed by an interactive discussion where students can ask questions. The session concludes with a summary of key points and an assessment through a quiz or group activity to ensure understanding.Duration : 1 Hour

		Case-Based Learning:Students analyze a detailed case study of a *Karappan* (Eczema) patient to diagnose the type of *Karappan* (*Vata, Pitta, Kapha)* and develop a treatment plan using *Siddha* principles. Working in small groups, they use *Siddha* diagnostic tools (*Envagai Thervu)* to gather information, discuss their findings, and present their diagnosis and treatment plan. The instructor provides feedback and facilitates an interactive discussion, emphasizing the importance of individualized treatment based on the type of *Karappan* presentation.Duration : 1 Hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 19.1	Humoural predominance based on *Envagai thervu* (Siddha diagnostic tools) of the *Karappan* patient.	Problem-Based Learning :Students will be provided with a case study and divided into groups, with each group assigned a specific diagnostic tool such as *Naadi* (pulse) or *Naa* (tongue). Students will collect data using their tools, record observations, and present findings to the class. The activity encourages collaboration, critical thinking, and practical application of *Siddha* medicine principles, ultimately discussing how the combined use of these tools helps in diagnosing and treating *Karappan.*Duration : 1 Hour Demonstration:The teacher will demonstrate the use of *Siddha* diagnostic tools (Envagai Thervu) to diagnose *Karappan* (Eczema).This involves checking a patient's pulse, skin, tongue, eyes, speech, stools, and urine. The instructor explains the significance of each diagnostic tool and encourages students to engage with questions.Duration : 1 Hour
NLHP 19.2	Similarities and differences between Endogenous and Exogenous Eczemas features using photos.	Flipped class room : Students watch a video lecture and read an article on endogenous and exogenous eczema before class. In class, they form small groups, analyze case studies, discuss their findings, and present them to the class. This is followed by a Q&A session and a class reflection. Post-class, students write a reflection essay and take a quiz to assess their understanding.Duration : 1 Hour Case based learning :Students prepare by watching a video lecture and reading an article on endogenous and exogenous eczema. In class, they analyze patient case studies in small groups, discuss their findings, and present them to the class, followed by a Q&A session. The class then reflects on the lessons learned, and students write a reflection essay and take a quiz afterward.Duration : 1 Hour

NLHP 19.3	Effects of applying facial foundations, powders & facial blushes	Discussions:Students could be divided into groups to research and discuss the effects of each product, share personal experiences, and compare different products' impacts. Each group would then present their findings, fostering a comprehensive understanding of makeup products and their effects.Duration : 1 Hour Problem-Solving Method:Students address common skin concerns (acne, uneven skin tone, oiliness, dryness, sensitivity) by researching makeup products (foundations, powders, blushes) to develop solutions. They create step-by-step routines with product recommendations and present their findings, facilitating discussion and reflective analysis on problem-solving in skincare.Duration : 1 Hour
NLHP 19.4	Effects of applying facial masks, face packs & skin cleansers.	Case based learning:Students could analyze a scenario where a person with varied skin concerns is using different skincare products. They would research the effects of these products, propose a customized skincare routine, and present their findings. This approach helps students apply their knowledge practically and understand the importance of tailored skincare.Duration : 1 Hour Real-life experience:Students should use various facial masks, face packs, and skin cleansers over a set period, document their daily usage and skin changes in a journal, and take before-and-after photos. They then share their observations in a group discussion and present their findings, fostering practical knowledge and personal care through hands-on experimentation.Duration : 1 Hour
NLHP 19.5	Physical examination to differentiate the *Thadippu* (Urticarial weal) and Angioneurotic oedema for the given patient**.**	Problem-Based Learning:Students are presented with a detailed patient case, including history and symptoms. They work in small groups to analyze the case, research diagnostic criteria, and discuss possible diagnoses. Each group presents their findings, reasoning, and differential diagnosis to the class. The session concludes with a reflection and debrief to summarize key takeaways and emphasize the importance of thorough patient assessment and collaboration.Duration : 1 Hour Demonstration Bedside:The teacher begin the process with a brief overview, followed by taking patient history and performing physical examinations, such as inspecting the skin and palpating lesions. Students then practice role-playing, simulating patient-practitioner interactions, while instructors provide real-time feedback. Each group presents their findings and diagnoses, concher luding with a discussion and summary to reinforce the key learning points.Duration : 1 Hour

NLHP 19.6	External therapy (*Vamanam*/ *Viresanam*/ *Peechu*) to correct digestion, absorption and to tone up immune system.	Simultion or Demostration :Teacher will introduce the therapies, explain their benefits, and provide a step-by-step demonstration using a mannequin or volunteer. Students will then practice the procedures in small groups, simulate patient-practitioner interactions, and receive real-time feedback. The will conclude with an assessment of students' skills and understanding, along with a reflection and discussion to reinforce learning.Duration : 1 Hour
NLHP 19.7	*Attai vidal* (Leech application) in treating Eczema	Demnstration on Bedside :Students can work together to explain the medical significance of attai vidal therapy for *Karappan*, prepare the materials, demonstrate the application of the leech, monitor the entire procedure, and provide post-application care. They will also discuss safety precautions and the importance of follow-up observations. Each student can take on a specific role to ensure understanding and engagement throughout the process.Duration : 1 Hour Practical:Students will work in pairs. They will prepare by cleaning the affected area normal water and handling medicinal leeches with proper technique. The leech is placed on the eczema-affected area and monitored for 30-45 minutes until it detaches naturally. After the leech detaches, the area is cleaned again and bandaged. Students will document their observations, discuss the progosis and any signs of infection or adverse reactions, and present their findings in a follow-up session while adhering to strict safety protocols.Duration : 1 Hour
NLHP 19.8	*Peechu* for treating *Karappan* according to humoural predominance.	Simultion :Teacher will create a realistic patient scenarios, assign students into teams with specific roles, and setup a simulated clinical environment. Run the scenarios, allowing students to assess and treat patients while teacher observe and provide feedback. Afterward, conduct a debriefing session to discuss the team's performance, followed by individual reflection and follow-up training to address any identified weaknesses.Duration : 1 Hour Practical :Teacher will conduct a live demonstration, allowing students to observe each step. Let students practice individually or in small groups, while offering supervision and feedback. Assess their performance based on accuracy and understanding, and conclude with a reflection and discussion to reinforce learning and share insights.Duration : 1 Hour
NLHP 19.9	*Vamanam(*Emetic therapy) *for Karappan*.	Role play:Students are divided into pairs or small groups to simulate the *Vamanam* therapy process for

		treating *Karappan*. One student acts as the Practitioner and explains the therapy's purpose to the Patient, who simulates receiving the treatment. The Practitioner prepares and administers a special formulation to induce vomiting, monitors the Patient, and provides post-care instructions.The activity concludes with a group discussion about the experience, challenges faced, and the therapeutic benefits of *Vamanam* in *karappan*.Duration : 1 Hour Bedside demonstration :The teacher will provide a hands-on demonstration of *Vamanam* therapy for treating *Karappan.* Students will observe the patient history taking, physical examination, preparation, administration of the emetic formulation, monitoring of the vomiting process, and post-therapy care. The activity concludes with a discussion and Q&A session, allowing students to ask questions and gain a practical understanding of *Vamanam* therapy in a clinical setting.Duration : 1 Hour

Topic 20 Noi Ethirppu Mandala Kolaral Varum Thol Noikal (Auto Immune related skin Disorders) & Thol Nirami Kuraipattu Noigal(Hypopigmentory diseases of the skin) (LH :8 NLHT: 4 NLHP: 11)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2, CO5, CO6, CO7	Define causes,clinical features,humoural vitiations and treatment of *Kalanjagapadai* (Psoriasis- Various types)	CK	MK	K	L&PPT ,L_VC, L	O-QZ,DEB	F&S		-	LH
CO2, CO5, CO6, CO7	Explain the types of *Kalanjagapadai* (Psoriasis)-Psoriasis vulgaris,Guttate Psoriasis,Nummular Psoriasis.	CC	DK	K	L&GD, L	CL-PR,M-CHT	F&S		-	LH
CO2, CO5, CO6, CO7	Define Erythro dermal Psoriasis,Pustular Psoriasis.	CK	DK	KH	L&PPT	INT,CL-PR	F		-	LH
CO2, CO5,	Differentiate regional Psoriasis(Scalp Psoriasis, Palmar Psoriasis, Plantar Psoriasis, Palmo-Plantar Psoriasis) and its complications.	CAN	DK	KH	L&PPT ,L	QZ ,PUZ	F		-	LH

CO6, CO7										
CO2	Describe the definition, causes,clinical features and treatments of *Puzhuvettu* (Alopecia – Various types).	CC	MK	K	L&GD, L	INT,CL-PR	F&S		-	LH
CO2, CO5, CO6, CO7	Define causes,classification with clinical features and treatments of *Venpadai* (Vitiligo / Leucoderma)	CC	MK	K	L,L&PPT	PRN,QZ	F&S		-	LH
CO2, CO5, CO6, CO7	Describe Achromia and its types	CK	DK	K	L_VC,L	INT,CL-PR	F		-	LH
CO2, CO5, CO6	Distinguish between Albinism and Naevus depigmentosus	CC	DK	KH	L&PPT ,L	QZ	F		-	LH
CO2, CO5	Discuss the patient centeric external therapy (*Vamanam/Viresanam/Peechu)* to normalise digestion, absorption and to tone up immune system.	PSY-GUD	DK	KH	PER,PSM	CL-PR	F		-	NLHT20.1
CO2, CO5	Identify different external therapies to promote sleep, reduce stress and to treat *Kalanjagapadai* (Psoriasis) like*Sirodharai, Sirovasthi, Thokkanam, Yoga* and Meditation.	PSY-GUD	DK	KH	PBL,IBL	P-ID,CL-PR	F		-	NLHT20.2
CO2, CO5	Perform counselling to overcome social stigma on *Kalanchagapadai* (Psoriasis).	AFT-VAL	DK	KH	RP,DIS	P-RP	F		-	NLHT20.3
CO2, CO5, CO6	Describe the Line of treatment for *Puzhuvettu* (Alopecia)	CAP	MK	KH	DIS,TUT	PRN	F		-	NLHT20.4

CO2, CO5, CO6, CO7	Describe suitable life style to avoid complications like *KalanchagaVatham*(Psoriatic arthritis)	CE	MK	KH	CBL,SDL	P-PRF,PRN	F&S		-	NLHP20.1
CO2, CO5, CO6	Demonstrate the methods to determine the Humoural predominance in *Kalanchagapada*i and *Venpadai*.	PSY-GUD	MK	KH	D,PT	P-PRF	F&S		-	NLHP20.2
CO2, CO5, CO6	Demonstrate the Methods of physical examination to rule out various types of Kalanchagapadai.	PSY-GUD	MK	KH	SIM,D	PRN,P-PRF	F&S		-	NLHP20.3
CO2, CO5, CO6	Perform the Methods of physical examination to rule out various types of *Kalanchagapadai.*	PSY-GUD	MK	KH	D-BED,PT	P-PRF,RK,P-ID,M-CHT,T-CS	F&S		-	NLHP20.4
CO2, CO5, CO6	Demonstrate the Methods of physical examination to rule out various types of Achromia.	PSY-GUD	NK	KH	PT,D-BED	P-PRF	F		-	NLHP20.5
CO2, CO5, CO6	Differentiate Mutrudal Veluppu Noi (Albinism) and Ven macham (Naevus depigmentosus).	CAN	DK	KH	PBL,CD	P-PRF,P-VIVA,T-CS,PRN	F&S		-	NLHP20.6
CO2, CO5	Practice the counseling to overcome the social stigma on *Venpadai*(Vitiligo), *Mutrudal Velupu Noi*(Albinism) and *Ven Macham* (Naevus depigmentosus).	AFT-VAL	MK	K	RP,TBL,PT	P-VIVA,T-CS,PRN,T-OBT,DEB	F&S		-	NLHP20.7
CO1, CO2	Perform *Vamanam* (Emetic Therapy) for *Kaalanchagapadai.*	PSY-GUD	MK	SH	SIM,RP	P-PRF	F&S		-	NLHP20.8
CO1, CO2	Perform *Peechu* (Douch/Enema) for *Kaalanchagapadai* to normalise the deranged humours.	PSY-GUD	MK	SH	D,KL	P-PRF	F&S		-	NLHP20.9

CO2	Perform yoga therapy for *Karappan / Venpadai / Kaalanachagapadai.*	PSY-GUD	MK	SH	PT,W	P-PRF	F&S		-	NLHP20.10
CO1, CO2, CO6, CO7	Perform *Nasiyam* (nasal application) for K*arappan.*	PSY-GUD	MK	SH	RP,PSM	PRN,P-PRF	F&S		-	NLHP20.11

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 20.1	External therapy *(Vamanam/Viresanam/Peechu)* to normalise digestion, absorption and to tone up immune system.	Problem Solving Method: Presenting students with a real-life problem related to digestion, absorption, and immune system issues in patients with *Kalanchagapadai*. Students will work in small groups to identify and propose patient-centric external therapies such as *Vamanam* (emetic therapy), *Viresanam* (purgation therapy), and *Peechu* (enema) as potential solutions. They will discuss the benefits and limitations of each therapy, develop a treatment plan, and present their findings.Duration : 1 Hour Presentation: Students will prepare and deliver presentations on the patient-centric external therapies (*Vamanam, Viresanam, Peechu)* to normalize digestion, absorption, and tone up the immune system. Each group will research and present the techniques, benefits, and potential side effects of these therapies. The teacher will facilitate the presentations, provide feedback, and encourage discussion among the students.Duration : 1 Hour
NLHT 20.2	External therapies to promote sleep, reduce stress and to treat *Kalanjagapadai* (Psoriasis) ,like*Sirodharai*, *Sirovasthi*, *Thokkanam*, *Yoga* and Meditation.	Inquiry-Based Learning: Students actively exploring and investigating different external therapies to promote sleep, reduce stress, and treat Kalanchagapadai (Psoriasis). Students will research therapies such as Thalaidharai, Thokkanam, Yoga,and Meditation. They will gather information, ask questions, and analyze the effectiveness of these therapies.Duration : 1 Hour Problem-Based Learning: Students will be presented with a real-life problem related to sleep, stress, and Kalanchagapadai. They will work in small groups to identify and propose external therapies like Thalaidharai, Thokkanam, Yoga and Meditation as potential solutions. Students will discuss the benefits and limitations of each therapy, develop a treatment plan, and present their findings.Duration : 1 Hour

NLHT 20.3	Counselling to overcome social stigma on *Kalanchagapadai* (Psoriasis).	Discussion: A group discussion facilitated by the teacher, focusing on the social stigma associated with *Kalanchagapada*i (Psoriasis). Students will share their insights, experiences, and opinions on the topic, fostering a collaborative learning environment.Duration : 1 Hour Roleplay: Students will engage in role-playing activities where they act as counselors and patients. The teacher will provide scenarios related to the social stigma of *Kalanchagapadai.* Students will practice counseling techniques to help patients overcome social stigma, improving their communication skills and empathy.Duration : 1 Hour
NLHT 20.4	Describing the Line of treatment for *Puzhuvettu* (Alopecia)	Tutorial: The teacher provides detailed information about the line of treatment for *Puzhuvettu* (Alopecia). The teacher will cover various aspects, including the causes, symptoms, and treatment options. Students will have the opportunity to ask questions and clarify their doubts. Discussion: The teacher will facilitate a group discussion among the students. The discussion will focus on the line of treatment for *Puzhuvettu*, including the use of *Siddha* medicine, lifestyle modifications, and other therapeutic approaches. Students will share their insights, experiences, and opinions, fostering a collaborative learning environment.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 20.1	Adopting a suitable life style to avoid complications like *KalanchagaVatham*(Psoriatic arthritis).	Case-Based Learning: The teacher will provide the patient's medical history, lifestyle, symptoms, and current treatment plan. Students will analyze the case in small groups, identify potential risk factors, and suggest lifestyle modifications to avoid complications.
NLHP 20.2	Humoural predominance in *Kalanchagapadai* and *Venpadai*.	Practical: where students actively engage in performing physical examinations to determine the Humoural predominance in *Kalanchagapada*i and *Venpada*i. Students will work in small groups, applying the techniques demonstrated by the teacher on patients or simulated patients.Duration : 1 Hour Demonstration:The teacher will demonstrate the techniques to determine the Humoural predominance

		at the bedside of a patient or a simulated patient. Students will observe the teacher's methods, including inspection, palpation, and other diagnostic methods specific to Humoural analysis.Duration : 1 Hour
NLHP 20.3	Physical examination to rule out various types of *Kalanchagapadai*.	Simulation : The teacher will create realistic clinical scenarios to illustrate these methods, allowing students to observe and practice in a simulated environment, with real-time feedback and guidance provided throughout the session.Duration : 1 Hour Demonstration: The session will begin with the instructor providing an overview of Kalanchagapadai, including its symptoms and significance. The teacher will demonstrate physical examination techniques, such as visual inspection, palpation, and the use of diagnostic tools like Envagai thervu.Duration : 1 Hour
NLHP 20.4	Physical examination to rule out various types of *Kalanchagapadai*.	Practical: This method involves hands-on practice where students actively engage in performing physical examinations to rule out various types of Kalanchagapadai. Students will work in small groups, applying the techniques demonstrated by the instructor on patients or simulated patients. This approach allows students to develop their skills through direct experience, observation, and feedback from the instructor.Duration : 1 Hour Demonstration Bedside: In this method, the instructor will demonstrate the physical examination techniques at the bedside of a patient or a simulated patient. Students will observe the instructor's methods, including inspection, palpation, percussion, and auscultation. This visual and practical demonstration helps students understand the correct procedures and the specific signs and symptoms to look for in different types of Kalanchagapadai.Duration : 1 Hour
NLHP 20.5	Physical examination to rule out various types of Achromia.	Practical :Hands-on techniques such as visual inspection, palpation, and vision assessment. Visual inspection focuses on identifying skin, hair, and eye pigment deficiencies, while palpation involves feeling the skin to check for texture and temperature changes. Vision assessments are also conducted to detect any impairments like nystagmus, photophobia, or strabismus that may be associated with achromia. Duration : 1 Hour Bed side Demonstration :Demonstration is a teaching method where techniques for examining achromia are shown to students or trainees. This involves a step-by-step illustration of how to conduct visual inspections, palpation, and vision assessments. Demonstrations can also incorporate anatomical

		models to highlight areas affected by achromia and include interactive sessions for students to practice the techniques under supervision.Duration : 1 Hour
NLHP 20.6	Difference between *Mutrudal Veluppu Noi* (Albinism) and *Ven macham* (Naevus depigmentosus).	Case diagnosis :Students are divided into small groups and given detailed case studies, including patient history, symptoms, and visual aids. They analyze the cases to identify key symptoms and differentiate between the conditions, using diagnostic tools to support their findings. Through role-playing, students simulate the diagnosis process, emphasizing accurate diagnosis and effective patient communication.Duration : 1 Hour Problem-based learning :Students are divided into small groups and presented with real-world problems related to these conditions. Each group researches the condition, analyzes the problem, and develops a comprehensive plan to address it, including medical management, social support, and awareness campaigns. They role-play the implementation of their solutions, focusing on empathy and effective communication.Duration : 1 hour
NLHP 20.7	Counseling Patients in Overcoming Fear and Social Stigma of Skin Conditions	Team-based learning :Students are divided into small groups to research these conditions and their societal impacts. Each team prepares presentations and role-play scenarios to practice empathetic communication and support strategies. They then participate in counseling role-plays, followed by group discussions and class-wide presentations. The activity concludes with a debriefing session where students reflect on their experiences and discuss ways to reduce social stigma.Duration : 1 Hour Role-play :Students are divided into small groups and assigned roles such as Counselor, Patient, Bystander, and Support Group Member. They are presented with detailed case study scenarios and rotate roles to ensure each student experiences different perspectives. Through role-playing sessions, students practice empathetic communication and counseling strategies. Observations and feedback from peers and teacher help refine their techniques. The activity concludes with group discussions, reflections in journals, and class-wide sharing of key takeaways, enhancing students' understanding and ability to support individuals with these conditions. Duration : 1 hour
NLHP 20.8	*Vamanam* (Emetic Therapy) for *Kaalanchagapadai*	Simulation :Students are divided into small groups and provided with a case study. They gather materials and set up a simulation environment. The teacher demonstrates the procedure, and students

		take turns performing the simulated therapy, role-playing as practitioners and patients. The activity focuses on proper techniques, hygiene, and patient communication. Afterward, groups discuss their experiences, reflect on challenges, and receive feedback.Duration : 1 hour Role play :Students are divided into small groups and assigned roles such as practitioner, assistant, and patient. After discussing a case study, students perform a simulated *Vamanam* procedure, emphasizing patient communication, technique, and safety. Each role rotates to ensure all students experience every perspective. Instructors and peers observe and provide feedback. The session concludes with a debriefing and reflection on experiences, challenges, and learnings.Duration : 1 hour
NLHP 20.9	*Peechu* (Douch/Enema) for *Kaalanchagapadai* to normalise the deranged humours.	Kinaesthetic Learning or Demonstration:Students work in groups to gather materials, research the procedure, and present their findings. One student demonstrates the enema kit setup, while pairs role-play as instructor and patient, practicing the steps. Under supervision, students prepare and position for the procedure, share observations, and reflect on hygiene and safety. The session concludes with a Q&A to clarify doubts and reinforce understanding. Duration : 1 hour
NLHP 20.10	*Yoga* Therapy for *Karappan / venpadai / kaalanachagapadai.*	Practical :Students can engage in a series of *yoga* therapy activities starting with a group discussion to set intentions, followed by warm-up and breathing exercises. Each student can lead a pose demonstration and explain its benefits. Partner *yoga* encourages teamwork, while guided meditation led by a student promotes relaxation. Yoga journaling allows for personal reflection, and the session ends with a closing circle for sharing experiences and feedback. These activities foster leadership, engagement, and a deeper understanding of *yoga* therapy.Duration : 1 Hour Workshop:Students practice *yoga* techniques to manage *Karappan* (Eczema), *Venpada*i (Psoriasis), and *Kaalanachagapadai* (Psoriasis). The session includes a brief overview of the conditions, an explanation of beneficial *yoga* poses and breathing exercises, and guided practice sessions. Students work in pairs or small groups, receiving feedback on proper technique and alignment from an experienced yoga instructor. The workshop concludes with a discussion and Q&A, emphasizing the importance of incorporating yoga into daily routines for long-term benefits. Duration : 1 hour

NLHP 20.11	*Nasiyam* (nasal application) for K*arappan.*	Role Plays:Students are paired to practice the *Nasiyam* (nasal application) procedure for treating *Karappan* (Eczema). One student acts as the practitioner while the other as the patient. The instructor first demonstrates the procedure, then students perform the *Nasiyam* on each other using herbal oils or medicines. The session concludes with feedback, discussion, and emphasis on proper technique, hygiene, and patient comfort, ensuring a hands-on understanding of *Nasiyam* in *Siddha* medicine.Duration: 1 hour Problem-Solving Method:Students will practice the *Nasiyam* (nasal application) procedure for treating *Karappan* (Eczema). They start by discussing the benefits of *Nasiyam*, then review reference materials and formulate a detailed plan for performing the procedure. In small groups, students implement their plan on a simulation model or volunteer under teacher supervision. They evaluate their results, discuss challenges, and revise their plans as needed. The teacher emphasizes proper technique, hygiene, and patient safety throughout the session, enhancing students' practical skills in *Siddha* medicine. Duration: 1 hour

Topic 21 Diseases of the Ear (LH :6 NLHT: 3 NLHP: 9)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2, CO5, CO6, CO7	Describe Perichondritis, Hematoma of the auricle , Otomycosis	CK	DK	K	L&PPT ,L	QZ ,CL-PR	F		-	LH
CO2, CO6, CO7	Describe Otitis externa, Impacted wax, Bullous myringitis, Diseases of Eustachian tube	CK	DK	K	L&PPT ,L	O-QZ,INT	F		-	LH
CO2, CO5, CO6, CO7	Define Acute and Chronic Suppurative Otitis Media	CK	MK	K	L&PPT ,L	WP,T-OBT	F&S		-	LH
CO2,	Describe Vertigo, Vestibulitis	CK	MK	K	DIS,L&	DEB,QZ	F&S		-	LH

CO5, CO6					PPT					
CO2, CO5, CO6, CO7	Describe Tinnitus	CK	MK	K	L,L&GD	QZ	F&S		-	LH
CO2, CO5, CO6, CO7	Define Deafness ,Otological aspect of facial paralysis	CK	MK	K	L,L&PPT	DEB,CL-PR	F&S		-	LH
CO2, CO6	Identify the relevant prophylactic measures to overcome common Ear Diseases and its complications	CAP	DK	KH	RP,DIS	CL-PR,PUZ	F&S		-	NLHT21.1
CO2, CO6	Interpret the various presentations and investigations of *Thalaichutral Noi* (Vertigo) and *Sevi Eraichal Noi* (Tinnitus).	CAP	DK	KH	TUT,DIS	PRN,M-CHT	F&S		-	NLHT21.2
CO2, CO6, CO7	Differentiate various presentations of *Sevidu* (Deafness).	CAN	MK	KH	PER,CD	CL-PR,DEB	F&S		-	NLHT21.3
CO2, CO6	Demonstrate various methods of Examination of the Ear.	PSY-GUD	MK	SH	D-BED, PER	PRN,P-PRF	F&S		-	NLHP21.1
CO2, CO6	Demonstrate Functional assessment of the Ear.	PSY-GUD	MK	SH	PER,D	P-PRF,PRN	F&S		-	NLHP21.2
CO2, CO6	Demonstrate History taking with associated clinical features of *Sevi Iraichal* (Tinnitus)	PSY-GUD	MK	KH	D-BED, CD	CBA,P-CASE	F&S		-	NLHP21.3
CO2, CO6	Perform the Physical examination and Investigation methods for diagnosis of Sevi Iraichal (Tinnitus).	PSY-GUD	MK	SH	PER,CD	P-ID,P-PRF	F&S		-	NLHP21.4

CO2, CO5	Interpret the signs and symptoms to diagnose *Sevi Iraichal* (Tinnitus) and Infer its line of treatment.	CAN	DK	KH	CD,PT	P-PRF,P-ID	F&S		-	NLHP21.5
CO2	Conduct history taking with associated clinical features of Thalai Chutral Noi (Vertigo).	PSY-GUD	MK	KH	CD,BL	P-EXAM,PRN	F&S		-	NLHP21.6
CO6, CO7	Perform Physical examination and Investigation methods for diagnosis of Thalai Chutral Noi (Vertigo).	CAN	MK	KH	CBL,PT	PRN,P-EXAM	F&S		-	NLHP21.7
CO2, CO5	Identify the signs and symptoms to diagnose *Thalai Chutral Noi* (Vertigo) and Infer its line of treatment.	CAN	MK	KH	LRI,CD	P-PRF,P-EXAM	F&S		-	NLHP21.8
CO2	Illustrate by Guest lecture -the different types of Hearing Aids and Cochlear Implant	CC	DK	KH	D-M,PER	PRN,P-ID	F&S		-	NLHP21.9

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 21.1	Prophylactic measures to overcome common Ear Diseases and its complications	Discussion: The teacher will facilitate a group discussion among the students, focusing on the relevant prophylactic measures to overcome common ear diseases and their complications. Students will share their insights, experiences, and opinions on the topic, fostering a collaborative learning environment. Duration : 1 hour Role Play: In this method, students will engage in role-playing activities where they act as healthcare providers and patients. The teacher will provide scenarios related to common ear diseases and their complications. Students will practice counseling patients on the importance of prophylactic measures, such as maintaining ear hygiene, avoiding exposure to loud noises, and seeking timely medical attention. Duration : 1 hour
NLHT 21.2	Various presentations and investigations of *Thalaichutral Noi* (Vertigo) and *Sevi Eraichal Noi* (Tinnitus).	Tutorial: The teacher will provide a structured teaching session on the various presentations and investigations of *Thalaichutral Noi* (Vertigo) and *Sevi Eraichal Noi* (Tinnitus). This will include an overview of the conditions, their symptoms, and the importance of accurate diagnosis. The tutorial will cover different diagnostic techniques such as vestibular function tests, audiometry, and imaging studies. The teacher will also discuss the interpretation of test results and their implications for

		treatment. Duration : 1 hour Discussion: The teacher will facilitate a group discussion among the students, focusing on the presentations and investigations of *Thalaichutral Noi* and *Sevi Eraichal Noi*. Students will share their insights, experiences, and opinions on the topic, fostering a collaborative learning environment. Duration : 1 hour
NLHT 21.3	Various presentations of *Sevidu* (Deafness), using video and presentations.	Presentation: The teacher will provide a detailed presentation on the various presentations of *Sevidu* (Deafness). This will include an overview of the different types of deafness, such as conductive, sensorineural, and mixed hearing loss. The presentation will cover the causes, symptoms, and diagnostic criteria for each type. The teacher will also discuss the implications of each type of deafness for patient care and management. Duration : 1 hour Case Diagnosis: The teacher will present students with case studies of patients exhibiting different presentations of *Sevidu* (Deafness). Students will analyze the cases to identify key symptoms and differentiate between the types of deafness. They will discuss the differential diagnosis and determine the underlying causes, such as ear infections, genetic factors, or exposure to loud noise. Duration : 1 hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 21.1	Examination of the Ear.	Presentation: The teacher will provide a detailed presentation on the various methods of ear examination. This will include an overview of the ear's anatomy and physiology, common ear disorders, and the importance of thorough examination. The presentation will cover techniques such as otoscopic examination, tuning fork tests, and audiometry. The teacher will also discuss the interpretation of findings and their implications for diagnosis and treatment.Duration : 1 Hour Demonstration: The teacher will demonstrate the various ear examination techniques at the bedside of a patient or a simulated patient. Students will observe the teacher's methods, including performing otoscopic examinations, tuning fork tests, and audiometric assessments. This visual and practical demonstration helps students understand the correct procedures and the specific signs and symptoms to look for during ear examinations. The teacher will also explain how to interpret the results and their

		relevance to patient care.Duration : 1 Hour
NLHP 21.2	Functional assessment of the Ear.	Presentation: The teacher will provide a detailed presentation on the functional assessment of the ear. This will include an overview of the ear's anatomy and physiology, common ear disorders, and the importance of functional assessment. The presentation will cover various assessment techniques such as audiometry, tympanometry, and otoacoustic emissions testing. The teacher will also discuss the interpretation of test results and their implications for diagnosis and treatment.Duration : 1 Hour Demonstration: The teacher will demonstrate the functional assessment techniques at the bedside of a patient or a simulated patient. Students will observe the teacher's methods, including performing audiometric tests, tympanometry, and otoacoustic emissions testing. This visual and practical demonstration helps students understand the correct procedures and the specific signs and symptoms to look for in assessing ear function. The teacher will also explain how to interpret the results and their relevance to patient care.Duration : 1 Hour
NLHP 21.3	History taking with associated clinical features of *Sevi Iraichal* (Tinnitus)	Case Diagnosis: The teacher will present students with case studies of patients exhibiting signs and symptoms of *Sevi Iraichal* (Tinnitus). Students will analyze the cases to identify key symptoms such as ringing, buzzing, or hissing sounds, and associated factors like hearing loss or dizziness. They will discuss the differential diagnosis and determine the underlying causes of tinnitus, such as exposure to loud noise, ear infections, or neurological conditions.Duration : 1 Hour Demonstration Bedside: The teacher will demonstrate the history-taking process and associated clinical features of *Sevi Iraichal* (Tinnitus) at the bedside of a patient or a simulated patient. Students will observe the teacher's methods, including asking relevant questions about the patient's medical history, lifestyle, and symptoms. The teacher will also demonstrate the physical examination techniques used to assess tinnitus. Duration : 1 Hour
NLHP 21.4	Physical examination and Investigation methods like, Ear exam, Hearing test, Neurological exam etc,for diagnosis of *Sevi Iraichal* (Tinnitus).	Presentation: Students will prepare and deliver presentations on the physical examination and investigation methods for diagnosing *Sevi Iraichal* (Tinnitus). They will research the condition, its symptoms, and the various examination techniques such as otoscopic examination, audiometry, and vestibular function tests. Students will also discuss the interpretation of diagnostic test results and the role of imaging studies in identifying underlying causes of tinnitus.Duration : 1 Hour

		Case Diagnosis: Students will be presented with case studies of patients exhibiting signs and symptoms of *Sevi Iraichal* (Tinnitus). They will analyze the cases to identify key symptoms such as ringing, buzzing, or hissing sounds, and associated factors like hearing loss or dizziness. Students will discuss the differential diagnosis and determine the appropriate investigation methods, such as audiometric testing, imaging studies, and laboratory tests.Duration : 1 Hour
NLHP 21.5	Clinical features of *Sevi Iraichal* (Tinnitus) and finalizing its line of treatment.	Practical: The teacher will guide students through hands-on practice to interpret the signs and symptoms to diagnose *Sevi Iraichal* (Tinnitus). Students will work in small groups, applying the techniques demonstrated by the teacher on patients or simulated patients. They will perform physical examinations, document their findings, and discuss them within their groups.Duration : 1 Hour Case Diagnosis: The teacher will present students with case studies of patients exhibiting signs and symptoms of *Sevi Iraichal* (Tinnitus). Students will analyze the cases to identify key symptoms such as ringing, buzzing, or hissing sounds, and associated factors like hearing loss or dizziness. They will discuss the differential diagnosis and infer the appropriate line of treatment, which may include medications, sound therapy, or other therapeutic interventions.Duration : 1 Hour
NLHP 21.6	History taking with associated clinical features of *Thalai Chutral Noi* (Vertigo)	Case diagnosis : Students will then engage in role-playing exercises to practice these skills, with the teacher providing guidance and feedback. The session will conclude with a discussion of findings, a demonstration of physical examination techniques, an explanation of relevant diagnostic tests, and a Q&A session to address any questions.Duration : 1 Hour blended learning : Students begin with pre-class preparation by reading materials and watching pre-recorded lectures. In the in-class session, the teacher demonstrates patient interviews and physical examinations while students engage in role-playing exercises to practice these skills. The session concludes with a group discussion and explanation of diagnostic tests. Post-class, students write reflective essays and participate in online discussions to share their experiences and insights, ensuring a comprehensive understanding of vertigo diagnosis.Duration : 1 Hour
NLHP 21.7	Physical examination and Investigation methods for diagnosis of *Thalai Chutral Noi* (Vertigo).	Case-Based Learning: Presenting students with case studies of patients exhibiting signs and symptoms of *Thalai Chutral Noi* (Vertigo). Students will analyze the cases to identify key symptoms such as dizziness, spinning sensation, unsteadiness, nausea, and abnormal eye movements. They will discuss

		the differential diagnosis and determine the underlying causes of vertigo, such as inner ear problems, infections, or neurological conditions.Duration : 1 Hour Practical: Students actively engage in performing physical examinations and investigation methods for diagnosing *Thalai Chutral Noi* (Vertigo). Students will work in small groups, applying the techniques demonstrated by the teacher on patients or simulated patients. This approach allows students to develop their skills through direct experience, observation, and feedback from the teacher.Duration : 1 Hour
NLHP 21.8	Clinical features of *Thalai Chutral Noi* (Vertigo) and finalizing its line of treatment.	Case Diagnosis: The teacher will present students with case studies of patients exhibiting signs and symptoms of *Thalai Chutral Noi* (Vertigo). Students will analyze the cases to identify key symptoms such as dizziness, spinning sensation, unsteadiness, nausea, and abnormal eye movements. They will discuss the differential diagnosis and determine the underlying causes of vertigo, such as inner ear problems, infections, or neurological conditions.Duration : 1 Hour Lab Report Interpretation: The teacher will provide students with lab reports and diagnostic test results related to patients with *Thalai Chutral Noi.* Students will interpret the findings, such as results from vestibular function tests, imaging studies, and blood tests. They will correlate the lab results with the clinical symptoms to infer the appropriate line of treatment, which may include medications, vestibular rehabilitation, or other therapeutic interventions.Duration : 1 Hour
NLHP 21.9	Awarness about Hearing Aids and Cochlear Implant.	Presentation: Organizing guest lecture where experts present detailed information about different types of hearing aids and cochlear implants. The invited speakers will cover various aspects, including the technology, benefits, and usage of these devices. Students will have the opportunity to ask questions and clarify their doubts. Duration : 1 Hour Demonstration on Model: The guest lecturer will demonstrate the use of hearing aids and cochlear implants on models. Students will observe the practical application of these devices, including how they are fitted and adjusted. This visual and hands-on demonstration helps students understand the correct procedures and the functionality of hearing aids.Duration : 1 Hour
Topic 22 Infectious conditions of the skin (LH :11 NLHT: 8 NLHP: 13)		

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2, CO5	Define Causes, Classification with Clinical features and Treatment of *Peru noi*(Leprosy)	CK	MK	K	L&PPT ,EDU	DEB,QZ	F		-	LH
CO2, CO5	Describe the Cause, Classification with Clinical features and Treatment of *Sirangu* (Scabies).	CK	MK	K	RLE,L &PPT	DEB,QZ	F&S		-	LH
CO2, CO5	Explain Sycosis barbae (Pseudofolliculitis barbae),AKN (Acne Keloidalis Nuchae) Sycosis Nuchae,Follicular Infective Eczema.	CC	DK	KH	L_VC,L	INT,S-LAQ	F&S		-	LH
CO2, CO5	Describe Trichomycosis axillaris (Trichobacteriosis) and Erythrasma.	CC	DK	KH	L&PPT ,L	QZ ,CL-PR	F&S		-	LH
CO2, CO5	Describe *Palunni* (Molluscum contagiosum),*Maru* (Verrucae/Warts),Genital Warts (Condiloma acuminatum)	CK	MK	K	L&GD, L&PPT	PRN,QZ	F&S		-	LH
CO2, CO5	Describe the cause, Clinical features and treatment of *Akki noi* (Herpes Zoster Virus),Herpes Simplex Virus 1 &2 infections.	CK	MK	K	L&PPT ,L	DEB,QZ	F&S		-	LH
CO2, CO5	Explain Skin manifestations in HIV and the causes,Clinical features,Investigations,differential diagnosis of ORF(Ecthyma contagiosum).	CK	MK	K	L&PPT ,L	T-OBT,QZ	F&S		-	LH
CO2, CO5	Describe the cause,clinical features,Investigation and Differential diagnosis of Milkers nodes.	CK	DK	K	L&PPT ,L	PRN,QZ	F&S		-	LH
CO2, CO5	Explain the Viral infection, Hand-Foot-Mouth Disease (HFMD)	CK	DK	K	L&PPT ,L	DEB,T-OBT	F&S		-	LH
CO2, CO5	Describe the Causes, Classification with Clinical features and Treatment of *Padarthamarai*(Tinea infections)	CK	MK	K	LS,L,D, RLE,EDU	CWS ,M-CHT,INT	F&S		-	LH
CO2, CO5	Describe Rhinosporidiosis and Chromoblastomycosis.	CC	DK	SH	L_VC,L	VV-Viva,CL-PR	F&S		-	LH

CO2, CO5	Demonstrate healthy life style practices to prevent *Peru Noi* (Leprosy).	PSY-GUD	MK	K	D,DIS	DEB,PRN, QZ	F		V-SATV	NLHT22.1
CO2, CO5	Perform counselling to Kids and Family members to overcome reinfection of *Sirangu* (Scabies)	AFT-RES	MK	KH	DIS,D,PER	DOPS,PM, DOPS,CBA	F		-	NLHT22.2
CO2, CO5	Demonstrate the principles of *Ashtangayogam* to overcome Stress in Skin Diseases.	PSY-GUD	MK	KH	TBL,LS,D	SP,P-RP	F		H-VPS	NLHT22.3
CO2, CO5	Demonstrate Chuttigai for *Palunni* (Molluscum) and *Maru* (Warts)	PSY-GUD	MK	KH	D,KL,SIM,D-BED,D-M	PP-Practical,CBA,SP	F		-	NLHT22.4
CO2, CO5	Discuss successful stories of HIV treatment in *Siddha*	CC	MK	KH	CBL,DIS	INT,DEB	F		-	NLHT22.5
CO2, CO5	Practice social, preventive aspects and diet for *Akki Noi* (Herpes zoster infections).	CAP	MK	KH	L&GD, FC	INT,VV-Viva	F		-	NLHT22.6
CO1, CO5	Demonstrate Healthy Lifestyle Practices to Overcome Reinfection of *Padarthamarai noi* (Tinea - Various Types)	PSY-GUD	MK	KH	PER,L&GD	PUZ,INT	F		-	NLHT22.7
CO2, CO5	Demonstrate preventive measures and treatment options for Impetigo	PSY-GUD	MK	KH	D,L&GD	INT,DEB	F		-	NLHT22.8
CO1, CO2, CO3, CO4, CO5, CO6, CO7, CO8	Demonstrate the methods of physical examination to differentiate various skin lesions.	PSY-GUD	MK	KH	D,CBL, D-BED	OSCE,PM	F		-	NLHP22.1
CO1,	Perform the application of *Patru, Poochu* (topical applications)for	CE	MK	KH	CBL,D-	Mini-CEX,	F		-	NLHP22.2

CO2, CO3, CO4, CO5, CO6, CO7, CO8	various skin infections.				BED,SIM	DOPS,DOPS				
CO2, CO5	Describe history taking methods to rule out skin infections.	CC	MK	KH	SIM,D-BED	SP,DOPS,DOPS	F		-	NLHP22.3
CO2, CO5	Perform the methods of physical examination to differentiate various skin lesions.	PSY-GUD	MK	KH	D-BED, CBL	DOPS,DOPS,Mini-CEX	F		-	NLHP22.4
CO2, CO5	Prepare the *Nal Ozhukkam* (Daily routine) and *Kala Ozhukkam* (Seasonal routine) practices to overcome various skin lesions.	PSY-GUD	MK	KH	TPW,PL	INT,CHK	F		V-NAVO	NLHP22.5
CO2, CO5	Interpret the role of *Thega vanmai* (Healthy immune status) and *Kala vanmai* (Seasonal Status) to prevent skin infections.	PSY-GUD	MK	SH	PSM,D-BED	DOPS,DOPS,P-PRF,OSPE	F		V-NAVO	NLHP22.6
CO2, CO5	Discuss the successful stories in the treatment of bacterial Skin infections.	AFT-VAL	MK	KH	PBL,CBL	INT,QZ	F		-	NLHP22.7
CO2, CO5	Interpret clinical case studies to improve diagnostic and treatment skills.	PSY-GUD	NK	KH	BL,CBL	QZ ,CWS ,Log book	F		H-RM	NLHP22.8
CO2, CO5	Discuss the differential diagnosis and line of treatment for various infectious skin diseases.	CC	MK	KH	CBL,BS	DEB,INT	F		-	NLHP22.9
CO2, CO5	Discuss the successful stories of the treatment of viral skin infections.	CAP	MK	KH	CBL,DIS	Log book,INT	F		-	NLHP22.10
CO2,	Interpret Blood, Microbiological and histological investigations	PSY-	MK	SH	CD,LRI	INT,CBA	F		V-NN2	NLHP22.11

CO5	relavent to infectious skin diseases.	GUD								
CO2, CO5	Demonstrate handwashing and infection control procedures.	PSY-GUD	MK	SH	D,PL	CHK,PA	F		-	NLHP22.12
CO2, CO5	Practice the relevant prophylactic measures to prevent Skin infections.	CAN	MK	KH	PBL,DIS,D-BED	CHK,DEB	F		-	NLHP22.13

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 22.1	Healthy life style practices to prevent *Peru Noi* (Leprosy).	Demonstration & Discussion : Teacher will demonstrate the proper handwashing technique. Teach the nutritional importance, Principles of *Ashtanga yogam*, Effects of *Karma*. Teach Students about preventive measures like to avoid close contact with infected individuals. Duration : 1 hour
NLHT 22.2	Prevent Reinfection of *Sirangu* (Scabies)	Discussion:Disscuss the following with students. Explain scabies , how it spreads, and the importance of preventing reinfection Discuss the common symptoms of scabies and how it is diagnosed. Emphasize the importance of completing the full course of treatment and the necessity of treating all close contacts simultaneously. Highlight the importance of personal hygiene, such as regular handwashing and avoiding sharing personal items like towels and clothing. Discuss the need to clean and disinfect bedding, clothing, and other personal items to eliminate mites. Duration : 1 hour Demonstration: Handwashing Technique: Demonstrate proper handwashing techniques, including the use of soap and water, and the recommended duration.Cleaning and Disinfecting: Show how to clean and disinfect personal items, such as bedding, clothing, and towels. Explain the importance of using hot water and drying on a high heat setting.Avoiding Close Contact: Demonstrate how to avoid close physical

		contact with others until the treatment is complete and all mites are eradicated. Duration : 1 hour
NLHT 22.3	Principles of *Ashtangayogam* to overcome Stress in Skin Diseases.	Demonstration :The teacher wil explain how stress negatively impacts skin diseases and how *Ashtangayogam* can help manage stress. Iyamam and Niyama:Discuss the ethical guidelines (*Iyamam*) and personal observances (*Niyamam*) and their relevance to stress management. *Asanam*:Demonstrate stress-relieving yoga postures. Encourage students to practice those poses, focusing on breath and relaxation. Pranayama:Demonstrate *Pranayamam (Pooragam,Resagam,Kumbagam)*.Guide students through these exercises, emphasizing slow and mindful breathing. *Dhyanam and Pratyaharam*: Introduce techniques for meditation *(Dhyanam)* and withdrawal of senses *(Pratyaharam)*. Lead a guided meditation session focusing on mindfulness and relaxation. Allow students to practice the demonstrated techniques, providing guidance and feedback.Encourage them to focus on their breath, body awareness, and relaxation. Discuss the key steps of the Ashtangayogam practice and address any questions or concerns.Emphasize the importance of regular practice for managing stress and improving skin health. Duration : 1 hour Library Session: Assign students to research the eight types of *Ashtangayogam* and their benefits in managing stress. Provide a list of recommended books, articles, and journals on *Ashtangayogam* and stress management in skin diseases. Form small study groups and assign each group a specific type of Ashtangayogam to focus on.Each group will study their assigned type, highlighting its principles, practices, and benefits.Each group will present their findings to the class, using visual aids and library resources. Encourage the use of diagrams, charts, and references to support their presentation. Duration : 1 hour Team-Based Learning and Discussion: Divide students into small groups.Provide each group with a case scenario involving a patient with a skin disease exacerbated by stress. Ask students to develop a management plan incorporating Ashtangayogam practices.Each group will discuss the following ; Stress impact the patient's skin condition. *Ashtangayogam* and it's benefits for skin diseases. Patient incorporation these practices into their daily routine. Each group will present their management plan to the class, explaining their rationale and expected

		outcomes. Facilitate a class discussion to compare different management plans and their potential effectiveness. Encourage students to ask questions and share insights from their research and discussions. Duration : 1 hour
NLHT 22.4	Chuttigai for *Palunni* (Molluscum) and *Maru* (Warts)	Demonstration or Simulation :The teacher will Demonstrate how to position the patient comfortably and explain the procedure to the students.Clean the area around the lesion with antiseptic solution in *siddha (Padigaara neer)* and drape the area with sterile drapes.Using the *Salaagai*, demonstrate the precise technique to apply heat to the lesion for *Chuttigai*.Explain how to adjust the Heat for effective application of *Chuttigai* without causing excessive damage to surrounding tissues.Show how to clean the treated area, apply an Medication, and dress the wound.Provide instructions on post-procedure care, including how to manage pain and prevent infection.Allow students to practice the *Chuttigai* technique on simulation models or synthetic skin lesions.Provide guidance and feedback to ensure proper technique and adherence to aseptic principles.Discuss the key steps of the Chuttigai procedure and address any questions or concerns with students. Duration : 1 hour
NLHT 22.5	Successful stories of HIV treatment in *Siddha*	Case-Based Learning or Discussion : Divide students into small groups.Provide each group with the case studies.Ask students to review the case studies and identify key aspects of the treatment, including Siddha medicines used, duration of treatment, and outcomes.Each group will discuss the cases.Each group will present their findings and insights to the class.Encourage the use of visual aids, such as slides or charts, to enhance their presentation.Facilitate a class discussion to compare the different aspects of the case studies.Encourage students to ask questions and share their thoughts on the integration of Siddha medicine with conventional treatment.Ask students to reflect on the importance of integrating traditional medicine with modern treatments.Discuss the potential benefits and challenges of such an approach. Duration : 1 hour
NLHT 22.6	Social, Preventive aspects and Diet for *Akki Noi* (Herpes Zoster Infections).	Flipped Classroom: Students will be assigned pre-class materials, including articles and videos, to study the social and preventive aspects, as well as dietary recommendations for managing *Akki Noi* (Herpes zoster infections). Participants will review these resources at their own pace before the class, ensuring they

		come prepared with a foundational understanding of the topic. Duration : 1 hour Discussion: Students will share insights from their pre-class study, apply their knowledge to case studies, and engage in collaborative learning. Duration : 1 hour
NLHT 22.7	Healthy Lifestyle Practices to Overcome Reinfection of *Padarthamarainoi* (Tinea - Various Types)	Lecture and Group Discussion : Students will learn about healthy lifestyle practices to overcome reinfection of *Padarthamarai noi* (Tinea - various types) through an engaging presentation. The lecture will cover key topics, such as hygiene practices, dietary recommendations, and environmental adjustments to prevent reinfection. Following the lecture, participants will engage in a group discussion to reinforce their understanding, share insights, and ask questions. Duration : 1 hour Presentation : Students will be provided with practical tips, and visual aids will be used to emphasize important concepts, making it easier to understand and implement effective prevention strategies. Duration : 1 hour
NLHT 22.8	Preventive measures and treatment options for Impetigo	Lecture and group discussion : Students will learn about preventive measures and treatment options for Impetigo through an engaging presentation. The lecture will cover key topics, including hygiene practices and the importance of early detection. Following the lecture, participants will engage in a group discussion to reinforce their understanding, share insights, and ask questions. Duration : 1 hour Demonstration :Begin with a brief explanation of impetigo and its causes. Show proper handwashing techniques, how to clean and cover wounds, and the importance of not sharing personal items. Have students practice these skills using provided materials. Demonstrate the application of simulated patru and poochu and kalimbu to a mock wound, emphasizing the need to complete the treatment course. Duration : 1 hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**

NLHP 22.1	Methods of physical examination to differentiate various skin lesions.	Case-Based Learning :The Teacher will guide Students through case-based learning, presenting real-life scenarios involving various skin lesions. Students will analyze each case, discussing differential diagnoses, and identifying key clinical features that distinguish different skin conditions. This interactive approach enhances critical thinking and clinical reasoning skills. Duration : 1 hour Demonstration : The Teacher will showcase the examination techniques, emphasizing the identification of unique characteristics of different lesions. This hands-on demonstration allows students to observe and learn effective examination practices.The teacher demonstrates the proper technique for using the dermatoscope, including adjusting the focus and lighting.The teacher shows how to identify and differentiate various types of skin lesions using the dermatoscope.The teacher demonstrates how to document findings accurately, including taking notes and capturing images if applicable. Duration : 1 hour Demonstration Bedside :The teacher will conduct bedside demonstrations, where students will observe and practice physical examination methods directly on patients. Under the teacher's guidance, Students will apply their skills in a real clinical setting, enhancing their ability to accurately differentiate skin lesions through practical experience. Duration : 1 hour
NLHP 22.2	Application of *Patru, Poochu* (topical applications)for various skin infections.	Case-Based Learning (CBL) :Provide students with detailed case studies involving patients with different skin infections. Each case study should include patient history, symptoms, and prescribed topical medications.Ask students to individually review and analyze the case studies, identifying the appropriate use of topical medications for each condition.Encourage students to consider factors such as dosage, application techniques, and potential side effects. Form small groups and have students discuss their individual analyses. Each group will discuss the case, focusing on: Identifying the correct topical medication and its mechanism of action. Discussing the appropriate application technique for the medication. Discussing patient education on the proper use of topical medications. Each group will present their case analysis to the class, highlighting: The chosen topical medication and its rationale. The application technique and any special considerations. Important points for patient education. Duration : 1 hour

		Bedside or Simulation Demonstration : Demonstrate how to explain the medication and its use to the patient.Demonstrate the correct technique for applying different types of topical medications, such as creams, ointments, and lotions.Show how to apply the medication evenly and avoid contamination.Provide instructions on how the patient should apply the medication at home, including dosage, frequency, and duration.Discuss any potential side effects and how to manage them.Allow students to practice applying topical medications on simulation models or standardized patients.Provide guidance and feedback to ensure proper technique and adherence to aseptic principles. Duration : 1 hour
NLHP 22.3	History taking methods to rule out skin infections.	Simulation :In this activity, Students will pair up and take turns role-playing as healthcare providers and patients with various skin conditions. They will practice history-taking interviews to gather critical information to rule out skin infections, enhancing their diagnostic skills and patient interaction techniques. Duration : 1 hour Demonstration : The teacher will perform a live demonstration of an ideal history-taking session, highlighting essential questions and observational techniques. students will observe, take notes, and engage in a Q&A session to deepen their understanding of the process. Duration : 1 hour
NLHP 22.4	Methods of physical examination to differentiate various skin lesions.	Case-based learning : The teacher will present clinical cases with patient history and images of skin lesions. After demonstrating examination techniques such as inspection, palpation, and dermatoscopy, students will work in groups to identify and differentiate types of lesions, present their findings, and participate in a class discussion. Duration : 1 hour Demonstration on bedside :The teacher will perform a live demonstration, focusing on patient history, physical examinations, and identifying clinical signs.The teacher will demonstrate the use of dermatoscope for examine the skin. Students will observe, ask questions, and practice techniques under supervision. The session will include a case discussion to analyze findings and formulate a diagnosis and treatment plan. Duration : 1 hour
NLHP 22.5	*Nal Ozhukkam* (Daily routine) and *Kala Ozhukkam* (Seasonal routine) practices to	Team project work : The Teacher will explain the topic briefly first.then students are divided into groups and assign a topic to them.They will work in groups to research their assigned topics, create

	overcome various skin lesions.	engaging presentation. Duration : 1 hour Peer learning :Students will work in peer groups to explore *Nal Ozhukkam* and *Kala Ozhukkam* practices for managing skin lesions. Each group will research an assigned topic, create engaging learning materials, and teach their peers through interactive sessions, including presentations, Q&A, and demonstrations. Duration : 1 hour
NLHP 22.6	Importance of *Thega vanmai* (Healthy immune status) and *Kala vanmai* (Seasonal Status) to prevent skin infections.	Demonstration on bedside :The teacher will explain the concepts of *Thega vanmai* (Healthy immune status) and *Kala vanmai* (Seasonal Status) to prevent skin infections., demonstrate skin examinations at the patient's bedside, and discuss preventive measures related to immune health and seasonal adaptations. Students will observe, ask questions, and practice techniques under supervision, followed by case discussions and feedback to reinforce the learning experience. Duration : 1 hour Problem solving method :Students can lead an activity to develop a seasonal health plan by discussing common skin infections in different seasons, researching *Thega Vanmai* and *Kala Vanmai* principles, and analyzing how immune status and seasonal changes impact skin health. They will create a health plan with dietary adjustments, lifestyle practices, and preventive measures, implement it in their daily lives, and evaluate its effectiveness, making necessary adjustments.Duration : 1 hour
NLHP 22.7	Successful stories in the treatment of bacterial Skin infections.	Problem-based learning (PBL) :Guide students through real-life clinical scenarios involving bacterial skin infections. Begin by presenting detailed case scenarios, including patient symptoms, medical history, and initial examination findings. Divide the class into groups, each analyzing different aspects such as diagnosis, treatment options, and prevention strategies. Provide resources for research and facilitate group discussions to deepen understanding. Conclude with group presentations and a class-wide discussion to highlight key takeaways and clinical implications. Duration : 1 hour Case-Based Learning (CBL) : The teacher presents a detailed clinical case, including patient history, symptoms, examination findings, and initial investigations. The class is divided into small groups, each analyzing the case to identify clinical problems, formulate differential diagnoses, and propose management plans. The teacher guides discussions, provides resources, and ensures evidence-based practice. Groups present their findings, followed by a class-wide discussion on approaches and reasoning. Duration : 1 hour

NLHP 22.8	Interpretation of clinical case studies to improve diagnostic and treatment skills.	Blended learning : Students begin with an online pre-class assignment to review background information and complete preliminary questions. In class, the teacher presents a clinical case study, and students analyze it in small groups to propose differential diagnoses and treatment plans. They document their analysis on an online platform, present their findings to the class, and engage in a class discussion. The activity concludes with a post-class reflection assignment where students summarize key insights, and the teacher provides feedback, emphasizing systematic approaches to diagnosis and treatment. Duration : 1 hour Case-based learning : The session begins with an overview of common conditions and their importance. The teacher presents a detailed case study, guiding small group analyses to propose differential diagnoses and treatment plans. Groups present their findings and receive feedback, followed by a class discussion on diagnostic reasoning and best practices. The activity concludes with reflections on the learning process, emphasizing a systematic approach to diagnosis and treatment. Duration : 1 hour
NLHP 22.9	Differential diagnosis and line of treatment for various infectious skin diseases	Brainstorming :Devide students into small groups.Sudents receive an overview of common conditions and the importance of accurate diagnosis. Small groups analyze case studies, brainstorming possible diagnoses and treatment plans based on symptoms. Each group presents their findings, prompting questions and further insights from their peers. The activity concludes with a class discussion on the challenges and best practices in diagnosing and treating skin infections, followed by reflections on the process and feedback from the instructor, emphasizing critical thinking and collaboration. Duration : 1 hour Case based Learning:The teacher presents a detailed case study and guides students through group analysis to propose differential diagnoses. Groups then develop comprehensive treatment plans and present their findings to the class, followed by a feedback session. The class discussion focuses on diagnostic reasoning and treatment decisions, highlighting best practices and challenges. Duration : 1 hour
NLHP 22.10	Successful stories in the treatment of viral skin infections.	Discussion : Begin with a brief overview provided by the teacher, followed by a presentation of a case study detailing symptoms, diagnosis, and treatment. Small groups discuss the case study, identifying key factors in successful treatments and sharing relevant experiences or research. Each group then

		presents their findings and shared stories to the class, leading to an open discussion on common themes and effective strategies. Duration : 1 hour Case-Based Learning : Case-based learning : Students review a case study, discussing the symptoms, diagnosis, and treatment plan in small groups. Following this, students share and reflect on successful treatment stories from their experiences or research, emphasizing key factors that led to positive outcomes. Duration : 1 hour
NLHP 22.11	Blood, microbiological, and histological investigations relevant to infectious skin diseases.	Case Diagnosis :Provide students with detailed patient case studies that include patient history, symptoms, and physical examination findings.Ask students to individually analyze the case studies and document their observations and initial diagnoses.Form small groups and have students share their analyses, discuss possible diagnoses, and consider differential diagnoses. Each group will present their case analysis, including the rationale behind their final diagnosis and any differential diagnoses considered.Facilitate a class discussion to provide feedback on each group's presentation and encourage reflection on the diagnostic process. Duration : 1 hour Lab Report Interpretation :Provide students with lab reports from patients with infectious skin diseases, including blood test results, microbiological cultures, and histological examinations. Ask students to individually interpret the lab reports and correlate the findings with the clinical presentations of the patients.Form small groups and have students discuss their interpretations, focusing on key findings and their significance in the diagnosis.Each group will present their analysis of the lab reports, including how each type of investigation contributed to their understanding of the patient's condition.Facilitate a class discussion to provide feedback on each group's presentation and encourage reflection on the importance of integrating lab results with clinical findings. Duration : 1 hour
NLHP 22.12	Handwashing and infection control procedures.	Demonstration : The teacher demonstrates proper handwashing techniques and infection control procedures, including the use of soap, water, hand sanitizer, gloves, masks, and surface disinfection. Students pair up to practice these techniques, observe each other, and provide feedback. Groups discuss common mistakes and best practices, sharing tips to reinforce each procedure's importance. Peer reviews are conducted where one student demonstrates the techniques while another assesses them against a checklist. Duration : 1 hour

		Peer learning : Students take turns demonstrating proper techniques to their peers, followed by practicing in pairs and providing feedback. Groups discuss observations and share best practices, and students assess each other's techniques using a checklist. The activity concludes with a reflection on the experience and the importance of maintaining proper hand hygiene and infection control.Duration : 1 hour
NLHP 22.13	Relevant prophylactic measures to prevent skin infections.	Problem-based learning: Students will begin with a brief introduction about skin infections and relevant prophylactic measures. They will then be divided into groups to analyze specific case scenarios and propose preventive plans. Following this, the groups will present and discuss their proposed measures, concluding with a summary of key points and the importance of preventive care. Duration : 1 hour Discussion: Students are divided into small groups and given case studies to analyze, identifying potential risk factors for skin infections. The groups discuss and propose relevant prophylactic measures, ensuring a collaborative approach. Each group presents their findings to the class, followed by an open floor for questions and feedback. The activity concludes with a reflection session where groups summarize key insights and emphasize the importance of preventive care in maintaining skin health. Duration : 1 hour

Topic 23 Diseases of Hair, Nail and Foot (LH :8 NLHT: 4 NLHP: 12)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO5	Describe the Cause, Clinical features and Treatment of *Podugu* (Pityriasis capitis),Hypertrichosis, *Ila narai* (Greying Hair/Canities).	CK	MK	K	L_VC,L	DEB,INT	F&S		-	LH
CO1, CO2,	Explain the Cause, Clinical features and Treatment of Koilanychia,Pachynychia,Paronychia.	CC	MK	K	L&PPT ,FC,L	COM,Log book	F&S		-	LH

CO5										
CO1, CO2, CO5	Identify and describe the causes, clinical features and treatment of Dystrophy of nails,Pterygium of the nails,Onycholysis,Subungual Hyperkeratosis	CK	DK	KH	L&PPT ,L	T-OBT,M-POS,QZ	F&S		-	LH
CO1, CO2, CO5	Describe the causes, clinical features and treatment of *Mugaparu* (Acne Vulgaris),Sebaceous cyst,Cradle cap (Milk crusts).	CK	MK	K	L&PPT ,L	M-POS,CL-PR	F&S		-	LH
CO1, CO2, CO5	Explain causes,clinical features and treatment of Miliaria and types.	CK	DK	K	L&PPT ,L	PRN,QZ	F&S		-	LH
CO1, CO2, CO5	Define the causes, clinical features and treatment of Anhidrosis,Bromhidrosis,Hyper Hidrosis.	CK	DK	K	L,L&PPT	T-OBT,INT	F		-	LH
CO1, CO2, CO5	Describe the causes,clinical features and treatment of *Kaal aani* (Corn).	CK	MK	K	L&GD, L_VC,L &PPT ,L	PUZ,PRN	F&S		-	LH
CO1, CO2, CO5	Explain the Causes, clinical features and treatment of Callus.	CK	MK	K	L&GD, L&PPT	DEB,INT	F&S		-	LH
CO2, CO5	Perform Prophylactic Measures for *Podugu* (Dandruff) and *Pen* (Pediculosis).	PSY-GUD	MK	KH	BS,DIS	M-CHT,PM	F		-	NLHT23.1
CO2, CO5	Perform Prophylactic Measures for Hair fall and *Ila narai* (Premature Gray hairs).	PSY-GUD	MK	KH	PL,TBL	CL-PR,INT	F		-	NLHT23.2
CO2, CO5	Demonstrate best practices of Nail cutting, Cleaning of nails and clefts and the importance of correct foot wear to prevent	CAP	MK	KH	D,L&GD	DOPS,DOPS,P-PRF	F		-	NLHT23.3

	infections of Hand and Foot.									
CO1, CO2, CO5	Design SoP for *Chuttigai* in *Kaal aani* (Corn foot).	CAP	MK	KH	DIS,PSM	QZ ,Log book	F		-	NLHT23.4
CO1, CO2, CO5	Perform the procedures of history taking to rule out hair, nail, and foot conditions.	PSY-GUD	MK	KH	PBL,RP,D-BED,D	PRN,P-EXAM	F		-	NLHP23.1
CO1, CO2, CO5	Perform chuttigai for *Kaal Aani* (Corn foot).	PSY-GUD	MK	KH	D,SIM	OSCE,DOPS,DOPS	F		-	NLHP23.2
CO1, CO2, CO5	Demonstrate the procedures of history taking to rule out hair, nail, and foot conditions.	PSY-GUD	MK	KH	D,PBL	SP,Log book,OSCE	F		-	NLHP23.3
CO1, CO2, CO5	Demonstrate the methods of topical applications such as *Patru* and *Poochu* for treating nail infections.	PSY-GUD	MK	KH	PT,D-BED	P-PRF,Mini-CEX	F		-	NLHP23.4
CO1, CO2, CO5	Perform practical training in KOH smear examination to confirm fungal infections.	PSY-GUD	MK	KH	KL,CD	P-PRF,OSPE	F		V-NU	NLHP23.5
CO1, CO2, CO5	Construct SoP for the application of Karamarunthukal in *Palunni* (Molluscum) and *Maru* (Warts).	CAN	MK	KH	PER,FC	PRN,DOAP	F		-	NLHP23.6
CO1, CO2, CO5	Perform the application of Karamarunthukal in *Palunni* (Molluscum) and *Maru* (Warts).	PSY-GUD	MK	KH	D,PT	DOPS,OSPE,DOPS	F		-	NLHP23.7
CO1,	Perform the technique of Nail avulsion in cases of *Naga*	PSY-	MK	KH	D,SIM	DOPS,DOP	F		-	NLHP23.8

CO2, CO5	*sutru*(Paronychia),*Naga sothai* (Tinea unguim).	GUD				S				
CO1, CO2, CO5	Describe the prophylactic measures to prevent infections of foot.	CC	MK	KH	FC,RP	PRN,DEB	F		V-NAVO	NLHP23.9
CO1, CO2, CO5	Discuss successful stories in the treatment of *Puzhuvettu* (Alopecia)	CC	MK	KH	PER,CBL	PRN,INT	F		-	NLHP23.10
CO2, CO5	Practice diffrent methods of physical examinations to identify the variations in the nails due to infections.	CAP	MK	KH	CBL,D-BED	Log book,DOAP	F		-	NLHP23.11
CO2, CO5	Demonstrate the methods of physical examination of Hair.	PSY-GUD	MK	KH	SIM,D	CBA,SP	F		-	NLHP23.12

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 23.1	Prophylactic Measures for *Podugu* (Dandruff) and *Pen* (Pediculosis).	Brainstorming :Organize a brainstorming session where students are divided into groups to generate ideas for preventing dandruff *(Podugu)* and lice *(Pediculosis)*. Groups will discuss and note down various preventive measures, then share and refine their ideas through group discussion, focusing on aspects like hygiene practices, dietary changes, and natural remedies. Duration : 1 hour Discussion :Facilitate a group discussion on the prevention of dandruff *(Podugu)* and lice *(Pediculosis)* by providing background information and discussion prompts. students will be divided into small groups to share their thoughts, experiences, and ideas on effective home remedies, lifestyle factors, and hygiene practices. Groups will then present their insights to the larger group. Duration : 1 hour
NLHT 23.2	Prophylactic Measures for Hair fall and *Ila narai* (Premature Gray hairs).	Team-Based Learning :Students are divided into small teams to research and present on various prophylactic measures for hair fall and premature gray hair. Each team focuses on a specific aspect such as diet, stress management, hair care routines, or natural remedies. After conducting their

		research, teams prepare and deliver a presentation summarizing their findings. This is followed by a group discussion students engage in questions, share personal experiences, and deepen their understanding of the preventive measures. Duration : 1 hour Peer Learning : Students engage in peer learning by discussing their personal experiences and challenges related to hair fall and premature gray hair. Each students shares tips and methods they have found effective, and the group collectively evaluates the practicality and effectiveness of these methods. Duration : 1 hour
NLHT 23.3	Best practices of Nail cutting, Cleaning of nails and clefts and the importance of correct foot wear to prevent infections of Hand and Foot.	Lecture and Group Discussion : Deliver a lecture on best practices for nail care and proper footwear. Discuss techniques for cutting nails straight, cleaning with a nail brush and soap, and the significance of breathable, well-fitting shoes. Follow this with a group discussion for sharing experiences, addressing challenges and a Q&A session.Duration : 1 hour Demonstration : Conduct a demonstration on proper nail cutting and cleaning methods. Show how to use nail clippers and a nail brush effectively. Demonstrate selecting and checking the fit and support of footwear. Ensure students practice these techniques to maintain healthy nails and feet.Duration : 1 hour
NLHT 23.4	SoP for *Chuttigai* in *Kaal aani* (Corn foot).	Problem solving method : Students are divided into groups to identify issues related to the *Chuttigai* procedure for treating *Kaal aani* (corn foot). Each group researches the issues, brainstorms potential solutions, and presents their findings to the class. After discussing the feasibility and effectiveness of the proposed solutions, students collaboratively develop an action plan to implement the best ideas.Duration : 1 hour Discussion : The teacher discuss the effectiveness, challenges, and potential improvements of *Chuttigai* for treating *Kaal ani* (corn foot) with students. then studentd are allowed to reviewing research articles and case studies in small groups, they present their findings to the class. The teacher facilitates a larger discussion, summarizing key points and encouraging further exploration.Duration : 1 hour
Non Lecture Hour Practical		

S.No	Name of Practical	Description of Practical Activity
NLHP 23.1	Procedures of history taking to rule out hair, nail, and foot conditions.	Problem-based learning :Students are divided into groups and assigned case scenarios. Each group takes a comprehensive history from the case description or a simulated patient, then presents their findings and proposed diagnoses to the class. Duration : 1 hour Role play :Students are Working in pairs or groups, one student acts as the patient while the others take on the role of physician. They perform the history-taking process, document findings, and receive feedback from peers and the teacher. Duration : 1 hour
NLHP 23.2	Chuttigai for *Kaal Aani* (Corn foot).	Simulation or demonstration : The teacher demonstrates the procedure using mannequin feet, guiding students through the steps of cleaning,*chuttigai*, and aftercare. Students practice the procedure in small groups under supervision of teacher. Afterward, the class discusses their experiences, challenges, and observations, with the teacher providing feedback and additional insights. Duration : 1 hour
NLHP 23.3	Procedures of history taking to rule out hair, nail, and foot conditions.	Problem-Based Learning: Present a problem scenario that requires taking a comprehensive patient history focused on hair, nail, and foot conditions. Students work in groups to identify the key questions and information needed. Duration : 1 hour Demonstration: Show the process of taking a detailed patient history, highlighting important aspects such as open-ended questions and attentive listening. Duration : 1 hour
NLHP 23.4	Methods of topical applications such as *Patru* and *Poochu* for treating nail infections.	Practical: Engage students in hands-on practice to apply topical medications for nail infections on models, ensuring they understand the proper techniques and dosage. Duration : 1 hour Demonstration Bedside: Provide a bedside demonstration with a patient to illustrate the practical aspects and considerations of applying topical medications in a clinical setting. Duration : 1 hour
NLHP 23.5	Practical training in KOH smear examination to confirm fungal infections.	Practical Training : Students will engage in a practical training activity to perform KOH smear examination for confirming fungal infections. This hands-on session will guide students through the process of preparing a KOH smear, applying potassium hydroxide (KOH) solution to the sample, and examining it under a microscope. Duration : 1 hour

		Kinesthetic Learning : Students will work through a series of stations that simulate the steps of the examination, including sample collection, slide preparation, KOH application, and microscopic observation. Each station will provide opportunities for repetitive practice. Duration : 1 hour
NLHP 23.6	SoP for the application of Karamarunthukal in *Palunni* (Molluscum) and *Maru* (Warts).	Flipped classroom: Students research the traditional use of *Karamarunthukal* for treating *Palunni* and *Maru* before class, summarizing their findings and raising questions. During class, they share their insights, in a discussion, prepare the Kaaram, apply it to samples or volunteers, and monitor the outcomes. Duration : 1 hour Presentation: The teacher introduces the traditional use of Karamarunthukal for treating *Palunni* (Molluscum) and *Maru* (Warts) and then teacher will explain the SoP for Kaaram with the students. Duration : 1 hour
NLHP 23.7	Application of Karamarunthukal in *Palunni* (Molluscum) and *Maru* (Warts).	Practical : Students will engage in a practical activity to learn the application of *Karamarunthukal* in treating *Palunni* (Molluscum) and *Maru* (Warts). They will practice the entire process, from preparing the *Karamarunthukal* to its proper application on the affected areas. This hands-on session will help students understand the precise steps involved and the importance of hygiene and technique in *kaaramaruthugal* applications. Duration : 1 hour Demonstration : Students will observe a detailed demonstration by an experienced teacher on the application of Karamarunthukal for *Palunni* (Molluscum) and *Maru* (Warts). The teacher will showcase the preparation of the paste, explain the rationale behind its use, and demonstrate the application techniques. Duration : 1 hour
NLHP 23.8	Technique of Nail avulsion in cases of *Naga sutru*(Paronychia),*Naga sothai* (Tinea unguim).	Simulation: Use simulation models to practice the technique of nail avulsion, allowing students to learn and refine their skills in a controlled environment. Duration : 1 hour Demonstration: Perform a live demonstration to show the correct procedure for nail avulsion, emphasizing precision and safety. Duration : 1 hour
NLHP 23.9	Prophylactic measures to prevent infections of foot.	Roleplay : Students will engage in a roleplay activity to learn about the prophylactic measures to prevent foot infections. They will act out various scenarios where they educate patients on foot care

		practices such as regular washing and drying of feet, wearing breathable footwear, keeping toenails trimmed, avoiding walking barefoot in public areas, and inspecting feet for any signs of infection. Duration : 1 hour Flipped Classroom : In the flipped classroom approach, students will be assigned pre-class materials, including articles, videos, and guidelines, to study prophylactic measures for preventing foot infections. They will review these resources at their own pace before the class. During the class, students will discuss their insights, share experiences, and apply their knowledge to case studies and scenarios. Duration : 1 hour
NLHP 23.10	Successful stories about the treatment of *Puzhuvettu*	Case-Based Learning: The teacher will Discuss case studies involving the treatment of *Puzhuvettu*, analyzing the diagnosis, treatment methods, and outcomes with the students. Duration : 1 hour Presentation: Teacher share successful treatment stories through presentations, highlighting the key aspects and students will learned from each case. Duration : 1 hour
NLHP 23.11	Diffrent methods of physical examinations to identify the variations in the nails due to infections.	Case-Based Learning : Students will engage in case-based learning to explore different methods of physical examinations for identifying variations in nails due to infections. Real-life case scenarios will be presented, allowing students to analyze symptoms, discuss differential diagnoses, and identify key signs of nail infections. Duration : 1 hour Demonstration on Bedside : The teacher will conduct a bedside demonstration, showcasing the proper techniques for examining nails to identify variations caused by infections. Students will observe the examination process on actual patients, learning how to assess nail color, shape, texture, and other critical features. Duration : 1 hour
NLHP 23.12	Methods of physical examination of Hair.	Simulation : Students will engage in a simulation exercise to practice the methods of physical examination of hair. They will pair up, with one acting as the healthcare provider and the other as the patient. Using a structured guide, they will assess hair health by examining the scalp condition, hair texture, and growth patterns. Duration : 1 hour Demonstration : The teacher will perform a detailed demonstration of the proper techniques for examining hair. The demonstration will cover how to assess scalp health, examine hair shafts, and identify signs of hair abnormalities. Participants will observe the process, take notes, and participate in

		a Q&A session to clarify any doubts. Duration : 1 hour

Topic 24 Mooku Noigal (Diseases of the Nose) (LH :7 NLHT: 3 NLHP: 10)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO5, CO7, CO8	Describe the Definition, Causes, Classification with Clinical features and Treatment of *Peenism* (Sinusitis)	CK	MK	K	L&PPT ,L&GD, L,L_VC	PUZ,QZ ,INT,M-POS	F&S		-	LH
CO1, CO2, CO5, CO7	Define and describe the Definition, Causes, Clinical features and Treatment of *Nasigapeedam* (Nasal polyps)	CK	MK	K	L&PPT ,L_VC, L&GD, L	QZ ,M-CHT,PUZ,DEB	F&S		-	LH
CO1, CO2, CO5	Explain the Definition, Causes, Clinical features and Treatment of *Karapan, Kalalai, Paru* and *Pilavai*	CK	MK	K	L&GD, L&PPT ,L	PUZ,QZ ,DEB	F&S		-	LH
CO2, CO5	Explain Furunculosis ,Cavernous sinus thrombosis	CC	DK	KH	L&GD, L_VC,L ,L&PPT	INT,CL-PR,QZ	F		-	LH
CO1, CO2, CO5	Describe Erysipelas, Lupus erythematosus, Rhinophyma.	CC	DK	KH	L,L_VC ,L&PPT	CL-PR,PUZ,QZ	F&S		-	LH
CO1, CO2, CO5	Describe *Raktha Peenisam* (Epistaxis)	CK	DK	K	L,L&GD,L&PPT ,L_VC	QZ ,DEB,PUZ	F&S		-	LH

CO1, CO2, CO5	Define Nasal Septal disease and classify the different types of Rhinitis	CC	DK	K	L,L_VC ,L&PPT ,L&GD	QZ ,CL-PR,DEB	F&S		-	LH
CO1, CO2, CO5	Interpret the effective application of *Oppurai* and *Ethirurai* for various types of *Peenisam* (Sinusitis)	PSY-GUD	MK	SH	IBL,DIS ,PBL	INT,DEB	F&S		V-SATV	NLHT24.1
CO1, CO2, CO5, CO6	Demonstrate examination of Nose, Paranasal sinuses and Naso pharynx.	PSY-GUD	MK	SH	SIM,D, CBL	INT,SP,SBA	F&S		-	NLHP24.1
CO1, CO2, CO5	Construct SoP for *Pugai* and *Nasiyam* for *Mookku noikal* (Nasal diseases)	CAN	MK	KH	IBL,DIS	CL-PR,INT ,PRN	F&S		-	NLHT24.2
CO1, CO2, CO5, CO8	Perform *Nasiyam* (Nasal application) for *Mookku Noikal* (Diseases of Nose)	PSY-GUD	MK	D	SIM,RP ,TBL,CBL	PRN,P-VIVA,P-EXAM ,P-PRF	F&S		-	NLHP24.2
CO1, CO2, CO5	Demonstrate First aid for *Ratha Peenisam* (Epistaxis).	CAP	DK	KH	L&PPT ,BS,L_VC	P-PRF,P-RP	F		-	NLHT24.3
CO1, CO2, CO5, CO8	Perform *Vedhu* (Steam therapy) for *Mookku Noikal* (Diseases of Nose).	PSY-GUD	MK	D	TBL,RP	P-PRF,P-VIVA	F&S		-	NLHP24.3
CO1, CO2,	Conduct examination of Nose, Paranasal sinuses and Naso pharynx	PSY-GUD	MK	SH	PBL,D-BED	P-RP,SP,P-PS	F&S		-	NLHP24.4

CO5										
CO1, CO2, CO5	Demonstrate the proper steps in inserting a Ryle's tube using appropriate techniques.	PSY-GUD	MK	SH	SIM,D	P-RP,P-PRF	F&S		-	NLHP24.5
CO1, CO2, CO5	Achieve diagnosis and line of treatment by Integrating the results of Physical examination and Investigations of Nasal diseases.	CAN	MK	SH	PSM,KL	PM,P-PS	F&S		-	NLHP24.6
CO1, CO2, CO5	Assess the humoural predominance in different types of *Peenisam.*	CAN	MK	SH	CBL,PBL	P-CASE,P-RP,P-MOD,P-PRF	F&S		-	NLHP24.7
CO1, CO2	Demonstrate the techniques for removal of foreign bodies from the nose in simulations.	PSY-GUD	MK	KH	D,SIM	SP,PM	F		-	NLHP24.8
CO1, CO2, CO5	Demonstrate proper steps in inserting a Ryle's tube using appropriate techniques.	PSY-GUD	MK	KH	D,SIM	SP,DOPS,DOPS	F		-	NLHP24.9
CO1, CO2, CO5	Describe the radiological, microbiological, and histological investigations relevant to diseases of Nose.	CC	MK	SH	CBL,LRI	Log book,DOPS,DOPS	F		-	NLHP24.10

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 24.1	*Oppurai* and *Ethirurai* for various types of *Peenisam* (Sinusitis)	Discussion: Facilitate a discussion on the concepts of *Oppurai* (alternative therapies) and *Ethirurai* (contrary treatments) and their applications in treating different types of *Peenisam* (sinusitis). Students engage in conversations about the principles, benefits, and potential challenges of these treatments. Duration : 1 hour Project-Based Learning: Assign a project where students research and develop treatment plans using *Oppurai* and *Ethirurai* for various sinusitis types. They work in groups to create comprehensive plans,

		including theoretical background, practical application, and expected outcomes, then present their findings to the class. Duration : 1 hour
NLHT 24.2	SoP for *Pugai* and *Nasiyam* for *Mookku noikal* (Nasal diseases)	Discussion: The teacher will Initiate a discussion on the significance of Standard Operating Procedures (SoPs) for *Pugai* (steam therapy) and *Nasiyam* (nasal application) in treating nasal diseases. Cover the fundamental aspects of these treatments and their therapeutic benefits. Duration : 1 hour Inquiry-Based Learning: Encourage students to ask questions and explore the procedures in depth. Guide them to investigate the best practices and protocols for *Pugai and Nasiyam*, fostering a deeper understanding through independent research. Duration : 1 hour
NLHT 24.3	First aid for *Ratha Peenisam* (Epistaxis).	Brainstorming : Teacher will Start with a brief introduction to the topic of epistaxis and the objective of the brainstorming session.Encourage students to share their ideas and knowledge about the causes, symptoms, and first aid measures for epistaxis.Write down all contributions on the whiteboard or flip chart.Facilitate a discussion to organize the ideas and identify common themes or gaps in knowledge.Review the categorized ideas and reflect on the key points generated during the brainstorming session.Summarize the key takeaways and highlight areas that need further exploration or clarification. Duration : 1 hour Lecture with Video Clips: Provide a lecture on the causes, symptoms, and first aid techniques for epistaxis, supported by video clips demonstrating the steps. Duration : 1 hour Demonstration:Conduct a live demonstration of the first aid procedures for managing epistaxis. The instructor will demonstrate steps such as applying pressure, positioning the head, and using nasal sprays or packing if necessary. Duration : 1 hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 24.1	Examination of Nose, Paranasal sinuses and Naso	Demonstration or Simulation : Conduct a live demonstration of the examination techniques for the

	pharynx.	nose, paranasal sinuses, and nasopharynx in a patient or simulation.The teacher will demonstrate the steps involved in the examination, such as inspection, palpation, and use of appropriate tools. Duration : 1 hour
NLHP 24.2	*Nasiyam* (Nasal application) for *Mookku Noikal* (Diseases of Nose)	Case-based learning: Present scenarios involving nasal diseases requiring *Nasiyam* (nasal application). Students analyze these cases to understand when and how Nasiyam is applied. Duration : 1 hour Problem-based learning, students address hypothetical problems related to nasal diseases, formulating treatment plans that include *Nasiyam* as a component. Duration : 1 hour
NLHP 24.3	*Vedhu* (Steam therapy) for *Mookku Noikal* (Diseases of Nose).	Team-based learning : Students work in teams to simulate steam therapy applications, ensuring they understand its therapeutic use and effectiveness. Duration : 1 hour Role play : Divide students it to groups.assign the roles like practitioner and patinet to the students.Then aks the practitioner to perform the procedure to the students.repeat this for another groups.Duration : 1 hour
NLHP 24.4	Examination of Nose, Paranasal sinuses and Naso pharynx	Problem-Based Learning : Students are presented with a problem scenario involving a patient with symptoms related to the nose, paranasal sinuses, and nasopharynx.In groups, analyze the problem, identify the symptoms, discuss possible causes, and perform the examination techniques using nasal eamaination kit . Duration : 1 hour Demonstration on Bedside : Student will perform each step of the examination, including inspection, palpation, and the use of appropriate tools . Emphasize key anatomical landmarks and common findings. Duration : 1 hour
NLHP 24.5	Proper steps in inserting a Ryle's tube using appropriate techniques.	Simulation or Demonstration : The teacher will explain the purpose, gathering materials, and positioning the trainer then the teacher will perform and demonstrate the steps in inserting the ryles tube.students will observe, take notes, and discuss the procedure, potential complications, and patient care with the teacher. the teacher will clear any doubts raised by students.

NLHP 24.6	Diagnosis and line of treatment by integrating the results of physical examination and investigations of nasal diseases.	Problem solving method : Employ the problem-solving method to integrate physical examination findings with lab and X-ray results. Duration : 1 hour Kinaesthetic learning: hands-on practice with X-ray identification and lab report interpretation. Duration : 1 hour
NLHP 24.7	Humoural predominance in different types of *Peenisam.*	Problem-based learning : Present hypothetical scenarios requiring diagnosis and treatment planning for nasal diseases in students.Duration : 1 hour Case-based learning : Students will analyze the actual cases to understand the indications for various treatments and their effectiveness. Duration : 1 hour
NLHP 24.8	Techniques for removal of foreign bodies from the nose in simulations.	Simulation or Demonstration : Utilize simulations to practice the removal of foreign bodies from the nose, ensuring students learn the proper techniques. Follow up with live demonstrations to reinforce these skills and provide real-world context. Duration : 1 hour
NLHP 24.9	Proper steps in inserting a Ryle's tube using appropriate techniques.	Role play or Demonstration : Students are divided in to groups.One student will act as the practitioner, explaining the purpose, gathering materials, and positioning the trainer then the practioner perform and demonstrate the steps in inserting the ryles tube.Other students will observe, take notes, and discuss the procedure, potential complications, and patient care with the teacher. the teacher will clear and correct any doubts or mistakes in demonstration.The roles will rotate to ensure each student gets hands-on experience.Duration : 1 Hour
NLHP 24.10	Radiological, microbiological, and histological investigations relevant to diseases of Nose.	Lab Report Interpretation : The teacher will guide students through interpreting lab reports related to nasal diseases. Starting with a review of patient history to set context, the activity will then examine radiological findings like CT and MRI scans for key features such as sinus opacification and polyps. Students will analyze microbiological results to identify pathogens from nasal swabs or cultures, and interpret histological findings from slides for signs of inflammation, infection, or neoplastic changes. Finally, students will engage in group discussions to present and refine their interpretations, integrating theoretical knowledge with practical skills for a comprehensive understanding of nasal disease diagnosis. Duration : 1 hour

		Case-Based Learning : The teacher begin the class with an overview of relevant investigations, followed by a case study presentation of a patient with chronic nasal symptoms. Students examine radiological images like CT and MRI scans to identify abnormalities, perform microbiological tests such as nasal swabs and cultures to detect pathogens, and review histological slides under a microscope to observe tissue changes. The session concludes with an interactive Q&A to deepen understanding and a summary highlighting the integration of these techniques for accurate diagnosis. Duration : 1 hour

Topic 25 Arpaviranam (Minor Skin diseases) (LH :2 NLHT: 1 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO5	Define *Viyarkuru* – (Prickly heat), *Koppulam* (Vesicles / Bullae), *Thavalai chori* (Phrynoderma).	CK	MK	K	L_VC,L	INT,T-OBT	F&S		-	LH
CO1, CO2, CO5	Define *Akkul Koppulam / Akkul katti* (Hidradenitis suppurativa) ,*Setrupun* (Tinea pedis), *Varagu koppulam* (Pustules).	CK	MK	K	L,L&PPT	DEB,WP	F&S		-	LH
CO1, CO2, CO5	Construct the prophylactic measures of *Setruppun* (Tenia Pedis)	CAN	DK	KH	DIS,D,FC	SBA,PM	F		-	NLHT25.1
CO1, CO2, CO5	Demonstrate *Vamanam* (Emetic therapy) to neuralise three humours in specific skin conditions.	PSY-GUD	MK	SH	RP,SIM	DOPS,DOPS,P-PS	F&S		-	NLHP25.1
CO1, CO2, CO5	Conduct *Viresanam* (Purgative therapy) to neutralize three humours in specific skin conditions.	PSY-GUD	MK	SH	RP,SIM	PM,OSPE	F&S		-	NLHP25.2
CO1, CO2,	Identify the humoral predominence in each type of *Arpa viranam*(Minor skin lesions).	CAP	MK	SH	PBL,CBL	P-PRF,Mini-CEX	F&S		-	NLHP25.3

CO5											

Non Lecture Hour Theory		
S.No	**Name of Activity**	**Description of Theory Activity**
NLHT 25.1	Prophylactic measures of *Setruppun* (Tenia Pedis)	Group Discussion: Facilitate a discussion on various preventive measures for tinea pedis.Provide case studies or scenarios involving tinea pedis prevention.Divide students into small groups to discuss and list preventive measures. Each group presents their findings to the class. Duration : 1 hour Flipped Classroom: For pre-class preparation, students should watch pre-recorded lectures on Tinea Pedis, covering causes, symptoms, foot hygiene, antifungal measures, and footwear tips. They should read provided materials and complete a quiz to assess comprehension. In-class activities include setting up stations for Tinea Pedis prevention, a Q&A session, and group discussions on case scenarios, with each group presenting their findings. Duration : 1 hour

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 25.1	*Vamanam* (Emetic therapy) to neuralise thre humours	Role Play : Arrange a simulation area with a patient bed, Meidicines, and other necessary materials.Assign roles to students (e.g., practitioner, patient, assistant).Briefly explain the purpose of *Vamanam* therapy and the steps involved. Assign roles to the students.Practitioner: Explain the procedure to the "patient," including the purpose and expected outcomes.Patient: Act as a patient following the instructions given by the practitioner.Assistant: Support the practitioner in preparing and administering the herbal decoctions. Duration : 1 hour Simulation: The students simulates the administration of Medicines to induce vomiting, while the assistant monitors the patient's response.The teacher provides post-therapy care instructions and dietary recommendations.Debrief: Discuss the experience, challenges faced, and areas for improvement.Provide feedback on communication and procedural skills. Duration : 1 hour

NLHP 25.2	*Viresanam* (Purgative therapy) to neutralise three humours in specific skin conditions.	Role Play : Arrange a simulation area with necessary materials for *Viresanam* therapy, including herbal purgatives, medicines, steam therapy equipment, and patient bedding.Assign roles to students (e.g., practitioner, patient, assistant).Briefly explain the purpose of *Viresanam* therapy and the steps involved. Assign roles to the students.Practitioner: Explain the procedure to the "patient," including the purpose and expected outcomes.Patient: Act as a patient following the instructions given by the practitioner.Assistant: Support the practitioner in preparing and administering the herbal purgatives, and assisting with steam therapy. Duration : 1 hour Simulation: The practitioner simulates the administration of medicines, steam therapy, and herbal purgatives, while the assistant monitors the patient's response.The practitioner provides post-therapy care instructions and dietary recommendations. Duration : 1 hour
NLHP 25.3	Humoral predominence in each type of *Arpa viranam*(Minor skin lesions).	Problem-Based Learning : Students will be divided into groups, each analyzing patient scenarios with specific symptoms to determine the predominant humor (*Vatham,Pitham,Kabam*). Groups will research, discuss, and diagnose the humoral imbalance in their cases, preparing a presentation to share their findings with the class. Duration : 1 hour Case-Based Learning : Student will analyze a detailed patient case studies, discuss in groups to identify the type of lesion and the predominant humor(*Vatham,Pitham,Kabam*) , and develop a comprehensive treatment plan. Groups will present their findings and treatment plans, participate in peer review sessions. Duration : 1 hour
Topic 26 Special medicines in Siddha for Skin diseases (LH :2 NLHT: 1 NLHP: 3)		

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2, CO5, CO6	Describe the preparation and administration of ***R****asa Chendurum,* ***K****anthaga Sudar Thailam,* and ***P****arangipattai Rasayanam* specifying appropriate dosages, indications and procedural steps for the effective management of chronic skin diseases	CK	MK	K	L,L&GD	O-QZ,PRN	F&S		-	LH
CO2, CO5, CO6	Describe the preparation and administration of ***S****ivanarvembu Chooranam,* ***K****arunkozhi Chooranam,* ***S****arvanga Rasayanam* specifying appropriate dosages, indications and procedural steps for the effective management of chronic skin diseases	CK	MK	K	PER,L	CL-PR,QZ	F&S		V-GMK	LH
CO2, CO5, CO8	Demonstrate the video presentation of preparing special medicines for skin diseases.	PSY-GUD	MK	KH	BL,L_VC	INT,P-POS	F		-	NLHT26.1
CO2, CO5, CO7	Demonstrate the methods to review latest research papers on the topic of special siddha medicines for treatment and maintenance of chronic skin diseases and publish as a paper in a indexed journal.	PSY-GUD	MK	D	DA,CBL,PL	CR-RED,Portfolios,CR-W	F&S		-	NLHP26.1
CO2, CO5, CO7, CO8	Demonstrate the efficacy of Special medicines by incorporating before and after treatment photographs for preparing a poster presentation.	PSY-GUD	MK	D	DA,LRI	RK,Log book	F		H-RM	NLHP26.2
CO2, CO5, CO7, CO8	Analyse the possibilities to become Enterpreneur in manufacturing and marketing special medicines in siddha.	CAN	NK	KH	TBL,DA	360D,PRN	F		-	NLHP26.3

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

NLHT 26.1	Demonstrating the video presentation of preparing special medicines for skin diseases.	The teacher will shows a video clipping emphasising • Prepare medicines viz. **S**i*vanarvembu Chooranam, **K**arunkozhi Chooranam, Kanthaga Sudar Thailam, **P**arangipattai Rasayanam*-- show the ingredients and its purification process • Demonstrate the steps (e.g., grinding herbs, mixing powders, or boiling decoctions) involved in the preparation. Highlight the efficacy and safety of Siddha medicines prepared. Duration : 1 Hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 26.1	Demonstrating the methods to review latest research papers on the topic of special siddha medicines for treatment and maintenance of chronic skin diseases and publish as a paper in a indexed journal.	Peer learning: Students divided into small groups, for each group teacher should demonstrate the common method to review research papers. Then the students are allowed to • Identify & allocate suitable research publications on the topic of chronic skin diseases treated by special siddha medicines to different student groups. • The students are instructed to conduct group discussion on the efficacy and contraindications of the approaches from different research studies • Based on the gained knowledge prepare a manuscript and submit it to a indexed journal. • After a Peer Review, recieve the acceptance from the indexed journal and publish it as per the norms of the publication Duration : 1 Hour

NLHP 26.2	Demonstrating the efficacy of Special medicines by incorporating before and after treatment photographs for preparing a poster presentation.	Drug Analysis: The teacher should demonstrate the methodology of poster presentation to the students Each student is instructed to prepare and present articles/ posters on the efficacy of siddha special medicines in the management of chronic skin diseases. (for eg., ***K****arunkozhi Chooranam* and ***K****anthaga Sudar thailam* in the treatment of eczema) Articles/Posters to include details like dosage, usage pattern, duration, supplementary medicines for optimal results. Duration : 1 Hour
NLHP 26.3	Analysing the possibilities to become Enterpreneur in manufacturing and marketing special medicines in siddha.	Team Based Learning: Teachers can inspire students to develop innovative solutions for eye health issues. They can guide projects on creating affordable vision aids or organizing community eye check-ups by • Identify some unique, effective formulations for skin disease • Obtain licenses from AYUSH and follow GMP standards. • Online platforms, traditional branding, and export opportunities. • Partner with practitioners and wellness centers for trust and outreach. This collaborative effort helps students build technical, entrepreneurial, and social skills, ensuring they become future leaders in health innovation. Duration : 1 Hour

Topic 27 Vaai Noikal (Diseases of Oral Cavity) (LH :6 NLHT: 3 NLHP: 8)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2, CO6, CO8	Describe the causes, classifications, clinical features and treatment of ***N****aaku noigal* (Tongue diseases)	CC	MK	K	L,L&PPT	CL-PR,QZ	F&S		V-UK	LH

CO2, CO6, CO8	Describe the causes, classifications, clinical features and treatment of ***U****lnaakku noigal* (Diseases of the Uvula)	CC	MK	K	L,L&PPT	QZ ,PRN	F&S		-	LH
CO2, CO6	Explain the clinical features of pemphigus. Enumerate common symptoms of oro pharynx inflammation and differentiate cysts of mouth.	CK	DK	K	L,L&PPT	QZ ,PRN	F&S		-	LH
CO2, CO6, CO8	Define *Naaku Pun* (Stomatitis) and Describe the causes, classifications, Clinical features and treatment of ***N****aakku puttru* (Carcinoma of Tongue)	CK	MK	K	L,L&PPT	T-CS,CL-PR	F&S		-	LH
CO2, CO6, CO8	Describe the causes, classifications, clinical features and treatment of ***K****annaputtru* (Carcinoma of cheek)	CK	MK	K	L,L&PPT	CL-PR,DEB,T-CS	F&S		-	LH
CO2, CO6, CO8	Describe the causes, classifications, clinical features and treatment of diseases of Salivary gland including Carcinoma of Parotid gland and Sialolithiasis	CK	MK	K	L&PPT,DIS,L	PUZ,PRN, T-OBT,T-CS	F&S		-	LH
CO2, CO5, CO6	Discuss natural resources/herbal products that can be used for oral health care.	CAP	DK	KH	FC,DIS	O-QZ,PRN	F		-	NLHT27.1
CO2, CO5	Explain the detrimental effects of tobacco chewing	CC	DK	K	PER,L&GD	PRN	F		-	NLHT27.2
CO1, CO2, CO6, CO7	Demonstrate understanding of advanced techniques to proactively identify and treat ***N****aakkuputtru* (Cancer of tongue) and ***K*** *annaputtru* (Cancer of cheek)	PSY-GUD	NK	KH	CBL,PT	PRN	F&S		-	NLHT27.3
CO2	Demonstrate examination of Buccal cavity	PSY-GUD	MK	SH	D	P-PRF,P-EXAM	F&S		-	NLHP27.1

CO2, CO3	Perform examination of the buccal cavity	PSY-GUD	DK	SH	PT,D-BED	OSCE	F&S		-	NLHP27.2
CO2, CO5	Diagnose and construct line of treatment after examination of buccal cavity	PSY-GUD	MK	SH	D,CBL	P-VIVA	F		-	NLHP27.3
CO1, CO2	Demonstrate examination techniques of ***Naakku puttru*** (Carcinoma of Tongue)	PSY-GUD	MK	SH	D-BED	P-VIVA	F		-	NLHP27.4
CO2, CO6	Perform examination of ***Naakku puttru*** (Carcinoma of Tongue)	PSY-GUD	MK	SH	PER,D	PRN	F		-	NLHP27.5
CO2, CO8	Indicate the histo pathological diagnosis and line of treatment after examination of ***Naaku Puttru*** (carcinoma of tongue)	PSY-GUD	MK	SH	CBL	P-VIVA	F		-	NLHP27.6
CO2, CO3, CO5	Describe the importance of Tumour markers for different kind of Cancers.	CC	MK	KH	LRI,DIS,D	P-VIVA	F&S		-	NLHP27.7
CO2, CO3, CO5	Discuss the role of Family history and environmental hazards in developing different types of cancers.	CAN	MK	KH	TBL,DIS,RLE	Log book,S-LAQ	F&S		-	NLHP27.8

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 27.1	Discussion on natural resources/herbal products for oral health care	Flipped Classroom: Students will be assigned pre-class materials, including articles and videos, to understand natural resources/herbal products for oral health care. Participants will review these resources at their own pace before the class, ensuring they come prepared with a foundational understanding of the topic. Discussion: Students will share insights from their pre-class study, apply their knowledge to case studies, and engage in collaborative learning. The teacher should involve in the discussion of natural resources/herbal products that can be used for

		oral health care. Duration : 1 Hour
NLHT 27.2	Explanation of the detrimental effects of tobacco chewing	The teacher should divide the students into small groups with 4 to 5 members Each group of students should discuss about the, • Harmful effects of tobacco chewing, including oral cancer, gum diseases, tooth decay, and bad breath. • Health risks and behavior change strategies. • Real-life cases and challenges in quitting tobacco can be discussed with the teacher for a practical knowledge. Duration : 1 Hour
NLHT 27.3	Demonstration of acute understanding of advanced techniques to proactively identify and treat ***N****aakuputtru* (Cancer of tongue) and ***K*** *annaputtru* (Cancer of cheek)	The teacher should divide the students into small groups of 2-3 members Provide each group with a detailed case study of a patient presenting with ***N****aakuputtru* and ***K****annaputtru* Include patient history, symptoms, and initial examination findings. Each group reviews their case study, discussing the following: • Patient history and key presenting symptoms. • Potential diagnoses based on the information provided. • Necessary physical examinations to assess the ***N****aakuputtru* (Cancer of tongue) and ***K*** *annaputtru* (Cancer of cheek) to Interpret the test results. • Further diagnostic tests if needed (e.g., biopsy, imaging). • The Students should also develop a management plan for the patient. Duration : 1 Hour

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 27.1	Demonstration of Buccal cavity examination	The teacher should demonstrate the students to Greet the patient, obtain the consent and progress with the examination such as, • Visual Inspection: Check for lesions, swelling. • Palpation: Feel for lumps. • Assess Saliva Flow: Check dryness. • Examine Teeth and Gums: Check for abnormalities. The students are involved in the discussion of the examination procedures to rule out and achieving diagnosis. Duration : 1 Hour
NLHP 27.2	Performance of buccal cavity examination	The teacher should divide the students into groups. Each group is instructed to do the procedure as following Greet the patient and obtain the consent. Continue with the examination such as, • Visual Inspection: Check for lesions, swelling. • Palpation: Feel for lumps. • Assess Saliva Flow: Check dryness. • Examine Teeth and Gums: Check for issues. The students are involved in the discussion of the examination procedures to rule out and achieving diagnosis. Duration : 1 Hour

NLHP 27.3	Diagnosis and construction of the line of treatment after examination of buccal cavity	Group Discussions: Students are divided into small groups Provide students with clinical cases involving clinical conditions of buccal cavity. Students discuss the cases in small groups with teacher, identifying clinical signs, examination techniques, diagnosis and management plans. Case-Based Learning (CBL) Divide students into small groups of 2-3 members. Provide each group with a detailed case study of a patient presenting with buccal cavity abnormalities. Each group reviews their case study, discussing the following: • Patient history and key presenting symptoms. • Potential diagnoses based on the information provided. • Interpretation of examination and test results. • Further diagnostic tests if needed (e.g., biopsy, imaging). • Confirmation of the diagnosis. • Immediate management and treatment options. • Long-term follow-up and patient education. Each group presents their case analysis and management plan to the class. After each presentation, conduct a class-wide discussion. Encourage questions from other groups and provide feedback on the case analysis and management plans. Duration : 1 Hour
NLHP 27.4	Demonstration of examination techniques of ***N****aakku puttru* (Carcinoma of Tongue)	The teacher should demonstrate the students to Greet the patient, obtain the consent and progress with the examination such as, • Visual Exam: Inspect tongue for lesions. • Palpation: Check for lumps.

		• Biopsy: Take tissue sample. (outsourcing) • Imaging: CT/MRI scans.(outsourcing) • Lab Tests: Bio markers(outsourcing) The students are involved in the discussion of the examination procedures to rule out and achieving diagnosis. **Duration :** 1 Hour
NLHP 27.5	Performance of ***N****aakku Puttru* examination (Carcinoma of Tongue)	The teacher should divide the students into groups. Each group is instructed to do the procedure as following Greet the patient and obtain the consent. Continue with the examination such as, • Visual Exam: Inspect tongue for lesions. • Palpation: Check for lumps. • Biopsy: Take tissue sample. (outsourcing) • Imaging: CT/MRI scans.(outsourcing) • Lab Tests: Bio markers(outsourcing) The students are involved in the discussion of the examination procedures to rule out and achieving diagnosis. Duration : 1 Hour
NLHP 27.6	Indicating the histopathological diagnosis and line of treatment after examination of ***N****aaku Puttru* (carcinoma of tongue)	Case Based Learning: The teacher should divide the Students into smaller groups. Each groups are instructed to do: • Examine for ulceration, induration, and nodules on the tongue. • Check for pain, bleeding, or difficulty in swallowing/speech. • Confirm via biopsy and imaging (MRI/CT).

		• Include Siddha interventions like ***R**asaganthi mezhugu, **N**anthi mai, **C**hithira moola kuzhigai, **N**ellikai leghiyam* for symptom management and immunity enhancement. Duration **:** 1 Hour
NLHP 27.7	Describing the importance of Tumour markers for different kind of Cancers.	Demonstration: The teacher should demonstrate different types of tumor markers for detecting and diagnosing various cancers, such as PSA for prostate cancer or CA-125 for ovarian cancer. It helps to assess prognosis, guide treatment decisions, and monitor treatment effectiveness. Lab Report interpretation: The teacher must analyze various tumor marker reports to assess staging, prognosis, and treatment options for different cancer types. Duration : 1 Hour
NLHP 27.8	Discussing the role of Family history and environmental hazards in developing different types of cancers.	Real Life Experience: The teacher should divide the students into groups Each group is instructed to discuss Family History, Genetic Predisposition, Environmental Exposures, Lifestyle Factors are the causes of developing different types of cancer. The students are then allowed to discuss the findings. Duration : 1 Hour

Topic 28 Thondai Noikal (Diseases of Throat) (LH :6 NLHT: 4 NLHP: 7)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2	Define causes, types, clinical features and treatment of Tonsilitis and Pharyngitis	CK	MK	K	L,L&PPT	PRN,QZ	F&S		-	LH
CO2	Describe the causes, pathology, types, clinical features and treatment of tumours of Pharynx Distinguish Palatal and Pharyngeal Palsy	CK	MK	K	L,L&PPT	QZ ,CL-PR	F		-	LH

CO2, CO6	Explain the clinical features of Trismus and ***A****nna pilavai* (Cleft palate)	CK	DK	K	L&PPT ,L	PUZ,DEB	F&S		-	LH
CO2, CO8	Explain the causes, types, clinical features and treatment of Laryngitis	CK	MK	K	L,L&PPT	T-OBT,M-CHT	F		-	LH
CO2	Describe the causes, types, clinical features and treatment of Laryngeal paralysis	CK	MK	K	L,FC	CL-PR,WP	F		-	LH
CO2	Describe disorders of voice	CK	DK	K	L&PPT ,DIS,L	O-GAME,PRN	F&S		-	LH
CO2	Describe clinical features and treatment of ***L****asuna thabitham* (Tonsillitis)	CC	MK	KH	D-BED, CBL	PRN,M-POS	F&S		-	NLHT28.1
CO2	Describe the clinical features and treatment of Laryngitis	CC	MK	KH	PBL,PER	INT,PUZ	F&S		-	NLHT28.2
CO2	Describe the clinical features and treatment of tumours of Pharynx	CC	MK	KH	L_VC,DIS	CL-PR,M-POS	F&S		-	NLHT28.3
CO2	Describe the social and preventive aspects of **L**asuna thabitham (Tonsillitis)	CC	DK	KH	IBL,L&GD	CWS ,PRN	F&S		-	NLHT28.4
CO2, CO7, CO8	Demonstrate the physical examination techniques and instruments used for diagnosis and treatment of Tonsilitis	PSY-GUD	MK	KH	CBL,RP	P-VIVA,P-EXAM,OSCE	F&S		-	NLHP28.1
CO2, CO7, CO8	Conduct the physical examination for diagnosis and treatment of Tonsilitis	PSY-GUD	MK	SH	RP,SIM	P-RP,P-VIVA,P-EXAM	F&S		-	NLHP28.2
CO2	Demonstrate history taking with associated clinical features during examination of ***l****asuna thabitham* (Tonsillitis)	PSY-GUD	MK	D	CBL,TBL	P-PRF,Mini-CEX	F&S		-	NLHP28.3

CO2	Describe the prophylactic measures to prevent hoarseness of voice.	CAP	MK	KH	CBL	P-PRF	F		-	NLHP28.4
CO2	Demonstrate the methods of physical examination of Larynx	CAP	MK	KH	D-M,CBL	P-CASE,P-RP	F		-	NLHP28.5
CO2	Perform physical examination of Larynx	PSY-GUD	MK	SH	D-BED, KL	P-MOD,P-PRF	F		-	NLHP28.6
CO2	Demonstrate the diagnosis and line of treatment for diseases of Larynx	CAP	MK	KH	LRI,CD	P-PRF	F		-	NLHP28.7

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 28.1	Description of clinical features and treatment of ***L****asuna thabitham* (Tonsillitis)	Provide detailed case studies of patients with vascular lesions. Students analyze the cases, identify clinical signs like sore throat and difficulty swallowing.red, swollen tonsils with possible white patches,Fever, headache, and fatigue. Perform differential diagnoses, and propose treatment plans. Demonstration of Bedside Examination -The teacher should demonstrate the physical examination of a standardized patient with a Tonsilitis. The teacher performs the examination, explaining each step and technique. Students observe and take notes. **Duration :** 1 Hour
NLHT 28.2	Description of the clinical features and treatment of Laryngitis	Problem-Based Learning (PBL) Present students with a complex clinical problem involving a patient with Laryngitis Students work in groups to identify the clinical features like hoarseness or loss of voice throat discomfort or pain, dry cough or frequent throat clearing and develop a treatment plan. Presentation Assign topics related to the diagnosis and treatment of Laryngitis to small groups. Each group researches their topic, prepares a presentation, and delivers it to the class. Duration : 1 Hour

NLHT 28.3	Description of the clinical features and treatment of tumours of Pharynx	The teacher should demonstrate clinical examination and treatment of tumours of Pharynx through video clips The displayed video clips include • Overview of pharyngeal anatomy. • Types of tumors (benign and malignant). • Lump or swelling in the throat or neck. • Clinical examination and Investigations: • Summarize the importance of early diagnosis and multidisciplinary management. The students are divided into small groups to discuss the gained knowledge for better understanding of Pharyngeal tumors. Duration : 1 Hour
NLHT 28.4	Description of the social and preventive aspects of ***L****asuna thabitham* (Tonsillitis)	Brainstorming : Organize a brainstorming session where students are divided into groups to generate ideas for preventing *Lasuna thabitham* (Tonsillitis). Groups will discuss and note down various preventive measures, then share and refine their ideas through group discussion, focusing on aspects like hygiene practices, dietary changes, and natural remedies. Discussion : Facilitate a group discussion on the prevention of *Lasuna thabitham* (Tonsillitis) by providing background information and discussion prompts. students will be divided into small groups to share their thoughts, experiences, and ideas on prevention of tonsilliltis by practicing good hygiene, precautionary measures to avoid spreading it, possible complications and impact to social life. Groups will then present their insights to the larger group. Duration : 1 Hour

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 28.1	Demonstration of the physical examination techniques and instruments used for diagnosis and treatment of Tonsilitis	Split students into smaller groups Demonstrate the physical examination techniques and instruments used for diagnosis and treatment of Tonsilitis to each group such as, • Visual Inspection: Check for red, swollen tonsils. • Palpation: Feel lymph nodes in the neck. • Tongue Depressor: Use to inspect tonsils. • Check for Exudate: Look for pus or white spots The students are involved in the discussion of the examination procedures to rule out and achieving diagnosis. Duration **:** 1 Hour
NLHP 28.2	Physical examination of Tonsilitis for diagnosis and treatment	The teacher should divide the students into groups. Each group is instructed to do the procedure as following Greet the patient and obtain the consent. Continue with the examination such as, • Visual Inspection: Check for red, swollen tonsils. • Palpation: Feel lymph nodes in the neck. • Otoscope Exam: Use to inspect throat. • Check for Exudate: Look for pus or white spots The students are involved in the discussion of the examination procedures to rule out and achieving diagnosis. Duration **:** 1 Hour

NLHP 28.3	Demonstration of history taking with associated clinical features during examination of ***l****asuna thabitham* (Tonsillitis)	The teacher starts with the demonstration of history taking with associated clinical features during examination of ***l****asuna thabitham* (Tonsillitis) • Greet the patient and introduce themselves. • Introgate the onset, duration, severity, and associated symptoms • Inquire about previous illnesses, medications, and surgeries. • Examine the tonsils with proper techniques. • Identify diagnosis linked to the complaint. The students are involved in the discussion of the examination procedures to rule out and achieving diagnosis. Duration **:** 1 Hour
NLHP 28.4	Describing the prophylactic measures to prevent hoarseness of voice.	Students are divided into smaller groups For each group teacher should demonstrate • Methods to maintain healthy throat by avoiding excessive cold or spicy foods. • Demonstrate gargle method with warm salt water • Demonstrate the preparation and application of *Athimathuram* (Glycyrrhiza glabra) decoction to soothe the throat. • Practice gentle voice exercises, • Avoid overstraining vocal cords • Stay hydrated to ensure optimal vocal health. Duration **:** 1 Hour
NLHP 28.5	Demonstration of the methods of physicl examination of Larynx	The teacher starts with the demonstration of examination of Larynx Then divide the students into groups. Each group is instructed to do the procedure

		• Greets the patient and introduces themselves • Explain the procedure, and obtain consent. • Preparation: Patient may receive a local or general anesthetic. • Insertion: A laryngoscope (a thin tube with a light and camera) is inserted through the mouth or nose. • Visualization: The larynx and vocal cords are examined for abnormalities. • Biopsy: If needed, tissue samples are taken for further analysis. • Documentation: Findings are recorded for diagnosis and treatment planning The students are involved in the discussion of the examination procedures to rule out and achieving diagnosis. Duration : 1 Hour
NLHP 28.6	Performance of physical examination of larynx	The teacher should divide the students into groups. Each group is instructed to do the procedure as following • Greet and introduce yourself to the patient. and obtain the consent • Preparation: Patient may receive a local or general anesthetic. • Insertion: A laryngoscope (a thin tube with a light and camera) is inserted through the mouth or nose. • Visualization: The larynx and vocal cords are examined for abnormalities. • Biopsy: If needed, tissue samples are taken for further analysis. • Documentation: Findings are recorded for diagnosis and treatment planning Duration : 1 Hour

NLHP 28.7	Demonstration of the diagnosis and line of treatment for diseases of Larynx	Provide students with detailed patient case studies that include patient history, symptoms, and physical examination findings Based on the history and physical examination the teacher should educate the students to • Obtain the radiological and lab investigation to rule out the diagnosis. • Based on the derranged *mukkutram* along with the investigation results, arrive a personalized line of treatment, internal and external medications • Council the patient for diet, lifestyle modification and for further follow up. Students are divided into groups, Groups present their findings and receive systematic approach to diagnosis and treatment. Through this the students will gain a vast clinical knowledge in the case of diseases of Larynx Duration **:** 1 Hour

Topic 29 Pal Noikal (Dental Diseases) (LH :7 NLHT: 4 NLHP: 10)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2, CO6, CO8	Define ***P****al noikal* and describe its causes, types with clinical features and treatment	CK	MK	K	L&PPT ,L	O-QZ,PRN	F&S		-	LH
CO2, CO8	Define ***P****alladi noikal* and describe its causes, types with clinical features and treatment	CK	MK	K	L&PPT ,L	WP,QZ	F&S		-	LH
CO2, CO5	Identify and differentiate diseases affecting tooth structure including attrition, abrasion, erosion and resorption of teeth.	CC	NK	K	L&PPT ,L	CL-PR,QZ	F&S		-	LH
CO1,	Explain the diseases of gingiva, hereditary gingival fibromatosis,	CK	NK	K	L&PPT	M-	F&S		-	LH

CO2	gingivitis, gingivual abscess and gingival recession				,L	POS,INT				
CO2	Define the characteristics and common symptoms associated with the cancer of gingiva.	CK	DK	K	L&PPT ,L	O-QZ,PRN	F		-	LH
CO5, CO6	Explain the key practices for maintaining healthy teeth and oral hygiene	CK	DK	K	L_VC,L	P-RP,PRN	F		-	LH
CO2, CO5	Describe the causes, clinical features of common problems like dental caries, flurosis etc	CK	NK	K	L&GD, L	O-GAME,WP	F&S		-	LH
CO2, CO5	Describe the complications of dental caries	CC	DK	KH	PBL,D	QZ ,P-RP	F&S		-	NLHT29.1
CO2, CO5	Describe the life style practices to maintain healthy gingiva	CC	DK	KH	D,DIS	PRN,M-CHT	F&S		-	NLHT29.2
CO1, CO2	Explore case studies of buccal cancer treatments	CAN	NK	SH	CBL,PL	CR-RED,T-CS	F		-	NLHT29.3
CO2, CO5	Describe the preventive measures of dental caries	PSY-GUD	DK	KH	DIS,PBL	PRN	F		-	NLHT29.4
CO1, CO2, CO5	Demonstrate the proper usage techniques and maintenance of equipments used in dentistry	PSY-GUD	MK	SH	D,KL	P-ID	F		-	NLHP29.1
CO2	Diagnose and frame the line of treatment after gingiva examination	PSY-GUD	MK	D	D,CBL	PP-Practical,SP,DOAP	F		-	NLHP29.2
CO2	Perform examination of gingiva	PSY-GUD	MK	SH	RLE,CBL	P-CASE,P-PS	F		-	NLHP29.3
CO2	Demonstrate examination of gingiva	PSY-GUD	MK	SH	SIM,CBL,KL	SP,PP-Practical	F		-	NLHP29.4

CO2	Diagnose and construct line of treatment after teeth examination	PSY-GUD	MK	D	D,CBL	P-VIVA	F&S		-	NLHP29.5
CO2	Perform examination of the tooth	PSY-GUD	MK	D	RLE,D-M	CBA	F		-	NLHP29.6
CO1, CO2	Demonstrate examination of tooth	PSY-GUD	MK	KH	PBL,D	DOPS,DOPS	F&S		-	NLHP29.7
CO3, CO7	Perform examination of patient with dental caries	CAN	MK	KH	PT,SDL	OSPE	F		-	NLHP29.8
CO1, CO3	Demonstrate examination of patient with dental caries	CAP	MK	KH	CBL,D	OSCE	F&S		-	NLHP29.9
CO2, CO3, CO5	Describe the prophylactic measures of gingival diseases.	CAP	MK	KH	D	DOPS,DOPS	F		-	NLHP29.10

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 29.1	Description of the complications of dental caries	The teacher should educate the students to solve real-life problems to enhance critical thinking and knowledge application such as • Tooth abscesses, which cause intense pain and swelling, and potential tooth loss. • Caries may also result in infection spreading to surrounding tissues, affecting the gums and bone. • It can lead to systemic infections, impacting overall health. Duration **:** 1 Hour

NLHT 29.2	Description of the life style practices to maintain healthy gingiva	Demonstration and Discussion: The teacher should describe the life style practices to maintain healthy Gingiva by • Focus on key lifestyle practices for healthy gingiva (e.g., oral hygiene, diet). • Categorize into sections like good habits, nutrition, and professional care. • The students are asked to follow the same and create awareness to the patients. Duration **:** 1 Hour
NLHT 29.3	Exploration of case studies treating cancers in buccal cavity	The teacher instruct the to identify case studies in medical journals, conferences, or training sessions related to Buccal cancer Treatment A case study should have a Detailed Documentation which includes • Detailed patient history, clinical images, diagnostics, treatment steps, and follow-up data. • Evidence-based, and provide insights that are broadly applicable or advance medical understanding. The students should share or discuss the gained knowledge through presentation for better understanding and clarify the doubts with the teacher. Duration **:** 1 Hour
NLHT 29.4	Description of the preventive measures of dental caries	Problem-Based learning: The teacher will begin with a brief introduction about Dental caries and relevant prophylactic measures. The students will be divided into groups to analyze preventive plans for the given case scenario. Following this, the groups will discuss their proposed measures, concluding with a presentation on the importance of preventive care. Discussion: Students are divided into small groups and given case studies to analyze, identifying potential risk factors for dental carries. The groups discuss and propose relevant prophylactic

		measures. Each group share their findings within themselves, followed by an open floor for questions and feedback. Duration **:** 1 Hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 29.1	Demonstration of the proper usage techniques and maintenance of equipments used in dentistry	The teacher should demonstrate different equipments in dentistry and explain the purpose, right usage techniques and maintenance • Mirror, Explorer for checking hard to see areas and to check for cavities • Scaler to remove plaques and tartar • Suction to clear saliva/debris. The students are involved in the discussion of the examination procedures to rule out and achieving diagnosis. Duration : 1 Hour
NLHP 29.2	Diagnosis and framing of the line of treatment after gingiva examination	The teacher should divide the students into smaller groups and demonstrate the each group, • To interpret the gingiva examination results. • Consider differential diagnosis • Confirm the Diagnosis • Identify line of treatment and patient care The students are involved in the discussion of the examination procedures to rule out and achieving diagnosis. Duration **:** 1 Hour

NLHP 29.3	Performance of gingival examination	The teacher should divide the students into groups. Each group is instructed to do the procedure as following Greet the patient and obtain the consent. Continue with the examination such as, • Preparation for examination - wash hands, wear gloves, patient positioning • Inspection of gums for redness, swelling, bleeding • Examination of gum line for plaque/tartar, palpate for tenderness Duration **:** 1 Hour
NLHP 29.4	Demonstration of gingival examination	The teacher should demonstrate the students to Greet the patient, obtain the consent and progress with the examination such as, • Preparation for examination - wash hands, wear gloves, patient positioning • Inspection of gums for redness, swelling, bleeding • Examination of gum line for plaque/tartar, palpate for tenderness The students are involved in the discussion of the examination procedures to rule out and achieving diagnosis. Duration **:** 1 Hour
NLHP 29.5	Diagnosis and construction of line of treatment after teeth examination	Group Discussions: The teacher should divide the students into small groups Provide students with clinical cases involving clinical conditions of teeth Students discuss the cases in small groups with teacher, identifying clinical signs, examination techniques, diagnosis and management plans. Case-Based Learning (CBL)

		The teacher should divide the students into small groups of 2-3 members. Provide each group with a detailed case study of a patient presenting with dental abnormalities. Each group reviews their case study, discussing the following: • Patient history and key presenting symptoms. • Potential diagnoses based on the information provided. • Interpretation of examination and test results. • Further diagnostic tests if needed (e.g., biopsy, imaging). • Confirmation of the diagnosis. • Immediate management and treatment options. • Long-term follow-up and patient education. Each group presents their case analysis and management plan to the class. After each presentation, conduct a class-wide discussion. Encourage questions from other groups and provide feedback on the case analysis and management plans. Duration **:** 1 Hour
NLHP 29.6	Performing examination of the tooth.	The teacher should divide the students into groups. Each group is instructed to do the procedure as following Greet the patient and obtain the consent. Continue with the examination such as, • Preparation for examination - wash hands, wear gloves, patient positioning • Inspection of face/neck for swelling, lips, tongue and cheeks for abnormalities • Examination of gums and teeth for issues • Check bite alignment and mobility The students are involved in the discussion of the examination procedures to rule out and achieving diagnosis.

		Duration **:** 1 Hour
NLHP 29.7	Demonstration of tooth examination	The teacher should demonstrate the students to Greet the patient, obtain the consent and progress with the examination such as, • Use a mouth mirror and light to visually examine all teeth and surrounding tissues. • Gently check for abnormalities in teeth along with gums and other oral structures. • Check bite alignment and mobility • Measure pocket depths with a periodontal probe. The students should record findings for diagnosis and treatment planning. Duration **:** 1 Hour
NLHP 29.8	Perform the examination of dental caries in the given patient	The teacher should divide the students into groups. Each group is instructed to do the procedure as following Greet the patient and obtain the consent. Continue with the examination such as, • Visual inspection using adequate lighting, dental mirror, and explorer. • Assess for discoloration, pits, or cavitation on enamel surfaces. • Palpate for softness in suspected areas and confirm findings with radiographic imaging if necessary. Document the findings, and recommend preventive or restorative treatments as appropriate. Duration **:** 1 Hour
NLHP 29.9	Demonstration of dental caries patient examination	The teacher should demonstrate the students to Greet the patient, obtain the consent and progress with the examination such as,

		• Check for visible cavities. • Inspect for plaque/tartar around cavities. • Use explorer to detect soft spots. Demonstrate the right way of history taking with associated clinical features, investigation results to confirm diagnosis Duration **:** 1 Hour
NLHP 29.10	Describing the prophylactic measures of gingival diseases.	Students are divided into smaller groups For each group teacher should demonstrate • Proper brushing method as per text • Perform dental check-ups to detect early signs of gingivitis periodically. • List out a balanced diet rich in vitamins C and D to strengthen gums. • Educate the effects of smoking or chewing tobacco to reduce gum disease risk. • Use herbals mouth wash like *triphala* decoction The students are involved in the discussion of the examination procedures to rule out and achieving diagnosis. Duration **:** 1 Hour

Table 4 : NLHT Activity

(*Refer table 3 of similar activity number)

Activity No*	CO No	Activity details
1.1	CO1,CO5,CO6	Preparation of *Peechu* (Enema) & *Varthi* (Medicated wicks)
1.2	CO1,CO5,CO6	SoP for *Attai vidal* (Leech Therapy, *Chuttigai* (Cauterization), *Varthi* (medicated wick), *Pugai* (Fumigation), *Karam* (Caustic applications), *Vedhu* (Steam therapy).
2.1	CO2,CO5	Visual acuity by using SNELLEN'S DISTANT VISION CHART.
3.1	CO1,CO2,CO5	Management of *Punkal* (Ulcers).
3.2	CO1,CO2,CO5	Management of *Veekam* (Inflammation).
3.3	CO1,CO2,CO5	Management of *Kattikal* (Abcesses).
3.4	CO1,CO2,CO5	Management of *Kiranthi noi* (Chronic ulcers).
4.1	CO1,CO2	Video presentation on surgery of Cataract and Pterygium.
5.1	CO3,CO5	Segregation, Disposal and Record maintenance of Bio Medical Waste.
5.2	CO3,CO5	Procedures of infection control in a hospital
5.3	CO3,CO5	Documentation and Mainteinance of records in the Infection control registers.
6.1	CO4	Assessment and management of the conditions related to Alkalosis, Acidosis and Water metabolism.
7.1	CO2,CO5	Dietary Plan for Anorectal Diseases.
7.2	CO1,CO8	*Peechu* (Enema/Douch) Application.
8.1	CO1,CO2,CO8	Dietary plan for Renal stones.
8.2	CO1,CO2,CO8	Dietary plan for Gall stones & Pancreatitis.

8.3	CO1,CO2,CO8	Advantages and disadvantages of Heat application.
8.4	CO1,CO2,CO8	Advantages and disadvantages of Ice application.
8.5	CO2,CO8	Insertion of both male and female catheters on the model.
8.6	CO1,CO2,CO5,CO8	X-Rays,IVP, ECG,USG,CT, Scan and MRI reports Interpretation.
9.1	CO1,CO2,CO8	Field of vision
10.1	CO8	Surgical treatment for *Mudamayir*.
11.1	CO1,CO2,CO5	Application of *Kalikkam and Anjanam*
12.1	CO2	Use and function of essential equipment in a Minor Operating Theatre.
12.2	CO2,CO8	Register for Surgical Procedures.
12.3	CO2,CO5	Identification and Differentiation Between Benign and Malignant Tumors.
13.1	CO2,CO5	Clinical signs of ischemia, including identifying symptoms and diagnostic procedures to accurately detect and assess the condition.
13.2	CO2,CO5	Diagnosis and assessment of saphenofemoral incompetence, including identifying clinical signs, performing diagnostic procedures, and understanding treatment options.
14.1	CO2,CO6	Identification of the modern diagnostic techniques to identify common eye dieases like ***A****maram* (Opthalmia Neonatorum) and ***N****agapadalam* (Pterygium)
15.1	CO2,CO6	Discovery of preparation techniques of simple medicines for eye application by video clippings
16.1	CO2	Disscussion on the causes of male infertility
16.2	CO2	Description of the causes of Impotence
16.3	CO2,CO5	Performing the Counselling for cases diagnosed as hernia

16.4	CO1,CO2,CO4	Identification of the complications of Hernia and the ways and means to overcome.
17.1	CO2,CO5	Demonstration of the preventive measures to be taken to retain the vision in Glaucoma
17.2	CO2	Interpretation the causes, clinical features, Diagnosis and treatment of Astigmatism, Nystagmus.
17.3	CO2	Description of the causes, clinical features, Diagnosis and treatment of Conjunctivitis.
17.4	CO2	Interpret the causes, clinical features, Diagnosis and treatment of Presbyopia, Myopia
17.5	CO1,CO5	Organization of guest lecture on principles of eye donation.
17.6	CO2,CO5	Demonstration of preventive measures of viral infections of eye.
18.1	CO2,CO5	Prophylactic measures to overcome common skin lesions
18.2	CO1,CO2,CO5	Home made herbal cosmetics for the prevention of common skin lesions and to improve skin complexion.
19.1	CO2,CO5,CO6,CO7	Types of *Karappan* (Dermatitis / Eczema).
19.2	CO2	Blood letting practice *(Kuruthivangal*) to cure chronic local eczematous lesion
19.3	CO2,CO5,CO6,CO7	Treatment methods for *Karappan* Eczema) with reference to the type of presentation.
20.1	CO2,CO5	External therapy *(Vamanam/Viresanam/Peechu)* to normalise digestion, absorption and to tone up immune system.
20.2	CO2,CO5	External therapies to promote sleep, reduce stress and to treat *Kalanjagapadai* (Psoriasis) ,like*Sirodharai, Sirovasthi, Thokkanam, Yoga* and Meditation.
20.3	CO2,CO5	Counselling to overcome social stigma on *Kalanchagapadai* (Psoriasis).
20.4	CO2,CO5,CO6	Describing the Line of treatment for *Puzhuvettu* (Alopecia)

21.1	CO2,CO6	Prophylactic measures to overcome common Ear Diseases and its complications
21.2	CO2,CO6	Various presentations and investigations of *Thalaichutral Noi* (Vertigo) and *Sevi Eraichal Noi* (Tinnitus).
21.3	CO2,CO6,CO7	Various presentations of *Sevidu* (Deafness), using video and presentations.
22.1	CO2,CO5	Healthy life style practices to prevent *Peru Noi* (Leprosy).
22.2	CO2,CO5	Prevent Reinfection of *Sirangu* (Scabies)
22.3	CO2,CO5	Principles of *Ashtangayogam* to overcome Stress in Skin Diseases.
22.4	CO2,CO5	Chuttigai for *Palunni* (Molluscum) and *Maru* (Warts)
22.5	CO2,CO5	Successful stories of HIV treatment in *Siddha*
22.6	CO2,CO5	Social, Preventive aspects and Diet for *Akki Noi* (Herpes Zoster Infections).
22.7	CO1,CO5	Healthy Lifestyle Practices to Overcome Reinfection of *Padarthamarainoi* (Tinea - Various Types)
22.8	CO2,CO5	Preventive measures and treatment options for Impetigo
23.1	CO2,CO5	Prophylactic Measures for *Podugu* (Dandruff) and *Pen* (Pediculosis).
23.2	CO2,CO5	Prophylactic Measures for Hair fall and *Ila narai* (Premature Gray hairs).
23.3	CO2,CO5	Best practices of Nail cutting, Cleaning of nails and clefts and the importance of correct foot wear to prevent infections of Hand and Foot.
23.4	CO1,CO2,CO5	SoP for *Chuttigai* in *Kaal aani* (Corn foot).
24.1	CO1,CO2,CO5	*Oppurai* and *Ethirurai* for various types of *Peenisam* (Sinusitis)
24.2	CO1,CO2,CO5	SoP for *Pugai* and *Nasiyam* for *Mookku noikal* (Nasal diseases)

24.3	CO1,CO2,CO5	First aid for *Ratha Peenisam* (Epistaxis).
25.1	CO1,CO2,CO5	Prophylactic measures of *Setruppun* (Tenia Pedis)
26.1	CO2,CO5,CO8	Demonstrating the video presentation of preparing special medicines for skin diseases.
27.1	CO2,CO5	Explanation of the detrimental effects of tobacco chewing
27.2	CO2,CO5,CO6	Discussion on natural resources/herbal products for oral health care
27.3	CO1,CO2,CO6,CO7	Demonstration of acute understanding of advanced techniques to proactively identify and treat ***N****aakuputtru* (Cancer of tongue) and ***K****annaputtru* (Cancer of cheek)
28.1	CO2	Description of clinical features and treatment of ***L****asuna thabitham* (Tonsillitis)
28.2	CO2	Description of the clinical features and treatment of Laryngitis
28.3	CO2	Description of the clinical features and treatment of tumours of Pharynx
28.4	CO2	Description of the social and preventive aspects of ***L****asuna thabitham* (Tonsillitis)
29.1	CO2,CO5	Description of the complications of dental caries
29.2	CO2,CO5	Description of the life style practices to maintain healthy gingiva
29.3	CO1,CO2	Exploration of case studies treating cancers in buccal cavity
29.4	CO2,CO5	Description of the preventive measures of dental caries

Table 5 : List of Practicals

(*Refer table 3 of similar activity number)

Practical No*	CO No	Practical Activity details
1.1	CO1	Criteria to write the case sheets.
1.2	CO1,CO2,CO5	Various Siddha and Modern Surgical instruments, Various surgical procedures by using Siddha and Modern Surgical instruments.
1.3	CO1,CO2,CO5	Selection criteria and Procedure for *Attai vidal* (Leech application) in the suitable location of the given patient.
1.4	CO1,CO2,CO5	Procedure for *Chuttigai* (Cauterization), *Varthi* (medicated wick),*Vedhu* (Steam therapy), *Pugai* (Fumigation), *Karam* (Caustic applications) in a given patient.
2.1	CO2,CO5	Physical examination techniques of an eye to support diagnosis and treatment.
2.2	CO2,CO5	Presenting evidence-based treatment options for various eye diseases, including Siddha pharmacological and surgical interventions.
2.3	CO1,CO2	The instruments used in Ophtholmology.
3.1	CO1,CO2,CO5	Physical Examination of an Ulcer.
3.2	CO1,CO2,CO5	Examination of *Punkal* (Ulcer).
3.3	CO1,CO2,CO5	Diagnosis and Line of treatment for each type of Ulcer.
3.4	CO1,CO2,CO5	Incision and drainage of abscess, excision of cysts and demonstration of *kattutha*l (bandaging).
3.5	CO1,CO2,CO5	The incision and drainage of abscess, excision of cysts and various types of *kattuthal* (bandaging)
3.6	CO1,CO2,CO5	Physical examination of a Sinus or Fistula.
3.7	CO1,CO2,CO5	Diagnosis and Line of treatment for Sinus or Fistula.
3.8	CO1,CO2,CO5	Suture on the skin of an Orange.

3.9	CO1,CO2,CO5	Suturing of fresh injuries.
4.1	CO2,CO5	Guest lecture or Video lecture on Organ Donation
4.2	CO2,CO5	Guest lecture on Organ Donation.
4.3	CO2,CO5	Guest or Video lecture on Organ Donation
5.1	CO2,CO5	Local anesthetic techniques in minor surgical procedures
5.2	CO3,CO5	Aseptic or antiseptic procedures & sterilization of surgical instruments and Operation theater maintenance measures.
5.3	CO3,CO5	Aseptic, antiseptic & sterilization procedures of surgical instruments.
5.4	CO3,CO5	Arrangements required for preventing hospital infections.
5.5	CO3,CO5	Arrangements required for isolating the infected patient in a hospital.
5.6	CO3,CO5	**D**ocumentation procedures of different types of hospital records by manual works and software skills.
5.7	CO3,CO5	Different types of hospital records through manual work and software skills.
6.1	CO4	Steps for infusing IV fluids.
6.2	CO4	Infusing IV fluids in a given patient or on simulation.
6.3	CO4	Signs of circulatory insufficiency in patients experiencing Hypovolemic shock.
7.1	CO1,CO2	Siddha Pre & Post operative preparation of the patient.
7.2	CO1,CO2	Siddha Pre & Post operative preparation of the patient.
7.3	CO1,CO2	Methods of the Rectal examination.
7.4	CO1,CO2	Examination of Rectum.

7.5	CO1,CO2,CO8	Application of the *kara nool* in Fistula-in-ano.
7.6	CO1,CO2,CO8	Procedure - *Peechu* (Enema / Douch)
8.1	CO1,CO2,CO8	Physical examination of the neck
8.2	CO1,CO2,CO8	Physical examination of the neck and point out the size, consistency and tenderness of lymph nodes in the neck.
8.3	CO1,CO2,CO8	Methods of Examining the case of acute abdomen.
8.4	CO1,CO2,CO6,CO8	Physical Examination methods of Acute abdomen & Chronic abdomen through inspection, palpation, percussion, and auscultation.
8.5	CO1,CO2,CO8	Physical examination of the abdominal lump
8.6	CO1,CO2,CO8	Methods of physical examination in an abdominal lump case.
8.7	CO1,CO2,CO8	Diagnosis and the line of treatment of Acute abdomen and Chronic abdomen cases.
9.1	CO1,CO2,CO8	Eye Exercises for Squint(Strabismus).
9.2	CO1,CO2,CO7,CO8	Skills to manage acute ophthalmic emergencies such as chemical injuries, traumatic eye injuries.
9.3	CO1,CO2,CO3,CO5, CO8	Communication skills for educating and counseling patients about eye conditions, treatment options, and preventive measures
10.1	CO6,CO8	Diagnosis and line of treatment for *Imai noikal* (diseases of eyelids)
10.2	CO5,CO6,CO8	Points of Spotter diagnosis for assessing *Nagapadalam* and Pterigiyam comparatively.
10.3	CO1,CO2,CO5	Correct technique for eyelid hygiene and warm compress application
11.1	CO1,CO2,CO6	Diagnosis and Line of treatment of *Kadaikkan noikal.*

11.2	CO1,CO2,CO5,CO6	Spotter diagnosis for assessing *Mudamayir* and Trichiasis comparatively.
11.3	CO1,CO2,CO5	Correct technique for applying eye drops in patients with canthal diseases
12.1	CO2,CO5	Different modalities of radiation, Radiation hazards and its prevention as Guest lecture.
12.2	CO2,CO5	Practices for minimizing radiation exposure to patients and health care workers including the principles of ALARA (As Low As Reasonably Achievable) as invited talk.
12.3	CO2,CO5	Application of the principles of tumor staging and grading to assess the severity and progression of cancer.
12.4	CO2,CO5,CO8	Intereptation of imaging techniques (X-ray, MRI, CT) and pathological investigations to detect and differentiate tumors.
12.5	CO2,CO5	Ethical issues in the treatment of cancer patients.
12.6	CO2,CO5	Role of Nutrition in Cancer Care and Recovery
12.7	CO2	Concepts of Chemotherapy.
12.8	CO2,CO5	Ethical issues in the treatment of cancer patients.
13.1	CO2,CO4	Demonstration of the Prostate examination.
13.2	CO2,CO4	Performing physical examination of the lymphatic system.
13.3	CO2,CO4,CO5	Demonstration of the the physical examination of a vascular leision.
13.4	CO2,CO4	Demonstration on the physical examination including Perthes Test & Trendelenburg Test.
13.5	CO2,CO4	Perform the physical examination of a vascular leision.
13.6	CO2,CO4	Demonstration of physical examination of the lymphatic system,

13.7	CO2,CO4	Demonstration of the steps in pleural and ascitic fluid aspiration using appropriate techniques .
13.8	CO1,CO4,CO5	line of treatment of diseases of veins, arteries, and lymphatic vessels
14.1	CO2,CO7	Demonstration of eye examination of a patient with the condition of ***N****aga Padalam* (Pterigyum)
14.2	CO2,CO5	Examination of a patient with the condition of ***S****uzhal vanderithal* (Vitreous opacities)
14.3	CO2,CO5	Performing eye examination of a patient with the condition of ***M****udamayir* (Trichiasis)
14.4	CO2,CO5	Examination a patient with the condition of ***V****ellezhuthu* (Presbyopia)
14.5	CO2,CO5	Demonstration of eye examination of a patient with the condition of ***T****hurmamisa valarchi* (Episcleritis)
15.1	CO1,CO2,CO6	Demonstrating the examination techniques with instruments used for diagnosis and treatment of eye diseases by visiting a traditional Eye hospital
15.2	CO1,CO2,CO6	Perform the various treatment options for various eye diseases by visiting a traditional Eye hospital
15.3	CO1,CO2,CO6	Demonstrating the various treatment options for various eye diseases by visiting a traditional Eye hospital
16.1	CO2	Physical examination of inguinoscrotal swellings.
16.2	CO2	Physical examination of inguinoscrotal swellings.
16.3	CO2,CO8	Identification of diagnosis and line of treatment after examination of inguinoscrotal swellings
16.4	CO2,CO6	Physical examination of the male external genitalia.
16.5	CO1,CO2	Physical examination of the male external genitalia.
16.6	CO2,CO6	Diagnose the line of treatment after examination of male external genitalia

16.7	CO2,CO6	Techniques of physical examination of a hernia
16.8	CO2,CO6	Physical examination of hernia
16.9	CO2,CO6	Identification of the diagnosis and line of treatment after examination of ***v****anchanagatha pithukkam* (Hernia)
17.1	CO2	Demonstration of the prophylactic measures to prevent different types of Conjunctivitis.
17.2	CO2,CO5	Demonstration of the methods of Physical examination to evaluate Glaucoma.
17.3	CO2	Demonstrating the counseling stratagies to educate a patient about possible causes that lead to blindness and preventive care.
17.4	CO2,CO5	Demonstration of the clinical examination to evaluate a patient with suspected Nystagmus
17.5	CO1,CO7	Preparation and application of ***S****irukala poo thylam* for ***P****adalam* (Pterygium).
17.6	CO7	Demonstrate the procedure of visualizing moon through ***p****alagani pinnal* to prevent Eye diseases.
17.7	CO1,CO7	Application of *palakirambu pakkuva vennai* for ***V****aratchi thimiram* (Xerophthalmia).
17.8	CO2,CO7	Build entrepreneurship in Management of eye health.
17.9	CO2	Identification of the different conditions of Eye Diseases by the given OCT, CT and MRI images
17.10	CO2	Discussion on the points of Spotter diagnosis for assessing ***K****uvalai vippuruthi* and Dacryocystitis comparatively.
17.11	CO2	Comparison of Spotter diagnosis for *Mayir Puzhuvettu* and Ulcerative blepharitis.
19.1	CO2,CO5,CO6,CO7	Humoural predominance based on *Envagai thervu* (Siddha diagnostic tools) of the *Karappan* patient.

19.2	CO2,CO5,CO6,CO7, CO8	Similarities and differences between Endogenous and Exogenous Eczemas features using photos.
19.3	CO1,CO2,CO5,CO7	Effects of applying facial foundations, powders & facial blushes
19.4	CO1,CO2,CO5,CO6, CO7	Effects of applying facial masks, face packs & skin cleansers.
19.5	CO2,CO5,CO6,CO7	Physical examination to differentiate the *Thadippu* (Urticarial weal) and Angioneurotic oedema for the given patient**.**
19.6	CO1,CO2,CO5,CO6, CO7	External therapy (*Vamanam*/ *Viresanam*/ *Peechu*) to correct digestion, absorption and to tone up immune system.
19.7	CO1,CO2,CO3,CO4, CO5,CO6,CO7	*Attai vidal* (Leech application) in treating Eczema
19.8	CO1,CO2,CO3,CO4, CO5,CO6,CO7	*Peechu* for treating *Karappan* according to humoural predominance.
19.9	CO1,CO2,CO3,CO4, CO5,CO6,CO7	*Vamanam(*Emetic therapy) *for Karappan*.
20.1	CO2,CO5,CO6,CO7	Adopting a suitable life style to avoid complications like *KalanchagaVatham*(Psoriatic arthritis).
20.2	CO2,CO5,CO6	Humoural predominance in *Kalanchagapadai* and *Venpadai*.
20.3	CO2,CO5,CO6	Physical examination to rule out various types of *Kalanchagapadai*.
20.4	CO2,CO5,CO6	Physical examination to rule out various types of *Kalanchagapadai*.
20.5	CO2,CO5,CO6	Physical examination to rule out various types of Achromia.
20.6	CO2,CO5,CO6	Difference between *Mutrudal Veluppu Noi* (Albinism) and *Ven macham* (Naevus depigmentosus).
20.7	CO2,CO5	Counseling Patients in Overcoming Fear and Social Stigma of Skin Conditions
20.8	CO1,CO2	*Vamanam* (Emetic Therapy) for *Kaalanchagapadai*
20.9	CO1,CO2	*Peechu* (Douch/Enema) for *Kaalanchagapadai* to normalise the deranged humours.

20.10	CO2	*Yoga* Therapy for *Karappan / venpadai / kaalanachagapadai.*
20.11	CO1,CO2,CO6,CO7	*Nasiyam* (nasal application) for K*arappan.*
21.1	CO2,CO6	Examination of the Ear.
21.2	CO2,CO6	Functional assessment of the Ear.
21.3	CO2,CO6	History taking with associated clinical features of *Sevi Iraichal* (Tinnitus)
21.4	CO2,CO6	Physical examination and Investigation methods like, Ear exam, Hearing test, Neurological exam etc,for diagnosis of *Sevi Iraichal* (Tinnitus).
21.5	CO2,CO5	Clinical features of *Sevi Iraichal* (Tinnitus) and finalizing its line of treatment.
21.6	CO2	History taking with associated clinical features of *Thalai Chutral Noi* (Vertigo)
21.7	CO6,CO7	Physical examination and Investigation methods for diagnosis of *Thalai Chutral Noi* (Vertigo).
21.8	CO2,CO5	Clinical features of *Thalai Chutral Noi* (Vertigo) and finalizing its line of treatment.
21.9	CO2	Awarness about Hearing Aids and Cochlear Implant.
22.1	CO1,CO2,CO3,CO4, CO5,CO6,CO7,CO8	Methods of physical examination to differentiate various skin lesions.
22.2	CO1,CO2,CO3,CO4, CO5,CO6,CO7,CO8	Application of *Patru, Poochu* (topical applications)for various skin infections.
22.3	CO2,CO5	History taking methods to rule out skin infections.
22.4	CO2,CO5	Methods of physical examination to differentiate various skin lesions.
22.5	CO2,CO5	*Nal Ozhukkam* (Daily routine) and *Kala Ozhukkam* (Seasonal routine) practices to overcome various skin lesions.
22.6	CO2,CO5	Importance of *Thega vanmai* (Healthy immune status) and *Kala vanmai* (

		Seasonal Status) to prevent skin infections.
22.7	CO2,CO5	Successful stories in the treatment of bacterial Skin infections.
22.8	CO2,CO5	Interpretation of clinical case studies to improve diagnostic and treatment skills.
22.9	CO2,CO5	Differential diagnosis and line of treatment for various infectious skin diseases
22.10	CO2,CO5	Successful stories in the treatment of viral skin infections.
22.11	CO2,CO5	Blood, microbiological, and histological investigations relevant to infectious skin diseases.
22.12	CO2,CO5	Handwashing and infection control procedures.
22.13	CO2,CO5	Relevant prophylactic measures to prevent skin infections.
23.1	CO1,CO2,CO5	Chuttigai for *Kaal Aani* (Corn foot).
23.2	CO1,CO2,CO5	Procedures of history taking to rule out hair, nail, and foot conditions.
23.3	CO1,CO2,CO5	Methods of topical applications such as *Patru* and *Poochu* for treating nail infections.
23.4	CO1,CO2,CO5	Technique of Nail avulsion in cases of *Naga sutru*(Paronychia),*Naga sothai* (Tinea unguim).
23.5	CO1,CO2,CO5	Successful stories about the treatment of *Puzhuvettu*
23.6	CO1,CO2,CO5	Procedures of history taking to rule out hair, nail, and foot conditions.
23.7	CO1,CO2,CO5	Practical training in KOH smear examination to confirm fungal infections.
23.8	CO1,CO2,CO5	SoP for the application of Karamarunthukal in *Palunni* (Molluscum) and *Maru* (Warts).
23.9	CO1,CO2,CO5	Application of Karamarunthukal in *Palunni* (Molluscum) and *Maru* (Warts).
23.10	CO1,CO2,CO5	Prophylactic measures to prevent infections of foot.

23.11	CO2,CO5	Diffrent methods of physical examinations to identify the variations in the nails due to infections.
23.12	CO2,CO5	Methods of physical examination of Hair.
24.1	CO1,CO2,CO5,CO6	Examination of Nose, Paranasal sinuses and Naso pharynx.
24.2	CO1,CO2,CO5,CO8	*Nasiyam* (Nasal application) for *Mookku Noikal* (Diseases of Nose)
24.3	CO1,CO2,CO5,CO8	*Vedhu* (Steam therapy) for *Mookku Noikal* (Diseases of Nose).
24.4	CO1,CO2,CO5	Proper steps in inserting a Ryle's tube using appropriate techniques.
24.5	CO1,CO2,CO5	Diagnosis and line of treatment by integrating the results of physical examination and investigations of nasal diseases.
24.6	CO1,CO2,CO5	Humoural predominance in different types of *Peenisam.*
24.7	CO1,CO2	Techniques for removal of foreign bodies from the nose in simulations.
24.8	CO1,CO2,CO5	Examination of Nose, Paranasal sinuses and Naso pharynx
24.9	CO1,CO2,CO5	Proper steps in inserting a Ryle's tube using appropriate techniques.
24.10	CO1,CO2,CO5	Radiological, microbiological, and histological investigations relevant to diseases of Nose.
25.1	CO1,CO2,CO5	*Vamanam* (Emetic therapy) to neuralise thre humours
25.2	CO1,CO2,CO5	*Viresanam* (Purgative therapy) to neutralise three humours in specific skin conditions.
25.3	CO1,CO2,CO5	Humoral predominence in each type of *Arpa viranam*(Minor skin lesions).
26.1	CO2,CO5,CO7	Demonstrating the methods to review latest research papers on the topic of special siddha medicines for treatment and maintenance of chronic skin diseases and publish as a paper in a indexed journal.

26.2	CO2,CO5,CO7,CO8	Demonstrating the efficacy of Special medicines by incorporating before and after treatment photographs for preparing a poster presentation.
26.3	CO2,CO5,CO7,CO8	Analysing the possibilities to become Enterpreneur in manufacturing and marketing special medicines in siddha.
27.1	CO2	Demonstration of Buccal cavity examination
27.2	CO2,CO3	Performance of buccal cavity examination
27.3	CO2,CO3,CO5	Describing the importance of Tumour markers for different kind of Cancers.
27.4	CO2,CO3,CO5	Discussing the role of Family history and environmental hazards in developing different types of cancers.
27.5	CO2,CO5	Diagnosis and construction of the line of treatment after examination of buccal cavity
27.6	CO1,CO2	Demonstration of examination techniques of ***N****aakku puttru* (Carcinoma of Tongue)
27.7	CO2,CO6	Performance of ***N****aakku Puttru* examination (Carcinoma of Tongue)
27.8	CO2,CO8	Indicating the histopathological diagnosis and line of treatment after examination of ***N****aaku Puttru* (carcinoma of tongue)
28.1	CO2,CO7,CO8	Demonstration of the physical examination techniques and instruments used for diagnosis and treatment of Tonsilitis
28.2	CO2,CO7,CO8	Physical examination of Tonsilitis for diagnosis and treatment
28.3	CO2	Demonstration of history taking with associated clinical features during examination of ***I****asuna thabitham* (Tonsillitis)
28.4	CO2	Describing the prophylactic measures to prevent hoarseness of voice.
28.5	CO2	Demonstration of the methods of physicl examination of Larynx
28.6	CO2	Performance of physical examination of larynx

28.7	CO2	Demonstration of the diagnosis and line of treatment for diseases of Larynx
29.1	CO1,CO2,CO5	Demonstration of the proper usage techniques and maintenance of equipments used in dentistry
29.2	CO2	Diagnosis and framing of the line of treatment after gingiva examination
29.3	CO2	Performance of gingival examination
29.4	CO2	Demonstration of gingival examination
29.5	CO1,CO2	Demonstration of tooth examination
29.6	CO1,CO3	Demonstration of dental caries patient examination
29.7	CO2	Diagnosis and construction of line of treatment after teeth examination
29.8	CO2	Performing examination of the tooth.
29.9	CO3,CO7	Perform the examination of dental caries in the given patient
29.10	CO2,CO3,CO5	Describing the prophylactic measures of gingival diseases.

Table 6 : Assessment Summary: Assessment is subdivided in A to H points

6 A : Number of Papers and Marks Distribution

Subject Code	Papers	Theory	Practical/Clinical Assessment (150)					Grand Total
			Practical	Viva	Elective	IA	Sub Total	
SIDUG-AM	2	200	100	20	10 (Set-TC)*	20	150	350

6 B : Scheme of Assessment (Formative and Summative)

PROFESSIONAL COURSE	FORMATIVE ASSESSMENT			SUMMATIVE ASSESSMENT
	First Term (1-6 Months)	Second Term (7-12 Months)	Third Term (13-18 Months)	
Third	3 PA & First TT	3 PA & Second TT	3 PA	**UE****

PA: Periodical Assessment; **TT:** Term Test; **UE:** University Examinations; **NA:** Not Applicable.
**University Examination shall be on entire syllabus

6 C : Calculation Method for Internal assessment Marks

Term	Periodical Assessment*				Term Test**	Term Assessment	
	A	B	C	D	E	F	G
	1 (20)	2 (20)	3 (20)	Average **(A+B+C/ 3)** (20)	Term Test (MCQ+SAQ+LAQ and Practical) (Converted to 20)	Sub Total	Term Assessment
First						**D+E**	**D+E /2**
Second						**D+E**	**D+E /2**
Third					NIL		**D**
Final IA	**Average of Three Term Assessment Marks as Shown in 'G' Column**						
	* Select an Evaluation Methods which is appropriate for the objectives of Topics from the Table 6 D. Convert it to 20 marks. ** Conduct Theory (100 Marks) (MCQ (20*1 Marks), SAQ (8*5), LAQ (4*10)) and Practical (100 Marks) Then convert to 20 Marks.						

6 D : Evaluation Methods for Periodical Assessment

S. No.	Evaluation Methods
1.	Practical / Clinical Performance
2.	Viva Voce, MCQs, MEQ (Modified Essay Questions/Structured Questions)
3.	Open Book Test (Problem Based)
4.	Summary Writing (Research Papers/ Samhitas)
5.	Class Presentations; Work Book Maintenance
6.	Problem Based Assignment
7.	Objective Structured Clinical Examination (OSCE), Objective Structured Practical Examination (OPSE), Mini Clinical Evaluation Exercise (Mini-CEX), Direct Observation of Procedures (DOP), Case Based Discussion (CBD)
8.	Extra-curricular Activities, (Social Work, Public Awareness, Surveillance Activities, Sports or Other Activities which may be decided by the department).
9.	Small Project
10.	Activities Indicated in Table 3 - Column G3 as per Indicated I, II or III term in column I3.

Topics for Periodic Assessments

Exam type	Paper 1	Paper 2
PA1	Topic No: 1,2	Topic No: 18,19
PA 2	Topic No: 3,4	Topic No: 20,
PA 3	Topic No: 5,6	Topic No: 21
FIRST TT	**Topic No: 1-6**	**Topic No: 18-21**
PA 1	Topic No: 7,9	Topic No: 22
PA 2	Topic No: 8,10,11	Topic No: 23, 24
PA 3	Topic No: 12,13	Topic No: 25
SECOND TT	**Topic No: 7-13**	**Topic No: 22-25**
PA 1	Topic No: 14,15	Topic No: 26,27
PA 2	Topic No: 16	Topic No: 28
PA 3	Topic No: 17	Topic No: 29

6 E : Question Paper Pattern

III PROFESSIONAL B.S.M.S EXAMINATIONS
SIDUG-ARU
PAPER-I
Time: 3 Hours Maximum Marks: 100
INSTRUCTIONS: All questions compulsory

		Number of Questions	**Marks per question**	**Total Marks**
Q 1	MULTIPLE CHOICE QUESTIONS (MCQ)	20	1	20
Q 2	SHORT ANSWER QUESTIONS (SAQ)	8	5	40
Q 3	LONG ANSWER QUESTIONS (LAQ)	4	10	40
				100

Similar for Paper II.

6 F : Distribution of theory examination

Paper 1 (ARUVAI MARUTHUVAM & KAN MARUTHUVAM (GENERAL SURGERY & OPTHOLMOLOGY))					
Sr. No	**A List of Topics**	**B Marks**	**MCQ**	**SAQ**	**LAQ**
1	**Siddha Classical Surgical methods (Asurarurai)**	10	Yes	Yes	Yes
2	**Introduction to Eye diseases**	05	Yes	Yes	No
3	**Inflammation and Ulcers**	10	Yes	Yes	Yes
4	**Karuvizhi Noikal (Diseases of Cornea)**	05	Yes	Yes	No
5	**Basic principles of Surgery and infectious diseases**	05	Yes	Yes	No
6	**Burns, Hemorrhage and Shock**	05	Yes	Yes	No
7	**Anorectal diseases**	10	Yes	Yes	Yes
8	**Study on the following Surgical conditions**	10	Yes	Yes	Yes
9	**Velvizhi Noikal(Diseases of Sclera)**	05	Yes	Yes	No
10	**Imai Noikal(Diseases of Eyelids)**		Yes	Yes	No
11	**Kadaikkan Noikal (Diseases of Canthus)**		Yes	Yes	No
12	**Tumors and Cysts**	10	Yes	Yes	Yes
13	**Diseases of Blood and Lymphatic Vessels**	05	Yes	Yes	No
14	**Comparision with Modern diagnosis**	05	Yes	Yes	No
15	**Medicines commonly used for Eye Diseases**		Yes	Yes	No
16	**Diseases of Male Genital organs**	10	Yes	Yes	Yes
17	**Study of most prevalent Eye Diseases**	05	Yes	Yes	No
Total Marks		**100**			

Paper 2 (THOAL MARUTHUVAM, KATHU, MOOKKU, THONDAI & PAL MARUTHUVAM (DERMOTOLOGY, ENT AND DENTISTRY))					
Sr. No	**A List of Topics**	**B Marks**	**MCQ**	**SAQ**	**LAQ**
18	**Aids to healthy Skin**	15	Yes	Yes	No
19	**Ovammai Noikal (Allergic skin diseases)**		Yes	Yes	Yes
20	**Noi Ethirppu Mandala Kolaral Varum Thol Noikal (Auto Immune related skin Disorders) & Thol Nirami Kuraipattu Noigal(Hypopigmentory diseases of the skin)**	10	Yes	Yes	Yes
21	**Diseases of the Ear**	10	Yes	Yes	Yes

22	**Infectious conditions of the skin**	10	Yes	Yes	Yes
23	**Diseases of Hair, Nail and Foot**	10	Yes	Yes	Yes
24	**Mooku Noigal (Diseases of the Nose)**	10	Yes	Yes	Yes
25	**Arpaviranam (Minor Skin diseases)**	05	No	Yes	No
26	**Special medicines in Siddha for Skin diseases**		No	Yes	No
27	**Vaai Noikal (Diseases of Oral Cavity)**	10	Yes	Yes	Yes
28	**Thondai Noikal (Diseases of Throat)**	10	Yes	Yes	Yes
29	**Pal Noikal (Dental Diseases)**	10	Yes	Yes	Yes
Total Marks		**100**			

6 G : Instructions for UG Paper Setting & Blue print

1. All questions shall be compulsory.
2. The maximum marks for one question paper shall be 100.
3. Questions shall be drawn based on Table 6F, which provides the topic name, types of questions (MCQ(Multiple Choice Question), SAQ(Short Answer Question), LAQ(Long Answer Question)).
4. The marks assigned in Table 6F for each topic/group of topics shall be considered as the maximum allowable marks for that topic/group of topics.
5. Ensure that the total marks allocated per topic/group of topics do not exceed the limits specified in Table 6F.
6. Refer to Table 6F before setting the questions. Questions shall be framed only from topics where the type is marked as “YES”, and avoided if marked as “NO”.
7. Each 100-mark question paper shall contain:
   - 20 MCQs
   - 8 SAQs
   - 4 LAQs
8. MCQs:
   - Majority shall be drawn from the Must to Know part of the syllabus.
   - Questions from the Desirable to Know part of syllabus shall not exceed 3.
   - Questions from the Nice to Know part of syllabus shall not exceed 2.
9. SAQs:
   - Majority shall be drawn from the Must to Know part of the syllabus.
   - Questions from the Desirable to Know part of syllabus shall not exceed 1.
   - No questions shall be drawn from the Nice to Know part of syllabus.
   - SAQs shall assess understanding, application, and analysis, rather than simple recall.
10. LAQs:
    - All LAQs shall be drawn exclusively from the Must to Know part of the syllabus.
    - No questions shall be taken from the Desirable to Know or Nice to Know part of the syllabus.
    - Number of LAQs should not exceed one per topic unless maximum marks exceed 20 for the topic.
11. Long Answer Questions shall be structured to assess higher cognitive abilities, such as application, analysis, and synthesis.
12. Follow the guidelines in User Manual III for framing MCQs, SAQs, and LAQs.

Demo Blueprint for Illustration. Blue printing should be done based on Instructions for Question paper setting and using 6 F table.

Paper No:1		
Question No	**Type of Question**	**Question Paper Format**
Q1	**Multiple choice Questions** **20 Questions** **1 mark each** **All compulsory**	1. Siddha Classical Surgical methods (Asurarurai) 2. Siddha Classical Surgical methods (Asurarurai) 3. Introduction to Eye diseases 4. Introduction to Eye diseases 5. Inflammation and Ulcers 6. Inflammation and Ulcers 7. Karuvizhi Noikal (Diseases of Cornea) 8. Basic principles of Surgery and infectious diseases 9. Burns, Hemorrhage and Shock 10. Anorectal diseases 11. Study on the following Surgical conditions 12. Velvizhi Noikal(Diseases of Sclera) 13. Imai Noikal(Diseases of Eyelids) 14. Kadaikkan Noikal (Diseases of Canthus) 15. Tumors and Cysts 16. Diseases of Blood and Lymphatic Vessels 17. Comparision with Modern diagnosis 18. Medicines commonly used for Eye Diseases 19. Diseases of Male Genital organs 20. Study of most prevalent Eye Diseases
Q2	**Short answer Questions** **8 Questions** **5 Marks Each** **All compulsory**	1. Introduction to Eye diseases / Siddha Classical Surgical methods (Asurarurai) 2. Karuvizhi Noikal (Diseases of Cornea) / Inflammation and Ulcers 3. Burns, Hemorrhage and Shock / Basic principles of Surgery and infectious diseases 4. Study on the following Surgical conditions / Anorectal diseases 5. Kadaikkan Noikal (Diseases of Canthus) / Imai Noikal(Diseases of Eyelids) / Velvizhi Noikal(Diseases of Sclera) 6. Diseases of Blood and Lymphatic Vessels / Tumors and Cysts 7. Medicines commonly used for Eye Diseases / Comparision with Modern diagnosis 8. Study of most prevalent Eye Diseases / Diseases of Male Genital organs
Q3	**Long answer Questions** **4 Questions**	1. Inflammation and Ulcers / Siddha Classical Surgical methods (Asurarurai) 2. Study on the following Surgical conditions / Anorectal diseases

	10 marks each **All compulsory**	3. Tumors and Cysts 4. Diseases of Male Genital organs
Paper No:2		
Question No	**Type of Question**	**Question Paper Format**
Q1	**Multiple choice Questions** **20 Questions** **1 mark each** **All compulsory**	1. Aids to healthy Skin 2. Ovammai Noikal (Allergic skin diseases) 3. Ovammai Noikal (Allergic skin diseases) 4. Noi Ethirppu Mandala Kolaral Varum Thol Noikal (Auto Immune related skin Disorders) & Thol Nirami Kuraipattu Noigal(Hypopigmentory diseases of the skin) 5. Noi Ethirppu Mandala Kolaral Varum Thol Noikal (Auto Immune related skin Disorders) & Thol Nirami Kuraipattu Noigal(Hypopigmentory diseases of the skin) 6. Diseases of the Ear 7. Diseases of the Ear 8. Infectious conditions of the skin 9. Infectious conditions of the skin 10. Diseases of Hair, Nail and Foot 11. Diseases of Hair, Nail and Foot 12. Mooku Noigal (Diseases of the Nose) 13. Mooku Noigal (Diseases of the Nose) 14. Vaai Noikal (Diseases of Oral Cavity) 15. Thondai Noikal (Diseases of Throat) 16. Pal Noikal (Dental Diseases) 17. Pal Noikal (Dental Diseases) 18. Vaai Noikal (Diseases of Oral Cavity) 19. Thondai Noikal (Diseases of Throat) 20. Pal Noikal (Dental Diseases)
Q2	**Short answer Questions** **8 Questions** **5 Marks Each** **All compulsory**	1. Ovammai Noikal (Allergic skin diseases) / Aids to healthy Skin 2. Noi Ethirppu Mandala Kolaral Varum Thol Noikal (Auto Immune related skin Disorders) & Thol Nirami Kuraipattu Noigal(Hypopigmentory diseases of the skin) 3. Infectious conditions of the skin / Diseases of the Ear 4. Arpaviranam (Minor Skin diseases) / Diseases of Hair, Nail and Foot 5. Special medicines in Siddha for Skin diseases / Mooku Noigal (Diseases of the Nose) 6. Vaai Noikal (Diseases of Oral Cavity) 7. Thondai Noikal (Diseases of Throat) 8. Pal Noikal (Dental Diseases)
Q3		1. Noi Ethirppu Mandala Kolaral Varum Thol

	Long answer Questions **4 Questions** **10 marks each** **All compulsory**	Noikal (Auto Immune related skin Disorders) & Thol Nirami Kuraipattu Noigal(Hypopigmentory diseases of the skin) / Ovammai Noikal (Allergic skin diseases) 2. Infectious conditions of the skin / Diseases of the Ear 3. Mooku Noigal (Diseases of the Nose) / Diseases of Hair, Nail and Foot 4. Pal Noikal (Dental Diseases) / Thondai Noikal (Diseases of Throat) / Vaai Noikal (Diseases of Oral Cavity)

6 H : Distribution of Practical Exam

S.No	Heads	Marks
1	LONG CASE-ONE NUMBER Demographic details -03 marks Application of Criteriae for second half of first page of case sheet - 15 marks Expressing vital signs -05 marks Assessment of sense organs - 05 marks Assessment of seven physical constituents & Assessment of Three humours - 10 marks Performance of Envagaithervu, Performance of Local and systemic examination -10 marks Writting case summary - 05 marks Writting Differential diagnosis -05 marks Achieving Diagnosis by incorporating signs & Symptoms , Envagai thervu and local & systemic examinations- 05 marks Line of treatment -02 marks Comprehensive Prescription - 05 marks	70
2	SPOTTERS -5 numbers 1. FROM OPHTHOLMOLOGY- photo/ Patient/ Simulated patient/ Case scenario - to identify the diagnosis -04 marks 2. FROM DERMATOLOGY - photo/ Patient/ Simulated patient/ Case scenario - to identify the diagnosis -04 marks 3. FROM ENT & DENTISTRY -photo/ Patient/ Simulated patient/ Case scenario - to identify the diagnosis -04 marks 4. FROM ONE EQUIPMENT- to write the uses -04 Marks 5. FROM ONE SURGICAL OR PARASURGICAL PROCEDURE (Demonstration of SoP) in a patient/Mannequine/ simulated patient- 04 Marks	20
3	Record Book of ten cases- Each case caries one mark	10
4	Viva Voce	20
5	Electives	10
6	IA- Internal Assessment	20
Total Marks		**150**

References Books/ Resources

S.No	Resources
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Abbreviations

Domain		T L Method		Level		Assessment		Integration	
CK	Cognitive/Knowledge	L	Lecture	K	Know	T-CS	Theory case study	V-SATV	V-SATV
CC	Cognitive/Comprehension	L&PPT	Lecture with PowerPoint presentation	KH	Knows how	T-OBT	Theory open book test	V-UK	V-UK
CAP	Cognitive/Application	L&GD	Lecture & Group Discussion	SH	Shows how	P-VIVA	Practical Viva	V-UT	V-UT
CAN	Cognitive/Analysis	L_VC	Lecture with Video clips	D	Does	P-REC	Practical Recitation	V-UV	V-UV
CS	Cognitive/Synthesis	REC	Recitation			P-EXAM	Practical exam	V-NU	V-NU
CE	Cognitive/Evaluation	SY	Symposium			PRN	Presentation	V-MT	V-MT
PSY-SET	Psychomotor/Set	TUT	Tutorial			P-PRF	Practical Performance	V-GMM	V-GMM
PSY-GUD	Psychomotor/Guided response	DIS	Discussions			P-SUR	Practical Survey	V-GMK	V-GMK
PSY-MEC	Psychomotor/Mechanism	BS	Brainstorming			P-EN	Practical enact	V-SSM-NM	V-SSM-NM
PSY-ADT	Psychomotor Adaptation	IBL	Inquiry-Based Learning			P-RP	Practical Role play	V-NN1	V-NN1
PSY-ORG	Psychomotor/Origination	PBL	Problem-Based Learning			P-MOD	Practical Model	V-NN2	V-NN2
AFT-REC	Affective/ Receiving	CBL	Case-Based Learning			P-POS	Practical Poster	V-NAVO	V-NAVO
AFT-RES	Affective/Responding	PrBL	Project-Based Learning			P-CASE	Practical Case taking	H-MM	H-MM
AFT-VAL	Affective/Valuing	TBL	Team-Based Learning			P-ID	Practical identification	H-VPS	H-VPS
AFT-SET	Affective/Organization	TPW	Team Project Work			P-PS	Practical Problem solving	H-AM	H-AM
AFT-CHR	Affective/ characterization	FC	Flipped Classroom			QZ	Quiz	H-SMM	H-SMM
PSY-PER	Psychomotor/perception	BL	Blended Learning			PUZ	Puzzles	H-KM	H-KM
PSY-COR	Psychomotor/ Complex Overt Response	EDU	Edutainment			CL-PR	Class Presentation	H-RM	H-RM
		ML	Mobile Learning			DEB	Debate		
		ECE	Early Clinical Exposure			WP	Word puzzle		
		SIM	Simulation			O-QZ	Online quiz		
		RP	Role Plays			O-GAME	Online game-based assessment		
		SDL	Self-directed learning			M-MOD	Making of Model		
		PSM	Problem-Solving Method			M-CHT	Making of Charts		

		KL	Kinaesthetic Learning			M-POS	Making of Posters		
		W	Workshops			C-INT	Conducting interview		
		GBL	Game-Based Learning			INT	Interactions		
		LS	Library Session			CR-RED	Critical reading papers		
		PL	Peer Learning			CR-W	Creativity Writing		
		RLE	Real-Life Experience			C-VC	Clinical video cases		
		PER	Presentations			SP	Simulated patients		
		D-M	Demonstration on Model			PM	Patient management problems		
		PT	Practical			CHK	Checklists		
		X-Ray	X-ray Identification			Mini-CEX	Mini-CEX		
		CD	Case Diagnosis			DOPS	DOPS		
		LRI	Lab Report Interpretation			CWS	CWS		
		DA	Drug Analysis			RS	Rating scales		
		D	Demonstration			RK	Record keeping		
		D-BED	Demonstration Bedside			COM	Compilations		
		DL	Demonstration Lab			Portfolios	Portfolios		
		DG	Demonstration Garden			Log book	Log book		
		FV	Field Visit			TR	Trainers report		
						SA	Self-assessment		
						PA	Peer assessment		
						360D	360-degree evaluation		
						PP-Practical	Practical		
						VV-Viva	Viva		
						DOAP	Demonstration Observation Assistance Performance		
						SBA	Scenario Based Assessment		
						CBA	Case based Assessment		
						S-LAQ	Structured LAQ		
						OSCE	Objective Structured Clinical Examination		
						OSPE	Objective Structured Practical Examination		

						DOPS	Direct observation of procedural skills		

COURSE CURRICULUM FOR THIRD PROFESSIONAL B.S.M.S
(PRESCRIBED BY NCISM)

Avasara Maruthuvam
(Emergency Medicine or Casualty)

(SUBJECT CODE : SIDUG-EM)

(Applicable from 2021-22 batch, from the academic year 2024-25 onwards for 5 batches or until further notification by NCISM, whichever is earlier)

ncism

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BOARD OF UNANI, SIDDHA AND SOWA-RIGPA
NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE
NEW DELHI-110026

NCISM

III Professional SIDDHA MARUTHUVA ARIGNAR
(Bachelor of Siddha Medicine and Surgery (B.S.M.S))
Subject Code : SIDUG-EM

Avasara Maruthuvam

(Emergency Medicine or Casualty)

Summary

Total number of Teaching hours: 60			
Lecture (LH) - Theory		**0**	**0(LH)**
Paper I	0		
Non-Lecture (NLHT)		**0**	**60(NLH)**
Paper I	0		
Non-Lecture (NLHP)		**60**	
Paper I	60		

Examination (Papers & Mark Distribution)					
Item	**Theory Component Marks**	**Practical Component Marks**			
		Practical	**Viva**	**Elective**	**IA**
Paper I	-	-	-	-	-
Sub-Total	-	-			
Total marks	-				

Important Note :- The User Manual III B.S.M.S is a valuable resource that provides comprehensive details about the curriculum file. It will help you understand and implement the curriculum. Please read the User Manual III before reading this curriculum file. The curriculum file has been thoroughly reviewed and verified for accuracy. However, if you find any discrepancies, please note that the contents related to the MSE should be considered authentic. In case of difficulty and questions regarding curriculum write to **syllabus24sid@ncismindia.org**

PREFACE

The competency-based syllabus for Avasara Maruthuvam (Emergency Medicine and Critical Care) has been introduced for the first time to provide a comprehensive understanding of emergency care in the Siddha system of medicine. Emergency medicine requires quick thinking, decisive action, and precise clinical skills to manage trauma, cardiac emergencies, respiratory distress, hypoglycemia, fever, and other acute conditions. This syllabus ensures that students gain expertise in rapid patient assessment, stabilization techniques, and evidence-based interventions, integrating Siddha principles with conventional emergency care. Special emphasis is placed on effective communication, teamwork, and decision-making under pressure, ensuring that physicians can provide timely, efficient, and compassionate care in critical situations.

The curriculum incorporates clinical reasoning and patient examination techniques, including pulse assessment, breathing patterns, cognitive functions, and Siddha-specific diagnostic tools such as Avathaigal, Anthakaranam, Swasa Nilai, Envagaithervu, Kanmendhiriyam, and Gnanendhiriyam. Patient stabilization strategies include Varma therapy, Thadaval Muraigal, and therapeutic interventions, along with the timely administration of Siddha treatments like Akaranam, Nasiyam, Kalikkam, and Varma therapy. Additionally, the syllabus provides guidelines for referring critically ill patients to higher medical centers when necessary, ensuring an integrated approach to critical care management.

The structured learning objectives, assessment strategies, and resource allocations in this curriculum aim to prepare Siddha physicians to handle acute emergency conditions with confidence. By combining traditional Siddha knowledge with modern advancements, this syllabus ensures that students develop competency in emergency response, patient stabilization, and ethical clinical decision-making. This initiative is the result of collective contributions from esteemed experts, and we acknowledge their invaluable efforts in shaping a curriculum that strengthens the role of Siddha emergency medicine in contemporary healthcare.

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Course Code and Name of Course

Course code	Name of Course
SIDUG-EM	Avasara Maruthuvam

Table 1 : Course learning outcomes and mapped PO

SR1 CO No	A1 Course learning Outcomes (CO) SIDUG-EM At the end of the course SIDUG-EM, the students should be able to-	B1 Course learning Outcomes mapped with program learning outcomes.
CO1	Apply knowledge of of symptom and classification of diseases according to Siddha literature and recognize imbalances and aggrevated *kutrams* to upgrade with the contemporary advances in Siddha.	PO1,PO4,PO10
CO2	Perform clinical skills such as history taking,physical examination to predict the type and the severity of the disease and document patient information effectively inaccordance with medical record standards.	PO11
CO3	Demonstrate clinical diagnosis through proficiency in assessing *Envagaithervu, naadi parisothanai*,application of *neerkuri*, *neikuri* and *manikadainool* and also planning the line of treatment.	PO2,PO3,PO4
CO4	Diagnose diseases by integrating knowledge of Anatomy, Physiology, Biochemistry, Microbiology, Pathology, and Imaging studies.	PO4,PO9
CO5	Prescribe disease specific Siddha medicine with suitable *anubanam* as well as special treatment wherever available and develop personalised treatment plans such as internal and external therapies and capable of advising on food and lifestyle modification according to yaakkai and dearranged kutram.	PO2,PO3,PO5,PO6,PO7,PO8
CO6	Demonstrate continuous self directed learning and seek further expertise or pursue research in a chosen area of medicine. Understanding how manuscripts are utilized for the development in research field & Entrepreneurship	PO11,PO12
CO7	Demonstrate hands-on proficiency in managing common medical emergencies and delivering immediate care effectively.	PO1,PO11

Table 2 : Contents of Course

Paper 1 (AVASARA MARUTHUVAM)						
Sr. No	**A2 List of Topics**	**B2 Term**	**C2 Marks**	**D2 Lecture hours**	**E2 Non-Lecture hours Theory**	**F2 Non-Lecture hours Practical**
1	**Examination of the patient in Sanni mayakkam** • *Sanni Mayakkam* is a condition where a person experiences confusion, disorientation and abnormal mental status leading to uncounsiousness. • Examination involves assessment of *Sanni Mayakkam* patients in Siddha and Modern parameters • Siddha parameters include, History taking, *Avathai, Anthakaranam, Naadi, Envagai Thervu and Udal Kattugal.* • It also involves analysing the survival symptoms and fatal symptoms as laid down in Siddha textbooks.	1	0	0	0	3
2	**First aid treatment for Sanni Mayakkam** • First Aid treatment for *Sanni Mayakkam* or uncounsiousness involves treatment to normalize the three humours *Vatham, Pitham and Kapham.* • After assessing the *Theerum Theera Nilai*, manage the patients S*wasa Nilai.* • Do appropriate *Thadaval Murai* and *Adangal.* • If the patient is still in *Sanni Mayakkam* adminIster *Akkaranam, Nasiyam, Pugai* and if needed *Kalikam*. After restoring counsiousness administer emergency Siddha oral drugs. • If the patient vitals are still in abnormal condition refer the patient to the nearby ICU (Intensive Care Unit)	1	0	0	0	3
3	**First aid treatment for manthara kaasam** • First aid treatment for *Manthara Kasam* involves, treating *Manthara Kasam*/Asthma patients after assessing through Siddha and	1	0	0	0	3

	Modern parameters. • After assessment give *Pugai* as laid down in the textbook of *Noigaluku Siddha Parikaram* and *Gunapadam Mooligai Vaguppu* in appropriate doses depending upon the patient condition. • If the patient vitals are abnormal and the *Naadi* does not normalize from *Sanni Naadi* refer the patient.					
4	**First aid treatment for Murivu(fracture)/ Isangal(dislocation)** • First aid treatment for *Murivu* (Fracture)/*Isangal* (Dislocation) involves assessment and treatment of injured patient. • After assessment administer Siddha analgesic drugs. • Do reduction for the *Murivu/Isangal.* • Maintain the reduction by bandaging it. • Administer Siddha internal drugs to normalize the deranged *Vatham, Pitham* and *Kapham* for atleast six days with *Pathiyam.*	1	0	0	0	3
5	**Cardiopulmonary resuscitation** • CPR is necessary for sudden unresponsive and pulseless patients. • CPR procedure involves compressing the chest to push down hard and fast at a rate of about 100 to 120 compressions per minute. • After 30 chest compressions tilt the head back slightly to open the airway and lift the chin. • Continue alternating 30 chest compressions with 2 rescue breaths until the patient begins to breathe on their own or the emergency provider arrives.	1	0	0	0	3
6	**Examination and Management for Valippu (Seizures)** • *Valippu* is a broad entity that needs emergency medical care. • It can occur as a separate disease or a manifestation of variety of clinical condition.	2	0	0	0	3

	• Observe the patient, remove the obstacles that can cause injury to the patient. • Raise head, tilt the patient to the lateral position to avoid secretion from the mouth reaching the airway. • Give external medications like *Pugai, Nasiyam, Naasikaparam* to arrest *Valippu.* • Analyse the cause of the condition through Siddha and Modern parameters and treat the cause.					
7	**Examination and Management for Mugavaatham/ Uraga vaatham** • *Mugavadham/Uragavadham* is a lower motor neuron type of facial palsy. • It can occur mostly as a separate disease or as a separate manifestation of a pre-existing disorder. • Do Siddha and Modern parameters of examination and arrive at a specific diagnosis. • Treatment includes internal drugs and external application like *Ottradam, Poochu, Pugai, Thadavumurai and Adangal.* • Refer the patient, if the patient meets the refer criteria.	2	0	0	0	3
8	**Examination and Management for Eruvai Kuruthi Perukku (Lower gastro intestinal bleeding)** • *Eruvai Kuruthi Perukku* is an emergency condition necesscetating immediate intervention. • Analyse the patient through Siddha and Modern parameters and assess the amount of bleeding. • Examine Siddha emergency drugs to stop the bleeding. • Incase of severe hypovolemic, administer IV fluid in the presence of modern allopathy doctor whose presence is mandatory as per NCISM regulations. • If the patient needs the referral criteria, refer the patient to the nearby ICU.	2	0	0	0	3
9	**Management of Thol Pusam Netti Thaalvu or Kai Kuli Kundu Isangal (Anterior dislocation of shoulder)**	2	0	0	0	3

	• *Thol Pusam Netti Thaalvu/Kai Kuli Kundu Isangal* is the Anterior Dislocation of the Shoulder. • Usually patient supports the Forearm to the opposite hand. • Examine the patient and assess vascular and neurological integrity. • Do Modern diagnostic methods like X-ray and obtain reports. • Prepare the patient for reduction and do the appropriate reduction technique. • Do bandaging and advise rest for 3-4 weeks.					
10	**Management of Manibantha murivu or Kozhikazhuthu murivu(Distal end of radius fracture** • *Manibantha Murivu /Kozhikazhuthu Murivu* is a Distal end of radius fracture. • It is the most common fracture among post-menopausal female. • Do physical examination of the injured wrist and assess the position of the fractured fragments. • Do X-ray and get the X-ray report. • Prepare the patient for reduction and do reduction of fractured fragments promptly. • Bandage the injured forearm and use an armsling for 3-4 weeks. • Do *Thadavu Murai* after removal of the bandaging to avoid stiff joints. • Refer the patient incase of open injuries.	2	0	0	0	3
11	**Oxygen therapy** Oxygen therapy is the administration of oxygen at concentration of pressure greater than that found in the environment atmosphere. The air that be breath contains approximately 21% oxygen. Oxygen is carried by haemoglobin and heart pump the blood to various tissues. O2 therapy is the key treatment in respiratory care. The purpose is two increase O2 saturation in tissues where saturation levels are too low due to illness or injury	2	0	0	0	3
12	**IV fluid administration and Suturing** Assess the patient using modern diagnostic parameters and administer IV fluids as directed by	2	0	0	0	3

	the specialist. Suturing is a procedure to close a wound.					
13	**BREATHLESSNESS** A complaint of shortness of breath (dyspnoea) implies that the act of breathing has became conscious effort. Here is the detailed description about handling of a patient with shortness of breath.	2	0	0	0	3
14	**CHEST PAIN** An unpleasant sensation of pressure, tightness, heaviness, or squeezing in the chest, which may radiate to the arms, back, neck, jaw, or throat.	2	0	0	0	3
15	**Fever** Fever	2	0	0	0	3
16	**Enema and Urinary Catheter** Enemas is the administration of fluids rectally to cleanse or stimulate the emptying of bowel. Urinary catheterization is a procedure to drain retained urine from the bladder.	3	0	0	0	3
17	**Coma** Assess the patient in coma as directed by the concerned specialist	3	0	0	0	3
18	**Hypoglycemia** Assess the patient with hypoglycemia and treat as directed by the concerned specialist	3	0	0	0	3
19	**Shock** Assess the patient in shock and treat as directed by the concerned specialist.	3	0	0	0	3
20	**Treating vomiting and diarrhea** Assess the patient with vomiting, diarrhea, or both, and treat as directed by the concerned specialist	3	0	0	0	3
Total Marks			**0**	**0**	**0**	**60**

Table 3 : Learning objectives of Course

Paper 1 (AVASARA MARUTHUVAM)										
A3 Course outcome	**B3 Learning Objective (At the end of the session, the students should be able to)**	**C3 Domain/sub**	**D3 MK / DK / NK**	**E3 Level**	**F3 T-L method**	**G3 Assessment**	**H3 Assessment Type**	**I3 Term**	**J3 Integration**	**K3 Type**
Topic 1 Examination of the patient in Sanni mayakkam (LH :0 NLHT: 0 NLHP: 3)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO1, CO2, CO3, CO4, CO7	Demonstrate on the model for examination of unconsious patient using Siddha paramaters	PSY-GUD	MK	KH	CD,PT, CBL	P-PRF	F&S		-	NLHP1.1
Non Lecture Hour Theory										
S.No	**Name of Activity**	**Description of Theory Activity**								
Non Lecture Hour Practical										
S.No	**Name of Practical**	**Description of Practical Activity**								
NLHP 1.1	Examination of unconsious patient using Siddha paramaters	Examination of the ***Sanni Mayakkam*** (Unconscious) in Model: Stepwise Procedure 1. **History** • Take a detailed history from the person accompanying the patient (attender) regarding: • The circumstances leading to sanni mayakkam (unconsciousness). • Any known medical conditions such as *Madhu megam, Pitthathikkam, Valippu, Varma injury, Suram, Sobai.* • Recent drug intake or allergies.								

- Previous episodes of unconsciousness or related symptoms.
- Whether associated with loss of muscle power, paresis, or paralysis of one side (upper and lower limb) to rule out stroke.

2. **Consent**

- Obtain consent.
- Get written consent from the patient or immediate relatives, acknowledging the need for examination and potential interventions.

3. ***Avathai*** (Condition Assessment)

- Assess *Avathai.*
- Evaluate the condition of the patient based on *Nanavu, Kanavu, Urakkam, Perurakkam, and Uyirpadakkam.*

4. ***Anthakaranam*** (Mental State Assessment)

- Assess *Anthakaranam.*
- Evaluate the mental state based on *Manam, Buththi, Siddham, and Agankaram.*

5. ***Naadi*** (Pulse Assessment)

- Check *Naadi.*
- Assess the *Vali*, *Azhal*, *Iyam*, and *Thontam* of the pulse in all ten pulse sites, paying special attention to:
- *Sanni Naadi*: Determine if it’s associated with Kuthirai Vali, Ulveechu, Puraveechu, or

Mantha Sanni.
- *Karpa Naadi and Saaga Naadi Kuri.*

6. ***Envagai Thervu*** (Physical Assessment)
Evaluate *Envagai Thervu.*

- *Naa:* Observe for cyanosis or color changes of the tongue.
- *Niram*: Assess for overall color changes in the skin.
- *Mozhi*: Check if the patient can speak or not.
- *Vizhli*: Examine for pupil dilation (Garuda Paarvai - movement of the eyeball).
- *Sparisam:* Look for signs of sweating or coolness of the skin.
- *Malam*: Check for incontinence or emptied bowel.
- *Moothiram*: Assess for emptied bladder or urinary incontinence.

7. ***Udal Kattugal*** (Body Condition Assessment)
Note any ejaculation of semen *(Sukkil),* as this indicates *Asaathiya nilai.*
8. **Analyze the Chance of Survival**
Survival Analysis

- Evaluate the clinical signs and overall condition of the patient to determine the likelihood of survival based on the assessment.
- Normal *Pitha Naadi.*
- Absence of fatal symptoms.

9. **Fatal Symptoms**

- Assess for fatal symptoms:
- Pupil dilation with a fixed eyeball (*Garuda Parvai).*

		• Emptied *Sukkilam (*ejaculation). • Emptied urine or urinary incontinence. • Emptied bowel or fecal incontinence. • Severe respiratory distress or absence of respiration (*Swasa Nilai maruthal*). • Absence of pulse (*Naadi Illamai*). 10. **Survival Symptoms** • Assess for survival symptoms: • Normal pupil size without dilation. • No ejaculation of semen. • No urinary or fecal incontinence. • Normal respiratory function (Swasa Nilai). • Normal pulse assessment. 11. **Diagnosis** *Sanni Mayakkam.* 12. **Criteria for Referral** Referral Criteria: • Persistent *Sanni Naadi.* • Abnormal *Swaasa Nilai.* • Deep coma or altered consciousness. • Abnormal vital signs. Clinical Practice for Three Hours
Topic 2 First aid treatment for Sanni Mayakkam (LH :0 NLHT: 0 NLHP: 3)		

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO3, CO4, CO5, CO7	Demonstrate the First aid treatment for unconscious patient / model	PSY-GUD	MK	KH	CBL	P-CASE	F&S		-	NLHP2.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 2.1	First aid treatment for *Sanni Mayakkam* (unconscious) patient	Examination and First Aid Treatment for ***Sanni Mayakkam*** (Unconscious) Patien/modelt: Stepwise Procedure 1. **History** • Obtain History: Gather details from the person who brought the patient or from family members. • Associated Symptoms: Note any symptoms observed prior to the loss of consciousness and diseases like *Suram, Iraippu, Thamaraga noi, Pithathikkam, Madumegam, Valippu, Varma injury, previous episodes of vatha noigal like pakka vatham and Sobai.* 2. **Consent** Obtain explicit consent from family members for treatment. 3. ***Avathai*** (Conscious Status Assessment)

- Assess the patient's condition based on *Nanavu, Kanavu, Urakkam, Perurakkam, Uyirpadakkam* (parameters indicating consciousness).

4. ***Anthakaranam*** (Mental State Assessment)

- Assess mental state through *Manam* (mind), *Buththi* (intellect), *Siddham* (wisdom), *Agankaram* (memory).

5. **Physical Examination**

- Examine the patient from head to toe for any injuries, bites, or signs of trauma, respiration, and pupils.

6. ***Envagai Thervu*** (Vital Signs and Physical Signs)

- *Naa*: Check for color changes of the tongue.
- *Niram*: Observe color changes in the skin.
- *Mozh*i: Assess for slurred speech.
- *Vizhi:* Pupil differences,Changes in pupil size, Fixed pupil, Movement of the eyeball, Kuruthi nira maaruthal, Kan veekkam, Manjal nira maruthal.
- *Naadi*: Evaluate for Sanni naadi (weak pulse) or absent pulse.
- *Sparisam*: Note skin temperature (cold and clammy
- *Malam*: Incontinence.
- *Moothiram*: Urine incontinence.

7. ***Theera Nilai*** (Critical Signs)
Look for:

- Pupil dilatation with fixed eyeballs.
- Ejaculation (*Sukkilam*).
- Urinary incontinence.
- Fecal incontinence.
- Respiratory distress (*Swasa nilai maruthal*).
- Absent pulse (*Naadi illamai*).

8. **Diagnosis**

- *Sanni Mayakkam.*

9. **Management** - *Swasa Nilai*
After the initial assessment, maintain the airway by:

- Removing secretions from the mouth.
- Raising the chin to maintain *Swasa nilai.*

10. **Management** - *Thadaval Murai* (Restoration Techniques)

- Perform techniques outlined in reference materials to restore alertness.

11. **Management** - *Adangal* (Specific Treatments)

- Provide adangal relevant to any observed injuries.

12. **First-Line Drug Treatments**

- Administer *Akranam* (nasal instillation) and *Nasiyam.*
- Second-line treatments include *Pugai* (fumigation) and *Kalikam.*

13. Medications After Restoring Consciousness

- *Kaya Sanni Thylam*
- *Kukkudathi Thylam*
- *Vettu Maaran Kuligai*
- *Varma Sanni Kuligai*
- *Murivennai*
- *Vasavennai*
- *Muthuchippi Parpam*
- *Silasathu Parpam*
- *Jaathi Jambeera Kulambu*
- *Thayir Chundi Chooranam*
- *Padiga Linga Thuvar*
- *Linga Chenduram*
- *Nasiyam*
- *Naasigaparanam*
- *Utthamani patru*
- *Kollu ottadam*
- *Sanni Merpoochu Thylum*
- *Seeraga Pugai*
- *Pottiluppu Pugai*
- *Adathodai Pugai*
- *Veerabatra Kalikam*
- *Thetraan Naasigaparanam*
- *Kalnandu Uttamani Kalikam* (65mg)

Emergency drugs as mentioned in books of 1st schedule of Drugs and Cosmetic Act1940
Treatment appropriate for the causes like hypoglycemia, hypoxia, electrolyte imbalance, convulsion,

		or metabolic disorder. 14. **Referral Criteria** • Stable Condition: Refer to the appropriate department after stabilizing the patient. • Unstable Condition: Referral to a nearby ICU if the patient exhibits unstable vital signs or *Naadi.* Vital Signs for Referral • Blood Pressure: < 90/60 mm Hg. • Heart Rate: < 60/min or > 120/min. • Respiratory Rate: > 30/min or < 12/min. • Temperature: > 103°F or < 95°F. • Oxygen Saturation: < 93%. Clinical Practice for Three Hours

Topic 3 First aid treatment for manthara kaasam (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO3, CO4, CO5, CO7	Demonstartion of the First aid treatment for *Manthara kaasam*	PSY-GUD	MK	KH	CBL	P-CASE	F&S		-	NLHP3.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 3.1	First aid treatment for *Manthara kaasam*	First Aid Treatment for ***Manthara Kaasam*** Stepwise Procedure 1. **History:** • Obtain Previous History: Investigate any prior instances of Manthara Kaasam, recent travel, exposure to allergens,food or drug intake and suram. 2. **Consent:** • Obtain Consent: Get consent from the patient or their immediate relatives for treatment. 3. ***Avathai*** (Consciousness Assessment): • Assess *Avathai Nilai* Evaluate the patient's consciousness based on *Nanavu, Kanavu, Urakkam, Perurakkam, Uyirpadakkam.* 4. ***Anthakaranam*** (Mental State Assessment): • Assess Anthakaranam Evaluate mental state through Manam (mind), Buththi (intellect), Siddham (wisdom), Agankaram (memory) 5. ***Envagai Thervu*** (Vital Signs and Physical Signs):

- *Na*: Observe the color of the tongue.
- *Niram*: Note any color changes in the skin.
- *Mozhi:* Assess if the person can speak sentences in one breath.
- *Vizhi:* Check for puffiness around the eyes or face.
- *Sparisam* : Look for signs of shock (cold, clammy skin).
- *Naadi:* Evaluate pulse characteristics (guru naadi).
- *Malam*: Assess for incontinence.
- *Moothiram*: Note any urine incontinence.

6. ***Udal Thaathugal*** (Body Assessment):

- Look for signs of dehydration and other body responses.

7. ***Pranavaayuvin Nila***i (Breath Assessment)

Assess the severity of:

- Breathlessness.
- Coughing.
- Sneezing.
- Difficulty in inhalation and exhalation.

8. ***Swasa Nilai*** (Breathing Condition)

- Assess:

- Type of breathing.
- Use of accessory muscles.

- SpO2 level.
- Abnormal breath sounds.
- Sputum examination.

9. **Diagnosis**: *Manthara kasam*
10. Association of ***Manthara Kaasam***

- Assess for any comorbidities that may contribute to asathiya nilai as listed in Noi Naadal Noi Mudhal Naadal Part I.

11. **Bedside Assessment** (Breathing Alterations):
- Evaluate:

- Spo2, Co2 level
- Vital signs.
- Cardiac status.
- Renal status.

12. **Management**
- Follow treatment protocols as per reference books:

- *Mooligai Vaguppu:* Apply appropriate herbal remedies.
- *Noigaluku Siddha Parigaram*: Provide Siddha treatments for associated symptoms.

13. **Referral Criteria**

- Inability to complete sentences in one breath

		• Failure to respond, silent chest, Neelam paarithal, Sanni Mayakkam, Kaba vatha naadi, Sanni naadi, Melintha naadi, changes in avathai and anthakaranam. • Vital Sign Indicators: - Blood Pressure: < 90/60 mm Hg. - Heart Rate: < 60/min or > 120/min. - Respiratory Rate: > 30/min or < 12/min. - Temperature: > 103°F or < 95°F. - Oxygen Saturation: < 93% • Hypercapnoea Clinical Practice for Three Hours

Topic 4 First aid treatment for Murivu(fracture)/ Isangal(dislocation) (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO3, CO4, CO6, CO7	First aid treatment for *Murivu* (Fracture) / *Isangal* (Dislocation)	PSY-GUD	MK	KH	CBL	P-CASE	F&S		-	NLHP4.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity

NLHP 4.1	First aid treatment for *Murivu* (Fracture)/ Isangal (Dislocation)	First Aid Treatment for ***Murivu*** (Fracture)/Isangal(Dislocation): Stepwise Procedure 1. **History** Take History Gather detailed information from the patient or bystanders regarding the incident, previous injuries, and any relevant medical history. 2. **Consent** Obtain Consent: Get consent from the patient or immediate relatives for examination and treatment. 3. **Conscious Level** Assess Conscious Level Use Siddha parameters and the Coma Scale to evaluate the patient's level of consciousness. 4. ***Avathai*** (Consciousness Assessment) Assess *Avathai Nilai* Evaluate consciousness using *Nanavu, Kanavu, Urakkam, Perurakkam, Uyirpadakkam.* 5. ***Envagai Thervu*** (Vital Signs and Physical Signs) - Assess Vital Signs: • *Naa:* Observe the color of the tongue. • *Niram*: Note any color changes in the skin and specially around the injured area. • *Mozhi:* Assess if the person can speak. • *Sparisam*: Look for signs of shock (cold, clammy skin). • *Vizhi:* Examine the eyes for any abnormalities. • *Malam:* Assess for incontinence. • *Moothiram:* Note any urine incontinence. 6. ***Swaasa Nilai*** (Breathing Condition) Assess Breathing: Evaluate the type of respiration the patient is having and measure oxygen saturation using a pulse oximeter. 7. Examination of the Patient -*Paarvai Thervu* (Visual Examination):

Look for

- swelling,
- redness, and
- deformity at the injury site.

- ***Thottu Paarthal*** (Physical Examination):
Assess for

- heat
- tenderness
- crepitus and
- any excessive mobility or restricted movement at the site of injury.

8. **X-ray or Scan**
Diagnostic Imaging: Perform X-rays or scans to confirm the murivu (fracture) or isangal (dislocation) and assess its severity.
9.**Diagnosis**: *Murivu (*Fracture), or *Isangal* (Dislocation)
10.**Management**

- Pain Management Administer appropriate siddha analgesics.
- Reduction: If applicable, perform reduction to realign the fracture or dislocated joint.
- Splinting: Apply a splint and bandage to immobilize the injured area.
- Rest.
- Medication

- *Kaaya Sanni Thylam* 15 ml BD for 6 days.
- *Murivennai* (external).

		-*Vasavennai* (external). 10. **Referral Criteria** Indications for Referral • *Murivu* (Fracture) at *Vishabanda Varmam* • Unstable murivu or isangal. • Profuse bleeding. • Signs of shock. • Unstable vital signs. • Presence of comorbidities. Clinical Practice for Three Hours

Topic 5 Cardiopulmonary resuscitation (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO4, CO7	Demonstarte the Cardiopulmonary resuscitation	PSY-GUD	MK	KH	CBL,SIM	P-CASE	F&S		-	NLHP5.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 5.1	Cardiopulmonary resuscitation	**CPR (CARDIOPULMONARY RESUSCITATION):** Basic life support:

On encountering an unconscious simulation/mannequin, the following are recommended.

Make sure the scene is safe before proceeding.
Position and assessment of the person

Shake the person, Position the patient on a firm flat surface

If the victim is found to be in face down position roll the patient as a unit, so the head, neck and tarso move simultaneously.

Tap their shoulder hard and talk to them loudly (Do not shake the patients head or neck, if trauma to this area is suspected)

Check to see if the person is breathing (Agonal breathing, which is occasional gasping and is ineffective, does not count as breathing)
Call EMS 108
Send someone for help or to call your emergency number 108 and to get an AED
Open the patient airway

The patients mouth needs to be open and dentures should not be removed.

If Neck injury is not suspected the head tilt chin lift should be performed

If neck injury is suspected with possible cervical fracture use the jaw thrust maneuver to limit the potential for spinal cord injury.
Assess for the presence of respiration:
Once by airway is open, an open airway maybe all that is necessary for spontaneous respiration to resume and continue.
If spontaneous respiration is not present, give two slow breaths- Mouth to mouth breathing (1.5 -2 seconds per breath)

The rescuer should take a breath after each ventilation.

Rapid or high-pressure breath may result in gastric distension.

Each ventilation should be performed with sufficient volume to make the patient chest rise followed by a 2 second pause.

If the patient can't be ventilated reposition the patients head and attempt ventilation again.

If ventilation is unsuccessful after a second attempt use obstructed airway maneuvers
Begin sets of compression and rescue breaths:
i)**Assess for pulse**;

- By palpating the patients carotid Artery for at least 5 seconds.
- If carotid pulse is present continue, rescue breathing at a rate of 12 slow breath per minute.

ii)**Chest compressions:**

It should be initiated at a rate of 80-100 per minute in the absence of carotid pulse or if the blood pressure is inadequate for cerebral perfusion, despite appropriate treatment.

If you are not sure you feel a pulse begin CPR with a cycle of 30 chest compressions and two breaths.

The patient should be lying on a firm surface.

Chest compression is performed with the heel of one hand on the back of the other hand.

Head position should be 1 inch cephalad to the patient's xiphoid process.

Straighten your arms and press straight down.

Be sure that between each compression you completely stop pressing on the chest and allow the chest wall to return to it's natural position.

Leaning or resting on the chest between compression can keep the heart from refilling in between each compression and make CPR less effective.

After 30 compressions stop compression and open the airway by tilting the head and tilting the chin.

Put your hand on the person's forehead and tilt the head back.

Lift the persons jaw by placing your Index and middle finger on the lower jaw; lift up.

Do not perform the head- tilt/chin - lift maneuver, if you suspect the person may have a neck injury. In that case, jaw thurst is used.

For the jaw +thrust maneuver, grasp the angles of the lower jaw and lift it with both hands. One on each side moving the jaw forward. If their lips are closed, open the lower lip using your thumb.

Give a breath while watching the chest rise. Repeat while giving a second breath.

Breath should be delivered over one second.

Rescue chest compression. Switch quickly between compression and rescue breath to minimize interruption in compression.

It should be done for minimum 30 minutes.
If an unconscious patient cannot be ventilated:

After two attempts at positioning the head and chin and a laryngoscope is unavailable,

Perform 6 to 10 abdominal thurst (the Heimlich maneuver)

		Active compression and decompression and interposed abdominal compression are experimental techniques that hold promise for increasing cerebral and cardiac blood flow. Clinical Practice for Three Hours

Topic 6 Examination and Management for Valippu (Seizures) (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO3, CO4, CO5, CO7	Demonstrate the managemnt of *Valippu*	PSY-GUD	MK	KH	CBL	P-CASE	F&S		-	NLHP6.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 6.1	Managemnt of *Valippu*	Examination and Management of *Valippu* (Seizures) Stepwise Procedure 1. **History** • Gather Detailed History • Previous episodes of seizures. • Any history of *Madhumegam* (diabetes). • History of *Ruthra Vaayu* (Ischaemic Heart Disease/Arrhythmia). • History of *Iraippu* (Asthma or other respiratory illnesses).

- Recent *Suram* (Fever) or Sanni (Acute Confusional State).
- Check for underlying conditions such as *Vaatha, Pitha or Kaba Noigal* (humoral imbalances).
- Drug withdrawal history.
- Any history of Trauma.

2. **Consent**

Obtain Consent:

Get consent from the patient or immediate relatives to proceed with assessment and treatment.

3. ***Avathai*** (Condition Assessment of level of Consciousness)

- Assess *Avathai:*
- Evaluate the patient's condition using parameters like *Nanavu, Kanavu, Urakkam,perurakkam, Uyirpadakkam.*
- Assess the level of Coma if applicable.

4. ***Anthakaranam*** (Mental State Assessment)

Assess Anthakaranam:

Evaluate altered sensorium based on:

- Absence of response.
- Presence of hallucinations
- Inability to speak

5. ***Envagai Thervu*** (Physical Assessment)

- Evaluate *Envagai Thervu:*

- *Naadi*: Assess for S*aani, Ulveechu, Puraveechu.*

- *Niram:* Check for pallor or cyanosis.
- *Mozhi:* Assess speech capability.
- *Vizhi:* Observe pupil color and presence of nystagmus.
- *Sparisam:* Note any sweating or coolness of the skin.
- *Malam:* Check for incontinence.
- *Moothiram:* Assess urinary incontinence.
- *Naa*: Look for frothy mucus or bites.

6. ***Udal Kattugal*** (Body Condition Assessment)

- Assess Body Condition:
- Check for signs of dehydration, pain, or tiredness.

7. ***Kanmendhiriyam*** (Motor Assessment)

- Evaluate for Types of Seizures:
- Assess for tonic, clonic seizures, rigidity, or epileptic cry.

8. ***Gnanendriyan*** (Aura and Sensory Changes)

- Check for Aura:
- Evaluate for abnormal tastes or smells before the seizure onset.

9. ***Assessment with Investigation***

- Duration and Characteristics:
- How long did the seizure last?

- Epilepsy 1-2 minutes.
- Status Epilepticus: more than 4-5 minutes usually more than 30 minutes.

- Identify body parts involved, and check for:

- Drug history.
- Trauma.
- Fever.
- Apnea or cyanosis.
- Pregnancy.
- Incontinence.

- **Investigations:**

- Blood sugar level.
- Oxygen saturation.
- Electrolytes.
- Kidney Function Tests (KFT).
- Liver Function Tests (LFT).

10) **Diagnosis: *Valippu.***

11. **Management**

- Immediate Management:

- Avoid placing any objects in the mouth of the patient.
- Cover sharp edges of the bed with sheets for safety.
- Clear frothy sputum from the mouth to prevent aspiration.

		• Place the patient in lateral decubitus position after the seizure episode to avoid aspiration and to maintain airway. • Follow Pura Maruthuvam as in Siddha Maruthuvam guidelines. • Correct oxygen levels and electrolytes. • Use *Periya Kavuli Adangal* for convulsions due to trauma. 12. **Referral Criteria** - Criteria for Referral • Convulsions lasting more than 2 minutes. • Presence of comorbidities. • Call EMS or ambulance at phone number 108 in Tamil Nadu. Clinical Practice for Three Hours

Topic 7 Examination and Management for Mugavaatham/ Uraga vaatham (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO3, CO4, CO5, CO7	Demonstrate the examination and Management of *Muga Vatham* / *Uraga Vatham*	PSY-GUD	MK	KH	CBL	P-CASE	F&S		-	NLHP7.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 7.1	Examination and Management of *Muga Vatham* / *Uraga Vatham*	Stepwise Procedure 1. **History** • Gather Detailed History: • Acute onset of symptoms upon waking. • Exposure to chill air. • Symptoms such as *Sevi Soolai (*pain in the ear) or *Sevi Padu Vaatham* (ear-related vatha disorders). • Any history of *Madhumegam* (diabetes). • Presence of *Vaatha Nooigal.* • Recent Trauma (such as *Kona Saani Varmam or Sevi Kutri Kaalam).* 2. **Consent** Obtain Consent Get consent from the patient or immediate relatives before proceeding. 3. ***Avathai*** (Level of Consciousness Assessment) Assess *Avathai* Evaluate the patient's condition using parameters like *Nanavu Kanavu, Urakkam, Perurakkam and Uyirpadakkam* 4. ***Envagai Thervu*** (Physical Assessment) Evaluate Envagai Thervu • *Naa*: Changes in taste and salivation. • *Vizhi:* Difficulty in eyelid opening or lateral gaze. • *Niram:* Note any changes in color. • *Mozhi:* Assess for any changes in speech.

- *Sparisam*: Observe for sensory changes on the pinna or face.
- *Malam:* Note any changes in bowel function.
- *Moothiram*: Conduct urine examination.
- *Naadi:* Assess for Vatha Naadi and Varma Naadi.

5. ***Kanmendhiriyam*** (Assessment of Motor Function)
- Evaluate Kanmendhiriyam

- *Vaai:* Difficulty in speech.
- *Kaal:* Difficulty in using lower limbs.
- *Kai:* Difficulty in using upper limbs.
- *Eruvaai:* Changes in bladder and bowel function.
- *Karuvaai*: Assess reproductive history and function.

6. ***Kanmavidayam*** (Facial Sensory Assessment)
- Evaluate *Kanmavidayam**

- *Sevi:* Assess for pain, discharge, tinnitus, or deafness.
- *Kan*: Visual defects.
- *Naaku* Taste perception over the anterior 2/3 of the tongue.
- *Mooku:* Assess for changes in the olfactory function.
- *Mei:* Observe for any changes in skin sensation.

7. ***Thummal kaatru (Naagan):***
- Evaluate *Thummal kaatru (Naagan)*
- Check for drooping, smoothing of wrinkles, difficulty in raising eyebrows, and inability to close eyes.

8***. Vizhi kaatru(Koorman):***
Assess with clenching of teeth, whether closure of eye is normal or not.

9.***Naadi:***

- Assess for Ida *mookku narambu(Idakalai), Vala mooku narambu(Pinkalai), Nadu moochu narambu(Suzhumunai), Valakkan narambu (Purudan), Idakkan narambu (Kanthari), and Vala sevi narambu (Atthi), Ida sevi narambu) Alampudai)* function.

10. **Assessment**

- Clinical Assessment:

- Deviation of one side of face, Pain, drooping of eyebrow, inability of raising eyebrow, dribbling of saliva through the angle of mouth, i*raichal* in ear(tinnitus), and loss of taste.
- Determine if the entire half of the face or only the lower half is affected.
- Conduct a clinical examination for associated *Pakka Vaatham* or other *vata disorders.*

11.**Diagnosis: *Muga Vatham***

12. **Management:**

- Drugs:

- *Kaaya Sanni Thylam:* 15 ml BD for 6 days.
- *Kurunthotti Thylam* External application *(Therayar Vaakadam).*
- *Pal vali podi: a*s Oral tooth powder (Therayar Kudineer).
- *Venkkara Sanjeevi Maathirai* External use *(Therayar Vaakadam).*

- Other Treatments:

- *Ottradam* (Fomentation).
- *Poochu* (Dry heat treatment).
- *Pugai (*Fumigation).
- *Thadavumurai* (Therapeutic Ennai Application).
- *Valapingalai Adangal* (Specific compresses).

		12. **Prognosis** - Prognosis: - The condition generally resolves within 3 to 6 weeks for 90% of patients. Remaining experience residual facial palsy. 12. **Referral Criteria** - Criteria for Referral: • Associated *Pakkavadham* (complications). • *Mugavadham* associated with acoustic neuroma. Clinical Practice for Three Hours

Topic 8 Examination and Management for Eruvai Kuruthi Perukku (Lower gastro intestinal bleeding) (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO3, CO4, CO5, CO7	Assess the patient with *Eruvai kuruthi perukku* using both Siddha and modern diagnostic tools, and treat according to the guidelines in the reference books	PSY-GUD	MK	KH	CBL	P-CASE	F&S		-	NLHP8.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 8.1	Examination and Management for *Eruvai Kuruthi*	Stepwise Procedure

	Perukku (Lower Gastrointestinal Bleeding) (LGIB)	1. **History** • Collect Detailed History • Duration and Volume of bleeding. • Any Previous Illnesses: jaundice, liver disease, or gastrointestinal disorders. • Presence of Symptoms fever, abdominal pain, or changes in bowel habits. • Medication History: drug intake, including anticoagulants, NSAIDs, or any other relevant medications. • Laboratory Values: inquire about previous hemoglobin (Hb) and red blood cell (RBC) levels. - Check for Features Suggestive of Shock - Heart Rate (HR) > 100 bpm. - Respiratory Rate (RR) > 30 breaths/min. - Blood Pressure (BP) < 90/60 mm Hg. 2. **Consent** • Obtain Consent • Get informed consent from the patient or immediate relative for examination and potential interventions. 3. **Assessment** Physical Examination: • Vital signs: assess HR, BP, and RR. • Abdominal examination: palpate for tenderness, distension, and organomegaly. • Evaluate for signs of shock: cool, clammy skin; altered mental status; or decreased urine output.

4. **Investigations**

Laboratory Tests

- Complete Blood Count (CBC) to assess hemoglobin and hematocrit levels.
- Erythrocyte Sedimentation Rate (ESR) and C-reactive protein (CRP) to check for inflammation.
- Bleeding time (BT), Activated Partial Thromboplastin Time (APTT), Prothrombin Time (PT), and International Normalized Ratio (INR) for coagulation profile.
- Serum Urea and Creatinine to assess renal function.
- Liver function tests: Serum Glutamic-Oxaloacetic Transaminase (SGOT) and Serum Glutamic-Pyruvic Transaminase (SGPT).
- CT abdomen to identify the source of bleeding, if needed.

5. **Diagnosis**: *Eruvai kuruthi perukku.*

6. ***Management***

- General Management:
- *Noigaluku Siddha Parigaram Part I, Siddha Maruthuvam, Vanni pitham, Rattha pitham, and Sem pitham treatments in Agatheesar Pitha Nithanam.*
- Address Hypovolemia
- Administer IV fluids (crystalloids or colloids) to restore blood volume.
- Blood transfusions if necessary, especially if hemoglobin is critically low.
- Monitor vital signs continuously and reassess the patient's status frequently.

6. **Complications**

Potential Complications

- Severe Anemia due to ongoing bleeding.

		• Shock hypovolemic or septic. • Multi organ Failure: as a result of prolonged shock. • Possible need for surgical intervention if bleeding is uncontrolled. 7. **Criteria for Referral** Referral Criteria • Severe anemia with hemoglobin levels < 5 g/dL. • Increased INR, indicating a higher risk of bleeding. • Elevated CRP suggesting significant inflammation or infection. • Severe jaundice that may complicate the management of bleeding. Clinical Practice for Three Hours

Topic 9 Management of Thol Pusam Netti Thaalvu or Kai Kuli Kundu Isangal (Anterior dislocation of shoulder) (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO3, CO4, CO5, CO7	Demonstrate the management of *Thol Pusam Netti Thaalvu* or *Kai Kuzhi Kundu Isangal* (Anterior Dislocation of Shoulder)	PSY-GUD	MK	KH	CBL,PBL	P-CASE	F&S		-	NLHP9.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity

NLHP 9.1	Management of *Thol Pusam Netti Thaalvu* or *Kai Kuzhi Kundu Isangal* (Anterior Dislocation of Shoulder)	Management of *Thol Pusam Netti* (Anterior Dislocation of Shoulder) 1. **History** Assess for: • Mechanism of Injury • Fall on the hand • Trauma or blow from the posterior aspect of the shoulder 2. **Symptoms** • Common symptoms include: • Severe pain • Inability to move the shoulder • Patient often supports the forearm with the opposite hand 3. **Examination** Visual Assessment (*Paarvai Thervu)* Observe for: • Flattening of the shoulder • Prominence below the acromion (kaakattai kaalam) • Lowered anterior axillary fold compared to the normal arm • Emptiness over the posterior aspect of the shoulder Palpation (*Thottu Paarthal)* Note:

- Palpable humeral head below the acromion
- Emptiness over the posterior aspect of the shoulder

4. **Assessment** (*En Vagai Thervu*)

- *Nadi:* Assessment: Vital for vascular integrity
- *Sparism:* Heat indicates inflammation
- *Naa:* Evaluate oral cavity
- *Niram:* Redness may show hematoma or bruising
- *Mozhi*: Check for speech abnormalities
- *Vizhi*: Inspect for visual changes
- *Malam*: Assess for any abnormalities
- *Moothiram:* To assess vali, azhal, aiyya,and mukkutra thontham.

5. **Motor Function Assessment** (***Kanmendriyam*)**

Evaluate: Movements at the shoulder, elbow, wrist, and fingers to rule out any nerve palsy

6. **Investigation**

- X-Ray: Obtain an anteroposterior (AP) and lateral view of the shoulder. Axillary and Y-view may be necessary.
- Scan: A CT scan may be done to assess vascular status and identify any mild fractures (though not routinely performed).

7. **Consent**

- Explain the procedure to the patient and obtain written consent from the patient or immediate legal relative.

8. **Management**

Reduction Techniques

- **Procedure I:**

Patient lies down. One person holds the patient along the chest and the other hand. Another person applies lateral pressure on the humeral head while the physician holds the palm in supination with traction, raising the hand to 90 degrees. A click sound indicates reduction.

- **Procedure II:**

- Flex the arm at the elbow and laterally rotate the forearm. Apply traction downwards and medially at the elbow; this usually reduces the shoulder head.
- If the patient loses conciousness during reduction which is very rare, doing *Vaari poottadangal* or *Kuvattadangal* will restore conciousness. Always do a quick cardiac evaluation clinically in all middle age and old age patients clinically before reduction.

Post-Reduction Care:

- Place a ball of cotton in the axilla secured with a roll of cotton cloth tied to the opposite neck.
- Confirm reduction with X-ray.
- Maintain an arm sling with a cotton cloth for 3 to 4 weeks.
- Advice to visit op twice a week.
- Drugs (External Application)

- *Murivu Ennai*

- *Vasavennai* - *Kaaya Sanni thylam* 15ml twice a day before food for 6 days with pathiyam.

- Schedule the patient for review twice a week with *thadavumurai*, ensuring no disturbance to shoulder joints.

		9. **Complications** Potential complications include: • Stiff joints (Keel Vaayu) • Nerve palsy • Vascular injury (which may cause serious outcomes) • Fracture • Unreduced dislocation • Recurrent dislocation Clinical Practice for Three Hours

Topic 10 Management of Manibantha murivu or Kozhikazhuthu murivu(Distal end of radius fracture (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO3, CO4, CO5, CO7	Demonstrate the Management of *Manibantha Murivu* or *Kozhikazhuthu murivu* (Distal end of Radius Fracture)	PSY-GUD	MK	KH	CBL	P-CASE	F&S		-	NLHP10.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 10.1	Management of *Manibantha Murivu*	1. **History** Assess for

	or *Kozhikazhuthu murivu* (Distal end of Radius Fracture)	• **Mechanism of Injury** • Fall on hand with the wrist in extension. 2**. Symptoms** • Common symptoms include: ◦ Pain ◦ Swelling ◦ Deformity ◦ Inability to move the wrist joint 3. **Examination** Visual Assessment (*Paarvai Thervu*) • Observe for: ◦ Swelling at the wrist ◦ *Kozhikazhuthu* deformity (dorsal angulation) Palpation (*Thottu Paarthal*) • Note: ◦ Posterior or dorsal displacement of the fractured distal fragment of the radius. ◦ Impaction of the dorsal fragment over the proximal radius. ◦ Shortening of the radial styloid process compared to the ulnar styloid process. ◦ Dorsal displacement of the fractured distal fragment from the proximal radius, resulting in a K*ozhi kazhuth*u deformity(dinner fork).

4. **Assessment (*En Vagai Thervu)***

- *Nadi*: Vital for vascular integrity.
- *Sparism:* Heat indicates inflammation.
- *Naa:* Assess oral cavity (may need more context).
- *Niram*: Redness may indicate hematoma or bruising.
- *Mozhi*: Check for speech abnormalities (may need more context).
- Vizhi: Inspect for visual changes (may need more context).
- *Malam*: Assess for any discharge or secretions (may need more context).
- *Moothiram*: Consider systemic implications (may need more context).

5. **Motor Function Assessment (*Kanmendriyam*)**

- Evaluate:
    - Movements at the shoulder, elbow, and fingers to rule out any nerve palsy.

6. **Investigation**

- **X-Ray**: Obtain an anteroposterior (AP), oblique and lateral view of the wrist.
- **Scan**: A CT scan may be performed in cases of crush injury or if the fracture line is not clearly defined on X-ray.

7. **Consent**

- Explain the procedure to the patient and obtain written consent from the patient or immediate legal relative.

8. **Management**

- **Reduction Techniques**:
  Procedure I:
    - One assistant holds the elbow firmly.
    - The physician holds the palm in a semi-prone position.
    - Both the physician and assistant apply constant, steady traction and counter-traction.
    - The physician then turns the patient's hand to the prone position.
    - With constant traction, the physician flexes the wrist with a mild ulnar tilt.
    - After reduction, the physician assesses the reduction and hands over the patient's hand over to another assistant.
- **Post-Reduction Care**:
    - Apply *Murivu Ennai* (external application).
    - Tie three pieces of cotton cloth over the forearm from the wrist up to the elbow.
    - Secure four pieces of *Cheezhi* (coconut stalk) over the cloth.
    - Then tie two more pieces of cotton cloth over this setup, creating a conventional conservative bandage.
    - Ensure the bandage is tight enough to stabilize but not so tight as to cause undue swelling or cyanosis in the wrist and fingers.
    - Maintain an arm sling with a cotton cloth for 3 to 4 weeks. After 4 weeks, remove the entire bandage setup and perform *thadavumurai to facilitate normal wrist movements.*
    - Advise the patient to return twice a week for rebandaging without disturbing the reduced bony fragments.
- **Drugs (External Application)**:
    - *Murivu Ennai*
    - *Vasavennai*
    - *Kaaya Sanni thylam 15ml twice a day before food with pathiyam for first 6 days.*
    - *After 6th day administer Silasathu parpam 130mg twice a day in ghee and*

		Muthuchippi parpam 200mg twice a day with hot water. 9. **Complications** Potential complications include: • Stiff joints (*Keel Vaayu*) • Atrophy • Persistent edema • Cyanosis of fingers • Unreduced fractured fragments Clinical Practice for Three Hours

Topic 11 Oxygen therapy (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO4, CO7	Demonstrate the Oxygen Adminstration	PSY-GUD	MK	KH	CBL	P-CASE	F&S		-	NLHP11.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 11.1	• Oxygen therapy is the administration of oxygen at concentration of pressure greater than that found in the environment	OXYGEN THERPY: Oxygen therapy is the administration of oxygen at concentration of pressure greater than that found in the environment atmosphere. The air that be breath contains approximately 21% oxygen. Oxygen is carried by haemoglobin and heart pump the blood to various tissues. O2 therapy is the key treatment in respiratory care. The purpose is two increase O2 saturation in tissues where saturation levels are too

	atmosphere. • The air that be breath contains approximately 21% oxygen. Oxygen is carried by haemoglobin and heart pump the blood to various tissues. • O2 therapy is the key treatment in respiratory care. • The purpose is two increase O2 saturation in tissues where saturation levels are too low due to illness or injury	low due to illness or injury Eg: • Hypoxemia • Severe respiratory distress • Severe trauma • COPD (chronic obstructive pulmonary disorder) • Pulmonary hypertension • Acute myocardial infraction • Short term therapy (Post anaesthesia recovery) **Preparation:** Physician order is required for O2 therapy Clinical observation Arterial blood gas (ABG) measurement Pulse oximetry When to consider ABG: Dyspnoea, Respiratory distress ABG interpretation Normal pH is 7.35 to 7.45 pH less than 7.35 indicates acidosis pH more than 7.45 indicates Alkalosis Analysis • SI units • Non-SI units Pao2 • 12-15 kpa/L	

- 9.-113 mmHg

Paco2

- 4.5-6.0 kpa
- 35-45 mmHg

Bicarbonate

- 21-29 mmol/L
- 21-29 mEq/L

Hydrogen ion

- 37-45 mmol/L
- 25-45 mmHg

Interpreting ABG
Ph
PaCo2
Aco3
Metabolic acidosis
Low
Normal or low
Low
Respiratory acidosis
Low
High

Normal or high
Metabolic alkalosis
High
Normal or high
High
Respiratory alkalosis
High
Low
Normal or low
Administrating oxygen:
Oxygen should be provided. Titrate by patients SPO2 and clinical condition. Use the lowest flow delivery system necessary to maintain SPO2 within the target range. Humidification is only required for longer term delivery of O2. Oxygen can be administered conveniently by oronasal devices such as nasal catheter, canula and different type of mask.
Nasal canula:
For mild to moderate hypoxemia. O2 delivery is relatively Imprecise may cause nasal soreness. Flow rate 1- 4 l/min saturation of O2 (24% to 40%) used to maintain us Sao2 when nebulizer need to run using air eg. COPD
Simple face Mask:
Delivers a variable amount of oxygen depending on the rate of inflow low precise than venturi mask. Risk of co2 accommodation not to be used in hypercapnia or type II respiratory failure flow rate less than 5L /min. Cautiously to be used in COPD.
Venturi mask:
For controlled O2 therapy. Provides precise percentage or fraction of O2 at high flow rate. Start at 24%-28% in COPD.
COLOUR OF MASK

- Blue -24% at 2L per minute
- white-28% at 4 L per minute
- yellow -35% at 8 L per minute

		• red -40% at 10 L /min • green-60% at 15 L per minute Non rebreathing mask: This have reservoir bag and delivers high concentration of O2 at (60% to 90%) flow rate =10 to 15 L per minute and presence of the flop valves on the side commonly used in emergency but are imprecise, should be avoided in those requiring controlled oxygen therapy. High flow nasal oxygen: This is humidified warmed oxygen delivers at 60 L per minute. The major advantages of standard oxygen are it provides some positive end expiratory pressure which improves O2 by recruitment of alveoli can deliver fio2 100% Promoting oxygenation Other ways to improve oxygenation to reach target sao2 Treat anaemia (transfuse if essential) Improve cardiac output (treat cardiac failure) chest physio to improve ventilation or perfusion mismatch consider patient positioning eg:(sitting upright in pulmonary oedema)

Topic 12 IV fluid administration and Suturing (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO4, CO7	Demonstrate the appropriate IV Fluid administration	PSY-GUD	MK	KH	CBL,D-M	CBA	F&S		-	NLHP12.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 12.1	Demonstrate the appropriate IV Fluid administration and suturing	TYPES OF IV FLUIDS 1. CRYSTALLOID 2. COLLOIDS **Crystalloid** • Isotonic • Hypotonic • Hypertonic **ISOTONIC:** • 0.9% Nacl • Lactated finger • Ringers solution • 5% Dextrose in water **HYPOTONIC:** • 0.45% Nacl • 0.33% Nacl

- 0.2% Nacl
- 2.5% Dextrose water

HYPERTONIC:

- 3% Nacl
- 5% Nacl
- 3% Nacl or 5% Ncal with Dextrose water
- >5% Dextrose water example D10 W

Crystalloid fluids: Dextrose (5% glucose) - Isotonic solution, It contains small amount of glucose (50g/l) so provides little energy. (N10% energy D/L) - Rapidly metabolized by liver so glucose leaving with water and rapidly equilibrates Throughout all fluid compartment. It is therefore useless for maintain water balance. Excess 5% glucose Iv may leads to water overload & Hyponatraemia.

Hypertonic glucose:

Small dose used in Treatment of Hypoglycaemia (l00ml 20% dextrose stat) - It is irritant to vein so care needed when it used. Infusion cite should be Inspected regularly and fushed with 0.9% saline after use.

Normal Saline (NS) 0.9% saline Isotonic unbalanced crystalloid electrolyte compositions (Na+ cl_ bath 15 mmol/L) differs from plasma Ns-will equilibrate rapidly throughout the Ec compartment only, take longer & reach Ic compartment Than Dextrose - so. 'Ns is appropriate for fluid resuscitation Risk-High Volume administration a Hyperchloraemic acidosis (each lit of Ns delivers around 50 mmol more cl than lit of plasma)

Hartmann's solution Balanced crystalloid (Na + 131 mmol, Cl - 111 mmol, lactate 29 mmol, K+ 5 mmol, HCO3 -29 mmol, Ca+ 2 mmol / lit of fluid. It is generally preferred to 0.9% saline, particularly when large volume administration is required.

It prevents dilutional reduction of normal plasma components such as Ca & K and avoid a hyper chloraemic acidosis.

Colloid – Gelofusion: large molecules proteins that do not readily pass through the capillary membrane so it remains in the intravascular space for extended dermoids – In IVS they increase the osmotic

pressure causing fluid to move into the intravascular space & thus are often referred to us Volume expanders – It may cause anaphylactic reactions.
Isotonic sodium bicarbonate (1.26%) 150ml of 8.4% NaHCO3 to 850ml of 5% Dextrose. It used as a buffered crystalloid for fluid resuscitation, incases of Metabolic acidosis eg. due to GI / Renal losses Condition

- Acute blood loss- Resuscitate with Hartmann's (0.9% saline)
- Children - Use glucose with sodium chloride for fluid maintenance
- Elderly -Use IV fluids (smaller fluid bolus)
- GI losses (diarrhoea, vomiting, NG tubes) – replace K+ loss as well as lost fluid volume.
- Heart failure – IV fluids
- Liver failure - salt poor albumin / blood preferentially for resuscitation (?Total Body sodium) avoid 0.9% Saline for maintenance.

Acute pancreatitis – Aggressive fluid Resuscitation.

Poor urine output – 500ml Hartmann's fluid over 1 hour

Shock - use balanced crystalloid via large bore cannulae

Fever Burns- large amount of fluid resuscitation

IV CANNULA:

Iv cannula is often called as IV line or catheter is a medical device used to administer fluids, medications, blood or other treatments directly into patient bloodstream.
Preparation
1. Equipment: set up a tray with cleaning swabs, sterile Gloves, gauze, cannulae, dressings, 0.9% saline,10 ML syringe, needle free adopter, blood tubes if required, portable sharp bins.
2. Patient: Have the patient lying down, explain procedure, obtain verbal consent and place the tourniquet round arm. Rest the arm below the heart to aid venous filling
3. Sites: from arm to leg, look for the best view. It should be palpable, some of the best views are not

easily visible, some of the most visible sites collapse on insertion. Tapping will be helpful. Choose with distal site first if unsuccessful, choose the proximal vein or else take a help from senior person.
4. Avoid: site crossing joint example Cephalic vein in renal patients and AV fistula.
5. Consider: cold spray or 1%. Lidocaine for children or those with needle phobia.
Insertion care Bundle: Aseptic technique, hand hygiene, apron with non-sterile gloves, Skin preparation with 2% cholhexidine, in 70%, Isopropyl alcohol (flow to dry for 30 seconds). Do not re-palpate the view after drawing unless wearing sterile gloves, dressing sterile and transparent so that insertion sight can be observed
After insertion.

Take a blood with the syringe or an adopter.
Remove the torniquet.
Attach needle free device or flush with 10 ML of 0.9 normal saline.
Apply dressing
Write up appropriate fluids or parental medications.
When seeing the patient on the daily ward rounds, do the RAID assessment

Required- Can the patient manage with the oral medication or fluid?

Appropriate- Should we consider a PICC, Central line long-term line etc?

Infected- Any signs of inflammation or infection, if yes remove. peripheral cannulae should be replaced earlier 72 to 96 hours

Dressed properly- Watch for fallen out drips or kinked from poor dressing
Tissued or infected Influenced cannula need replacing either with peripheral cannula are with a long-term access device such as PICC line.
PICC-Peripherally Inserted Central Catheter

IV Cannula Sizes and Specifications
Gauge - Colour - Diameter (mm) - Length (mm) - Max Flow Rate (ml/min)

- **14G** - Orange/Brown - 2.0 mm - 45 mm - 250 ml/min
- **16G** - Grey - 1.7 mm - 42 mm - 170 ml/min
- **18G** - Green - 1.2 mm - 40 mm - 90 ml/min
- **20G** - Pink - 1.0 mm - 32 mm - 55 ml/min
- **22G** - Blue - 0.28 mm - 25 mm - 25 ml/min
- **24G** - Yellow - 0.07 mm - 19 mm - 24 ml/min

Flow rate is given as maximum flow rate under gravity, faster rates may be achievable with rapid infusion device (Infusion pump)

SUTURE

FOR ADJUSTMENT AND CLOSURE OF WOUND:

1. Of its deeper parts.
2. Closure of the lips of the wound.

1.OF IT'S DEEPER PARTS:

Fixation of parts more securely can be done by,

- Sutures, passed far below the surface – DEEP SUTURES.
- Needles or Hair-lip-pins passed at a similar depth – BURIED SUTURES.

DEEP SUTURES:

- It is used if the depth of the wound have to be kept together as there may be tendency for the parts to separate.
- All the contrivances which have been deviced to prevent this by pulling upon an area of skin at the margin of the wound which shielded in someway from direct pressure.
- After sutures have been passed through the strips, two ends are simply twisted together, so as

to close the depth of the wound.

BURIED SUTURES:

- They are used especially in antiseptic surgery.
- They are designed to obviate the use of drainage tubes.
- In deep wound, layers will be sutured to corresponding layers, that means, periosteum may be joined to periosteum, fascia to fascia and finally skin to skin by an external stitch.
- **HAIR-LIP-PINS:**

- They are steel pins which may be passed across the depth of the wound entering the skin a little away from the edge on one side and coming out at a corresponding distance on the other.
- Silk or worsted is twisted over the protruding ends to bring both deeper parts of skin into apposition.

2.CLOSURE OF THE LIPS OF THE WOUND:
SUPERFICIAL SUTURES:

- They are for the accurate adjustment of the divided skin surface and of tissues near it.
- Wire of silk or cat gut is used.
- A twist or knot should be at one side and not over the line of the wound and the actual skin surface should be bought together but the edges should be little everted than inverted.
- A number of continuous suture must be as many as the wound will close.
- Adhesive stappling may be used to relieve tension and may be employed to close a wound.

REMOVAL:

- Deep sutures are easier to remove by using a pair of scissors placed between skin and shield on

		one side and cutting the wire short off there and then can be drawn out from the other side. • In case of Hair-lip-pins, the point and head of the pins are nipped off with a pair of cutting pliers. • If they are not removed in 36-48 hrs, they will begin to cause ulceration and leave obvious scar. • Silk sutures requires only to be snipped and removal with forceps. • Cat gut, used for deep layers, will be disintegrated and need not be removed. **REFERENCE:** Peye's surgical Handicraf Clinical Practice for Three Hours

Topic 13 BREATHLESSNESS (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2, CO4, CO7	Demonstrate the management of Breathelessness	PSY-GUD	MK	KH	D-M,CBL	CBA,P-CASE	F&S		-	NLHP13.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 13.1	• A complaint of shortness of breath (dyspnoea) implies that the act of breathing has become conscious effort. • There are respiratory, Cardiac and other causes of shortness of breath.	BREATHLESSNESS A complaint of shortness of breath (dyspnoea) implies that the act of breathing has became conscious effort. Although many dyspnoeic patients breathe rapidly, there is no direct correlation between the observed rate of breathing and the subjective sensation of dyspnoea. Patients with acute pneumonia, especially children, may take many as 60 breaths per minute without experiencing respiratory discomfort, while in other conditions, such as respiratory paralysis, a feeling of breathlessness may not be accompanied by any increase in the rate of breathing. There is considerable variation in what might

		• Here is the detailed description about handling of a patient with shortness of breath.	be called the dyspnoea threshold. Some patients with objective evidence of gravely impaired respiratory function may complain of relatively mild breathlessness while others with only slight disturbance of function while may experience quite severe respiratory distress Factors contributing to the production of breathlessness While hypoxaemia and dyspnoea frequently co- exist, hypoxia, unless it is severe, plays a relatively minor part in the production of dyspnoea. Many patients with severe breathless- ness are not hypoxaemic, while in hypoxaemic patients dyspnoea is not always a conspicuous symptom. There is a similar lack of direct correlation between breathlessness and hypercapnia. Although a rise in the carbon dioxide tension of arterial blood immediately causes hyperventilation and dyspnoea in normal subjects, it may not do so in patients with chronic ventilatory inadequacy in whom the respiratory centre may have become un- responsive to carbon dioxide or to an increase in hydrogen ion concentration. Stimulation of peripheral receptors in the lung thought to be situated in alveolar capillary walls (juxtapulmonary-capillary receptors or J receptors) is thought to contribute to the sensation of dyspnoea in disorders such as pulmonary oedema and thrombo-embolism. The disturbances of respiratory function which may contribute to the production of breathlessness are now well recognised. The most important of these are an increase in the work of breathing, increased pulmonary ventilation, and weakness of the respiratory muscles. Each of these disturbances has a variety of causes, and there are thus many factors which may operate, singly or in combination, to produce dyspnoea in an individual case. 1.Breathlessness associated with an increase in the work of breathing Airways obstruction, decreased pulmonary compliance (‘stiff lungs”) and restricted chest expansion all increase the work. 2.Breathlessness associated with increased pulmonary ventilation An increase in the respiratory dead space, severe hypoxaemia and metabolic acidosis, may all be responsible for an increase in pulmonary ventilation. Hyperventilation may also be a manifestation of hysteria. An Increase in the volume of the physiological dead space occurs in massive pulmonary embolism as a result of a drastic reduction in blood flow through capillaries perfusing well ventilated alveoli Patients who survive a massive embolism for a few hours may exhibit striking hyperventilation (‘air hunger’), but this is usually overshadowed by the effects of a sudden severe reduction of cardiac output, such as hypotension and syncope. Severe hypoxaemia, in conditions such as pneumonia, pulmonary oedema and interstitial lung disease,

increases pulmonary ventilation by reflex stimulation of the respiratory centre via the aortic and carotid chemoreceptors.

In metabolic acidosis, caused for example by diabetic ketoacidosis or renal failure, the respiratory centre is stimulated by the increased hydrogen ion concentration in the blood, and the resultant hyperventilation may produce the sensation of breathlessness.

Hyperventilation syndrome is also accompanied by a sensation of breathlessness. Breathing is often Irregular, and may be sighing. If the hyperventilation is sufficiently severe and prolonged, it may lead to tetany, or even to an epileptic fit.

1. Breathlessness associated with weakness of the muscles of respiration

Neuromuscular lesions, such as high spinal cord injuries, poliomyelitis, polyneuropathy and myasthenia gravis may cause partial or complete paralysis of the muscles of respiration, with the result that the patient is no longer able to meet the ventilatory requirements.

2. Breathlessness associated with multiple factors

In some cases a single factor may be chiefly or even entirely responsible for the breathlessness, as for example in patients with airflow limitation or with respiratory paralysis. In most conditions, however, the mechanisms responsible for the production of dyspnoea are more complex. Two examples are given:

a.In pneumonia the restriction of chest expansion by pleural pain is probably the chief cause of dyspnoea in the early stages of the illness; later, if the lungs become extensively consolidated, dyspnoea is mainly due to a combination of decreased pulmonary compliance and increased pulmonary ventilation caused by stimulation of J receptors and hypoxaemia.

b. Pulmonary oedema of cardiac origin begins in the alveolar walls and causes dyspnoea by stimulating pulmonary receptors and reducing pulmonary compliance thereby increasing the work of breathing. Later, intra-alveolar transudate aggravates the dyspnoea, at first by increasing pulmonary ventilation in response to hypoxaemia, and then by producing airways obstruction.

Clinical forms of breathlessness

The sensation of dyspnoea is apparently the same, whatever its cause, but its mode of presentation varies considerably. There are, however, two main patterns, which may occur either independently or together namely acute onset breathlessness and exertional breathlessness.

1. Acute onset breathlessness

This usually develops when the patient is at rest, but in some conditions is provoked by exertion. An acute attack of dyspnoea is usually due to the rapid development either of airflow limitation of a

restrictive lesion of lungs or pleura. Rarely, as in massive pulmonary embolism, it may be as sociated with a sudden increase in the volume of the physiological dead space. Four major causes are: (a)Bronchial asthma (b) Left heart failure (c) Massive pulmonary embolism (d) Spontaneous pneumothorax.History. A carefully taken history is often of great help in identifying the cause of an acute attack of dyspnoea.

a. Bronchial asthma. Usually an attack of bronchial asthma is readily recognised. As airways obstruction in this condition is maximal during ex- piration, the latter is slow and laboured while inspiration is relatively rapid but restricted because the lungs may already be almost fully inflated. Wheeze and rhonchi are commonly present and predominantly expiratory. In severe attacks of asthma, however, there may be insufficient airflow to generate these noises and the chest will be paradoxically ‘silent’. Often there have been previous episodes which will probably have responded promptly to a bronchodilator drug. It may be difficult to recognise a patient’s first attack of asthma from the history. This is particularly a problem the child, as anxious parents are often unable to give an accurate account. The diagnosis usually becomes obvious, however, when a subsequent at tack is witnessed by a trained observer.

b. Left heart failure. Attacks of breathless occuring during the night (paroxysmal nocturnal dyspnoea) may be due to bronchial asthma, but in middle-aged and elderly patients pulmonary oedma secondary to left heart failure is the likely cause. In such patients a previous history of exertional dyspnoea can usually be elicited and they often state that they sleep more comfortably in the upright position, supported by several pillows. The attack usually develops in the early hours of the morning as a result of sliding into the recumbent position during deep sleep. They then waken with intense breathlessness, which often produces feelings of suffocation and panic. The usual reaction is to sit upright and legs over the side of the bed or even struggle to an open window in the hope that cool fresh air will ease their breathing. In most cases the attack subsides spontaneously in about half an hour, but acute pulmonary oedema may occasionally be Fatal.

In the later stages of left heart failure paroxysms of breathlessness may develop whenever the patient lies down. Such intolerance of the recumbent position is known as orthopnoea. In left heart failure the recumbent position is avoided because the increase in venous return is liable to compromise cardiac function and induce pulmonary oedema. In emphysema, on the other hand, the upright position is more comfortable because it improves pulmonary ventilation by facilitating the range of movements of the thoracic cage and allowing the use of the accessory muscle of inspiration.Paroxysmal dyspnoea may also be experienced during the phase of overventilation in Cheyne- Stokes breathing

c . Massive pulmonary embolism. The dyspnoea which follows massive pulmonary embolism produces a sensation of suffocation in which the patient feels desperately short of air, although, in fact, breathing may be deep (‘air hunger’). It is accompanied by acute circulatory failure caused by a fall in left ventricular output. The differential diagnosis from myocardial infarction may be very difficult or even impossible by clinical methods, particularly in the elderly who may experience similar pain in the two conditions. However, the character of the breathlessness and the absence of crepitations favour the possibility of pulmonary embolism.

d.Spontaneous pneumothorax

Dyspnea due to this cause usually develops suddenly and is distressing. In other cases the dyspnoea is slight at first but becomes more severe following exertion or a bout of coughing. Unilateral chest pain or ‘tightness’ typically precedes or accompanies the onset of breathlessness.

e.Other causes of acute onset breathlessness. These include the very rapid accumulation of fluid in the pleural space. Massive intrapleural haemorrhage is probably the only condition in which this occurs and can usually be recognised without difficulty, as the dyspnoea is accompanied by features of acute blood loss.

In children the possibility of a foreign body in the larynx or of membranous exudate obstructing the air passages should not be forgotten. In adults unable to cough effectively because of weakness of the respiratory muscles, the retention of secretions may produce acute breathlessness, as may the inhalation, during coma or

anaesthesia, of acid gastric secretions, with the production of a chemical pneumonia.

Physical examination. The following findings are of particular value in the differential diagnosis of acute breathlessness

a.Clinical features indicating a possible cause for left heart failure, e.g. arterial hypertension, myocardial infarction, aortic or mitral valve disease.

b. An increase in jugular venous pressure which is usually raised in massive pul- monary embolism and in some cases of dyspnoea of cardiac origin.

c. Central cyanosis which is a relatively late feature in acute dyspnoea of cardiac origin but develops at an early stage in severe airflow limitation of all types. In massive pulmonary embolism cyanosis is both central and peripheral which, in combination with intense cutaneous vasoconstriction, imparts a slate-grey colour to the lips and cheeks.

D. Hypotension, which occurs in massive pulmonary embolism and also in extensive myocardial Infarction, and may be associated with acute dyspnoea in both conditions.

e.Physical signs indicating either a primary abnormality in bronchi, lungs or pleura, or a pulmonary abnormality secondary to a cardiac lesion:
(i) Expiratory rhonchi which, if the sole clinical abnormality, strongly suggest a diagnosis of bronchial asthma.
(ii) Markedly diminished or absent breath sounds on one side of the chest, accompanied by hyperresonance on percussion in spontaneous pneumothorax and by stony dullness in pleural effusion or haemorrhage.
(iii) Basal crepitations produced by pulmonary oedema, are very common in acute dyspnoea of cardiac origin.
2. Exertional breathlessness
When breathlessness on exertion is the dominant complaint it is usually due to heart failure or chronic lung disease, although it may be aggravated, or even caused, by obesity, anaemia or hyperthyroidism. Its severity can be assessed and graded only by reference to the level of physical activity at which it is induced.
History. Patients with sustained exertional dyspnoea should be asked whether it is increasing or improving in severity. If it varies spontaneously in degree, this may provide a lead to its cause, as in the case of chronic asthma, while an improvement following treatment with a diuretic will suggest a cardiac origin. The nature of the patient's other symptoms may also be of value in identifying the cause of exertional breathlessness
Physical examination. The clinical investigation of exertional dyspnoea calls, in particular, for a detailed examination of the cardiovascular and respiratory systems. Amongst the abnormalities which should be looked for are, in the cardiovascular system, increased jugular venous pressure, peripheral oedema, cardiac enlargement, the heart rate and rhythm, left ventricular hypertrophy, hypertension, valve lesions, added heart sounds and pericardial effusion, and in the respiratory system, severe chest deformities, airways obstruction and emphysema, interstitial lung disease, pulmonary oedema, pleural effusion and pneumothorax
Conclusion
Breathlessness may be the presenting complaint in a large number of important cardiovascular and respiratory diseases. A correct assessment of its significance requires a clear understanding of the disturbances in physiology with which it is as sociated, and of the pathological processes by which these disturbances are created. By taking a careful history the possible causes of dyspnoea in an individual patient can usually be narrowed down to two or three conditions, and a final diagnosis can

		often be made from the physical signs. In some cases, however, special investigations such as radiological examination of the chest, ECG or tests of respiratory function (including arterial blood gas studies) may be required. Clinical Practice for Three Hours

Topic 14 CHEST PAIN (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO4, CO7	Demonstrate the Management of Chest pain and ECG	PSY-GUD	MK	KH	SIM,CBL,D-M	CBA	F&S		-	NLHP14.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 14.1	Management of Chest pain and ECG	• There are Cardiac, Respiratory and other causes of chest pain. • Chronic and Acute causes need to be differentiated. • Investigations include ECG, Chest X-ray, Echocardiogram, CT thorax and related Blood tests. • Management is according to the cause of the chest pain usually with the help of the modern allopathy doctors. **CHEST PAIN:** An unpleasant sensation of pressure, tightness, heaviness, or squeezing in the chest, which may radiate to the arms, back, neck, jaw, or throat. Causes: i)Cardio pulmonary : Cardiac

Myocardial Ischemia :
Ischemia of the heart results from an imbalance between myocardial oxygen supply and demand producing pain called angina

Stable Angina
- Site of chest pain: Retrosternal
- Radiation: Typically radiates to arm, neck,jaw or shoulder, sometimes epigastric
- Character: Squeezing, pressure tightness, heaviness or burning
- Severity: Typically mild to moderate
- Duration: Typically lasts for 2-10 minutes
- Frequency: May occur frequently, especially with exertion
- Periodicity: May occur at predictable times, such as during exercise
- Special times of occurrence: Typically occurs with exertion, emotional stress, or exposure to cold
- Aggravating factors: Exertion, emotional stress, exposure to cold, heavy meals
- Relieving factors: Rest, nitroglycerin, oxygen
- Associated phenomena:

Shortness of breath, fatigue, lightheadedness, palpitations
S4 gallop or mitral regurgitation murmur (rare)during pain

Unstable Angina
- Site of chest pain: Retrosternal
- Radiation: Typically radiates to arm, neck,jaw or shoulder, sometimes epigastric
- Character: Squeezing, pressure, tightness, heaviness or burning
- Severity: Typically moderate to severe
- Duration: Increasing pattern or at rest
- Frequency: May occur frequently, especially at rest
- Periodicity: May occur unpredictably
- Special times of occurrence: May occur at rest, without provocation
- Aggravating factors: None specific, may occur without provocation
- Relieving factors: Nitroglycerin, oxygen, rest
- Associated phenomena: Shortness of breath, fatigue, lightheadedness, palpitations, nausea, vomiting

Myocardial Infarction (MI)*
- Site of chest pain: Retrosternal
- Radiation: Typically radiates to arm, neck, jaw or shoulder, sometimes epigastric
- Character: Squeezing, pressure, tightness, heaviness or burning
- Severity: Typically, severe
- Duration: >30 minute
- Frequency: May occur once, with possible recurrence
- Periodicity: May occur unpredictably
- Special times of occurrence: May occur at rest, without provocation
- Aggravating factors: None specific, may occur without provocation
- Relieving factors: Nitroglycerin, oxygen, rest, morphine
- Associated phenomena: Shortness of breath, fatigue, lightheadedness, palpitations, nausea, vomiting, diaphoresis, anxiety
. S3 or rales if severe ischemia or complication of myocardial infraction

Pericarditis
-Site of Chest Pain: Retrosterenal or towards cardiac apex
-Radiation: Radiate to left shoulder
-Character: Pleuritic, sharp
-Severity: Typically, severe and may be excruciating
-Duration- Variable, hours to days, maybe episodic
-Frequency: May occur frequently, especially with deep breathing, coughing, or movement
-Periodicity: May occur unpredictably
-Special Times of Occurrence: Typically occurs at rest, May be exacerbated by lying down or deep breathing
-Aggravating Factors: Deep breathing, Coughing, Movement, Lying down
-Relieving Factors: Sitting up and leaning forward, Breathing shallowly
Associated Phenomena: Fever, Fatigue, Shortness of breath, Cough, Palpitations, Pericardial rub

Acute Coronary syndrome
-Site of Chest Pain: Central chest,

-Radiation: Typically radiates to left arm, neck, or jaw
-Character: Tightness, heaviness, congestion, burning
-Severity: Typically, severe and may be excruciating
-May be described as 7-10/10 in severity
-Duration: Typically lasts for 30 minutes to several hours, May be persistent or recurrent
-Frequency: May occur frequently, especially with exertion or stress, May be unpredictable
-Periodicity: May occur unpredictably, May be triggered by exertion or stress
-Special Times of Occurrence: Typically occurs with exertion or stress, May occur at rest, especially in severe cases
-Aggravating Factors: Exertion, Stress, Cold weather, Heavy meals
-Relieving Factors: Rest, Nitroglycerin, Oxygen, Morphine
-Associated Phenomena: Shortness of breath, Fatigue, Lightheadedness, Palpitations, Vomiting, sweating , Anxiety

Acute aortic syndrome:

- Acute Aortic Syndrome is a medical emergency that requires immediate attention
- Site of Chest Pain: Anterior chest
- Radiation: May radiate to the back, between the shoulder blades,
- Character: Tearing or ripping, knife -like
- Severity: Typically, severe and may be excruciating
- Duration: Sudden onset of unrelenting pain, may last for hours or days
- Frequency: May occur frequently, especially with movement or deep breathing
- Periodicity: May occur unpredictably
- Special Times of Occurrence: Typically occurs suddenly and without warning
- Aggravating Factors: Movement, Deep breathing, Coughing
- Relieving Factors: None specific, pain often persists despite treatment
- Associated Phenomena: Associated with hypertension or underlying connective tissue disorder murmur of aortic insufficiency, loss of peripheral pulses

Pulmonary embolism:

-Site of Chest Pain: Often lateral on the side of embolism
_Radiation: May radiate to the back, arm, or abdomen
_Character: Pleuritic may manifest as Heaviness with massive pulmonary embolism
_Severity: Typically, severe and may be excruciating
_Duration: Sudden onset, may last for hours or days
_Frequency: May occur frequently, especially with deep breathing or coughing
_Periodicity: May occur unpredictably
_Special Times of Occurrence: Typically occurs suddenly and without warning
_Aggravating Factors: Deep breathing, Coughing, Movement
_Relieving Factors: Oxygen, Rest, Analgesics
_Associated Phenomena: Shortness of breath, Tachypnea, Cough, Fever, Tachycardia, Hypotension

Pulmonary Hypertension
_Site of Chest Pain: Substernal
_Radiation: May radiate to the arms, neck, or jaw
_Character: Pressure
_Severity: Typically mild to moderate, but may be severe
_Duration: Sudden onset
_Frequency: May occur frequently, especially with exertion
_Periodicity: May occur unpredictably
_Special Times of Occurrence: Typically occurs with exertion or at rest
_Aggravating Factors: Exertion, Cold weather, High altitude
_Relieving Factors: Oxygen, Rest
_Associated Phenomena: Signs of increased Venous pressure, Shortness of breath, Fatigue, Lightheadedness, Palpitations, Swelling in the legs and ankles,

Pneumonia or pleuritis
-Site of Chest Pain: Unilateral, often localized
_Radiation: May radiate to the back or abdomen
_Character: Pleuritic
_Severity: Typically mild to moderate, but may be severe
_Duration: May last for several days or weeks

_Frequency: May occur frequently, especially with deep breathing or coughing
_Periodicity: May occur unpredictably
_Special Times of Occurrence: Typically occurs with respiratory infections or after aspiration
_Aggravating Factors: Deep breathing, Coughing, Movement
_Relieving Factors: Rest, Analgesics, Antibiotics
_Associated Phenomena: Fever, Cough, Shortness of breath, Rales, Occasional rub

Spontaneous Pneumothorax
_Site of Chest Pain: Lateral to side of pneumothorax
_Radiation: May radiate to the back or abdomen
_Character: Pleuritic
_Severity: Typically, severe and may be excruciating
_Duration: Sudden onset
_Frequency: May occur once, but may recur
_Periodicity: May occur unpredictably
_Special Times of Occurrence: Typically occurs suddenly and without warning
_Aggravating Factors: Deep breathing, Coughing, Movement
_Relieving Factors: Oxygen, Rest, Analgesics, Chest tube insertion (in severe cases)
_Associated Phenomena: Dyspnea, Decreased breath sound on the side of pneumothorax
Non- cardiopulmonary:
Gastro intestinal

Esophageal reflex
-Site of Chest Pain: Substernal, epigastric
-Radiation: May radiate to the neck, throat, or arms
_Character: Burning
-Severity: Typically mild to moderate, but may be severe
_Duration: 10-60 min
_Frequency: May occur frequently, especially after eating or at night
_Periodicity: May occur unpredictably
_Special Times of Occurrence: Typically occurs after eating, lying down, or bending over
_Aggravating Factors: Eating large or fatty meals, Lying down or bending over, Caffeine, Alcohol,

		Citrus fruits or juices _Relieving Factors: Antacids, Associated Phenomena: Heartburn, Regurgitation, Dysphagia (difficulty swallowing), Coughing or wheezing Esophageal Spasm _Site of Chest Pain: Retrosternal _Radiation: May radiate to the neck, throat, or arms _Character: Pressure, tightness, burning _Severity: Typically, severe _Duration: 2-30 min _Frequency: May occur frequently, especially after eating or at night _Periodicity: May occur unpredictably _Special Times of Occurrence: Typically occurs after eating, lying down, or bending over _Aggravating Factors: Eating large or fatty meals, Lying down or bending over, Caffeine, Alcohol, Citrus fruits or juices _Relieving Factors: Nitroglycerin, Calcium channel blockers, Antacids, Avoiding trigger foods or activities _Associated Phenomena: Can closely mimic angina, Dysphagia (difficulty swallowing), Chest tightness or constriction, Shortness of breath Peptic Ulcer _Site of Chest Pain: Epigastric, substernal _Radiation: May radiate to the back or arms _Character: Burning _Severity: Typically, moderate to severe _Duration: Prolonged,60-90 min after meals _Frequency: May occur frequently, especially at night or between meals _Periodicity: May occur unpredictably _Special Times of Occurrence: Typically occurs at night or between meals _Aggravating Factors: Eating spicy or fatty foods, Drinking caffeine or alcohol, Smoking, Stress _Relieving Factors: Relieved with food, Antacids, Histamine-2 (H2) blockers, Proton pump inhibitors

(PPIs), Avoiding trigger foods or activities
_Associated Phenomena: Abdominal tenderness, Nausea and vomiting, Bleeding or melena (black, tarry stools)

Gallbladder Disease
_Site of Chest Pain: Epigastric,Right upper quadrant abdominal pain or discomfort, often radiating to the chest or back
_Radiation: May radiate to the chest, back, or right shoulder
_Character: Aching or colicky
_Severity: Typically, severe
_Duration: Prolonged
_Frequency: May occur frequently, especially after eating fatty foods
_Periodicity: May occur unpredictably
_Special Times of Occurrence: Typically occurs after eating fatty foods, especially at night
_Aggravating Factors: Eating fatty foods, Eating large or heavy meals
_Relieving Factors: Pain medication, Avoiding trigger foods or activities, Surgery (in severe cases)
_Associated Phenomena: Nausea and vomiting, Fever, Jaundice (yellowing of the skin and eyes), Abdominal tenderness, Neuromuscular
Cervical Disc Disease
-Site of Chest Pain: Arms and shoulders
_Radiation: May radiate to the upper back or scapula
_Character: Aching, May include numbness
_Severity: typically mild to moderate, but may be severe
_Duration: Variable, may be sudden
_Frequency: May occur frequently, especially with movement or activity
_Periodicity: May occur unpredictably
_Special Times of Occurrence: Typically occurs with movement or activity, such as heavy lifting or bending
_Aggravating Factors: Movement or activity, such as heavy lifting or bending, Coughing or sneezing, Poor posture
_Relieving Factors: Rest, Physical therapy or exercise, Pain medication
_Associated Phenomena: Neck pain or stiffness, Arm pain or numbness, Tingling or weakness in the

arms or hands, Headaches, Dizziness or lightheadedness
Costochondritis
_Site of Chest Pain: Sternal
_Radiation: May radiate to the arms, shoulders, or back
_Character: Aching
_Severity: Typically mild to moderate, but may be severe
_Duration: May last for several hours or days
_Frequency: May occur frequently, especially with movement or activity
_Periodicity: May occur unpredictably
_Special Times of Occurrence: Typically occurs with movement or activity, such as heavy lifting or bending
_Aggravating Factors: Movement or activity, such as heavy lifting or bending, Coughing or sneezing, Deep breathing,Pain reproduces by localised pressure on examination
_Relieving Factors: Rest, Pain medication, Heat or cold therapy, Avoiding trigger activities
_Associated Phenomena: Tenderness to the touch at the costosternal junction, Swelling or redness at the costosternal junction, Fever, Fatigue

Herpes Zoster (Shingles)
_Site of Chest Pain: Dermatomal distribution
_Radiation: May radiate to the back, arms, or abdomen
_Character: Burning, sharp
_Severity: Typically, moderate to severe
_Duration: May last for several days to weeks
_Frequency: May occur frequently, especially with movement or activity
_Periodicity: May occur unpredictably
_Special Times of Occurrence: Typically occurs 1-5 days before the onset of the rash
_Aggravating Factors: Movement or activity, Touch or pressure on the affected area, Stress
_Relieving Factors: Pain medication, Antiviral medication, Topical creams or ointments, Rest
_Associated Phenomena: Vesicular Rash or blisters in a dermatomal distribution, Fever, Headache, Fatigue, Swollen lymph nodes

Basics of ECG

ECG is used for diagnosing cardiac disorders particularly rhythm disorder (arrhythmia) and coronary

artery diseases. ECG should be analysed methodically to arrive at a logical conclusion.

- First identify the name, age and sex of the patient.
- Look for standardisation. 1 mV should produce a 10 mm deflection.
- ECG is recorded at a speed of 25 mm per second.
- 1 large square contains 5 small squares.
- 1 small square represents 40 millisecs.
- Hence, 1 large square is equal to 200 milliseconds.

1. Rate:

- Identify the rate
- 1500/RR interval (no. of small squares)
- Less than 60 - bradycardia
- More than 100 - tachycardia

2. Identify the P waves

P waves proceed the QRS complex. They are produced and generated by atrial electrical activities. Best identified in lead II and in v1. Upright in lead II and inverted in avR. P wave duration is less than 100. Amplitude is less than 100.

PR Interval:

- Starts from the beginning of P wave to the beginning of the QRS complex. It denotes the time taken for the impulses to travels the AV node. Normal PR interval is 120-200ms. (3-5 small squares)
- In various types of AV nodal block (first and second degree blocks)
- PR interval will be prolonged.
- In third degree heart block, there is no conduction across the AV node.

- In WPW syndrome, PR interval shortened.

QRS interval:

Axis:

Frontal plane axis:

A simple method to determine the QRS axis is as follows:

1. Net QRS is positive in lead I and avF - normal axis
2. QRS is positive in lead I and negative in avF- left axis
3. QRS negative in lead I and positive in avF- right axis

Common conditions causing left axis deviation: Left bundle branch block, left ventricular disorders, systemic hypertension

Common conditions causing right axis deviation: Right bundle branch block, right axis deviation, lung diseases, pulmonary hypertension.

QRS morphology:

- It is generated by ventricular electrical activitity.
- avR will be negative. avR is a mirror image of lead II.
- The R waves in QRS progression is progressively increases and s wave progressively decreases from v1 to v6.
- QRS voltage can be used to diagnose left ventricular hypertrophy.

ST segment:

ST segment follows the QRS complex and is isoelectric. It is elevated in ST elevation and acute myocardial infarction (STMI). It imperceptibly merges with the succeeding T wave.

T wave:

- T wave upright in v3-v6, lead I, lead II , avL. T wave represents ventricular repolarisation.
- Abnormal, if inverted in lead II, III, V4-V6.
- T wave is inverted in ischemia and flattened in hypokalemia, taller in hyperkalemia.

		QT segment: Represents the total time taken for ventricular depolarisation and depolarisation. It varies with heart rate. Hence conducted in interval is used. QT interval is the duration from the beginning of QRS complex and end of the T wave. Corrected QT(QTc) is calculated using the formula: QT interval / ? RR interval (in secs) Normal - 0.38 to 0.42 secs QT interval is prolonged in electrolytes disturbances (drugs or congenital). Abnormalities that can be diagnosed by ECG includes myocardial ischemia, infarction, electrolyte disturbances (hypokalemia, hyperkalemia, hypocalcemia, hypercalcemia), ventricular hypertrophy, atrial enlargement, tachy arrhythmias and Brady arrhythmias. Clinical Practice for Three Hours

Topic 15 Fever (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO4, CO7	Assess the Fever Patient	PSY-GUD	MK	KH	CBL,D-M,SIM	CBA	F&S		-	NLHP15.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 15.1	Assessment of Fever Patient	FEVER: Humans are warm blooded mammals. Body temperature follows the circadian rhythm Fever is one of the most common presenting features in any doctor’s practice. It is the hallmark of the body’s

response to infection or inflammation. Before looking at the causes of fevers it is important to understand what we mean by the term and how the reaction is generated in the body. Fever is an increase in the core body temperature (the temperature within the deep tissues of the body) above the daily range for an individual. The daily range of core body temperature is between 35.6°C and 37.8°C (97.0°F and 100.4°F). The closest to core body temperature we can measure is rectal temperature. As this is usually not easily performed and is less acceptable to patients, the next best is ear (tympanic) temperature. This requires a specific device that can be inserted into the ear using disposable covers. Oral temperature is about 0.5°C less than ear temperature and axillary temperature a further 0.5°C lower than oral temperature. The normal core temperature of any individual does not remain static but varies according to certain rhythms and characteristics. It is affected by time of the day (known as diurnal variation), age, gender, height, time in the menstrual cycle, as well as with exercise and meals. The diurnal variation of core body temperature is usually up to 0.6 degree C but can be exaggerated with a variation of 2-3degree C. Core body temperature is at its highest in the late afternoon and evening, with lowest point in the early hours of the morning.

Control of body temperature is termed thermoregulation, and under normal circumstances the body temperature will be in a state of stable internal temperature, or in homeostasis. The temperature of the body depends on the balance between heat production and heat loss. Core body temperature is regulated by a system of control mechanisms affecting heat generation and heat loss. These include the autonomic nervous system, the endocrine system, musculoskeletal system and behavioural responses. The centre of this mechanism is called the thermoregulatory centre. It lies in the hypothalamus and acts like a thermostat in controlling the systems to produce the right balance of heat production and loss. The thermoregulatory centre has heat-sensitive receptors which respond to changes in body temperature by switching on and off systems to keep the balance within normal range. The range of temperature considered normal by the hypothalamus is termed the set point. Damage to the hypothalamus can lead to loss of its thermostat control and result in very high or low core body temperatures. Heat is gained and lost by the body through normal

body functioning. Heat is produced all the time in the tissues of the body as a product of their metabolic processes. Heat is also produced by increased activity of skeletal muscles, such as during exercise or when shivering. Normally this heat is lost to the environment through transfer from deep tissues, via the blood stream, to body areas in contact with the outside. This is mostly through the skin but also occurs through the lungs The amount of heat lost from the skin via the above mechanisms depends on environmental conditions with more heat loss occurring in cold, dry and windy

environments. When the temperature of the environment is higher than body temperature or when there is a lot of humidity, heat cannot easily be lost, leading to a rise in body temperature.
Mechanism:

Evaporation: Sweating and panting cool by increasing heat loss
Convection: Increasing blood flow to body surfaces leads to heat loss
Conduction: Losing heat by being in contact with a colder surface, e.g. swimming in cold water or lying on a cold floor
Radiation: Increased exposure of the body surface will lead to increased heat loss
During infection or inflammation pyrogens (cytokines) are released which inturn induces prostaglandins formation. Prostaglandins sets the hypothalamic temperature regulatory centre to a higher point. Psychorespones (switching AC, fan adding a layer of cloth) followed by vasoconstriction of cutaneous blood vessels. The temperature at this point, maybe normal when the equilibrium is not achieved by this method or rise in temperature at the regulatory centre is too rapid, Patient develops Rigor. At this new equilibrium, Heat production and loss are at equilibrium. If the temperature is brought out by antibiotics or pyrogenic stimuli ceases heat loss will now exceed the heat production facilitated by sweating. there is adequate hydration, sponging, can be applied at this stage. It is a procedure where gauze, cotton or cloth is soaked in lukewarm water is applied over the forehead. When the new equilibrium is achieved, thermoregulator point, patient feels warms rigger stops disappear, so they remove extra layers of clothing.
Types of fever
Sustained/continuous fever:

- Persistent rise in temperature (<1°c) with minimal diurnal variation.
- Causes: pneumonia, meningitis, UTI, brucella

Intermittent fever

- fever spikes lost for few hours and occur several times a day but inbetween the spikes

- Causes- Malaria, drug fever, Deep seated infection, abscesses, Kala-azar, malignancy.

Remittent fever

- Temperature spikes fall daily with diurnal Variation of >2°c, but don't go down to normal.
- Causes. TB, infective endocarditis, many viral and bacterial infections

Relapsing fever

- Febrile episodes are separated by intervals temperature. of normal
- Causes: Malaria, borrelia (relapsing force), TB, lymphoma

Quotidian fever

- If this relapsing occurs daily, it is called quotidian fever
- Causes: Plasmodium falciparum

Double quotidian Fever

- It occurs when there are two spikes of fever everyday, generally once in the morning and once in the evening
- Causes: Miliary Tuberculosis

Tertian Fever

- If it occurs every 48 hrs it is called tertian fever

- causes: Plasmodium falciparum, P.vivax, P,ovale. If it occurs every 72 hrs it is called quartan fever.

Step-ladder fever

- A type of sustained fever where the temperature rises gradually to a higher level with every spike Causes Typhoid, Typhus
- Night sweats
- In some diseases, the rise in the body temperature is evident only in the evening or late night when the patient is woken up sweating. This pattern is seen when the mild rise normal diurnal evening rise leading to the body temperature rising beyond the normal level
- Causes: TB, leukaemia, lymphoma, autoimmune disorders.

Temperature - pulse disparity
This is the counter - intuitive response of a slower pulse associated with a high fever, commonly associate with typhoid fever.

Causes of fever

- Infection 50%
- Non-infectious inflammatory diseases -9%
- Autoimmune inflammatory
- Auto inflammatory vasculitis
- Malignancy 20% miscellaneous causes such as drug reactions 15%
- Undiagonsed 6%
- Infections (both viral and bacterial infections):
- Tuberculosis disseminated or extra pulmonary
- Intra-abdominal abscess cytomegalovirus infectious endocarditis
- ENT/dental infection (mastoiditis, sinusitis otitis, dental abscess) prostatitis
- osteomyelitis

		• prosthetic joint infections • Tick born illness (fever often accompanied by rash) meningitis (viral and bacterial meningitis) cellulitis • Animal or human bite (blood born viral transmission) • Inflammatory conditions: • Temporal arteritis • Adult onset still diseases systemic lupus erythematous • rheumatoid arthritis • inflammatory bowel disease • Malignancy:Lymphoma, leukaemia, solid tumours often with metastasis • Miscellaneous • Drug fever (commonly due to captopril, Erythromycin hydralazime, hydrochlorothiazide and penicillin) however virtually any drug can cause fever. well appearing patient with temporal association of fever and drug administration • Hematomas, deep vein thrombosis **Investigation and management:** Determine if the patient is at risk of being immunocompromised (example- malignancy, chemotherapy, HIV, chronic use of immunosuppressant). A careful History should include the complete history and surgical history, Current medication list and social history identified, travel, occupational sexual environment, dietary and sick contacts. A thorough physical examination is essential. Laboratory evaluation varies based upon the suspected source of fever. basic laboratory evaluation for fever includes CBC routine, serum, chemistry and lever function test, stool examination, urine examination as appropriately and blood sample of blood culture to be obtained before patient starts antibiotics. Majority of the infection or viral and doesn't need antibiotics. Antibiotic should be given only when bacterial cause is proven. It should not be taken by assumption. Siddha Management: Linga Chenduram 65mg twice a day Clinical Practice for Three Hours
Topic 16 Enema and Urinary Catheter (LH :0 NLHT: 0 NLHP: 3)		

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO4, CO7	Demonstrate the Enema for digestive disorders and Urinary Catheter insertion for retention of urine.	PSY-GUD	MK	KH	CBL	P-CASE	F&S		-	NLHP16.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 16.1	Enema and Urinary Catheter	ENEMA: • Enema is usually given to relieve constipation • There are many different types of enema such as sodium phosphate, glycerin, bisacodyl etc.. • There also risk for enema and they need to be addressed • There are different kinds of catheter such as Foley's, Intermittent catheter, suprapubic catheter, condom catheter, coude's catheter and Triple lumen catheter • Complications such as bleeding, Infections, Urethral injury, Bladder spasm, cystitis/Urethritis need to be addressed. • Enemas is the administration of fluids rectally to cleanse or stimulate the emptying of bowel. • This procedure has been used for years to treat constipation and similar issues. • They are also used to clean the bowel before any test or surgery. • Enema can also treat fecal incontinence, a condition in which the stool leaks from the rectum unexpectedly. A professional usually does the enema procedure but you can also self-administer enemas at home. When should you have an enema?

Relieve constipation: Usually, an enema is a last-ditch effort to relieve constipation. You may need an enema if you can't poop and lifestyle changes haven't helped you have a bowel movement. Usually, increasing your water and fiber intake can get things moving. If not, stool softeners you take by mouth may help. If that's a no-go, it may be time to go directly to the source by trying an enema.

Treat fecal impaction: Severe constipation can cause poop to get stuck inside your colon, so it's impossible to pass on your own. An enema is an invasive treatment option, but it's much less invasive than other options, like removing the stool with surgery.

Prepare for surgery: You may need an enema to flush out poop before surgery on your colon or rectum. Getting rid of the poop reduces your risk of infection during surgery.

Prepare for a colonoscopy: During a colonoscopy, a provider inserts a scope into your anus (butthole) and through your rectum to check for abnormal growths inside your colon. Part of your preparation instructions may involve doing an enema the day before so your provider can get a clear view of your colon.

Have an imaging procedure: During a barium enema, a provider inserts liquid that contains a chalky white powder called barium into your rectum. The barium solution makes problem areas easier to spot on an X-ray.

Receive medicine: A healthcare provider may insert medicine directly into your colon using an enema. For example, some medicines
administered via enema reduce inflammation associated with gastrointestinal diseases, like ulcerative colitis.
Some people use enemas to rid their bodies of toxins or lose weight, but there's no evidence that enemas help with this.
Types of enemas:

Sodium phosphate enemas are the most common and fastest-acting type. A sodium phosphate enema is a mix of water and salt (saline). These enemas pull water from your colon and into your stool, so it's easier to pass.

Glycerin enemas also pull water into your colon to soften stools.

Bisacodyl enemas stimulate your colon to move, so it pushes the poop out.
Mineral oil enemas lubricate your colon so that poop can slide through easily.

Barium enemas are only used during a special X-ray procedure.

Tap water enemas soften poop so it can pass more easily.
Purpose of the enema:

Cleansing enemas clean you out fast — within a matter of minutes. You insert the liquid, and then you poop. Most enemas are cleansing enemas.

Retention enemas require you to “hold it” or retain the fluid for a bit so the enema has time to work inside your colon. For example, holding a mineral oil enema gives it time to lubricate your colon so you can poop easier.
Amount of solution

Large-volume enemas (from 500 to 1,000 milliliters of fluid) push fluid higher into your colon, cleansing it completely.

Small-volume enemas (less than 500 milliliters of fluid) clean the lower part of your colon, which may be all you need.
Regardless of the enema type, you should follow the instructions — to the letter — to ensure you’re inserting the right amount of fluid. Otherwise, you may experience unpleasant side effects. Too much fluid can damage your colon.
Procedure:
No two enema kits are the same. For example, the container that holds the fluid may be a bottle or a bag. The part that administers the solution may be a tube, a nozzle or a syringe. Follow the instructions on the kit or from your healthcare provider closely.
steps to should follow.

1. Lay a towel on the floor and have a timer nearby so you know when you should feel the urge to poop. The towel can catch any accidents if you can't get to the toilet in time.
2. Wash your hands and prepare the solution as needed. You may need to mix and measure the solution and transfer it to a container. Make sure the solution is at room temperature. Liquid that's too hot or cold will hurt.
3. Get in a position that makes it easy to insert the enema. If you're doing an enema alone, lie on your side with the knee of your other leg pulled to your chest. It's a good idea to lie on your nondominant side so that your dominant hand can insert the tube or syringe. If someone's helping you, you can kneel (as if the bottom half of your body were in the child's pose in yoga) and lean forward, resting the side of your face on the towel.
4. Lubricate the tube (petroleum jelly or K-Y Jelly® are good options) and gently insert it into your butthole. The kit will tell you how far it should go. Don't force the tube. If it won't go in, contact your provider.
5. Squeeze the solution until you've administered the correct amount of fluid, then slowly remove the tube. If you're doing a retention enema, wait until the designated time described on the kit before pooping. Otherwise, once you feel the urge to poop, go.

Risks/ contraindication:

Pain or discomfort. An enema may hurt if you use fluid that's too hot or cold or if you force the tube and damage tissue. You should take extra care to be gentle when inserting if you have hemorrhoids.

Puncturing your rectum. You can tear your rectum if you're not careful. Contact your provider if you have a bloody stool. Bright red blood may signal a tear.

Puncturing your colon. The tissue can tear if you overwhelm your colon with too much fluid. Your risk is higher if you've had previous colon surgery that's weakened the tissue.

Infection. You can introduce bacteria into your body with the enema if the materials aren't clean. You may need to avoid enemas if you have a compromised immune system.

Chronic constipation. Overusing enemas can cause your colon to lose the "muscle memory" it uses to help you poop. This can lead to long-term constipation issues.

Electrolyte imbalance. You should avoid sodium phosphate enemas if you have chronic kidney disease (CKD). They may disrupt your electrolyte balance to dangerous levels.

A missed diagnosis. Relying on frequent enemas to relieve constipation can prevent you from learning if you have an underlying condition causing your constipation. Instead of reaching for immediate relief, contact your healthcare provider. Constipation may be a symptom of a condition your provider needs to diagnose and treat.

CATHERETIZING BLADDERS

CATHETER:

Usually a 12 or 14 size catheter is right. Use the smallest you can. Latex is soft, simplistic, firmer. A silastic (silicon) catheter may be used long term, but costs more. Coude (elbow) catheters have an angled up to ease around prostates but are more risky. Teeman catheters have tapered ends for similar reason. Condom catheters have no indwelling parts, and are preferred by nurses and patients (less pain, less restriction of movement).

METHODS OF CATHETERIZING BLADDERS:

1.Per urethram:

This route is used to relieve urinary retention, to monitor urine output in critically ill patients, or to collect urine for diagnosis uncontaminated by urethral flora. It is contraindicated in urethral injury (eg pelvic fracture) and acute prostatitis. Catheterization introduces bacteria into the bladder, so aseptic technique is essential. Women are often catheterized by nurses but you should be able to catheterize patients of either sex.

• Lie the patient in a supine position with knees flexed and hips abducted with heels together. Use a gloved hand to prep urethral meatus in a pubis-to-anus direction, holding the labia apart with the other hand. With uncircumcised men, retract the foreskin to 'prep' the glans; use a gloved hand to hold the penis still and off the scrotum, The hand used to hold the penis or labia should not touch the catheter.

• Put sterile lignocaine 2% gel on the catheter tip and ?10mL into the urethra (?5mL if female). In men, stretch the penis perpendicular to the body to eliminate any urethral folds that may lead to false passage.

• Use steady gentle pressure to advance the catheter. Insert to the hilt; wait until urine emerges before inflating the balloon. Remember to check the balloon's capacity before inflation. Pull the catheter back

		so that the balloon comes to rest at the bladder neck. • Remember to reposition the foreskin in uncircumcised men to prevent massive oedema of the glans after the catheter is inserted. **Self-catheterization**: This is a good, safe way of managing chronic retention from a neuropathic bladder (eg in multiple sclerosis, diabetic neuropathy, spinal tumour). Never consider a patient in difficulties from a big residual volume to be too old, young, or disabled to learn. A 'numb bum' implies less sensation of full bladder, higher sensory loss may mean catheterization will be painless. Get help from your continence adviser who will be in a position to teach the patient or carer that catheterizations must be gentle, particularly if sensation is lacking, and must number >4/day. **2.Suprapubic catheterization**: It is sometimes necessary and may be preferred. Ensure the bladder is distended, then clean the skin. Infiltrate with local anaesthetic down to the bladder, nick the skin, and then insert the catheter down vertically above the symphysis pubis. When urine is draining advance the catheter over the trocar and tape it down securely. **REFERENCE**: Oxford Handbook of Clinical Medicine Clinical Practice for One and half Hours

Topic 17 Coma (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2, CO4, CO7	Assess the patient of coma as instructed by the specialist	PSY-GUD	MK	KH	CBL	CBA,P-CASE	F&S		-	NLHP17.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity

NLHP 17.1	• It is a state of unresponsiveness to the surrounding environment can be assessed by motor, verbal and eye movement. • The leading cause been shock, trauma, metabolic disorders and toxins. • The aim of the treatment is to treat further progression and correcting the primary cause.	COMA: Looks surrounding of the patient and our safety. History of patient should be taken from relatives or by standards inspection and examination of patient for possible trauma, tongue biting, any bleeding, fracture, urine or fecal incontinence, pupil size, symmetry or any other changes. Monitor the vitals. CPR should be done when breathing and heartbeat was stopped, in case of suspected or possible cervical trauma stabilize the cervical spine. Position of the patient should be maintained at left lateral. Protect the air way with bag and mask to target saturation at 94 to 98% (88 to 92% for COPD). Level of consciousness can be assessed semi quantitatively and followed by all level of Glasgow Coma Scale. POINTS EYE OPENING/VERBAL OPENING/MOTOR RESPONSE 1- None 2 -To pain,Vocal but not verbal,Extension 3 -To voice,Verbal but not conversational,Flexion 4 - Spontaneous oriented,Withdraws from pain 5 - Localizes pain 6 - Obeys commands This indicates the severity of traumatic brain injury • Mild 13-15 • Moderate 9-12 • Severe less than or equal to 8 No oral fluids and diet or given as it causes aspiration. IV dextrose 25% D/50% D should be given in case of hypoglycaemia. Place an IV line ensure adequate circulation and send blood for CBC, arterial blood gas analysis, culture, glucose, electrolyte, BUN, calcium, liver and serum ammonium level, prothrombin time, APTT, typing and cross matching. Perform urine analysis and toxicology drug analysis on blood and urine. History should focus on activity medication alcohol or drugs used, Diabetes mellitus. General physical examination main reveal systemic illness associated with, Cirrhosis, haemodialysis, rash of meningiococemia or sign of head trauma (eg laceration, peri orbital

		or mastoid ecchymosis, hemotympanum). Look for possible in case of neurological pulmonary oedema, autonomic disturbance in GBS, spinal shock, high spinal injury, acute brain injury refer the patient to nearby hospital where facilities are available. Clinical Practice for Three Hours

Topic 18 Hypoglycemia (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO4, CO7	Management of Hypoglycemia	PSY-GUD	MK	KH	CBL	P-CASE	F&S		-	NLHP18.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 18.1	• Hypoglycaemia is a common acute complication of Diabetes mellitus. • Symptoms include sweating, Trembling, Hunger. • Fatigue, Anxiety leading to confusion, Drowsiness, unconsciousness and convulsions. • Treatment is IV fluid administration of glucose.	HYPOGLYCEMIA: Hypo glycemia values: • mild 50-70 mg/dl, • moderate 30-49 mg/dl • severe less than 30 mg/dl Consider the patient medical history, including any previous diagnosis of diabetes, medication and allergy. Evaluate the symptoms such as polyuria, polydipsia, fatigue, blurred vision or headache. Drugs particularly alcohol or agents used to treat diabetes should be first consideration even in the

		absence of known use of relevant drug, given the possibility of surrepititious, accidental or malicious drug administration. Other considerations include evidence of relevant critical illness, hormone deficiency (less commonly) and a non-Beta cell tumour that can be pursued diagnostically. Treatment should be initiated as soon as possible. Capillary blood collection Values helps in the confirmation of the diagnosis and should not be delayed until formal Lab confirmation has been obtained. If the patient is able and conscious Oral treatment with glucose tablet or glucose containing fluids, juices or food is appropriate. A reasonable initial dose is 20 g of glucose, if patient is unable to take orally, parental therapy is necessary. IV administration of 25g glucose (25% D) should be followed by glucose infusion guided by serial plasma glucose measurement. These treatments raise plasma glucose concentration orally transiently, so patients should therefore be urged to eat as soon as possible to replace glycogen store. Continuous dextrose infusion may be necessary especially in sulphonylurea poisoning, IM glucagon stimulate hepatic glucose release but ineffective in patients with depleted glycogen reserve such as alcohol in excess or liver disease. If patient fails to regain consciousness after blood glucose is restored to normal cerebral oedema, alcohol intoxication, cerebral haemorrhage should be considered and referred to nearby hospital where appropriate facilities are available. Clinical Practice for Three Hours

Topic 19 Shock (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO4, CO7	Management of Shock	PSY-GUD	MK	KH	CBL	P-CASE	F&S		-	NLHP19.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity

NLHP 19.1	• Reduced blood flow and oxygen delivery to the tissue is called shock. • There are different type of shocks such as Hypovolemic, Cardiac, Septic and Neurogenic shock. • Types include, (i) Distributive (ii) Hypovolemic (iii) Cardiogenic (iv) Obstructive shock • Patient in pre-shock with symptoms of tachycardia, vasoconstriction and reduced systolic BP should be screened initially to avoid end organ damage leading to multiorgan failure.	**SHOCK:** A process in which blood flow and oxygen delivery to tissues are deranged, leading to tissue hypoxia and resultant compromises of cellular metabolic activity and organ function. Main goal of therapy is a rapid Cardio vascular resuscitation to re-establish tissue perfusion. Classification, • Distributive shock, • Hypovolemic shock • Cardiogenic Shock • Septic Shock. **Distributive shock:** Shock caused by massive vasodilatation and impaired distribution of blood flow, resulting in tissue hypoxia. *Causes of distributive shock:* most common causes of distributive shock in the emergency department are sepsis and anaphylaxis. In cases of trauma, the neurogenic shock should also be on the differential. Other less common causes of distributive shock include adrenal insufficiency and capillary leak syndrome. Drug overdose or toxicity should always be considered, particularly potent vasodilators such as calcium channel blockers and hydralazine.Distributive shock as a result of sepsis occurs due to a dysregulated immune response to infection that leads to systemic cytokine release and resultant vasodilation and fluid leak from capillaries. These inflammatory cytokines can also cause some cardiac dysfunction, called septic cardiomyopathy, which can contribute to the shock state. A common cause is the systemic inflammatory response syndrome due to noninfectious causes such as pancreatitis and burns. In anaphylaxis, the patient typically has a history of previous exposure to an antigen, although this is not required, with resulting IgE formation to that antigen. These IgE molecules then attach to the surface of mast cells in the tissues and basophils in blood. Consequent exposure to the same antigen results in the IgE-mediated release of histamine from mast cells and basophils, leading to systemic vasodilation and capillary fluid leak. Toxic shock syndrome should be considered in distributive shock. This disease is caused by Staphylococcus aureus and group A streptococci exotoxins that stimulate systemic

cytokine release with resulting vasodilation and capillary leak. Historically, this is associated with both vaginal and nasal tampon use. Neurogenic shock classically occurs in cases of trauma involving the cervical spinal cord. The sympathetic nervous system is damaged resulting in a decreased adrenergic input to the blood vessels and heart, causing vasodilation with resultant hypotension and paradoxical bradycardia. The distributive shock from adrenal insufficiency occurs due to decreased alpha-1 receptor expression on arterioles secondary to cortisol deficiency, which results in vasodilation. This is seen in patients on chronic steroids that are stopped suddenly. Capillary leak syndrome, while rare, should be considered in the oedematous patient with distributive shock. It occurs due to low blood albumin. Decreased oncotic pressure leads to fluid loss from the blood into the interstitium.
Symptoms of infection, like shortness of breath, cough, fever, chills, nausea, vomiting, abdominal pain, and dysuria, as well as an immunocompromised status and recent hospitalizations, should be noted as this information may point to sepsis. Additionally, identifying known allergies and a history of anaphylaxis as well as possible.Exposures to known allergens can aid the identification of the cause of the patient’s presentation. Review the patient’s medications, particularly steroids and anti-hypertensives, and illicit drug use to determine if overdose or intoxication could be contributing to the clinical picture.
While the physical exam is unreliable in determining the source of shock, some findings can be suggestive of underlying etiology. Warm extremities can point to vasodilation as the cause of shock. A careful skin exam should be completed to identify a cutaneous source of infection such as cellulitis, ulcers, or abscess. Urticaria strongly suggests anaphylaxis.
Always consider adrenal insufficiency in a patient with hypotension, no signs of an infection and showing resistance to usual methods of resuscitation.
The physical exam will reveal:

- Altered mental status
- Tachycardia and tachypnea
- Hypotension
- Warm extremities with bounding pulses in early shock
- Hypo or hyperthermia
- Decreased urine output
- Low oxygen saturation

- Parameters: increased cardiac output (CO), decreased systemic vascular resistance (SVR), increased Central Venus O2 saturation (SCVO2)
- Primary goals of therapy
- Volume resuscitation; Iv crystalloid fluid,
- Antimicrobial therapy (septic shock)
- Removal of offending agent in Anaphylactic shock
- cardiovascular support with vasoactive agents

Hypovolemic shock:

Hypovolemic shock is due to loss of circulatory volume

Hypovolemic shock can be divided into hemorrhagic and non-hemorrhagic. Hemorrhagic shock is due to an acute reduction in the effective intravascular volume from bleeding.

In contrast, non-hemorrhagic is due to reduced effective intravascular volume from body fluid loss.

Traumatic injury is by far the most common cause of hemorrhagic shock. Other causes of hemorrhagic shock include gastrointestinal (GI), genitourinary, and bleeding from surgical intervention.

Non hemorrhagic shock:

Renal cause:Renal losses of salt and fluid can lead to hypovolemic shock

GIT losses fluid loss occurs in the presence of intractable vomiting, diarrhea, bowel obstruction, or external drainage via stoma or fistulas.

Skin causes: Excessive fluid loss can also occur from the skin. In a hot and dry climate, skin fluid losses can be as high as 1 to 2 liters/hour. Patients with a skin barrier interrupted by burns or other skin lesions also can experience significant fluid losses that lead to hypovolemic shock.

Third-Space Sequestration: Sequestration of fluid occurs when intravascular fluid leaves the interstitial compartment leading to effective intravascular volume depletion and hypovolemic shock.

Third space fluid losses: Third-spacing of fluid can occur in intestinal obstruction, pancreatitis, burn, post-operatively, obstruction of a major venous system, or any other pathological condition that results in a massive inflammatory response

Symptoms: volume depletion, electrolyte, imbalance or acid base disorders that accompanied hypovolemic shock.

Due to volume depletion: complain of thirst, muscle cramps, and / or orthostatic hypertension.

Due to mesenteric and coronary ischaemia: abdominal or chest pain, agitation, lethargy, confusion from brain malperfusion, Physical findings: Dry mucus membrane, decrease the skin turgor, Low jugular Venous distention.

Tachycardia and hypotension can be seen along with decreased urinary output.
Parameters: increased cardiac output (CO), Increased systemic vascular resistance (SVR), Decreased Central Venus O2 saturation (SCVO2)
Goal of therapy: Volume resuscitation (IV blood product and crystalloid were used with goal mean arterial pressure (MAP) of 60-65 mm Hg)
Obstructive shock: obstruction of the heart/ great vessels, resulting in decreased left ventricular filling and CVS collapse
Parameters decreased CO increased SVR or normal, Decreased SCVO2
Goal of therapy: supportive therapy, patients are volume overload, fluid administration can lead to right ventricular overload followed by acute pulmonary oedma, thereby worsening shock
Cardiovascular Shock: caused by left ventricular systolic failure, resulting in decreased CO, Subsequent insufficient O2 distribution
Parameters: decreased CO, increased SVR, decreased SCVO2
Goal of therapy: careful fluid management
Septic shock:
Septic shock criteria SIRS: two of the following 4 finding must be present.

- Tachypnoea (RR>20/min/paco2 <32 mmHg)
- WBC count (<4000 cells/microL/>12000 cells micro/L)
- Tachycardia (HR>90bpm)
- Hypothermia or Hyperthermia (Temperature >38 C/<36.0 C)
- Abnormal hepatic enzymes,
- Altered mental status
- Platelet blood count <80000/microL

- PH <7.30
- plasma lactate> 4 mmol/L

Therapy of septic shock:

- Volume resuscitation
- Patients should initially receive 30 ml per kilogram Ideal Body Weight IBW IV crystallite fluid in 1st hour of presentation.
- Parameter to determine volume responsiveness should be closely monitor during volume recreation to prevent volume overload
- Lung injury (mechanical ventilation)
- Cardiovascular support maintains Mean Arterial Pressure (MAP) greater than or equal to 65 mmHg
- Source control intervention should be performed with the first 12 hr

List of drugs that must be available in *Avasara Maruthuvam* Department:
The following drugs must be administer and supervised by allopathy doctors,

- Inj. Atropine
- Inj. Adrenaline
- Inj. Noradrenaline
- Inj. Sodium bicarbonate
- Inj. Calcium gluconate
- IVF 5% dextrose
- IVF 25% dextrose
- IVF 1/2 NS
- Inj. Dopamine
- Inj. Dobutamine
- Inj. Lasix

		• Inj. Avil Clinical Practice for Three Hours

Topic 20 Treating vomiting and diarrhea (LH :0 NLHT: 0 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO4, CO7	Demonstarte the management of First Aid for Vanthi(Vomiting)	PSY-GUD	MK	KH	CBL	P-CASE	F&S		-	NLHP20.1
CO1, CO2, CO4, CO7	Management of Kalichal(Diarrhea)	PSY-GUD	DK	KH	CBL	P-CASE	F&S		-	NLHP20.2

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 20.1	• Vomiting is involuntary expulsion of the condess of the stomach through mouth. • The chief cause be Gastrointestinal, Infection, Motion sickness, pregnancy, Drugs, Migraine and malignancies like brain tumour.	First Aid for *Vanthi*(Vomiting) 1. History - Gather patient history covering: - Previous illnesses - Recent food intake - Bowel habits - Travel history - Allergies to drugs or foods

	• Treating the case is providing Hydration, giving test and treating the cause of the vomiting.	- History of trauma - For females, menstrual or pregnancy history - Family, social history, and previous episodes of vomiting - Vomiting Content: Check if the vomit contains blood, mucus, or bile. 2. Consent - Obtain consent from the patient or attender before proceeding. 3. Bedside Assessment - Observe for: - Frequency and severity of vomiting - Presence of abdominal pain or tenderness - Vital signs, checking for any abnormalities 4. Investigation - Blood investigations, especially electrolyte levels to assess dehydration or imbalance. 5. Management - Medications Siddha Maanagement; Jaathi Jambeera kulambu - 32mg to 130mg three to four times a day. Mayiliragathi chooranam - 2.5 gm two times a day with honey if there is associated hiccup. 1. Antiemetics - Ondansetron, Metoclopramide, Promethazine 2. Antihistamines: - Diphenhydramine, Hydroxyzine 3. Gastroprokinetics: - Domperidone, Erythromycin 4. Anti-inflammatory (if needed for associated symptoms): - Ibuprofen - Rehydration: - Oral or IV fluid therapy to prevent or manage dehydration. - Monitor Electrolytes: - Regularly assess for any imbalances and address as needed. - If Symptoms Persist:	

		- Identify and address the underlying cause of vomiting. 6. Referral Criteria - Referral to healthcare provider is needed if: 1. Vomiting blood or material resembling coffee grounds 2. Severe abdominal pain or tenderness 3. Fever over 101.5°F (38.6°C) 4. Signs of shock (pale, cool skin; rapid heartbeat; shallow breathing) 5. Altered mental status or confusion 6. Severe vomiting causing dehydration (excessive thirst, dark urine, dizziness) 7. Inability to keep any fluids down Clinical Practice for One and half Hours
NLHP 20.2	• Diarrhoea is the watery and frequent bowel movements • The chief cause being infections, Drugs, Food poisoning, pre-existing medical diseases and diet. • Treatment include providing Hydration and Anti-diarrhoeal medications.	Management of Diarrhea 1. History - Patient history including: - Past diseases or recent illnesses. - Food intake and dietary habits. - Bowel patterns and recent changes. - Travel history (to assess possible infections). - Known allergies to drugs or foods. - Previous episodes of diarrhea. - For females, menstrual or pregnancy history. - Stool characteristics: Frequency, presence of blood or mucus. 2. Consent - Obtain consent from the patient or an immediate relative. 3. Bedside Assessment - Vital signs: Temperature, pulse rate, blood pressure. - Signs of dehydration: Dry mouth, dark urine, dizziness, and excessive thirst. - Frequency and nature of stools. - Abdominal assessment: Pain, tenderness, or distension. 4. Investigations

		- Blood Tests: Electrolytes to monitor imbalances. - Stool Examination: Check for blood, pathogens, or abnormal substances. 5. Management Siddha Management: Thayirchundi Chooranam 1gm three times a day with warm water. - Fluid Replacement: - Oral Rehydration Solution (ORS) or IV fluids if oral intake is insufficient. - Medications: - Anti-diarrheal Loperamide or diphenoxylate (use with caution and only if non-infectious). - Antibiotics: Ciprofloxacin, metronidazole, or vancomycin (only if a bacterial infection is suspected and prescribed by a healthcare provider). - Probiotics: Lactobacillus or Saccharomyces boulardii for gut flora support. - Monitor Electrolytes regularly to prevent imbalances. 6. Referral Criteria - Severe Diarrhea: - More than 6 stools/day, or with blood, mucus, severe pain, or high fever (>101.5°F / 38.6°C). - Signs of dehydration (dark urine, dizziness). - Diarrhea with Complications: - Severe vomiting, abdominal distension, guarding, or rebound tenderness. - Suspected Infectious Diarrhea: - Severe symptoms, blood in stool, high fever (>102°F / 39°C), or recent travel. - Immunocompromised Patients: Special attention for those with weakened immune systems. Clinical Practice for One and half Hours

Table 4 : NLHT Activity

(*Refer table 3 of similar activity number)

Activity No*	CO No	Activity details

Table 5 : List of Practicals

(*Refer table 3 of similar activity number)

Practical No*	CO No	Practical Activity details
1.1	CO1,CO2,CO3,CO4, CO7	Examination of unconsious patient using Siddha paramaters
2.1	CO1,CO2,CO3,CO4, CO5,CO7	First aid treatment for *Sanni Mayakkam* (unconscious) patient
3.1	CO1,CO2,CO3,CO4, CO5,CO7	First aid treatment for *Manthara kaasam*
4.1	CO1,CO2,CO3,CO4, CO6,CO7	First aid treatment for *Murivu* (Fracture)/ Isangal (Dislocation)
5.1	CO1,CO2,CO4,CO7	Cardiopulmonary resuscitation
6.1	CO1,CO2,CO3,CO4, CO5,CO7	Managemnt of *Valippu*
7.1	CO1,CO2,CO3,CO4, CO5,CO7	Examination and Management of *Muga Vatham* / *Uraga Vatham*
8.1	CO1,CO2,CO3,CO4, CO5,CO7	Examination and Management for *Eruvai Kuruthi Perukku* (Lower Gastrointestinal Bleeding) (LGIB)
9.1	CO1,CO2,CO3,CO4, CO5,CO7	Management of *Thol Pusam Netti Thaalvu* or *Kai Kuzhi Kundu Isangal* (Anterior Dislocation of Shoulder)
10.1	CO1,CO2,CO3,CO4, CO5,CO7	Management of *Manibantha Murivu* or *Kozhikazhuthu murivu* (Distal end of Radius Fracture)
11.1	CO1,CO2,CO4,CO7	• Oxygen therapy is the administration of oxygen at concentration of pressure greater than that found in the environment atmosphere. • The air that be breath contains approximately 21% oxygen. Oxygen is carried by haemoglobin and heart pump the blood to various tissues. • O2 therapy is the key treatment in respiratory care. • The purpose is two increase O2 saturation in tissues where saturation levels are too low due to illness or injury
12.1	CO1,CO2,CO4,CO7	Demonstrate the appropriate IV Fluid administration and suturing
13.1	CO2,CO4,CO7	

		• A complaint of shortness of breath (dyspnoea) implies that the act of breathing has become conscious effort. • There are respiratory, Cardiac and other causes of shortness of breath. • Here is the detailed description about handling of a patient with shortness of breath.
14.1	CO1,CO2,CO4,CO7	Management of Chest pain and ECG
15.1	CO1,CO2,CO4,CO7	Assessment of Fever Patient
16.1	CO1,CO2,CO4,CO7	Enema and Urinary Catheter
17.1	CO2,CO4,CO7	• It is a state of unresponsiveness to the surrounding environment can be assessed by motor, verbal and eye movement. • The leading cause been shock, trauma, metabolic disorders and toxins. • The aim of the treatment is to treat further progression and correcting the primary cause.
18.1	CO1,CO2,CO4,CO7	• Hypoglycaemia is a common acute complication of Diabetes mellitus. • Symptoms include sweating, Trembling, Hunger. • Fatigue, Anxiety leading to confusion, Drowsiness, unconsciousness and convulsions. • Treatment is IV fluid administration of glucose.
19.1	CO1,CO2,CO4,CO7	• Reduced blood flow and oxygen delivery to the tissue is called shock. • There are different type of shocks such as Hypovolemic, Cardiac, Septic and Neurogenic shock. • Types include, (i) Distributive (ii) Hypovolemic (iii) Cardiogenic (iv) Obstructive shock • Patient in pre-shock with symptoms of tachycardia, vasoconstriction and reduced systolic BP should be screened initially to avoid end organ damage leading to multiorgan failure.
20.1	CO1,CO2,CO4,CO7	

		• Vomiting is involuntary expulsion of the condess of the stomach through mouth. • The chief cause be Gastrointestinal, Infection, Motion sickness, pregnancy, Drugs, Migraine and malignancies like brain tumour. • Treating the case is providing Hydration, giving test and treating the cause of the vomiting.
20.2	CO1,CO2,CO4,CO7	• Diarrhoea is the watery and frequent bowel movements • The chief cause being infections, Drugs, Food poisoning, pre-existing medical diseases and diet. • Treatment include providing Hydration and Anti-diarrhoeal medications.

Table 6 : Assessment Summary: Assessment is subdivided in A to H points

6 A : Number of Papers and Marks Distribution

Not Applicable

6 B : Scheme of Assessment (Formative and Summative)

Not Applicable

6 C : Calculation Method for Internal assessment Marks

Not Applicable

6 D : Evaluation Methods for Periodical Assessment

Not Applicable

6 E : Question Paper Pattern

Not Applicable

6 F : Distribution of theory examination

Not Applicable

6 G : Instructions for UG Paper Setting & Blue print

Not Applicable

6 H : Distribution of Practical Exam

Not Applicable

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Abbreviations

Domain		T L Method		Level		Assessment		Integration	
CK	Cognitive/Knowledge	L	Lecture	K	Know	T-CS	Theory case study	V-SATV	V-SATV
CC	Cognitive/Comprehension	L&PPT	Lecture with PowerPoint presentation	KH	Knows how	T-OBT	Theory open book test	V-UK	V-UK
CAP	Cognitive/Application	L&GD	Lecture & Group Discussion	SH	Shows how	P-VIVA	Practical Viva	V-UT	V-UT
CAN	Cognitive/Analysis	L_VC	Lecture with Video clips	D	Does	P-REC	Practical Recitation	V-UV	V-UV
CS	Cognitive/Synthesis	REC	Recitation			P-EXAM	Practical exam	V-NU	V-NU
CE	Cognitive/Evaluation	SY	Symposium			PRN	Presentation	V-MT	V-MT
PSY-SET	Psychomotor/Set	TUT	Tutorial			P-PRF	Practical Performance	V-GMM	V-GMM
PSY-GUD	Psychomotor/Guided response	DIS	Discussions			P-SUR	Practical Survey	V-GMK	V-GMK
PSY-MEC	Psychomotor/Mechanism	BS	Brainstorming			P-EN	Practical enact	V-SSM-NM	V-SSM-NM
PSY-ADT	Psychomotor Adaptation	IBL	Inquiry-Based Learning			P-RP	Practical Role play	V-NN1	V-NN1
PSY-ORG	Psychomotor/Origination	PBL	Problem-Based Learning			P-MOD	Practical Model	V-NN2	V-NN2
AFT-REC	Affective/ Receiving	CBL	Case-Based Learning			P-POS	Practical Poster	V-NAVO	V-NAVO
AFT-RES	Affective/Responding	PrBL	Project-Based Learning			P-CASE	Practical Case taking	H-MM	H-MM
AFT-VAL	Affective/Valuing	TBL	Team-Based Learning			P-ID	Practical identification	H-VPS	H-VPS
AFT-SET	Affective/Organization	TPW	Team Project Work			P-PS	Practical Problem solving	H-AM	H-AM
AFT-CHR	Affective/ characterization	FC	Flipped Classroom			QZ	Quiz	H-SMM	H-SMM
PSY-PER	Psychomotor/perception	BL	Blended Learning			PUZ	Puzzles	H-KM	H-KM
PSY-COR	Psychomotor/ Complex Overt Response	EDU	Edutainment			CL-PR	Class Presentation	H-RM	H-RM
		ML	Mobile Learning			DEB	Debate		
		ECE	Early Clinical Exposure			WP	Word puzzle		
		SIM	Simulation			O-QZ	Online quiz		
		RP	Role Plays			O-GAME	Online game-based assessment		
		SDL	Self-directed learning			M-MOD	Making of Model		
		PSM	Problem-Solving Method			M-CHT	Making of Charts		

		KL	Kinaesthetic Learning			M-POS	Making of Posters		
		W	Workshops			C-INT	Conducting interview		
		GBL	Game-Based Learning			INT	Interactions		
		LS	Library Session			CR-RED	Critical reading papers		
		PL	Peer Learning			CR-W	Creativity Writing		
		RLE	Real-Life Experience			C-VC	Clinical video cases		
		PER	Presentations			SP	Simulated patients		
		D-M	Demonstration on Model			PM	Patient management problems		
		PT	Practical			CHK	Checklists		
		X-Ray	X-ray Identification			Mini-CEX	Mini-CEX		
		CD	Case Diagnosis			DOPS	DOPS		
		LRI	Lab Report Interpretation			CWS	CWS		
		DA	Drug Analysis			RS	Rating scales		
		D	Demonstration			RK	Record keeping		
		D-BED	Demonstration Bedside			COM	Compilations		
		DL	Demonstration Lab			Portfolios	Portfolios		
		DG	Demonstration Garden			Log book	Log book		
		FV	Field Visit			TR	Trainers report		
						SA	Self-assessment		
						PA	Peer assessment		
						360D	360-degree evaluation		
						PP-Practical	Practical		
						VV-Viva	Viva		
						DOAP	Demonstration Observation Assistance Performance		
						SBA	Scenario Based Assessment		
						CBA	Case based Assessment		
						S-LAQ	Structured LAQ		
						OSCE	Objective Structured Clinical Examination		
						OSPE	Objective Structured Practical Examination		

						DOPS	Direct observation of procedural skills		

COURSE CURRICULUM FOR THIRD PROFESSIONAL B.S.M.S
(PRESCRIBED BY NCISM)

Kuzhanthai Maruthuvam
(Paediatrics)

(SUBJECT CODE : SIDUG-KM)

(Applicable from 2021-22 batch, from the academic year 2024-25 onwards for 5 batches or until further notification by NCISM, whichever is earlier)

ncism

।। आयुषे सर्वलोकानाम् ।।

BOARD OF UNANI, SIDDHA AND SOWA-RIGPA
NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE
NEW DELHI-110026

NCISM

III Professional SIDDHA MARUTHUVA ARIGNAR
(Bachelor of Siddha Medicine and Surgery (B.S.M.S))
Subject Code : SIDUG-KM

Kuzhanthai Maruthuvam
(Paediatrics)

Summary

Total number of Teaching hours: 350			
Lecture (LH) - Theory		**110**	**110(LH)**
Paper I	50		
Paper II	60		
Non-Lecture (NLHT)		**70**	**240(NLH)**
Paper I	30		
Paper II	40		
Non-Lecture (NLHP)		**170**	
Paper I	60		
Paper II	110		

Examination (Papers & Mark Distribution)					
Item	**Theory Component Marks**	**Practical Component Marks**			
		Practical	**Viva**	**Elective**	**IA**
Paper I	100	100	30	-	20
Paper II	100				
Sub-Total	200	150			
Total marks	350				

Important Note :- The User Manual III B.S.M.S is a valuable resource that provides comprehensive details about the curriculum file. It will help you understand and implement the curriculum. Please read the User Manual III before reading this curriculum file. The curriculum file has been thoroughly reviewed and verified for accuracy. However, if you find any discrepancies, please note that the contents related to the MSE should be considered authentic. In case of difficulty and questions regarding curriculum write to **syllabus24sid@ncismindia.org**

PREFACE

"Kuzhalinithu yazhinithu enbartham makkal

Mazhalaisol kela thavar"

A verse from *Tirukural* portrays the significance of children.

"Peru, Ilamai, Inbam, Pini, Moopu, Sakkadu

Arum karuvila Amaippu"

Also the verse implies that the entire quality of life and a healthy life from children to adulthood is rooted during fetal development.

Kuzhanthai Maruthuvam (Pediatrics) is dedicated to the health, well-being, and management of diseases in infants, children, and adolescents. This field requires a specialized understanding of growth, development, and pediatric healthcare challenges, along with a compassionate and patient-centered approach. The primary aim of this curriculum is to equip Siddha medical students with the knowledge, skills, and attitudes necessary to provide comprehensive care for this unique population. By integrating Siddha principles with contemporary pediatric advancements, the syllabus ensures that students develop a strong foundation in preventive and curative pediatric care, addressing both acute and chronic childhood illnesses effectively.

The competency-based curriculum maintains a balanced approach, combining theoretical knowledge, clinical training, and research exposure to prepare students for real-world pediatric healthcare challenges. The syllabus is divided into two structured parts: Paper I covers fundamental concepts, including stages of growth and development, nutritional requirements, preventive care (such as immunization), and disorders of growth and development. Paper II focuses on clinical aspects, enabling students to understand, diagnose, and manage various childhood diseases using both Siddha and modern medical approaches. The curriculum also emphasizes effective communication skills, ethical decision-making, and holistic treatment approaches, which are essential in pediatric care.

To ensure practical learning, students are exposed to diverse clinical settings, enabling them to apply their knowledge in real-life pediatric cases. Through hands-on training, case discussions, and interactive learning methods, this syllabus prepares future Siddha pediatricians to handle a wide range of pediatric health challenges with confidence and expertise. We hope this curriculum inspires and equips learners to not only excel academically but also cultivate empathy, resilience, and a lifelong dedication to making a meaningful impact in the lives of young patients.

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Course Code and Name of Course

Course code	Name of Course
SIDUG-KM	Kuzhanthai Maruthuvam

Table 1 : Course learning outcomes and mapped PO

SR1 CO No	A1 Course learning Outcomes (CO) SIDUG-KM At the end of the course SIDUG-KM, the students should be able to-	B1 Course learning Outcomes mapped with program learning outcomes.
CO1	Explain the *Pachillam kuzhanthaiyin paramarippu* (Care of New born), Immunization schedules and National Health Programme Policies.	PO1,PO9
CO2	Describe normal growth and development and disorders in children and adolescence.	PO1,PO9
CO3	Elucidate the classification, symptoms and management of *Agakarana noigal, Purakarana noigal* as per Siddha pedeatric literature and relate to contemporary research studies.	PO5,PO10
CO4	Distinguish between normal and special children with disabilities and prepare an appropriate management plan.	PO5,PO6,PO10
CO5	Elaborate the system wise pedeatric diseases in terms of signs and symptoms, etiopathogenesis, laboratory investigations, diagnosis and plan the management pertaining to the systems.	PO7,PO9
CO6	Diagnose the diseases by comprehensive clinical examination through proficiency in Siddha principles and concepts,modern investigatory methods with line of treatment.	PO1,PO3,PO4,PO8
CO7	Construct a counselling plan tailored to appropriate situations showing empathy and understanding the parenting challenges.	PO11,PO12

Table 2 : Contents of Course

Paper 1 (KUZHANTHAI MARUTHUVAM (PEDIATRICS PAPER) -1)						
Sr. No	**A2 List of Topics**	**B2 Term**	**C2 Marks**	**D2 Lecture hours**	**E2 Non-Lecture hours Theory**	**F2 Non-Lecture hours Practical**
1	**Pachilam Kuzhanthaiyin Paramarippu (Care Of New Born)** This topic explains immediate care of newborns including definitions, diseases occurring from birth to 3 months, care in Siddha aspects, approach to term, preterm and low birth weight babies, neonatal diseases and neonatal respiratory diseases. **Definitions in the neonatal period** **1.1 Definition of Neonatal period** • Definition of postnatal period • Definition of perinatal period • Definition of live birth • Definition of still birth • Definition of term neonate • Definition of preterm neonate • Definition of post term neonate • Assessment of Anthropometry • Assessment of APGAR Score • Assessment of Neonatal reflexes **1.2 Diseases occuring in 0 to 12 months** Causes,types,*kurikunangal* and *maruthuvam* of *Purakarana Noigal,Kiranthi,Thodam* **1.3 Care of newborn in Siddha aspects** • Care of the newborn immediately after birth • Care of umbilical cord including its ulceration and its medicines • Bathing newborn – Days of bathing, benefits of boiling the water with herbs *Maruthondri and Venthayam* • Administering *castor oil, charred vasambu* • Benefits of applying *Sihakai, Pachaipayiru* on newborn skin and disadvantages of using soap • Techniques to wash the baby • Benefits of using egg white yolk, Cow’s	1	14	9	4	3

	ghee and Vathumai Ennai (almond oil) in newborn • Making the newborn to sleep including duration of sleep • Procedures to be followed during sleep • Dressing the newborn - using soft, clean white clothes • Drying the clothes in sunlight • Covering with woolen clothes during winter **1.4 Approach to a Term, Preterm newborn and Infants with Low birth weight** • Causes • Characteristics • Complications • Management • Kangaroo mother care • Intrauterine growth restriction (IUGR) • Asymmetrical IUGR • Symmetrical IUGR **1.5 Diseases in newborn** Causes,clinical features,evaluation and management of • TORCHs -Toxoplasmosis,Rubella,Cytomegalovirus, Herpes simplex,syphilis • Umbilical cord infections • Neonatal Jaundice • Neonatal Seizure • ABO Incompatibility • Rh incompatibility **1.6 Respiratory diseases in newborn** Causes, clinical features, evaluation, complications and management including resuscitation of • Birth asphyxia • Hypoxic Ischemic Encephalopathy • Hyaline membrane disease • Meconium aspiration syndrome					
2	**Pachilam Matrum Ilam Kuzhanthaigalin Unavu (Feeding in Infants and Young children)** This topic deals with definitions of breast milk feeding its composition, advantages, lactation	1	9	5	2	3

failure, concepts of breastfeeding in Siddha literatures, herbs and medicines enhancing lactation, weaning and introducing complimentary foods in infants.

2.1 Definitions

- Exclusive breast feeding
- Predominant breast feeding
- Partial breast feeding

2.2 Composition of breast milk including

- Colostrum
- Transitional milk
- Mature milk
- Preterm milk
- Fore milk
- Hind milk
- Difference between cow's milk, milk formula and breast milk

2.3 Advantages of breast milk feeding and lactation failure

- Positions of feeding
- Expression of breast milk
- Conditions affecting breast feeding
- Lactation failure and its management
- Advantages of breast milk feeding

2.4 Feeding of newborn as per Siddha

- Frequency of feeding
- Contraindications for breastfeeding
- Psychological conditions of mother like stress ,angriness, worry and fear.
- Health conditions of mother like ulcers in nipple, tuberculosis,fever.
- Using cow's milk as alternative feeding for infants and its dilution as per month.
- Precautions to be followed by mother during breast feeding.
- Characteristics of breast milk on the basis of physical configuration of mother.
- Foods and medicines that enhance breast milk secretion
  like
  Palsura,Venthayam,Ellu,Aalivithai,Iluppai,

	Kalyana Murungai,Vetrilai ,Sowbakiya Sundi legiyam as per Siddha literature. **2.5 Weaning and introducing complimentary foods as per age and quantity.**					
3	**Vaccine Preventable diseases (Immunization)** This topic covers the definitions of immunization, National immunization schedule,vaccines preventing diseases,principles of immunization in Siddha like *Urai mathirai,Sei nei.* **3.1 Vaccine preventable diseases (Immunization)** Definitions • Immunization • Active Immunization • Passive Immunization • Vaccination • Vaccines • Cold chain **3.2 National Immunization Schedule including IAP Schedule and storage of vaccines (cold chain)** **3.3 Vaccines preventing diseases** Contents,dose,route of administration,site,booster doses and adverse reactions of • Bacillus Calmette - Guerin (BCG) • Oral Polio Vaccine (OPV) • Diphtheria,Pertussis,Tetanus (DPT) • Measles,Mumps,Rubella (MMR) • Rotavirus • Pneumococcal conjugate vaccine • Tetanus toxoid • Typhoid vaccine • Hepatitis A,B • Haemophilus influenza type b vaccine (Hib) • Varicella • Combined vaccines in infants, children **3.4 Principles of immunization in Siddha**	1	7	5	3	2

	• Administration of *Urai mathirai,Sei Nei* • Practices in preventing diseases like oil bath,wearing medicinal bracelets (*vasambu kappu,yellow twine wearing*) in the wrist and ankle,various types of *kulisam.*					
4	**Kuzhanthaigalin Iyalpana Udal Matrum Thiran Valarchi Nilaigal(Normal growth and development in children)** This topic focusses on the definitions of normal growth and development, stages of growth from fetus to child including *Paruvangal* of children, assessment of physical growth, assessment of developmental milestones and cognitive development – theory of John Piaget in children. **4.1 Definitions** • Growth and development • Principles of growth • Laws of growth • Differences between growth and development • Factors affecting growth and development **4.2 Stages of growth from fetus to child (*Karu urpathi and* paruvangal*)*** • *Kuzhanthaigalin valarchi paruvangal* in male and female child compared with age and stages of growth in modern aspects like • *Kappu Paruvam* • *Sengeerai Paruvam* • *Thala Paruvam* • *Sappani Paruvam* • *Mutha Paruvam* • *Varugai Paruvam* • *Ambuli Paruvam* • *Sitril Paruvam* in boys • *Siruther Paruvam* in boys • *Siruparai Kottal Paruvam* in boys • *Kazhangu* in girls • *Ammanai/Neeraada*l in girls • *Oonjal* in girls **4.3 Assessment of Physical growth** • Height	2	7	6	4	10

	• Weight • Head circumference • Chest circumference • Mid Arm circumference • Arm span • Upper segment / Lower segment ratio (US/LS ratio) • Tools to assess physical growth • Infantometer • Stadiometer • Baby weighing scale • Weighing machine • Inch tape • Skin fold caliper • Eruption of teeth in children. **4.4 Assessing Developmental Milestones** • Gross motor • Fine Motor • Language • Social and emotional. • Drawing skill at various ages • Block skill at various ages **4.5 Cognitive development – theory of John Piaget** • Sensory motor stage • Preoperational stage • Concrete operational stage • Formal operational stage • Domains including vision and hearing					
5	**Kuzhanthaigalin Valarchi Kuraipadugal (Growth disorders in children)** This topic makes the learner to understand the definitions, disorders of growth like short stature, failure to thrive ,craniosynostosis ,macrocephaly and microcephaly. **5.1 Definitions** • Short stature • Failure To Thrive **5.2 Short stature** • Causes	2	16	5	4	12

	• Types • Clinical features • Investigations including bone age assessment • Diagnosis • Management **5.3 Failure to thrive** • Causes • Types • Clinical features • Investigations • Management **5.4 Craniosynostosis** Definition, causes ,clinical feature, diagnosis and management of • Scaphocephaly • Brachycephaly • Acrocephaly • Plagiocephaly • Trigonocephaly **5.5 Causes, clinical features, diagnosis and management of** • Microcephaly • Macrocephaly					
6	**Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children)** This topic describes the definitions, common developmental disorders ,speech disorders and impact of traditional feeding tools and play toys in the development of children. **6.1 Definition of developmental delay** Causes for congenital anomalies according to *Thirumanthiram.* **6.2 Common developmental disorders** Causes, types, clinical features, complications,	2	16	7	4	14

	investigations, diagnosis, management through internal and external therapies of • *Sirasthamba vatham* (Cerebral palsy) • *Moolai Thiran Kuraivu* (Mental retardation) Causes, types, clinical features, complications, investigations, diagnosis, management through internal and external therapies of • *Mantha Sanni* (Autistic Spectrum Disorders and Attention Deficit Hyperactivity Disorders) Diagnostic tools • Baroda screening test • Denver development screening test **6.3 Speech Disorders** Causes, types, clinical features, investigations and management of • Dysarthria • Apraxia • Speech sound disorder • Fluency disorder • Selective Mutism Definitions of • Stuttering • Stammering • Cluttering **6.4 Traditional feeding tools and play toys influencing child development** • *Sangu* • *Paalaadai* • *Thottil* • *Oonjal* • *Marakuthirai* and their impacts in the development of children					
7	**Kuzhanthaigalin Nadathai Kuraipadugal (Behavioural problems in children)**	2	6	2	1	2

	This topic focusses on the definitions, types of behavioural problems in children and the role of the parents in managing these children. **7.1 Definition and types of behavioural problems and their impact in growth and development in children.** **7.2 Causes, clinical features, management of** • Thumb sucking • Nail biting • Pica **7.3 Causes, types, clinical features and management of** • Temper tantrums • Breath holding spells • Eating disorders **7.4 Good parenting skills**					
8	**Pathin Paruvam (Adolescence)** This topic deals with definitions, phases, developmental characteristics, health and psychological problems and hormonal changes in adolescents and its management. **8.1 Definition of Adolescence** • Stages of adolescence • Sexual maturity rating scale **8.2 Three phases of adolescence** • Early adolescence • Mid adolescence • Late adolescence • Stages of adolescence in tamil literatures • Girls • *Pethai* - 5 - 7 yrs • *Pethumbai* - 8 - 11 yrs • *Mangai* - 12 -13 yrs • *Madanthai* - 14 -19 yrs • *Arivai* - 20 -15 yrs • *Therivai* - 26 - 31 yrs • *Perilampenn* - 32 - 40 yrs • Boys	3	6	3	2	3

	• *Balagan* - 1 - 12 yrs • *Vidalai* - 12 - 24 yrs • *Kaalai* - 24 - 36 yrs • *Meeli* - 36 - 48 yrs • *Maravon* - 48 - 60 yrs • *Thiravon* - 60 - 72 yrs • *Muthumagan* - above 72 yrs **8.3 Developmental characteristics of 3 phases of adolescence based on** • Somatic development • Sexual development • Cognitive and social development including morphological changes in both boys and girls **8.4 Health problems including** Nutritional problems like • Iron deficiency anemia • Eating disorders like • Anorexia Nervosa • Bulimia Nervosa in adolescents and their impacts and management • Sexually transmitted diseases **8.5 Psychological problems in adolescence including** • Anxiety • Depression • Adjustment disorder • Suicidal tendencies and its management • Juvenile Delinquency **8.6 Hormonal changes in adolescence and its impact on their health.**					
9	**Kuzhanthaigalin Iyalpana Ootachathum Ootachathu Kuraipadukalum(Normal Nutrition and Nutritional disorders)** This topic explains about the definitions, protein energy malnutrition, daily requirements, dietary sources, deficiency and hypervitaminosis and management of vitamins, *Paandu* and *Sobai (Oothal Noi),* anemia, obesity and the caloric value	3	17	6	5	9

of common Indian foodstuffs .

9.1 Definition

- Macronutrients and Micronutrients and dietary recommendation in different age groups of children and assessment of nutritional status.

9.2 Protein energy malnutrition (PEM)

- Types (Kwashiorkor, Marasmus, Marasmic Kwashiorkor)
- Clinical features
- Grading
- Investigations
- Complications and dietary management.

9.3 **Daily requirements, dietary sources, deficiency, hypervitaminosis and management of**

- Vitamins - A,D,E,K,B,C and trace elements like zinc, copper, selenium, fluoride.

9.4 *Paandu and Sobai (Oothal Noi)*

Vagaigal (Types),*Varalaru* (causes),*Theerum theera Nilai* and *Maruthuvam* (management) of

- *Vatha pandu*
- *Pitha pandu*
- *Silerpana pandu*
- *Ratha pandu*
- *Thontha pandu*

Varalaru (causes),*Theerum theera Nilai* and *Maruthuvam* (management) of

- *Vatha sobai*
- *Pitha sobai*

Causes, classifications, clinical features, management of -

Anemia including sickle cell anemia and hemophilia in children.

Athithoola rogam (Obesity in children) :

	• *Pancha bootha theory, three humour theory* in obesity. • Role of tastes and gunam in obesity. • Causes, etiopathogenesis, types, clinical features, diagnostic criteria, complications and management of obesity. **9.5 Describe the caloric value of common Indian foodstuffs like** • Milk, rice, cereals, pulses, nuts, grains, green leafy vegetables, seasonal vegetables, root vegetables, fruits, soyabeans, egg, fish, meat, chicken, sugar, oil.					
10	**National Health Programmes related to Children** This topic gives an insight of the national health programmes related to mother and child health and control of nutritional deficiency disorders. **10.1 National health programmes related to mother and child** • Integrated Child Developmental Service Programme (ICDS) • National Rural Health Mission (NRHM) **10.2 National programmes related to control of Nutritional deficiency disorders** • National Nutrition Policy (NNP) • Balwadi Nutritional Programme(BNP) • Mid Day Meal Programme • National Nutritional Anaemia Prophylaxis Program (NNAPP)	3	2	2	1	2
Total Marks			**100**	**50**	**30**	**60**

Paper 2 (KUZHANTHAI MARUTHUVAM (PEDIATRICS) - PAPER II)						
Sr. No	**A2 List of Topics**	**B2 Term**	**C2 Marks**	**D2 Lecture hours**	**E2 Non-Lecture hours Theory**	**F2 Non-Lecture hours Practical**

11	**Seerana Uruppu Mandala Noigal (Gastro intestinal disorders)** This topic focusses on the definition, etiology, clinical features, investigations, diagnosis and management of common gastro intestinal disorders of children including dehydration and its management. *I*yal (Definition), *Noi Varum Vazhi* (Etiology), *Pothu kurigunangal* (Common sign and symptoms), *Vagaigal* (Types), *Maruthuvam* (Management) of **11.1. *Palleeru Noi* (Gingivitis)** **11.2. *Seriyaap paduvan* (Angular Stomatitis)** **11.3. Lactose intolerance** **11.4. Malabsorption syndrome** **11.5. *Akkaram* (Oral ulcers)** **11.6. *Vaanthi (*Vomiting)** **11.7. *Vikkal* (Hiccups)** **11.8. *Seriyaamai* (Indigestion)** **11.9. *Maantham* (Digestive disorders of children)** **11.10. *Kazhichal* (Diarrhoea,Dysentery)** **11.11. Dehydration and its management** **Oral rehydration** **11.12. Approach to pediatric gastro intestinal emergencies** Warning signs and symptoms of various gastro intestinal disorders. Pediatric accidental poisoning and its management.	1	11	8	4	13
12	**Suvaasa Noikal (Respiratory Disorders)** This topic deals with the definition, etiology,	1	11	6	4	12

	pathophysiology ,clinical features, investigations, diagnosis and management of upper and lower respiratory disorders in children. *Iyal* (Definition), *Noi Varum Vazhi* (Etiology), *Pothu Kurigunangal* (Common sign and symptoms), *Vagaigal* (Types), *Maruthuvam* (Management) of **12.1. *Kanam* (Respiratory disorders in children)** **12.2. *Iraippu irumal* (Bronchial Asthma)** **12.3. *Mel suvasa pathai noiga*l (Upper respiratory tract Infections - URTI)** **Rhinitis (common cold)** ***Peenisam* (Sinusitis)** ***Mookadiyan azharchi* (Adenoiditis)** ***Kural valai azharchi* (Acute pharyngitis or Tonsillo pharyngitis, Epiglottitis and Laryngitis)** **12.4. *Keezh suvasa pathai noiga*l (Lower Respiratory Tract Infections-LRTI)** ***Suvasa thotru* (Croup)** ***Moochu kuzhal azharchi* (Bronchiolitis)** ***Nurai eral kaatru pai thotru* (Pneumonia)** ***Muthanmai kasa noi* (Primary complex)** **12.5. *Swasa Muttal Noigal* (Acute respiratory distress syndrome - ARDS**)					
13	**Thamaraga Noikal (Cardio Vascular disorders)** This topic describes the definition, etiology, types, hemo dynamics, clinical features, complications, investigations, and management of congenital heart diseases. Definition, etiology, types, hemo dynamics, clinical features, complications, investigations, and management of	1	10	4	5	10

	13.1.Congenital cardiac diseases- classification **13.2.Cyanotic heart diseases** **Tetrology of Fallot** **Tricuspid atresia** **Ebstein Anomaly** **Transposition of great vessels** **Total anomalous pulmonary venous congestion** **13.3. Acyanotic heart diseases** **Atrial septal defect** **Ventricular septal defect** **Patent ductus arteriosus** **Coarctation of the aorta**					
14	**Narambu mandala Noikal (Neurological disorders)** This topic explains the definition, etiology, pathophysiology, classification, clinical features, investigations, diagnosis and management of neurological disorders in children and their long term outcomes. Introduction, *Noi varum vazhi* (etiology),*Vagaigal* (types),*Kurikunangal* (clinical features),*Maruthuvam* (management) of **14.1.*Baala vaatham*** **14.2.*Valippu*** **14.3.*Sanni vatham* (Delirium)** **Definition, etiology, pathophysiology, classification, clinical features, investigations, diagnosis and management of** **14.4.*Bala pakka vatham* (Infantile hemiplegia)** **14.5.*Sanni vaatha Thalai Nokkaadu***	1	11	6	5	15

	(Meningitis,Encephalitis) **14.6.Hydrocephalus** **14.7.Mental retardation**					
15	**Thotru Noikal (Infectious Diseases)** This topic describes the definition, etiology, pathophysiology, clinical features, investigations, diagnosis and management of common infectious diseases in children including helminthic infections. *Iyal* (definition), *Noi varum vazh*i (etiology), *Pothu kurigunangal* (clinical features),*Vagaigal* (types), *Maruthuvam* (management) of **15.1.*Suram*** Definition, etiology, pathophysiology, clinical features,investigations, diagnosis and management of **15.2.*Kirumi suram*** **A. (Common Bacterial infections in children)** ***Vali keel vayu suram* (Rheumatic fever),** ***Kakkuvan Irumal* (Whooping cough/ Pertussis),** ***Thondai adaipan noi(*Diphtheria),** ***Aama suram* (Typhoid fever)** **B.Common Viral infections in children** ***Kamalai* (Viral Hepatitis)** ***Ilampillai Vatham* (Poliomyelitis)** **Tha*ttammai* (Measles)** ***Poottu thaalamma*i (Mumps)** ***Vil vatha sanni* (Tetanus)** ***Ammai suram* (Chicken pox)**	2	8	8	5	8

	Respiratory syncytial virus (RSV) infection **Dengue fever** **Acquired Immuno deficiency syndrome (AIDS) in Children** **Severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2) infection** **Bird's Flu** **Swine Flu** **15.3.*Kudal puzhu noigal* (Helminthic infestations)** **Amoebiasis** ***Naaku poochi* (Ascariasis/ round worm)** ***Keeri Poochi* (Pin worm)** ***Masarai Poochi* (Whip worm)** **Giardiasis** **Hook worm** **Taenia Species** **Parasitic infection - Malaria**					
16	**Janana Uruppu Mandala Noikal (Genito Urinary Disorders)** This topic deals with the definition, etiology, pathophysiology, clinical features, investigations, diagnosis and management of Genito urinary disorders in children. *Iyal* (definition),*Noi varum vazhi* (etiology),*Pothu kurigunangal* (clinical features),*Vagaigal* (types), *Maruthuvam* (management) of **16.1.*Neerkattu*** Definition, etiology, pathophysiology, clinical features, investigations, diagnosis and management of	2	5	2	2	5

	16.2.Congenital defects of Genito urinary system **16.3. Enuresis** **16.4. Encopresis** **16.5.Acute Glomerulo Nephritis** **16.6. Nephrotic Syndrome**					
17	**Thasai Matrum Enbu Kuraipadugal (Musculo skeletal disorders)** This topic elaborates the definition, etiology, pathophysiology, clinical features, investigations, diagnosis and management of musculo skeletal disorders in children. Definition, etiology, pathophysiology, clinical features, investigations, diagnosis and management of **17.1. Muscular dystrophy** **17.2. Lordosis** **17.3. Kyphosis** **17.4. Scoliosis**	2	10	3	2	10
18	**Marabanu Kuraipadugal (Genetic disorders)** This topic explains the definition, etiology, pathophysiology, clinical features, investigations, diagnosis and management of common genetic disorders in children. Definition, etiology, pathophysiology, clinical features, investigations, diagnosis and management of **18.1.Chromosomal abnormalities** **Down's syndrome (Trisomy 21)** **Patau syndrome (Trisomy13)** **Edwards syndrome (Trisomy 18)** **Fragile X Syndrome,**	2	7	8	2	5

	Klinefelter Syndrome, **Turner Syndrome.** **18.2. Cystic fibrosis**					
19	**Naalamillaa Surappigalin Kuraipadugal (Endocrine disorders)** This topic focusses on the definition, etiology, pathophysiology, clinical features, investigations, diagnosis and management of endocrine disorders in children. Definition, etiology, pathophysiology, clinical features, investigations, diagnosis and management of **19.1. Cushing's syndrome** **19.2.*Balar madhumega Noi* (Juvenile diabetes mellitus)** **19.3.*Kurai veethana kolarugal* (Congenital Hypo thyroidism**)	2	5	2	1	7
20	**Thol Noigal (Skin Diseases)** This topic focuses on the definition, etiology, types, pathophysiology, clinical features, investigations, diagnosis and management of common skin infections in children. *Iyal* (Definition), *Noi varum vazhi* (etiology), *Pothu kurigunangal* (Common signs and symptoms), *Vagaigal* (types), *Maruthuvam* of **20.1.*Karappan*** **20.2.*Sirangu* (Scabies)** Definition, etiology, pathophysiology, types, clinical features, investigations, diagnosis and management of **20.3.Atopic dermatitis** **20.4. Diaper rashes** **20.5 Umbilical infection**	3	10	4	3	13

	20.6 Impetigo **20.7 Psoriasis** **20.8.Insect bites**					
21	**Sevi mooku thondai & Kann Noikal (ENT and Eye diseases)** The topic describes the definition, etiology, clinical features, complications, investigations and management of common ENT diseases in children. Definition, etiology, clinical features, complications, investigations and management of **21.1. *Sevi Noikal* (Common ear infections)** ***Sevi azharchi* (Otitis Media – Acute and Chronic)** ***Sevi kuthu* (Approach to ear pain)** **21.2. *Mooku Noi* (Common nasal conditions)** ***Sala Peenisam* (Rhinorrhea)** ***Mooku ratha ozhuku* (Epistaxis)** ***Nasikaa peedam* (Nasal polyp)** **Septal deviation** **21.3. *Kuralva?ai noi* (Common throat disorder)** ***Lasuna Thabitham* (Tonsilitis)** **21.4. *Kan Noigal* (Common Eye disorders)** **Congenital cataract** ***Maalaikan (*Nyctalopia)** **Myopia** **Ophthalmia neonatorum (*Amaram*)**	3	5	5	2	7
22	**Piravi Kuraipaadugal (Congenital birth defects)**	3	5	2	1	5

	This topic equips the learner to understand the definition, etiology, clinical features, investigations, diagnosis and management of common congenital birth defects . Definition, etiology, clinical features, investigations, diagnosis and management of **22.1 .Cleft lip and Cleft palate** **22.2. Congenital talipes equinovarus (Club foot)** **22.3. Osteogenesis imperfecta** **22.4. Imperforate Anus**					
23	**Varmam Matrum Pura Maruthuvam** This topic deals with the external therapies and varmam therapy used in special children and therapies used for common ailments in children 23.1.External Therapies in children **T*hokkanam*** ***Podi thimirthal*** ***Nasiyam*** ***Otradam*** ***Pugai*** ***Mai*** ***Poochu*** ***Pottanam*** ***Kattu*** ***Varma pulligal thoondal***	3	2	2	4	0
Total Marks			**100**	**60**	**40**	**110**

Table 3 : Learning objectives of Course

Paper 1 (KUZHANTHAI MARUTHUVAM (PEDIATRICS PAPER) -1)										
A3 Course outcome	**B3 Learning Objective (At the end of the session, the students should be able to)**	**C3 Domain/sub**	**D3 MK / DK / NK**	**E3 Level**	**F3 T-L method**	**G3 Assessment**	**H3 Assessment Type**	**I3 Term**	**J3 Integration**	**K3 Type**
Topic 1 Pachilam Kuzhanthaiyin Paramarippu (Care Of New Born) (LH :9 NLHT: 4 NLHP: 3)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO1	Define and compare neonatal, perinatal, postnatal period, term baby, preterm baby, live birth and still birth.	CK	MK	K	L&PPT	S-LAQ	F&S		-	LH
CO1	Explain the five components of APGAR score.	CC	MK	KH	L_VC	VV-Viva,P-RP	F&S		-	LH
CO1	Describe moro reflex,startle response,rooting and sucking reflex,glabellar reflex,grasp reflex, tonic neck reflex and their significance.	CC	MK	KH	L_VC	P-PRF,P-VIVA	F&S		-	LH
CO1	Demonstrate the neonatal reflexes in newborn with their significance.	PSY-GUD	DK	KH	RP	DOPS,DOPS	F&S		-	NLHT1.1
CO3	Describe the Iyal, *Noi varum vazhi, Vayathu, Kurikunangal, Vagaigal, Maruthuvam* and complications of *Kiranthi and Thodam and Pura karana noigal.*	CC	MK	K	L&GD	VV-Viva,T-OBT	F&S		-	LH
CO3	Recite the verses of the different types of *Thodam* and explain the meaning.	CK	MK	SH	REC,FC	P-REC	F&S		-	NLHT1.2
CO1	Illustrate the steps in caring the baby immediately after birth including feeding, washing, dressing, sleeping and caring of umbilical cord.	CC	MK	KH	L,RP	M-POS,M-CHT	F&S		V-NAVO	LH

CO1	Design a model of newborn care unit and demonstrate its functions.	PSY-GUD	DK	KH	D-M,PrBL	M-MOD	F&S		-	NLHT1.3
CO1	Classify low birth weight babies according to weight and describe the types,characteristics, complications and management .	CK	MK	KH	L	VV-Viva	F&S		-	LH
CO1	Recognize the significance of TORCH infections in newborn.	CK	MK	KH	TBL,L&GD,BL	C-VC,INT,CL-PR,T-CS	F&S		-	LH
CO1	Enumerate the herbal medicines used in the infections of umbilical cord.	CAP	MK	K	FC,DIS	M-CHT,QZ	F&S		-	NLHT1.4
CO1	Describe the causes ,types, clinical manifestations, risk factors, complications and management of neonatal jaundice, neonatal seizures, hypoxic ischemic encephalopathy, meconium aspiration syndrome and hyaline membrane disease.	CC	MK	KH	L,BL	T-OBT,OSCE, C-VC,S-LAQ,CBA	F&S		-	LH
CO1	Describe the clinical features,diagnosis,management and prevention of ABO and Rh incompatibility.	CC	MK	KH	GBL,PBL,L&PPT ,CBL	T-OBT,OSCE,CBA,DEB,QZ	F&S		-	LH
CO1	Demonstrate the resuscitation steps in a distressed newborn on manikin.	PSY-GUD	DK	SH	TBL,GBL,RP	SP	F&S		-	NLHT1.5
CO1, CO6	Perform a detailed history taking including registering the history of present illness,antenatal and birth history,feeding history, Immunization history and socioeconomic history in newborn.	PSY-GUD	MK	SH	D-BED	P-EXAM,OSPE,P-VIVA,SP,P-PRF	F&S		-	NLHP1.1
CO1, CO6	Perform the assessment of the length, weight, head circumference,chest circumference , mid arm circumference of a newborn .	PSY-GUD	MK	SH	D-BED	Log book,P-EXAM,DOPS,DOPS,P-VIVA	F&S		-	NLHP1.2

CO1, CO6	Perform the assessment of vital signs in newborn.	PSY-GUD	MK	SH	D	P-PRF,P-EXAM	F&S		-	NLHP1.3
CO1, CO6	Perform the system wise examination in newborn and record the findings.	PSY-GUD	MK	SH	D-BED	DOAP,P-EXAM,P-VIVA	F&S		-	NLHP1.4
CO1, CO6	Enumerate the common step wise procedures to be followed in clinical examination of a child pertaining to all systems.	PSY-GUD	MK	SH	D-BED	RK,SP,P-VIVA,DOAP,Log book	F&S		-	NLHP1.5

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 1.1	Demonstration of neonatal reflexes.	The teacher explains how to demonstrate neonatal reflexes so that the students can understand and recall the refexes . Roleplays : Divide the students into small groups.Assign different reflexes to each group. Each group acts out the reflex . The other students have to guess which reflex is being demonstrated. Duration : 60 minutes.
NLHT 1.2	Recitation of poems	Flipped classroom activity : The teacher assigns set of verses from each type of *Thodam* and its meaning to read at home. Group recitation : In classroom the teacher divide the students into small groups . Each group takes turns reciting the verses in front of the class . They should focus on delivering the verse with correct pronounciation and understanding the meaning. The teacher assess the best performance. Duration : 30 minutes.

NLHT 1.3	Designing a newborn care unit.	Project based learning : Divide the students into groups and they are assigned the project of designing a new born care unit . Pre class activity : Model building : The students should create a model of newborn care unit using cardboards and other required materials at home. In class activity : Each group present and explain their models before the class. . Duration : 60 minutes.
NLHT 1.4	Identification and documentation of herbal medicines for umbilical cord infections.	The teacher explains about the herbal medicines and the students understand the same through activities. Flipped classroom activity : Pre-class activity: The teacher assigns reading material on commonly used traditional herbal medicines for umbilical cord infections and guiding questions on the preparatory methods and scientific evidence supporting the efficacy of the medicines. In class activity : Group discussions : The students are divided into small groups to discuss the findings. Each group should discuss about the efficacy of commonly used herbal remedies for umbilical cord infections and how to apply it in patients. The students should record their findings. The teacher assess their participation and the findings and feedbacks. Duration : Group discussions : 30 minutes.
NLHT 1.5	Resuscitation of distressed newborn.	The teacher explains the steps of neonatal resuscitation in different scenarios to the students so that they can have a hands on realistic environment to practice critical skills .

		Game based learning : Neonatal resuscitation flow chart puzzle - Provide the students with a laminated scrambled version of neonatal resuscitation programme flowchart cards and ask them to arrange the steps in the correct order quickly. Duration : 20 minutes. Team based learning - Present the students a complex resuscitation case and make the students to decide the steps of resuscitation in order. Quiz programmes to reinforce knowledge of resuscitation steps. Duration : 20 minutes. Role playing using a mannequin or doll for practice. Duration : 20 minutes.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 1.1	Newborn history taking.	The teacher describes how to carry out a detailed history taking including registering history of present illness, antenatal and birth history, feeding history, Immunization history and socioeconomic history in newborn. The students carry out the same under the guidance of the teacher. Follow the relevant preparatory steps. Ask about the chief complaints and duration. Ask about the antenatal history,birth history. Enquire about the feeding history. Enquire about the immunization history and socio - economic history. Summarize and document the findings in the case records. Duration : 30 minutes.
NLHP 1.2	Assessment of physical growth.	The teacher teaches how to measure the physical growth using appropriate tools and the students will perform the same in cases.

		Follow the common preparatory procedures. Procedure : Have all the measuring tools in hands. Measurement of weight using a weighing machine. Measurement of length using a infantometer. Measurement of chest circumference, head circumference and mid upper arm circumference using a measuring tape. Plot the measurements in growth charts and document the findings in record book. Duration : 30 minutes.
NLHP 1.3	Assessment of vital signs.	The teacher explains how to to record the the vital signs in a newborn with the appropriate tools and then the students demonstrate the same in cases. Follow the common preparatory procedures. Procedures : Explain the mother about the clinical procedure. Record the temperature using a thermometer. Count the pulse rate. Count the respiratory rate and observe the chest movement. Record the blood pressure using a B.P apparatus with a pedeatric cuff. Document the vital signs. Duration : 30 minutes.
NLHP 1.4	Systemwise examination of newborn.	The teacher explains about the system wise examination of a newborn which includes observation, physical examination of the newborn from head to toe. The students are then made to demonstrate the same under the guidance of the teacher with the appropriate tools. Preparation : Follow the common preparatory procedures before starting the examination. Have a torch, stethoscope, reflex hammer, gloves, sanitizer.

		Procedure : Observe the general appearance of the child. Conduct Examination of the head. Conduct examination of neck and thorax. Conduct examination of cardio vascular system. Conduct examination of abdomen. Conduct musculo skeletal examination. Conduct neurological examination. Conduct genital and anal examination. Document the findings. Record the findings in the case records. Duration : 1 hour.
NLHP 1.5	Common preparatory procedures in clinical examination.	The teacher explains about the preparatory procedures to be followed before performing the clinical examination and the students should follow the same in all systemic clinical examinations. Preparation for clinical examination : Create a comfortable and warm environment. Have all the well sanitized necessary tools on hands appropriate to the examination. Position the child correctly. Use a firm and flat surface. Introduce yourself and greet the child and mother in a friendly language. Explain all the procedures to the mother. Obtain verbal consent from the mother. Stand on the appropriate side of the patient. Duration : 30 minutes.

Topic 2 Pachilam Matrum Ilam Kuzhanthaigalin Unavu (Feeding in Infants and Young children) (LH :5 NLHT: 2 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3

CO1	Define and classify exclusive breast feeding, predominant breast feeding, partial breast feeding.	CK	MK	KH	L&PPT	T-OBT,PUZ,QZ	F&S		-	LH
CO1	Define colostrum.	CK	MK	K	L&GD	VV-Viva,O-QZ	F&S		-	LH
CO1	Define and differentiate transitional milk, mature milk, fore milk, hind milk .	CK	MK	K	L&PPT	CL-PR,QZ ,VV-Viva	F&S		-	LH
CO1	Define preterm milk.	CK	MK	K	L	INT,VV-Viva	F&S		-	LH
CO1	Review and recall the composition of breastmilk.	CC	MK	KH	L&PPT ,FC	M-CHT	F&S		-	LH
CO1	Enumerate the differences between breastmilk, cow’s milk and milk formula.	CC	MK	K	FC,ML	DEB	F&S		-	LH
CO1	Discuss the advantages of breast milk.	CC	MK	KH	TBL,L&GD,FC	T-OBT,DEB,CR-RED, M-POS	F&S		-	LH
CO1	Describe the positions of breast feeding.	CC	MK	KH	FC,L	M-POS	F&S		-	LH
CO1	Explain the common conditions that affects breast feeding and its management.	CK	MK	K	FC,CBL ,L&PPT ,ML	PM,CR-RED,M-POS,T-OBT,PRN	F&S		-	LH
CO1	Justify lactation failure and its types, causes and prevention.	CK	MK	K	L&GD	CBA,CL-PR	F&S		-	LH
CO1	Describe the indications for expressing breastmilk and steps of milk expression.	CK	MK	KH	L&PPT ,PBL	M-CHT,T-CS,CL-PR, C-VC,VV-Viva	F&S		-	LH

CO1	Characterize breast milk on the basis of physical configuration of mothers.	CK	DK	K	L&GD	VV-Viva	F		-	LH
CO1	Classify the frequency of feeding as per Siddha literatures.	CC	MK	KH	L	T-OBT,VV-Viva	F		V-NAVO	LH
CO1	Explain the psychological conditions of mother affecting breastfeeding as per Siddha concepts.	CC	DK	K	TBL	T-OBT,VV-Viva	F&S		V-NAVO	LH
CO1	Describe the health conditions and precautions advised in Siddha to be followed by mother during breastfeeding.	CC	MK	KH	LS,FC,TBL,L&GD	T-OBT,CL-PR,M-CHT,VV-Viva	F&S		-	LH
CO1	Explain the dilution of cow's milk when used as alternative for breastmilk.	CC	DK	KH	L	VV-Viva	F&S		V-NAVO	LH
CO1	List the herbs and medicines to increase breast milk secretion.	CK	MK	K	L&GD	M-POS,T-OBT,CR-RED,CL-PR,M-CHT	F&S		V-GMM	LH
CO1	Define weaning and complementary feeding.	CK	MK	K	PrBL,L	M-POS,CR-RED	F&S		-	LH
CO1	Enumerate the attributes of an ideal complementary food.	CK	MK	K	L&GD	M-CHT	F&S		-	LH
CO1	List the common complementary foods to be given to infants.	CK	MK	K	BS,DIS	M-POS	F&S		-	NLHT2.1
CO1, CO6	Perform a detailed breast feeding history to assess the nutritional status of the child.	PSY-GUD	MK	SH	SIM	INT,Log book,RK,CHK	F&S		-	NLHP2.1
CO1, CO6	Conduct breast examination of the mother for common breast feeding complications.	PSY-GUD	MK	SH	CBL,PER,PSM	P-VIVA,RK,Log book	F		-	NLHP2.2
CO1,	Formulate a management plan for enhancing lactation through	CS	MK	KH	PER,TP	RK,CL-	F&S		-	NLHT2.2

CO6	herbal medicines and external therapies.				W	PR,INT				
CO1, CO6	Develop a personalized weaning plan in infants.	CS	MK	SH	CBL,RP	Log book,RK	F&S		-	NLHP2.3
CO1, CO6	Discuss the nutritionally balanced complementary foods and the appropriate age of introducing them.	CC	MK	K	L&PPT ,GBL	VV-Viva,M -CHT,M-M OD,CHK,T-OBT	F&S		-	LH

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 2.1	Preparation of a list of common complementary foods.	The teacher makes the students to identify, understand and prepare a list of complementary foods suitable for infants and the students create a list. Brainstorming session : The students are asked to share examples of complementary foods they know which have high nutritive value. Class presentation and discussions : Then the students should organize their findings into a chart or table with columns of food name, age of the child and nutritional benefits . They can also create posters or digital presentations with images of the foods Duration : 60 minutes.
NLHT 2.2	Designing a lactation enhancement plan.	The teacher encourage students to create and design management plans incorporating herbal medicines considering evidence based practices. Team project work : The students are assigned the list of common herbs used as internal and external to increase breastmilk secretion. They should identify the mechanism of action,efficacy of the herbs and based on this create a management plan that contains the type,dose and preparation of the medicine.

		Duration : 30 minutes. Presentations : Each group should present their plan to the class and highlight the rationale for chosen medicines. The findings are documented. Duration : 30 minutes.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 2.1	Breast feeding history taking.	The teacher teaches the questions to be asked to perform a detailed breast feeding history and the students perform the examination. Simulation : Use a volunteer to simulate. The students are divided into groups. Each group should ask questions about the feeding frequency,duration,breast preference,milk supply,baby's behaviour and latch and about supplementary feeds. The students document the gathered information and can create a checklist. Duration : 60 minutes.
NLHP 2.2	Breast examination	The teacher explains how to conduct breast examination for common breast feeding complications and the students should demonstrate the same. Case based learning : The teacher provides detailed case studies of breast feeding complications like mother with mastitis,nipple trauma and pain,and engorgement. The students should analyze the case , identify the problem and explain the steps like visual inspection, gentle palpation of breasts and lymph nodes. The students should document their findings. Duration : 60 minutes.

NLHP 2.3	Development of weaning plan.	The teacher teaches about the concept of weaning and how to educate the mothers and develop a personalized weaning plan in infants. Case based learning : Provide the students with a detailed case study of infants of different age groups from 6 months to 1 year. Students have to create a weekly weaning chart including types of foods, feeding schedule, quantity of food to be given considering real life challenges. Duration : 30 minutes. Roleplays : Students explain their plans by roleplays as mother and physician . They have to document their ideas. Duration : 30 minutes.

Topic 3 Vaccine Preventable diseases (Immunization) (LH :5 NLHT: 3 NLHP: 2)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1	Classify immunization, vaccination, vaccines and cold chain.	CK	MK	K	ML,L& PPT	QZ ,VV-Viva,T-OBT	F&S		-	LH
CO1	Distinguish active and passive immunization.	CK	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO1	Appraise and differentiate the national immunization schedule including IAP schedule and explain the methods of storage of vaccines (cold chain).	CC	MK	K	L	VV-Viva,M-CHT	F&S		-	LH
CO1	Describe the contents, dose, route, site, age of administration, adverse reactions of bacillus calmette - guerin (BCG), polio vaccine (OPV), diptheria, tetanus, pertussis vaccine (DTP).	CC	MK	KH	L&PPT	T-OBT,VV-Viva	F&S		-	LH
CO1	Describe the contents ,dose, route and site,age of administration, adverse reactions of haemophilus influenza vaccine (Hib),	CC	MK	KH	L&PPT	T-OBT,VV-Viva,PUZ	F&S		-	LH

	pneumococcal conjugate vaccine (PCV).									
CO1	Describe the contents, dose, route and site,age of administration, adverse reactions of rotavirus vaccine.	CK	MK	KH	L&PPT	QZ ,VV-Viva	F&S		-	LH
CO1	Describe the contents, dose, route and site,age of administration, adverse reactions of measles, mumps, rubella vaccine (MMR) .	CK	MK	KH	L&PPT	WP,VV-Viva	F&S		-	LH
CO1	Describe the contents, dose, route, site,age of administration, adverse reactions of Hepatitis A,B vaccine .	CK	MK	KH	L&GD	PUZ,T-OBT,VV-Viva	F&S		-	LH
CO1	Describe the contents, dose, route, site, age of administration, adverse reactions of typhoid vaccine.	CK	MK	KH	L&PPT	QZ ,VV-Viva,T-OBT	F&S		-	LH
CO1	Describe the contents, dose, route, site, age of administration, adverse reactions of japanese encephalitis vaccine .	CK	MK	KH	L&PPT	O-QZ,S-LAQ	F&S		-	LH
CO1	Interpret combination vaccine.	CC	MK	KH	L&PPT	T-OBT,CL-PR,PUZ,SA	F&S		-	LH
CO1	Name the vaccines to be administered in pregnancy.	CK	MK	K	L	VV-Viva,PUZ,INT,CL-PR,T-OBT	F&S		-	LH
CO1	Identify the principles of immunization in Siddha (*Kaappu*) that enhance the immunity in children.	PSY-GUD	DK	SH	PER,FC	QZ ,CL-PR	F		-	NLHT3.1
CO1	Summarize the preparation of *Urai mathirai and Sei Nei.*	CC	MK	KH	DIS,L	M-POS,M-CHT	F&S		-	LH
CO1	Evaluate the immunization records of children to check if they are immunized correctly upto the age.	CE	MK	KH	TBL	P-EXAM,Log book,VV-Viva,RK,P-VIVA	F&S		-	NLHP3.1

CO1	Document the detailed immunization history of the child upto the age.	CAP	MK	KH	TBL	P-EXAM,P-VIVA,Log book,RK	F&S		-	NLHP3.2
CO1	Explain the role of traditional practices like oil bath,tying *Vasambu kappu*, yellow twine and *Kulisam* in the hands of children to strengthen immunity.	CC	DK	SH	TBL,PER	M-POS,CL-PR,CR-RED,RK	F		-	NLHT3.2
CO1	Prepare and administer *Urai mathirai* and *Sei nei* to children in outpatient (OP) and inpatient (IP) departments.	PSY-GUD	MK	KH	PT,TBL	Log book,P-VIVA,M-CHT,P-REC,RK	F&S		-	NLHP3.3
CO1	Integrate Siddha principles with modern immunization principles to develop strategies to enhance immunity.	CAP	MK	KH	TBL,ML,PER	CR-W,Log book,RK	F		-	NLHT3.3
CO1, CO7	Conduct counselling to create awareness about Siddha principles of immunization among school children and public.	AFT-VAL	MK	KH	RP,TBL	Log book,P-RP,RK	F&S		-	NLHP3.4

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 3.1	Identification of Siddha immunization priciples.	The teacher explains the fundamentals of Siddha Immunization Principles and make the students to present their ideas . Flipped classroom : Pre - classroom activity : The students are assigned with reading resources like books, watching videos on Siddha principles of immunity. They should be guided to focus on key principles of Siddha immunity like role of *Uyirthathukkal* ,seasonal regimens and herbs in immunity. In class activity: Conduct quiz to assess the understanding of students. The students deliver seminars to present their findings to the class.

		Students should write a short notes on their understanding. Duration : 60 minutes
NLHT 3.2	Traditional practices to strengthen immunity.	The teacher helps students to explore and critically evaluate the traditional practises that increase immunity in children . Team based learning : The students are divided into teams and each team is assigned topics on different traditional practices. The students should refer different resources like books and digital materials . Presentations : The students deliver seminars and explain the concepts, mechanism and efficacy of the practices to the class. The students can create posters on the topic. Duration : 60 minutes.
NLHT 3.3	Integration of Siddha and modern principles of immunization.	The teacher encourages students to read journals and integrate Siddha principles with modern immunization methods. Team based learning and group discussions : The teacher divides the class into small groups and assign each group with differnt topics like natural immuno modulators, principles of Siddha immunology and modern immunization principles. The students research their assigned topic using books, internet, articles. The students prepare and present their brief summary and suggestions for integration. Duration: 60 minutes.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 3.1	Evaluation of immunization records.	The teacher teaches how to evaluate the immunization records of the child and check if immunization is done upto the age .

		Team based learning : Follow the preparatory methods. Procedures : Enquire about the age of the child. Verify Patient details. Check the Immunization record for missing doses according to the recommended schedule. Check if the vaccines are administered at the correct age. Duration : 30 minutes.
NLHP 3.2	Documentation of immunization history.	The teacher teaches how to document the immunization history in case records and the students do the same. Preparation : Create a comfortable environment. Use a pediatric friendly language. Introduce and create a good rapport with the mother. Procedure : Enquire about the age of the child. Check the the schedule of vaccinations given up to the age of the child. Enquire about any adverse reactions after any vaccination in the child. Document the records. Maintain a case record to document the findings . Duration : 30 minutes.
NLHP 3.3	Administration of *Urai mathirai* and *Sei nei.*	The teacher explains the preparation of the drugs *Urai mathirai and Sei ne*i and the students prepare the drugs and administer them to the patients and document the findings. Team based learning : Step 1 : Make the students to study the preparation and collect the raw drugs. Step 2. : Make the students to prepare and store the drugs *Urai Mathirai* and *Sei nei* following all safety and sterile measures .

		Step 3 : Make them to administer the drugs to infants in OP and IP departments. Step 4 : Educate the parents about its therapeutic significance. Step 5 : Document the findings and feedbacks from mothers. Duration : 30 minutes.
NLHP 3.4	Counselling on Siddha immunization principles.	The teacher teaches students how to conduct counsellings to create awareness about Siddha principles of immunization among school children and public Team based learning and Roleplay : Divide the class into small groups. Assign roles as Siddha expert,public member . They act focusing on importance of immune principles of Siddha and their benefits and educating the parents. Then the feedbacks are recorded . Duration : 30 minutes.

Topic 4 Kuzhanthaigalin Iyalpana Udal Matrum Thiran Valarchi Nilaigal(Normal growth and development in children) (LH :6 NLHT: 4 NLHP: 10)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2	Define growth and development.	CK	MK	K	L&PPT	QZ ,PUZ	F&S		-	LH
CO2	Explain the principles and laws of growth.	CC	NK	KH	L&PPT	INT	F&S		-	LH
CO2	Differentiate between growth and development and factors influencing growth and development.	CC	MK	K	L	INT,O-QZ	F&S		-	LH
CO2	Elaborate the stages of fetal growth as per the text *Agathiyar Vaithya Vallathi* 800.	CC	DK	K	DIS,PER,LS	VV-Viva,CL-PR	F		H-SMM	NLHT4.1
CO2	Compare the concept of *Paruvanga*l in male and female children with modern developmental milestones.	CS	NK	SH	BL,GBL,PER,TBL	INT	F		-	NLHT4.2

CO2	Explain the methods of assessing physical growth – height, weight, head circumference , chest circumference, mid arm circumference, US:LS ratio, arm span, body mass index and eruption of teeth.	CC	MK	KH	L&PPT ,L_VC	VV-Viva	F&S		-	LH
CO2	Define developmental milestones.	CK	MK	KH	L,L_VC	VV-Viva	F&S		-	LH
CO2	Describe the gross motor and fine motor milestones.	CC	MK	KH	L_VC	CHK,INT	F&S		-	LH
CO2	State the social and adaptive developmental milestones.	CC	MK	KH	L_VC	CHK,CL-PR	F&S		-	LH
CO2	Explain the language developmental milestones.	CC	MK	KH	L_VC	CHK,QZ	F&S		-	LH
CO2	Interpret the special domains of vision and hearing.	CC	MK	KH	L_VC	CL-PR,CHK	F&S		-	LH
CO2	Explain the theories on developmental stages by John Piaget.	CC	NK	KH	L	CL-PR	F		-	LH
CO2	Describe the steps to assess the developmental mile stones in children.	CC	MK	SH	GBL,RP	WP,INT	F&S		-	NLHT4.3
CO2, CO6	Perform the assessment of physical growth including height, weight, head circumference, chest circumference, upper mid arm circumference, arm span, upper segment / lower segment ratio (US/LS ratio) and vital signs in children with developmental delays.	PSY-GUD	MK	SH	CBL,D-BED	Mini-CEX, RK,OSPE, Log book,CHK	F&S		-	NLHP4.1
CO6	List the tools used for physical assessment.	CK	MK	K	L&PPT ,FC	M-MOD,Log book,VV-Viva,O-QZ,M-CHT	F&S		-	LH

CO2, CO6	Organize a comprehensive gross motor developmental assessment in children.	PSY-GUD	MK	SH	CBL,D-BED	DOAP,Log book,CHK,P-EXAM,P-VIVA	F&S		-	NLHP4.2
CO2, CO6	Conduct a comprehensive fine motor developmental assessment in children.	PSY-GUD	MK	SH	D-BED, CBL	Log book,CHK,Mini-CEX,P-EXAM,P-VIVA	F&S		-	NLHP4.3
CO2, CO6	Conduct a comprehensive language developmental assessment in children.	PSY-GUD	MK	SH	D-BED, CBL	P-EXAM,RK,P-VIVA,Log book,CHK	F&S		-	NLHP4.4
CO2, CO6	Conduct a comprehensive social and emotional developmental assessment.	PSY-GUD	MK	SH	D-BED, CBL	Mini-CEX, RK,Log book,P-CASE,DOPS	F&S		-	NLHP4.5
CO2, CO6	Explain developmental screening tests.	CK	MK	K	TBL,L &PPT	VV-Viva	F&S		-	LH
CO2, CO6	Explain the methods to identify and understand the long term outcomes of developmental delays.	CC	MK	SH	CBL,RP,D-BED	Log book,INT,CL-PR,RK	F&S		-	NLHT4.4

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 4.1	Description of fetal growth as per literature.	The teacher make the students to read the literatures in library on the fetal stages including *Agathiyar vaidhya vallathi* book , have group discussions and to corelate with scientific literatures.

		Library Session : The students are divided into groups and each group gathers information using the library resources.They use the catelogs and indexes to locate the resources and take notes. Group discussions : The groups share their findings through brief presentations. Duration : 60 minutes.
NLHT 4.2	Comparison of *Paruvangal* of children with developmental milestones.	The teacher explains about the concept of *Paruvangal* in male and female children and comparing them with the modern developmental milestones Blended learning : The students are divided into two groups . Assign each group a specific domain of development. One group researches on Siddha concepts and other on modern concepts using digital resources and texts. The groups present their comparison findings to the class. Duration : 30 minutes. Game based learning : Create flashcards with descriptions of developmental milestones and the corresponding *Paruvangal* of male and female children. The students are divided into groups and they match the cards. Points are awarded for correct matches. Duration : 30 minutes.
NLHT 4.3	Assessment of developmental milestones.	The teacher teaches the students how to focus on active learning,group work in assessing developmental milestones for better understanding and performance in clinical set up. The students are divided into groups and made to perform the tasks. Role plays - Use role cards,case scenarios. Create cards with al developmental milestone written in it and give it to students. The students are presented with case scenarios with developmental delays and the students should mark the relevant card containing the milestone.

		Find out which team finishes all cards first. Duration : 30 minutes. Toy based assessment - Provide with blocks,balls and ask the students to simulate testing of gross motor skills Interactive games - Create milestones cards and match them with age Duration : 30 minutes.
NLHT 4.4	Identification and understanding of long term outcomes of developmental delays.	The teacher explains how to identify the long term outcomes of developmental delays. The students follow the instructions and perform the steps. Roleplays : The students are assigned the roles of a child, parent and physician. They act by asking relevant questions which focuses on a complete antenatal history, birth history and the present complaints and duration. They also focus on the developmental delays as noticed by parents. They discuss the identified delay and outline long term strategies like external therapies. The students document their performance. Duration : 30 minutes. Case based learning : The students are given case studies of children with developmental delay The students discuss about the clinical features and investigations in the given cases. The students share their ideas of possible long term outcome of that child. The students record the findings. Duration: 30 minutes.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 4.1	Assessment of physical growth and vital signs.	The teacher teaches how to record the physical growth and vital signs in children with developmental

		delays and the students perform the same in cases. Case based learning and demonstration on bed side: Follow the preparatory steps. Procedures : Have all the measuring tools in hands. Perform the measurement of weight. Perform the measurement of Length. Perform the measurement of Head circumference. Perform the measurement of chest circumference. Perform the measurement of mid upper arm circumference. Perform the measurement of arm span. Perform the measurement of US/LS ratio. Record and plot the measurements in growth charts. Record the vital signs - Temperature,pulse rate,respiratory rate,blood pressure using the appropriate tools. Record the findings. Duration : 2 hours.
NLHP 4.2	Assessment of gross motor developmental milestones.	The teacher explains how to assess the gross motor developmental milestones and the students perform a comprehensive gross motor developmental assessment under the guidance of the teacher. Case based learning and demonstration on bed side : Follow the preparatory methods. Procedures : Understand the gross motor developmental milestones. Review the child's medical and developmental history. Observe the child for its posture,spontaneous activities,engagement with parents. Use the structured gross motor assessment questionnaires and screening tools according to the age of the child and test for core motor skills. Employ checklists.

		Have targeted discussions with the parents. Identify the red flags and explain to the parents. Document the findings. Duration : 2 hours.
NLHP 4.3	Assessment of fine motor developmental milestones.	The teacher teaches how to assess fine motor developmental milestones and the students conduct a comprehensive fine motor developmental assessment under the guidance of the teacher. Case based learning and Demonstration on bed side : Follow the preparatory methods. Procedures : Understand the fine motor developmental milestones. Review the child's medical and developmental history. Observe the child for its spontaneous activities and hand dominence and check for hand strength and dexterity. Use the structured questionnaires and screening tools according to the age of the child. Employ checklists. Have targeted discussions with the parents. Identify the red flags and explain to the parents. Document the findings in case records. Duration : 2 hours.
NLHP 4.4	Assessment of language developmental milestones.	The teacher explains how to elicit the language developmental milestones and the students perform the comprehensive language developmental assessment. Case based learning and Demonstration on bed side : Follow the preparatory methods. Procedures : Understand the language developmental milestones. Review the child's medical and developmental history. Observe the child for its spontaneous speech.

		Use the structured language screening tests according to the age of the child and also hearing assessment . Employ checklists. Have targeted discussions with the parents. Identify the red flags and explain to the parents. Document the findings in case records. Duration: 2 hours.
NLHP 4.5	Assessment of social and emotional developmental milestones.	The teacher explains how to assess the social and emotional developmental mile stones and the students perform the same under the guidance of the teacher Case based learning and demonstration on bed side.: Follow the preparatory methods. Procedures : Understand the social and developmental milestones. Review the child's medical and developmental history. Observe the child for its interaction with others and note the behaviours. Use the structured questionnaires and screening tools. Employ checklists. Have targeted discussions with the parents. Identify the red flags and explain to the parents. Document the findings in case records. Duration: 2 hours.

Topic 5 Kuzhanthaigalin Valarchi Kuraipadugal (Growth disorders in children) (LH :5 NLHT: 4 NLHP: 12)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2	Define the disorder of growth.	CK	MK	K	L&PPT	VV-Viva,WP	F&S		-	LH

CO2	List the types of growth disorders.	CK	MK	K	L&PPT	QZ	F&S		-	LH
CO2	Define short stature.	CK	MK	K	L&PPT	PUZ,QZ	F&S		-	LH
CO2	Describe the causes, types, clinical features, investigations and diagnosis along with bone age assessment and management of short stature through internal and external therapies.	CC	MK	KH	L&PPT	CBA,QZ ,WP	F&S		-	LH
CO2	Define failure to thrive.	CK	MK	K	L&PPT	WP	F&S		-	LH
CO2	Describe the causes, types, clinical features, investigation, diagnosis and management of failure to thrive in children.	CC	MK	KH	L,CBL, L&GD	CWS ,O-QZ	F&S		-	LH
CO2	Define craniosynostosis and describe the etiopathogenesis classification, clinical features, diagnosis and complication of craniosynostosis – Scaphocephaly, Acrocephaly, Plagiocephaly, Trigonocephaly.	CC	DK	K	L&PPT	O-QZ,INT, WP	F&S		-	LH
CO2	Differentiate microcephaly and macrocephaly with causes, clinical features, diagnosis and management.	CC	MK	SH	L&PPT	VV-Viva,QZ	F&S		-	LH
CO2, CO6	Demonstrate the importance of anthropometric measurement in a child with growth disorders.	PSY-GUD	MK	SH	RP,CBL	P-RP,RK,Log book	F&S		-	NLHT5.1
CO2, CO6	Perform the examination to assess short stature through detailed history taking, physical and general examination, clinical examination.	PSY-GUD	MK	SH	X-Ray, CBL,LR I,D-BED	P-EXAM,R K,P-VIVA,Log book,P-CASE	F&S		-	NLHP5.1
CO2, CO6	Discuss the investigations for growth disorders .	CK	MK	KH	SIM	OSCE,VV-Viva	F&S		-	NLHT5.2
CO2,	Discuss the Siddha aspects like *Yakkai ilakkanam*, derangements	PSY-	MK	SH	GBL	RK,QZ	F&S		-	NLHT5.3

CO6	in *Mukkutram* and *Udalkattukal* in children with growth disorders.	GUD				,Log book,PUZ				
CO2, CO6	Perform the examination to assess failure to thrive through detailed history taking, physical and general examination, clinical examination.	PSY-GUD	MK	SH	CBL,D-BED,LRI	DOPS,P-EXAM,P-VIVA,RK,Log book	F&S		-	NLHP5.2
CO2, CO6	Discuss the concept of *Ennvagai thervu,Neerkuri,Neikuri* to evaluate the patient for short stature and failure to thrive.	PSY-GUD	MK	SH	GBL,PER,CBL	PRN,RK,Log book	F&S		-	NLHT5.4
CO2, CO6	Create a management plan including internal medicines, dietary advices, lifestyle modifications and demonstrating external therapies for the child with growth disorders.	CS	MK	KH	D-BED, CBL	P-VIVA,RK,P-EXAM,Log book	F&S		-	NLHP5.3

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 5.1	Significance of physical growth in growth disorders.	The teacher explains the significance of physical growth in growth disorders and the students understand and apply the same in clinical setups. Simulation and roleplay : The teacher divides the students into groups. Assign the roles as doctors, patients, family members. The students act their roles by measuring the physical growth explaining to parents and present the class their findings. Duration : 30 minutes. Case based learning : The teacher divide the students into two groups. One group is provided the case studies of children with growth disorders and they have to present the scenario based on physical growth findings to the other group. The other group should diagnose the type of growth disorder.

		Duration: 30 minutes.
NLHT 5.2	Interpretation of lab investigations.	The teacher explains about the laboratory investigations and the students actively engage with the diagnostic methods to assess the disorders. Simulation : The teacher divide the students into groups and create lab stimulation stations. Students move between different stations mimicking a lab test to investigate growth disorders. Stations : Hormone level analysis - Provide students with simulated blood test results showing hormone levels. Genetic screening - Provide the students with genetic test results. Imaging studies - Provide the students with simulated x-rays,MRI images . Physical examination - Provide the students with simulated physical growth measurements. Students on visiting each station note the findings. After visiting all stations the groups discuss their findings and hypothesize the type of growth disorder. Each group write down a report on their findings. Duration : 60 minutes.
NLHT 5.3	Discussion on Siddha diagnostic principles.	The teacher explains about the derangements in Siddha parameters .The students assess them and understand the derangements in growth disorders and able to perform them in clinical setup. Game based learning : Create flashcards with Siddha parameters like *Yakkai* of the patient,*Uyir thathukkal, Udalkatukkal* on one side and symptoms due to derangement of the parameters on the other side. The students should match the cards correctly. Quiz: Create quiz programmes with questions based on symptoms and the possible derangements . This helps students to understand the principles and apply them clinically. Duration : 60 minutes.

NLHT 5.4	Discussion on *Envagai thervu* and *Neerkuri,Neikuri.*	The teacher teaches how to conduct *Ennvagai thervu,Neerkuri,Neikuri* to evaluate the patient for short stature and failure to thrive. Case based learning and presentations : The students are given case scenarios of children with growth disorders. They have to discuss the methods of *Envagaithervu* and *Neerkuri* and *Neikuri.* The students present the findings for that particular case. Duration : 30 minutes. Game based learning : Conduct quiz on the findings of siddha parameters and the appropriate growth disorders. Duration : 30 minutes.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 5.1	Clinical examination of short stature.	The teacher teaches how to perform the examination to assess short stature through detailed history taking, general examination and clinical examination.The students perform the same under the guidance of teacher and individually. Case based learning and demonstration on bed side : Follow the preparatory methods. Prepare the patient for the clinical procedure. Record the presenting complaints through a detailed history taking including family history and dietic history. Assess the height and weight of the child. Perform the clinical examination. Calculate the deficit in height from the normal measures. Assess for hormonal disorders from laboratory investigation. Assess bone age from x-ray interpretation. Document the findings in case records. Duration : 5 hours.

NLHP 5.2	Clinical examination of failure to thrive.	The teacher teaches how to perform the examination to assess failure to thrive through detailed history taking, physical and general examination, clinical examination.The students perform the same. Follow the preparatory methods. Prepare the patient for the clinical procedure. Record the presenting complaints through a detailed history taking including family history and dietic history. Assess the height and weight of the child. Perform the clinical examination. Calculate the deficit in weight from the normal measures. Assess for hormonal disorders from laboratory Investigation. Document the findings in case records. Duration : 5 hours.
NLHP 5.3	Management plan for growth disorders.	The teacher explains about the internal medicines, dietary advices, lifestyle modifications and how to perform the external therapies to create a management plan and the students follow the same.in cases. Case based learning and demonstration on bed side : The students first perform the detailed clinical examination. On the basis of the observed findings create a management plan with appropriate internal medicines. The students do the appropriate external therapies. The students explain the dietary advices and lifestyle modifications. Document the findings in case records. Duration : 2 hours.

Topic 6 Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children) (LH :7 NLHT: 4 NLHP: 14)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2	Define development delay in children.	CK	MK	K	L,PBL	PUZ,QZ	F&S		-	LH
CO2	Describe the causes for development delay in modern and Siddha	CC	MK	KH	L,PrBL	CL-PR,QZ	F		-	LH

	aspect as per the text *Tirumanthiram.*									
CO2, CO4	Describe the definition,classification,causes and risk factors of *Sirasthambavatham* (cerebral palsy) clinical features, diagnostic criteria, assessment tools, complications and management with internal and external therapies.	CC	MK	KH	CD,LRI ,BS,CB L,D-BED	DOPS,T-CS, C-VC, Mini-CEX, M-POS	F&S		-	LH
CO2	Discuss the Changes in *Mukuttram, Nadi nadai, Neer kuri* and *Nei kuri* in children with cerebral palsy.	CC	MK	KH	D-BED, CBL	DOAP,DOPS,T-CS,VV-Viva,CBA	F&S		-	LH
CO2	Define *Moolai thiran kuraivu* (mental retardation) its classification , evaluation, causes and diagnosis.	CC	NK	K	L&PPT	WP,M-POS,O-QZ	F&S		-	LH
CO2, CO4	Define autism its causes, clinical features ,diagnostic criteria and management with internal and external therapies.	CC	MK	KH	LRI,PBL,CBL, D-BED, L&PPT	CR-RED, C-VC,DOPS, OSCE,CL-PR	F&S		-	LH
CO2, CO4	Describe attention deficit hyper activity disorder (ADHD), causes, clinical features, diagnostic criteria ,management with internal and external therapies.	CC	MK	KH	PER,D-BED,CBL,L&PPT	CR-RED,DOPS,VV-Viva,T-CS,CWS	F&S		-	LH
CO2	Explain the motor speech disorder dysarthria in children.	CK	MK	K	L&GD	OSPE	F&S		-	LH
CO2	Define the characteristics of childhood apraxia of speech.	CK	MK	K	L&GD	C-VC,SP	F&S		-	LH
CO2	Define the characteristics of speech sound disorder.	CK	DK	K	L&PPT	VV-Viva	F&S		-	LH
CO2	Define the characteristics of childhood onset fluency disorder.	CK	DK	K	L&PPT	PUZ,CL-PR	F&S		-	LH
CO2	Define the characteristics of selective mutism.	CK	DK	K	L&PPT	WP,QZ	F&S		-	LH

CO2	Define stuttering, stammering, cluttering in children.	CK	NK	K	L&GD	WP,O-QZ	F&S		-	LH
CO2	Explain the traditional play toys *Oonjal, Mara kuthirai* and their impacts in the development of children.	CC	DK	KH	PrBL,GBL	M-MOD,CL-PR	F		-	NLHT6.1
CO2	Explain the uses of feeding tools like *Sangu,Paaladai* in children.	CAP	DK	KH	PER,PrBL,DIS	PRN,M-MOD	F		-	NLHT6.2
CO2	Explain the sleeping methods like *Thottil* and its impact in the development in children.	CAP	DK	K	L&PPT	O-GAME	F&S		-	LH
CO2, CO6	Discuss the significance of anthropometric measurement in children with development disorders.	CK	DK	K	D-BED, L,CBL	CBA,VV-Viva	F		-	LH
CO2, CO6	Perform the examination to diagnose cerebral palsy through detailed history taking, physical and general examination, clinical examination.and neurological examination and frame a management plan.	PSY-GUD	MK	SH	D-BED, CBL	P-EXAM,DOPS,P-VIVA,DOPS	F&S		-	NLHP6.1
CO2, CO6	Conduct *Ennvagai thervu, Neerkuri, Neikuri* to evaluate the patient for developmental delay.	PSY-GUD	MK	SH	CBL,D-BED	P-VIVA,P-EXAM,DOPS,DOPS	F&S		-	NLHP6.2
CO2, CO6	Perform the clinical examination procedures in diagnosing children with autism and attention deficit hyperactivity disorder and plan a management plan.	PSY-GUD	MK	SH	D-BED	P-EXAM,DOPS,P-VIVA,DOPS,CHK	F&S		-	NLHP6.3
CO2, CO6	Discuss the influence of food in children with development delays.	CC	MK	SH	TBL,DIS,LS,PER	CL-PR	F&S		-	NLHT6.3
CO2, CO6	Explain the need for referral to rehabilitation centres.	CK	MK	K	L	VV-Viva	F&S		-	LH

Non Lecture Hour Theory		
S.No	**Name of Activity**	**Description of Theory Activity**
NLHT 6.1	Significance of traditional toys .	The teacher explains the influence of traditional toys in the development of children and the students apply the concepts in clinical and real life experiences. Game based learning : The students are divided into groups . Ask them to share their experiences in using these toys. Provide the students with the pictures of toys and make them write down the skills that develop in using the toys . Duration : 30 minutes. Project based learning : Assign each group with a toy and ask them to create miniature models of the toys . Make them to do presentations on their findings. Duration: 30 minutes.
NLHT 6.2	Significance of feeding tools .	The teacher explains about the feeding tools like *Sangu, Paladai* and their uses and the students apply their ideas in enhancing the uses of these tools. Group discussions : The students are assigned topics on feeding tools .They have to gather informations on the usage of tools from ancient literatures and present their findings as seminars to the class. Discussions can be on the advantages and disadvantages of traditional tools compared to modern feeding tools Duration : 30 minutes. Creativity skills - Students design and present their own modernized version of traditional tools Duration : 30 minutes.
NLHT 6.3	Influence of food in developmental delays.	The teacher explains the role of food in children with developmental delays and the students understand the same and apply in developing dietary plans.

		Team based learning : The students are given case studies of children with developmental disorders and their dietary history. They have to identify the deficiency and link the respective food to cause the deficiency. Duration : 1 hour. Class presentations : The students are given topics related to common deficiencies in children with developmental disorders . The students should give their presentations to the class on the foods that cure the deficiencies. Duration : 1 hour.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 6.1	Clinical examination of cerebral palsy.	The teacher explains how to perform clinical examination procedures and the students perform the same under the guidance in bed side cases. Follow the preparatory methods. Procedures : Step 1. Record a detailed antenatal history, birth history, neonatal history and register the presenting complaints and duration. Step 2. Ask about the past history, family history, social history, dietary history, Immunization history . Step 3. Conduct a general examination. Step 4. Record the vital signs and anthropometric measurements. Step 5. Assess the development mile stone, gross motor, fine motor, langauge- social and emotional milestones. Step 6. Conduct a general and neurological examination. Step 7. Interpret the lab findings,imaging reports. Step 8. Interpret the results of developmental screening tests. Step 9. Using the above assessment look for any deviation and record the observations. Step 10. Based on the findings frame a management plan.

		Step 11. Document the findings in case records. Duration: 6 hours.
NLHP 6.2	Assessment of *Envagaithervu, Neerkuri* and *Neikuri.*	The teacher teaches how to assess *Ennvagai thervu, Neerkuri, Neikuri* in patient with developmental delay and the students perform the same. Follow the preparatory methods. Procedures : Prepare the child for the examination. Perform the tests to elicit *Envagai thervu.* Collect the urine and conduct *Neikuri.* Document the observed findings. Duration : 2 hours.
NLHP 6.3	Clinical examination and framing a management plan of autistic spectrum disorders.	The teacher explains how to perform the clinical exmination procedures and the students demonstrate the procedures under guidance of teacher in patients in In patient and out patient department. Follow the preparatory methods. Procedures : Follow the steps 1 to 7 in diagnosing the child with Cerebral Palsy. Step 8. Make the students to become familiar with the rating scale questionnares. Step 9. Make them to evaluate the questionnaire. Step 10. Document the feedbacks. Step 11. Based on the assessments plan a management plan and counselling session and advice for rehabilitation therapies. Duration : 6 hours.

Topic 7 Kuzhanthaigalin Nadathai Kuraipadugal (Behavioural problems in children) (LH :2 NLHT: 1 NLHP: 2)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3

CO2	Definition and types of behavioural problems in children.	CK	MK	K	L&GD	PUZ,QZ	F&S		-	LH
CO2	Explain the causes ,clinical features, complication of thumb sucking, nail biting, pica in children and its management.	CC	MK	KH	L&GD	CL-PR,QZ	F&S		-	LH
CO2	Describe the causes, clinical features, classification, complications of temper tantrum in children and its management.	CC	MK	KH	L_VC,L &GD	C-VC,CR-RED	F&S		-	LH
CO2	Describe causes, clinical features, classification, complication of breath holding spells in children and its management.	CC	MK	KH	L&GD	QZ ,PUZ	F&S		-	LH
CO2	Describe the causes and clinical features of eating disorders in children and its management.	CC	MK	KH	L&GD	VV-Viva	F&S		-	LH
CO2	Explain the role of parents in children with behaviour and developmental problems.	CAP	NK	KH	L&GD	VV-Viva	F&S		-	LH
CO2, CO6	Demonstrate the anthropometric measurement and record the vital signs of a child with behaviour problem.	PSY-GUD	MK	SH	CBL,D	P-VIVA,P-EXAM	F&S		-	NLHP7.1
CO2, CO6	Perform a detailed history taking, general examination and clinical examination in a child with behavioural problems and frame a management plan.	PSY-GUD	MK	SH	D-BED, CBL	P-EXAM,P-VIVA,DOPS,Mini-CEX,DOPS	F&S		-	NLHP7.2
CO2, CO6	Conduct a thorough behavioural assessment by observing the child.	PSY-GUD	MK	SH	CBL,D-BED	P-VIVA,CHK,P-EXAM,DOAP, Mini-CEX	F&S		-	NLHP7.3
CO2, CO6	Observe, record and interpret the questionners for assessing behavioural problems.	CE	MK	SH	TBL,PER	RK,P-VIVA,P-EXAM,Logbook,CR-RED	F&S		-	NLHP7.4

CO2, CO6, CO7	Conduct a counselling for the parents of the child with behavioural problem.	PSY-GUD	MK	KH	D,RP,DIS	SBA,P-RP,M-CHT,INT	F&S		-	NLHT7.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 7.1	Counselling to parents.	The teacher explains about the importance of counselling and students perform the same and get trained to do counselings in real life experiences. Roleplay and discussions : Task students with designing short sessions for parents on topics like positive reinforcement. Students should be divided into groups and made to simulate a real world setting where they offer support to parents. Set up mock counseling sessions where students work with volunteer parents dealing with a specific behavioural issue in their children. Make students to create handouts or guides for managing common behavioural problems. The students present their discussions to the class. Duration : 1 hour.

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 7.1	Assessment of physical growth and vital signs .	The teacher explains how to do the anthropometric measurement and record the vital signs and the students perform the same. Follow the preparatory steps. Prepare the child for the clinical procedure. Identify tools used for including stadiometer, weighing scale inch type, skin calipers, thermometer, B.P apparatus. Assess the height, weight, chest circumference, head circumference, mid upper arm circumference, US:LS ratio.

		Record the vital signs with appropriate tools. Document the recordings. Duration : 30 minutes
NLHP 7.2	Clinical examination of behavioural problems.	The teacher explains how to perform a general and clinical examination in diagnosing a child with behavioural problems and the students perform the same. Case based learning : Follow the preparatory steps. The students record the details of the patient and parents. Record a detailed history of presenting complaints. Interrogate about the family history, social and sibling history. Conduct a general examination. Perform a clinical examination. Based on the findings frame a management plan. Document the findings. Duration : 30 minutes.
NLHP 7.3	Assessment of behaviour problems.	The teacher describes how to assess a child with behavioural problems and the students demonstrate it under guidance. Case based learning : The teacher make the students to observe a patient in real setting or video of a child with behavioural problem and ask them to note specific behaviours paying attention to frequency, duration and context. The students discuss the observations. The students understand behaviour triggers. The students are made to perform the same in real case scenarios and document the results in case records. Duration: 30 minutes.

NLHP 7.4	Interpretation of questionners for behaviour problems.	The teacher teaches how to interpret and document questionners for assessing children with behavioural problems. The students understand and perform the same in clinical departments. Case based learning : Team based learning : The teacher make the students familiar with the questionnaire structure. The teacher make the students to create simple questionnaire on their own. The teacher divide the students into small groups and make them to administer their questionnaire among themselves and to collect feedback. The teacher make the students to document mock responses from their questionnaire. Duration: 30 minutes.

Topic 8 Pathin Paruvam (Adolescence) (LH :3 NLHT: 2 NLHP: 3)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2	Define adolescence and stages of adolescence and explain the sexual maturity rating of Tanner.	CK	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO2	List the 3 phases of adolescence in modern and as per tamil literatures.	CK	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO2	Explain the three phases of adolescence based on somatic development, cognitive and social development.	CC	DK	K	L&PPT	VV-Viva,CR-RED	F&S		-	LH
CO2	List out the common health problems in adolescents and its management.	CC	MK	K	FC,L&PPT	INT,O-QZ	F&S		-	LH
CO2	Discuss the impact of iron deficiency anaemia in adolescents and its management.	CC	MK	KH	TBL,L&PPT	CL-PR	F&S		-	LH
CO2	Describe the eating disorders anorexia nervosa and bulimia nervosa in adolescents and its management .	CK	NK	K	CBL	VV-Viva	F&S		-	LH
CO2	Discuss the common infections including sexually transmitted	CK	DK	K	L&GD	INT	F&S		-	LH

	diseases in male and female adolescents and its management.									
CO2	Enumerate the psychological problems in adolescence and its management.	CC	MK	KH	L&PPT	DEB,QZ ,CR-RED	F&S		-	LH
CO2	Explain the hormonal changes in adolescence.	CK	NK	K	DIS	VV-Viva	F&S		-	LH
CO2	Describe juvinile delinquency.	CK	NK	K	CD	VV-Viva	F&S		-	LH
CO2, CO6	Discuss the problems related to health, peer pressure, mental health concerns, substance abuse in adolescents.	PSY-GUD	MK	SH	BS,RP	INT,SP,DEB	F		-	NLHT8.1
CO2, CO6	Perform a detailed history taking, general examination and clinical examination in adolescents.	PSY-GUD	MK	SH	CBL,D-BED	DOPS,P-EXAM,DOPS,P-VIVA	F&S		-	NLHP8.1
CO2, CO6	Observe the nutritional status and pshycological status of adolescents and note for any deviations.	CS	MK	KH	CBL,TBL,PER	CL-PR,M-POS	F&S		-	NLHT8.2
CO2, CO6	Formulate a line of treatment with internal medicines, dietary plan and a pshycological counselling in adolescents.	PSY-GUD	MK	KH	CBL,D-BED	P-EXAM,P-VIVA,DOPS,DOPS	F&S		-	NLHP8.2

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 8.1	Assessment of pshycological status of adolescents.	The teacher explains how to understand and assess the pshycological problems of adolescents. Brainstorming sessions : Make the students to list out the social pressures, peer pressures, mood swings and present it to the class. Duration : 30 minutes Debates : The class is divided into 2 groups. The teacher acts as the moderator. They are assigned the topic on the pshycological problems faced by the adolescents and its cause.

		One group debates as adolescents and the other group debates against them. The moderator finalize the solution. Document the solutions for the problem. Duration : 30 minutes
NLHT 8.2	Assessment of nutritional status.	The teacher teaches how to observe the nutritional status in all adolescent children and to find the nutritional deficiencies and associated clinical features and the students understand and should be able to do the same in clinical departments. Case based learning and presentations : Divide the class into groups. Provide each group with case studies highlighting common nutritional disorders in adolescents such as under nutrition, over nutrition, eating disorders, micronutrient disorders. Make the students use resources for gathering information regarding their assigned case scenario. Each group study the causes, symptoms, impacts and creates a visual presentation of their findings. Duration : 60 minutes.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 8.1	Clinical examination of adolescents.	The teacher explains how to examine the adolescents and perform a detailed history taking, general examination, clinical examination related to their ailments and students perform the same under guidance of the teacher. Follow the preparatory steps. Prepare the patient for the clinical procedure. Perform a detailed history taking and register the complaints and duration and a detailed general and clinical examination. Assess the pubertal development. Assess the nutritional status, dietic history and eating habits in patients. Enquire the menstrual history in girls .

		Enquire the peer pressures and relationship with parents. Assess the mental status. Document the findings in case records. Duration : 90 minutes.
NLHP 8.2	Management plan for adolescent problems.	The teacher teaches how to carry out a pshycological councelling and formulate a line of treatment with internal medicines, dietary plan and students perform the same under the guidance of the teacher. Follow the preparatory procedures. Interact with the adolescent children and gather a detailed history on their presenting complaints. Conduct a thorough clinical examination .. On the basis of the observed datas create a management plan with appropriate internal medicines and external therapies if needed. Tell the dietary advices. Advice about the lifestyle modifications. Counsel the parents of adolescents regarding their problems. Document the findings and monitor the prognosis in further follow ups. Duration : 90 minutes.

Topic 9 Kuzhanthaigalin Iyalpana Ootachathum Ootachathu Kuraipadukalum(Normal Nutrition and Nutritional disorders) (LH :6 NLHT: 5 NLHP: 9)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1	Define the term energy requirement in children.	CK	MK	K	L&GD	VV-Viva	F&S		-	LH
CO1	Define the terms nutrition,malnutrition, macronutrients and micronutrients.	CK	MK	K	L&GD	PUZ,VV-Viva,QZ	F&S		-	LH
CO1	Enumerate the normal macronutrient requirements in children.	CK	MK	K	FC	QZ ,M-CHT,PUZ	F&S		-	LH

CO1	Demonstrate the assessment of nutritional status in children.	CK	MK	K	L_VC	CL-PR	F&S		-	LH
CO1	Define protein energy malnutrition (PEM).	CK	MK	K	L&GD	VV-Viva	F&S		-	LH
CO1	Define kwashiorkor, marasmus,marasmic kwashiorkor.	CK	MK	K	L&GD	QZ ,PUZ,CL-PR	F&S		-	LH
CO1	Describe the prevalence, classification, pathogenesis, clinical features, complications, evaluation, management and prevention of protein energy malnutrition.	CC	MK	KH	PER,CD	CL-PR,PUZ,QZ	F&S		-	LH
CO1	List the classification of vitamins and write the dietary sources of vitamins A,D,E,K,B,C	CK	MK	K	IBL	PUZ,QZ ,CL-PR	F&S		-	LH
CO1	List the recommended daily allowance of vitamins A,D,E,K,B,C.	CK	MK	K	L&PPT	PUZ,M-CHT,M-MOD	F&S		-	LH
CO1	Explain the clinical features, evaluation and management and prevention of deficiency of vitamin A.	CK	MK	K	L&GD	CL-PR,PUZ,QZ	F&S		-	LH
CO1	Explain the WHO classification of xerophthalmia and hypervitaminosis A	CC	MK	KH	FC	M-MOD,QZ ,PUZ	F&S		-	LH
CO1, CO5	Explain the clinical features, diagnosis, management and prevention of vitamin D deficiency - rickets	CC	MK	KH	PBL,IBL	QZ ,CR-RED,PUZ	F&S		-	LH
CO1	Describe non - nutritional rickets.	CK	MK	K	L	PUZ	F&S		-	LH
CO1	Enumerate the clinical features, of deficiency of vitamin E and vitamin K.	CK	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO1, CO5	Describe the clinical features, evaluation and management of thiamine, riboflavin, niacin, pyridoxine, pantothenic acid, cobalamin ,folic acid deficiency.	CC	MK	KH	L&PPT	WP,O-QZ, O-GAME, VV-Viva	F&S		-	LH

CO1, CO5	Describe the clinical features ,evaluation and management of deficiency of vitamin c (scurvy).	CC	MK	KH	L&PPT ,L&GD	O-QZ,O-GAME,WP	F&S		-	LH
CO1	List the common trace elements required in children.	CK	NK	K	L&PPT	M-POS,M-CHT	F&S		-	LH
CO1	Describe the dietary sources, symptoms and prevention of zinc, copper, iodine deficiency in children.	CC	MK	KH	L&PPT	WP,CL-PR,O-QZ	F&S		-	LH
CO1	Describe the dietary sources, symptoms and prevention of selenium ,chromium and fluoride deficiency.	CK	NK	K	L&PPT	WP,M-POS,O-QZ	F&S		-	LH
CO1	Define *Paandu, Sobai* and explain the causes,types, *Kurikunangal, Theerum theera nilai* and *Maruthuvam.*	CC	MK	K	L	T-OBT	F&S		-	LH
CO1	Describe anemia in terms of definition,its classification,causes,clinical features and management.	CC	MK	K	L&PPT	VV-Viva,T-CS,T-OBT,O-QZ	F&S		-	LH
CO1	Explain *athithoolarogam* (obesity) and the role of *pancha bootham*,three humors and role of tastes in developing obesity and its management.	CC	MK	K	L&GD, L&PPT	CR-RED,CL-PR,T-OBT,O-QZ	F&S		-	LH
CO1	Discuss the caloric value of the common Indian foods.	CC	DK	SH	BS,GBL ,TPW	M-POS,M-MOD,M-CHT,QZ ,PUZ	F&S		-	NLHT9.1
CO1, CO6	Discuss the significance of anthropometric measurement in children with nutritional disorders.	PSY-GUD	MK	SH	SIM,CBL,RP	SP,CL-PR,Log book,RK	F&S		-	NLHT9.2
CO1, CO6	Perform a detailed history taking, general examination, clinical examination to diagnose nutritional deficiencies in children.	PSY-GUD	MK	SH	LRI,D-BED,CBL	CBA,P-EXAM,Mini-CEX,Log	F&S		-	NLHP9.1

						book,RK				
CO1, CO6	Observe the clinical signs to differentiate between kwarshiorkar and marasmus and vitamin deficiencies.	PSY-SET	MK	SH	CBL,D-BED	OSCE,RK, P-EXAM,P-VIVA,Log book	F&S		-	NLHP9.2
CO1, CO6	Calculate the daily requirement of micronutrients and macronutrients according to age.	PSY-SET	MK	KH	GBL,TBL	CBA,Log book,O-QZ, O-GAME	F&S		-	NLHT9.3
CO1, CO6	Discuss the examination in Siddha aspects like *Yakkai ilakkanam*, derangements in *Mukkutram* and *Udalkattukal* and *Envagaithervu, Neerkuri*, *Neikuri* in nutritional disorders.	PSY-GUD	MK	SH	GBL	Log book,RK,QZ	F&S		-	NLHT9.4
CO1, CO6	Frame the management plan including internal medicines,external medicines and dietary advices in children with nutritional deficiencies.	PSY-GUD	MK	SH	CBL,D-BED	P-EXAM,Log book,DOAP,P-VIVA,RK	F&S		-	NLHP9.3
CO1	Describe the pathophysiology, clinical evaluation, laboratory investigations and management of Sickle cell anemia in children.	CC	NK	KH	L&PPT	VV-Viva,T-OBT	F		-	LH
CO1	Describe iron deficiency anemia in terms of definition,pathophysiology,clinical features,laboratory investigations and management.	CC	MK	KH	L&PPT	M-POS,VV-Viva,M-CHT,T-OBT,INT	F&S		-	LH
CO1	Describe megaloblastic anemia in terms of definition, pathophysiology, etiology, clinical features, laboratory investigations and management.	CC	MK	KH	L&PPT	VV-Viva,M-POS	F&S		-	LH
CO1	Describe the causes, clinical features and management of hemophilia.	CK	NK	K	L&PPT	VV-Viva	F&S		-	LH

Non Lecture Hour Theory		
S.No	**Name of Activity**	**Description of Theory Activity**
NLHT 9.1	Caloric value of Indian foods.	The teacher explains about the caloric value of Indian foods and the students should understand the concept so that they can give good dietary advice to the patients. Brainstorming sessions : The students are divided into groups and provide them a list of common Indian foods and ask each group to list out the caloric value of each food using reliable sources like ICMR. Duration : 40 minutes. Making models : Make the students to create models ,charts, posters listing the caloric value of common Indian foods. Duration : 40 minutes. Game based learning : Create a quiz to test the student's knowledge of the caloric value of foods. Create a matching game where students match Indian food items with their corresponding caloric values. Duration : 40 minutes.
NLHT 9.2	Significance of physical growth in nutritional disorders.	The teacher explains the significance of physical growth in nutritional disorders and the students understand and apply the same in clinical setups. Simulation and roleplay : The teacher divides the students into groups. Assign the roles as doctors, patients, family members. The students act their roles and present the class their findings. Case based learning : The teacher divide the students into two groups. One group is provided the case studies of children with nutritional disorders and they have to present the scenario based on physical growth findings to the other group. The other group should diagnose the type of nutritional disorder.

		Duration: 60 minutes
NLHT 9.3	Calculation of daily nutrient requirements in children.	The teacher teaches how to to calculate the daily requirement of micronutrients and macronutrients according to age using standard equations. Team based learning : Divide students into groups. Assign each group the dietary guidelines, health websites depicting the daily requirements according to age. Provide cases with different age groups to each group. Make the students to calculate energy, protein, fluid requirements for their assigned cases. The students present their findings briefly to the class. Duration : 30 minutes. Game based learning : Make the students to develop a card game and plan a a sample food diary for an individual of a specific age. Create an online quiz that tests student's ability to calculate nutritional requirement for children. Duration : 30 minutes.
NLHT 9.4	Discussion on Siddha diagnostic principles.	The teacher explains about the derangements in Siddha parameters .The students assess them and understand the derangements in nutritional disorders and able to perform them in clinical setup. Game based learning : Create flashcards with Siddha parameters like *Yakkai* of the patient, *Uyir thathukkal*, *Udalkatukkal* on one side and symtoms due to derangement of the parameters on the other side. The students should match the cards correctly. Quiz: Create quiz programmes with questions based on symptoms and the possible derangements . This helps students to understand the principles and apply them clinically. Duration : 60 minutes.

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 9.1	Clinical examination in nutritional disorders.	The teacher explains how to perform the clinical procedures in a child with nutritional deficiency and then the students demonstrate it under guidance. Follow the preparatory methods. Procedure: Perform a detailed history taking including presenting complaints and duration with dietary history. Observe and do the physical examinations focused on signs of nutritional deficiencies. Perform a detailed clinical examination involving inspection, palpation, percussion and auscultation of all systems. Document the findings. Duration : 4 hours.
NLHP 9.2	Clinical differntiation of nutritional disorders	The teacher explains the clinical signs to differentiate between kwarshiorkar and marasmus and vitamin deficiencies in children so that the students understand and apply them correctly to arrive at the diagnosis. Follow the preparatory procedures. Observe the child. Note for edema, hair changes, skin lesions, distended abdomen, irritability and apathy, weight loss to rule out kwashiorkar. Observe the child for severe wasting, growth retardation, absence of edema, thin dry skin, weakness and lethargy to rule out marasmus. Observe the child for specific vitamin deficiencies. Discuss the findings and arrive the diagnosis. Document the findings in the case records. Duration : 4 hours.
NLHP 9.3	Management plan for nutritional disorders.	The teacher guides the students how to frame the appropriate management plan including internal

		medicines, external medicines and dietary advices after assessing the nutritional deficiency and the students perform the same in patients. After diagnosing the nutritional deficiency, On the basis of the observed datas create a management plan with appropriate Internal medicines and external therapies if needed. Provide nutrient supplements to specific deficiencies. Provide dietary counselling to the child and caregivers. Recommend food fortification. Advice about the lifestyle modifications. Schedule regular follow-up appointments and monitor and document the child's progress. Duration : 1 hour.

Topic 10 National Health Programmes related to Children (LH :2 NLHT: 1 NLHP: 2)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1	Describe the primary objective of Integrated Child Development Services Scheme (ICDS).	CK	DK	K	L&PPT ,L&GD	M-POS,M-CHT	F&S		-	LH
CO1	Describe the components of ICDS.	CK	DK	K	L&PPT ,PrBL	INT	F&S		-	LH
CO1	Explain the role of anganwadi workers in ICDS.	CK	DK	K	L&PPT	M-CHT,M-POS	F&S		-	LH
CO1	Discuss the primary objectives of National Rural Health Mission (NRHM).	CK	NK	K	L&PPT	M-CHT,VV-Viva	F&S		-	LH
CO1	Enumerate the key components of NRHM and role of ASHA workers under NRHM.	CK	DK	KH	L&PPT	VV-Viva	F&S		-	LH
CO1	Describe the benefits of mid-day meal programme.	CK	NK	K	L&PPT	VV-Viva	F&S		-	LH

CO1	Discuss the primary objectives of the National Nutritional Anaemia Prophylaxis Programme (NNAPP).	CK	MK	K	L&PPT	M-CHT,M-POS	F&S		-	LH
CO1	Conduct screening camps to assess the health status of children in schools.	PSY-GUD	DK	SH	DIS,SIM,W,TBL	RK,SP,Log book,INT	F		-	NLHT10.1
CO1	Conduct awareness programme to educate about the national programmes in college campus and nearest health centre.	PSY-GUD	DK	SH	DIS,TPW	M-CHT,M-POS,INT	F		-	NLHP10.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 10.1	Arrangement of screening camps in schools.	The teacher explains how to organize and conduct school health screening camps as part of national health programmes.The students will learn the processess and trained to conduct camps in real life scenarios. Simulation : The teacher assign roles to students as organizers, participants, health professionals and assistants. Make the students to prepare posters and pamphlets about the screening and its importance priorly. Set up stations in the classroom for different screening activities like vision test, weight and height measurement, anemia awareness. The students play the roles assigned to them. After the simulation discuss the challenges faced during the activity and ways to improve the organizing methods and document them. Duration : 1 hour.

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 10.1	Arrangement of awareness programmes in college campus .	The teacher explains how to organize awareness programmes regarding national health programmes in college campus and health centres.

		Arrange a visit to the nearest health centre or community clinic. Make the students to design campaign to raise awareness for a specific health programme. Conduct vaccination drives, nutritional supplementation programmes. Create posters, social media posts, leaflets to promote the importance of the programme. Conduct similar programmes in college campus for patients visiting the hospital. Document the activities and feedbacks from the camps. Duration : 2 hour.

Paper 2 (KUZHANTHAI MARUTHUVAM (PEDIATRICS) - PAPER II)

A3 Course out come	B3 Learning Objective (At the end of the session, the students should be able to)	C3 Domain/sub	D3 MK / DK / NK	E3 Level	F3 T-L method	G3 Assessment	H3 Assessment Type	I3 Term	J3 Integration	K3 Type
Topic 11 Seerana Uruppu Mandala Noigal (Gastro intestinal disorders) (LH :8 NLHT: 4 NLHP: 13)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO3, CO5, CO6	Describe the causes,clinical features,investigations and management of *Paleeru noi (*Gingivitis) .	CC	MK	KH	L&PPT	QZ ,VV-Viva	F&S		-	LH
CO3, CO5, CO6	Discuss causes,clinical features,investigations and management of *Seriyaappaduvan* (angular stomatitis) .	CK	MK	KH	L&PPT	VV-Viva,QZ	F&S		-	LH
CO3, CO5, CO6	Describe the *Iyal,Vagaigal.Noi varum vazhi,Kurikunangal and Maruthuvam of Akkaram* .	CC	MK	KH	DIS,L&PPT	QZ ,VV-Viva	F&S		-	LH

CO3, CO5, CO6	Describe the *Iyal,Noi varum vazhi,Vagaigal,Kurikunangal and Maruthuvam of Vaanthi, Vikkal, Seriyaamai.*	CK	MK	K	L&PPT	T-CS,QZ ,VV-Viva	F&S		-	LH
CO3, CO5, CO6	Discuss about the *Iyal,Noi varum vazhi,Vayathu,Vagaigal,Kurikunangal,*and *Maruthuvam* of *Mantham.*	CC	MK	KH	BS,L&P PT ,TBL	INT,T-OBT ,PP-Practic al,CL-PR,V V-Viva	F&S		-	LH
CO3, CO5, CO6	Discuss the definition,causes,clinical features,diagnosis and management of lactose intolerance, malabsorption syndrome.	CK	MK	K	L&PPT ,TBL,L _VC,BS	O-QZ,VV-Viva,QZ	F&S		-	LH
CO3, CO5, CO6, CO7	Demonstrate counselling with empathy and understanding for parenting challenges in lactose intolerance and malabsorption syndrome with appropriate dietary management.	PSY-GUD	MK	SH	RP	P-RP	F&S		-	NLHT11.1
CO5, CO6	Describe the etiology, common signs and symptoms and management of *Kazhichal* (Diarrhoea), *Seetha Kazhichal* (Dysentery).	CC	MK	KH	L&PPT	VV-Viva,QZ ,PUZ	F&S		-	LH
CO5, CO6	Describe the etiology, classification,clinical features,investigations of diarrhoea and dysentery.	CK	MK	K	L&PPT	VV-Viva,C L-PR,QZ	F&S		-	LH
CO5, CO6	Discuss the treatment and dietary management of diarrhoea and dysentery.	CC	MK	KH	PBL,L& PPT	PUZ,QZ	F&S		-	LH
CO5, CO6	Demonstrate the clinical signs and symptoms of dehydration and its management with oral rehydration solution (ORS).	CAP	MK	KH	GBL,DI S,PBL	INT,QZ ,VV-Viva	F		-	NLHT11.2
CO5	Examination of the patient through detailed history taking, general examination, vital signs, anthropometry, clinical examination,*Udal thathukkal, Ennvagai thervu, Mukkutram,* differential diagnosis, diagnosis and frame the line of treatment of	PSY-GUD	MK	SH	CBL,D-BED	VV-Viva,P-EXAM,OS CE,P-VIVA	F&S		-	NLHP11.1

	Kazhichal.									
CO1, CO5	Examination of the patient through history taking, general examination, vital signs, anthropometry, clinical examination,*Udal thathukkal, Ennvagai thervu, Mukkutram,* differential diagnosis, diagnosis and prescribe the line of treatment of *Akkaram.*	PSY-GUD	MK	SH	DIS,CBL,D-BED,PT	P-PRF,P-EXAM,DOPS,VV-Viva, P-CASE	F&S		-	NLHP11.2
CO5, CO6	Identify and correlate the warning signs and symptoms of various gastrointestinal disorders and the need for referral.	CAP	MK	KH	GBL	QZ	F		-	NLHT11.3
CO5, CO6	Illustrate the approach to pediatric accidental poisoning and the immediate supportive therapy in poisoning.	PSY-GUD	NK	KH	RP,D-M	PUZ,VV-Viva,QZ	F		-	NLHT11.4

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 11.1	Demonstration of counselling for parents .	The teacher explains about the challenges faced by the parents of children with lactose intolerence and malabsorption syndrome and the students conduct effective counsellings to overcome the problem. Role play : Assign roles to students as parent, child and observer. Make them to roleplay the conversation on symptoms and explaining the parents and child about the foods causing the problem and create a dietary management plan . Focus the problem with empathy and positivity. Duration:1 hour.
NLHT 11.2	Preparation of ORS solution.	The students are taught about the signs and symptoms of dehydration and about oral rehydration solution (ORS) and demonstrate the preparation of ORS. Interactions : The students are divided into groups and made to discuss the possible causes, symptoms of dehydration. ORS preparation activity : Provide the students with clean water, sugar, salt ,measuring spoons and cups and pre - packed ORS

		sachets for comparison. Make them to prepare ORS themselves. Create Quiz about ORS Preparation. Duration: 1 hour.
NLHT 11.3	Identification of warning signs of gastro intestinal disorders.	The teacher explains the warning signs and symptoms of various gastrointestinal disorders and the conditions to refer the child. The students understand the concept so that they know the conditions to refer the child. Game based Learning : Make the students understand about warning signs and symptoms of the digestive system by self learning and Peer learning prior to the game. Materials needed : The materials used in the game titled “Gut Game” consist of a board with picture of digestive system, a rules sheet, question cards and square pieces to represent teams. The question cards has printed questions on one side while the other has a picture and the name of the respective organ. Procedure : The organs can be numerically represented (like snake and ladder).The entrance organs can be mouth represented with a number 1 followed by the other organs. The questions used during the game can represent warning signs and symptoms on the digestive system topics. Students can be divided as teams and each team would be allowed to toss the dice and the square piece of respected team is moved to the respective organs based on the number on the dice. A question card representing the organ is chosen and the questions are asked to the team. Question cards contain multiple-answer questions about warning signs of the system (mouth/esophagus, stomach, liver/gallbladder, pancreas, small intestine, and large intestine) . The team which successfully answers all the questions related with warning signs and symptoms of all organs and completes the finish line wins the game. Duration: 60 minutes. (Refer sample Gut Game -https://doi.org/10.6084/m9.figshare.12250043)

NLHT 11.4	Management of pediatric accidental poisoning.	The teacher explains how to manage pediatric accidental poisoning cases and the immediate supportive therapy in poisoning and the students understand and perform the same under guidance. Role play : Divide the students into small groups and provide each group with case scenario like ingestion of household cleaners, medications. Assign roles within each group as caregiver, child, emergency responder and make them to act out their assigned roles . Duration : 30 minutes. Hands on demonstration for basic supportive therapy : Use a doll or mannequins for practice. Provide properties like toy phones, gloves and basic first aid supplies. Focus on safe positioning of the child, simulated CPR ,using activated charcoal and learn to communicate with poison control services. Quiz : Conduct a short quiz on the symptoms to watch for substances which cause poisoning steps in supportive therapy. Duration : 30 minutes.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 11.1	Clinical examination to evaluate a child with kazhichal.	The teacher teaches how to perform the clinical examination to evaluate a child with *Kazhichal* and the student performs the examination. Follow the preparatory methods. Observe the patient data, complaints and duration ,present history, previous history, personal history, family history, habit, immunisation history. Record the dietary history and travelling history. Perform the general examination and record the vital signs, anthropometry, *Udal thathukkal, Ennvagai thervu* and assess the derangement in *Mukkutram.*

		Perform the clinical examination : Inspection,palpation,percussion and auscultation. Evaluate the datas and derive the differential diagnosis and diagnosis. Based on the findings formulae the line of treatment. Duration : 7 hours.
NLHP 11.2	Clinical examination to assess *akkaram.*	The teacher explains how to perform the clinical examination to diagnose *Akkaram* and the students perform the same in patients. Follow the preparatory steps before starting the clinical examianation as in Paper 1. Observe the patient data, complaints and duration, present history, previous history, personal history, family history, habit, immunisation history. Perform general examination and assess vital signs, anthropometry, clinical examination.*Udal thathukkal, Ennvagai thervu* and assess the derangement in *Mukkutram*. Based on the findings derive the differential diagnosis and diagnosis. Formulae the line of treatment. Document the findings in case records. Duration : 6 hours.

Topic 12 Suvaasa Noikal (Respiratory Disorders) (LH :6 NLHT: 4 NLHP: 12)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5, CO6	Describe the *Iyal,Noi varum vazhi, Pothu kurigunangal,Vagaigal and Maruthuvam of Kanam.*	CC	MK	KH	L&PPT	INT,T-OBT ,VV-Viva	F&S		-	LH
CO5, CO6	Conduct a detailed history taking, general examination. clinical examination, investigations, Siddha diagnostic methods ,to evaluate respiratory disorders in children with differential diagnosis and frame a management plan with internal and external medicines.	PSY-GUD	MK	SH	D-BED, DIS,CBL	P-VIVA,INT,DOPS,VV-Viva,P-EXAM	F&S		-	NLHP12.1
CO5,	Enumerate the definition, etiology,pathophysiology,	CC	MK	KH	CBL,PB	M-CHT,V	F&S		-	LH

CO6	clinical features, investigations, diagnosis and management of *Mel suvasa pathai noigal* (Upper respiratory tract Infections -URTI) - rhinitis (common cold), *Mookadiyan azharchi* (Adenoiditis), *Kural valai azharchi* - Acute pharingitis, laryngitis, tonsillitis, epiglottitis .				L,L&PPT ,LRI, X-Ray	V-Viva,QZ ,T-CS,T-OBT				
CO5, CO6	Identify and diagnose the upper respiratory infections using laboratory investigations , x-ray findings.	PSY-GUD	DK	KH	LRI,CBL,X-Ray,DIS,CD	INT	F		-	NLHT12.1
CO5, CO6	List the common *Keezh suvasa pathai noigal* (Lower respiratory tract Infections) in children and state the definition, etiology, clinical features, investigations, diagnosis and management of *Suvasa thotru* (Croup), *Moochu kuzhal azharchi* (Bronchiolitis) , Bronchial Asthma (*Iraippu irumal*), and status asthmaticus .	CC	MK	KH	PBL,TBL,X-Ray,L&PPT ,LRI	M-POS,CR-RED,CL-PR,T-OBT, M-MOD	F&S		-	LH
CO5, CO6	Describe the etiology,types,pathophysiology, clinical features, investigations,diagnosis and management of *Nuraieral kaatru pai thotru* (Pneumonia).	CC	MK	KH	TBL,CD,X-Ray,L&PPT	T-CS,CL-PR,O-QZ,VV-Viva	F&S		-	LH
CO5, CO6	Discuss on the x-ray identification and laboratory interpretations for the diagnosis of *Nuraieral kaatru pai thotru* (Pneumonia).	PSY-GUD	DK	SH	X-Ray, CD,LRI ,CBL	QZ ,VV-Viva,T-CS	F		-	NLHT12.2
CO5, CO6	State the definition ,etiology, pathophysiology,clinical features, investigations,diagnosis and management of *Muthanmai kasa noi* (Primary complex) .	CC	MK	KH	BS,X-Ray,CD,L&PPT ,CBL	CWS ,QZ ,T-OBT, C-VC,VV-Viva	F&S		-	LH
CO5,	Discuss on the x-ray identification and laboratory interpretations	CAP	DK	SH	X-Ray,	C-VC,O-	F		-	NLHT12.3

CO6	of Mantoux test for the diagnosis of *Muthanmai kasa noi* (Primary complex) .				CBL,LRI,CD,DIS	QZ				
CO5, CO6	State the definition ,etiology, pathophysiology, clinical features, investigations,diagnosis and management of *Swasa mu??al Noi* - Acute respiratory distress syndrome. (ARDS)	CK	NK	K	LRI,DIS,L&PPT	PUZ,QZ , C-VC	F&S		-	LH
CO5, CO6	Discuss the emergency management in the following cases - drowning, choking, foreign body aspiration and Heimlich maneuver.	PSY-GUD	NK	SH	SIM,D	QZ ,PRN,PUZ,SP	F		-	NLHT12.4

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 12.1	Laboratory intrepretations of upper respiratory infections.	The teacher teaches how to observe and identify common upper respiratory tract infections using x-rays and lab investigations.The students will perform the identification. Case based learning : The students are divided into small groups. Each group is provided with x-ray films and lab reports of selected cases with respiratory infections. They are asked to find out the normal and abnormal findings . The findings are documented and discussed. Duration:1 hour.
NLHT 12.2	Laboratory and imaging intrepretation of *Nuraieral kaatru pai thotru* (Pneumonia).	The teacher explains about the x-ray identification and laboratory interpretations for the diagnosis of *Nuraieral kaatru pai thotru* (Pneumonia). Case based learning : The class is divided into groups. The X-Ray pictures of normal and abnormal findings of Nuraieral kaatru pai thotru (Pneumonia) will

		be displayed. The laboratory investigations will be displayed. Students will be asked to identify the X-Ray findings and abnormal lab findings as team. Duration : 30 minutes. Game based learning : Quiz: Conduct quiz on the various types of pneumonia,clinical features . Duration : 30 minutes.
NLHT 12.3	Laboratory and imaging interpretations in primary complex.	The teacher explains the x-ray identification and laboratory interpretations of Mantoux test for the diagnosis of *Muthanmai kasa noi* (Primary complex) and the students understand and perform the identification. Case based learning : The students are divided into groups. The x-ray pictures of normal and abnormal findings of *Muthanmai kasa noi* (Primary complex) will be displayed. Students will be asked to identify the x-ray findings as team and discuss about it. Points will be given to the team who identify first. The students will write the findings in case records. Duration: 1 hour.
NLHT 12.4	Management of emergency situations.	Ths teacher teaches how to manage emergency situations like - Drowning, choking, foreign body aspiration and Heimlich maneuver. Demonstration : Use a doll and demonstrate the situations and the recovering techniques using videos and charts. Duration : 30 minutes. Simulation: The students are divided into small groups. Each group is given a scenario involving pediatric emergency with patient details.

		Assign roles within each group like one student as the caregiver,another as the care provider and others as observers. After simulation group discussions can be conducted. Duration : 30 minutes.

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 12.1	Clinical examination to assess respiratory disorders .	The teacher teaches how to perform the clinical examination procedures to diagnose respiratory illness and the students perform the procedures. Follow the preparatory procedures. Conduct a detailed history taking including complaints and duration. Interogate for any allergic history. Perform the general examination including assessing anthropometry and vital signs. Perform the inspection,palpation, percussion and auscultation of respiratory system. Discuss the investigations,differential diagnosis, diagnosis. Frame a management plan based on the findings. Duration : 12 hours (complete the practicals in steps in the stipulated time).

Topic 13 Thamaraga Noikal (Cardio Vascular disorders) (LH :4 NLHT: 5 NLHP: 10)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5, CO6	Describe the etiology and classification of congenital heart diseases .	CK	MK	K	L&PPT	QZ ,PUZ,VV-Viva	F&S		-	LH
CO5, CO6	Discuss the causes, clinical features, hemodynamics, investigations, complications and management of Cyanotic heart diseases and its management. (Tetrology of Fallot, Tricuspid atresia, Ebstein Anomoly, Transpo	CC	MK	KH	L&PPT ,L_VC	VV-Viva,O-QZ,M-CHT,M-MOD, T-OBT	F&S		-	LH

	sition of great vessels, Total anomalous pulmonary venous congestion)									
CO5, CO6	Identify cyanotic heart diseases through echocardiogram and x-ray findings.	PSY-GUD	MK	SH	FV,X-Ray,LRI, CBL	QZ ,PRN,VV-Viva	F		-	NLHT13.1
CO5, CO6	Discuss the causes, hemodynamics ,clinical features,investigations,complications and management of Acyanotic heart diseases and its management. (Atrial septal defect, Ventricular septal defect, Patent ductus arteriosus,Coarctation of the aorta)	CC	MK	KH	L_VC,L &PPT , TBL,CBL	T-CS,M-POS,VV-Viva,QZ ,M-MOD	F&S		-	LH
CO4, CO5	Discuss the etiology, clinical features, complications and management of infective endocarditis.	CC	MK	KH	L&PPT	VV-Viva,PUZ,T-OBT,O-QZ	F&S		-	LH
CO5, CO6	Identify acyanotic heart diseases through Heart sounds and murmurs .	PSY-GUD	DK	KH	CD,RP, CBL	VV-Viva,P-RP	F		-	NLHT13.2
CO5, CO6	Illustrate an approach to the infant or child with a cardiac murmur.	CAP	MK	SH	DIS,GBL,BL	CL-PR	F		-	NLHT13.3
CO5, CO6, CO7	Explain the Indian guidelines for indications and timing of intervention and need for referrals in common congenital heart diseases.	CK	NK	K	DIS,L,IBL	O-QZ,DEB	F		-	LH
CO5	Conduct a detailed clinical examination to evaluate disorders of cardio vascular system in children.	PSY-GUD	MK	SH	D,CBL	SP	F&S		-	NLHP13.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

NLHT 13.1	Identification of cyanotic heart diseases.	The teacher explains the classical features of cyanotic heart diseases and how to Identify cyanotic heart diseases through Echo and x-ray findings. Case based learning : The students are divided into groups. X-ray films with the classical features of cyanotic heart diseases are displayed to the class. The groups have to identify the abnormal findings in the given time. Echocadiogram reports are displayed . The groups have to identify the abnormal findings in the given time. Then the students discuss about the disease and document the findings. Quiz: Create a quiz and ask questions regarding the findings. Duration : 2 hours.
NLHT 13.2	Identification of acyanotic heart diseases.	The teacher first explains about heart sounds and murmurs and then their significance in finding the respective acyanotic heart disease.The students understand and perform the identification . Case based learning : The students are divided into groups. Each group is given a case scenario with the respective murmurs and change in heart sounds of the acyanotic heart conditions. They have to find out the acyanotic heart disease. The students discuss about the disease and document their discussions. Duration : 1 hour. Roleplays: The students are divided into groups. They are assigned the role of doctors and patients. The students as patients have to tell the clinical signs of a acyanotic heart disease and the student as doctor has to find out the disease by auscultation. Duration : 1 hour.

NLHT 13.3	Identification of murmurs.	The teachers explains about cardiac murmurs and students acquire knowledge to identify the murmurs in real time case experiences. Game based learning : Divide students into groups. Play different murmur sounds. The groups have to identify the type,location and possible causes of the murmur. Discuss each group's reasoning and the correct answers. Duration: 1 hour.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 13.1	Clinical examination of Cardio Vascular system.	The teacher teaches how to perform the clinical examination of cadio vascular system and the students follow the same. Follow the preparatory procedures. Prepare the patient for the clinical examination. Perform a detailed history taking, antenatal history, birth history and neonatal history. Elicit and record the symptoms and details of relevant events and illness. Perform general physical examination for A. General appearance, B. Vital parameters C. Anthropometry D. Stature and build E. Dysmorphic features F . Anemia, cyanosis, dependent pitting edema,clubbing. 5. Assess the general examination for the features of intellectual disability, growth retardation, disproportionate short stature, weight gain and oedema, lethargy and hypothermia. Cardio vascular Examination : Inspection

		Palpation Percussion Ausculation Record the findings and advice the appropriate management and referral criterias. Duration : 10 hours.

Topic 14 Narambu mandala Noikal (Neurological disorders) (LH :6 NLHT: 5 NLHP: 15)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5, CO6	*De*scribe the *Noi varum vazhi, Pothu kurikunanagal, Vagaigal, Maruthuvam of Balavatham.*	CC	MK	KH	L&GD	VV-Viva,PRN	F&S		-	LH
CO5, CO6	Explain the various external therapies used in treating *Maththiya narambu mandala noikal* in children.	CK	MK	K	D,L&PPT ,CBL	QZ ,PM,INT,DOPS,VV-Viva	F&S		-	LH
CO5, CO6	Discuss the importance of early intervention, specialized care, and a compassionate approach to a child with neurological disorder.	CAP	NK	K	RP,D,CBL	OSCE,CL-PR	F		-	NLHT14.1
CO5, CO6	Describe the *Iyal,Noi varum vayathu,Vazhi,Vagaigal, Kurikunangal, Maruthuvam* of *Valippu noi* in children .	CC	MK	KH	L&PPT	T-OBT,VV-Viva	F&S		-	LH
CO5, CO6, CO7	Illustrate an approach to the child with seizure and the safety issues.	CAP	MK	K	CBL,RP	CL-PR,SP	F		-	NLHT14.2
CO5, CO6	Discuss the etiology, types, common signs and symptoms, investigations, diagnosis and *Maruthuvam* of *Sanni vatham* (Delirium) .	CC	MK	KH	L&PPT	T-OBT,VV-Viva	F&S		-	LH
CO5, CO6	Describe the definition, etiology, pathophysiology, clinical features, investigations, diagnosis and management of	CC	MK	KH	L&PPT ,CBL,R	O-QZ,VV-Viva,M-PO	F&S		-	LH

	Infantile hemiplegia.				P	S,CL-PR,INT				
CO5, CO6	Develop effective counselling strategies in children with neurological diseases.	CAP	MK	SH	RP,D	CL-PR,SP	F		-	NLHT14.3
CO5, CO6	Describe the definition, etiology ,pathophysiology,classification,clinical features, investigations and management of encephalitis and meningitis.	CC	MK	KH	L_VC	VV-Viva,S-LAQ,O-QZ	F&S		-	LH
CO5, CO6	Describe the definition, etiology, pathophysiology, classification, clinica lfeatures, investigations,management of hydrocephalus.	CC	MK	KH	L&PPT	T-OBT,CL-PR,PUZ,M-POS,INT	F&S		-	LH
CO5, CO6, CO7	Illustrate an approach to neurological assessment in children and enumerate the warning signs for referral.	CK	MK	K	FC,CBL ,L&PPT	PUZ,QZ ,CL-PR,PRN	F&S		-	LH
CO5	Conduct the clinical examination of *Maththiya narambu mandala noikal* (Central nervous system).	PSY-GUD	MK	SH	D-BED, CBL	VV-Viva,OSPE,RK,Log book,P-EXAM	F&S		-	NLHP14.1
CO1, CO5, CO7	Conduct the clinical examination including history taking, general examination, vital signs, anthropometry, *Udal thathukkal*, *Ennvagai thervu*, *Mukkutram*, differential diagnosis, diagnosis and frame the the line of treatment of *Bala pakkavatham.*	PSY-GUD	MK	SH	CBL,D-BED	RK,DOPS, Log book,P-VIVA,P-EXAM	F&S		-	NLHP14.2

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 14.1	Early approach to neurological disorders.	The teacher describes the symptoms and signs of early progression of neurological diseases in children and the importance of early intervention,The students learn this through activities and perform the procedures.

		OSCE : Observed structured clinical examination Neurological exam stations - Set up stations with different activities lin classrooms ike Station 1 : Match early symptoms to the correct neurological disease. Station 2 : Identify imaging resulrs and associate them with the disease. Station 3 : Suggest early intervention strategies based on a given case. Students move through stations in teams solving problems and earning points. Document the discussions. Duration : 1 hour. Role play : Symptom cards describing early signs of neurological diseases are kept on the table. One student from each group come and pick up acard and acts the symptoms and the group has to identify the disease. Duration : 1 hour.
NLHT 14.2	Approach to the child with seizure .	The teacher teaches the clinical features in seizure disorder and how to protect a child during the episode of seizure. Case based learning : The students are divided into groups. They are provided with scenarios with injuries to the child. They have to find out the possible cause and suggest the safety measures to prevent the situation. Duration : 1 hour. Role plays : The students are assigned roles as a child with seizure disorder and made to act to identify seizure triggers and seizure first aid simulation. Duration : 1 hour.
NLHT 14.3	Counselling of children with neurological disorders.	The teacher teaches the methods of counselling and its importance in children and the students understand and perform the counselling . Roleplay :

		Divide the students into pairs. One student play the role of the child and the other as the counsellor. Provide scenarios related to common challenges faced by children with neurological diseases. This activity helps students understand the impact of the disease on family. Duration: 1 hour.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 14.1	Clinical examination of central nervous system.	The teacher explains how to to perform the clinical examination to assess Central nervous disorders. Follow the preparatory steps. Perform a detailed history taking, antenatal history, birth history and neonatal history. Elicit and record the symptoms and details of relevant events and illness. Perform general physical examination for A. General appearance, posture,comfort level, activity. B. Vital parameters C. Anthropometry D. Stature and build E. Dysmorphic features F. Anemia, cyanosis, dependent pitting edema,clubbing Assess the general examination for the features of Intellectual disability, growth retardation, disproportionate short stature, weight gain and oedema, lethargy and hypothermia. Assess the developmental milestones. Central nervous system Examination - Motor system examination Assess the nutritional status of muscle,power,tone ,superficial and deep tendon reflexes,involuntary movements and gait. Sensory system examination : Superficial and deep sensation.

		Examination for cerebellar lesions. Perform the Siddha diagnostic procedures. Arrive the diagnosis with differential diagnosis. Frame a management plan. Duration : 8 hours.
NLHP 14.2	Clinical examination of a child with *Bala pakka vatham.* .	The teacher explains the clinicla features of bala pakka vatham and how to perform the clinical examination. Follow the preparatory steps. Observe the patient data, complaints and duration present history, previous history, personal history, family history, habit, immunisation history. Perform the examination to assess general examination, vital signs, anthropometry, central nervous system examination ,*Udal thathukkal, Ennvagai thervu, Mukkutram*, differential diagnosis, diagnosis and formulae the line of treatment . Document the findings. Duration : 7 hours.

Topic 15 Thotru Noikal (Infectious Diseases) (LH :8 NLHT: 5 NLHP: 8)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5, CO6	Describe the *Noi varum vazhi* (Etiology) ,*Pothu kurigunangal* (Clinical features), *Vagaigal* (Types), *Maruthuvam* of *Suram* (Fever) .	CC	MK	KH	L&PPT	O-QZ,VV-Viva,CL-PR	F&S		-	LH
CO5, CO6	Discuss the diagnostic investigations for the evaluation of acute febrile illness and procedure for tepid sponging.	CAP	MK	KH	CBL,RP ,SIM,D	CL-PR	F		-	NLHT15.1
CO5, CO6	Describe the etiology, pathophysiology, signs, symptoms, investigations,diagnosis,complications and management of *Vali keel vayu suram* (Rheumatic fever).	CC	MK	KH	L&PPT	VV-Viva,M-CHT	F&S		-	LH

CO5, CO6	Describe the etiology,pathogenesis, signs, symptoms, investigations and management of *Kakkuvan erumal* (Whooping cough / Pertussis) and *Thondai adaipan noi (*Diphtheria).	CC	MK	KH	L&PPT	VV-Viva,O-QZ	F&S		-	LH
CO5, CO6	Describe the etiology, pathophysiology, signs, symptoms, investigations, complications and management of *Aama suram* (Enteric fever) and malaria.	CC	MK	KH	L&PPT	VV-Viva,PUZ	F&S		-	LH
CO5, CO6	Describe the etiology,signs,symptoms,investigations and management of *Kamalai.*	CC	MK	KH	L&PPT	VV-Viva,OSPE	F&S		-	LH
CO5, CO6	Describe the etiology, pathogenesis ,signs, symptoms, investigations and management of *Ilampillai vatham* (Poliomyelitis) and *Vil vatha sanni* (Tetanus) .	CC	MK	K	L&PPT	VV-Viva,PUZ	F&S		-	LH
CO5, CO6	Describe the etiology, signs, symptoms, investigations,complications and management of *Thattammai* (Measles), *Pootuthaalammai* (Mumps) *Ammai suram* (Chickenpox).	CC	MK	KH	L&PPT	O-QZ,WP, T-OBT,P-ID,VV-Viva	F&S		-	LH
CO5, CO6	Demonstrate the various traditional treatments and preventive measures of *Thattammai* (Measles), *Puttallamma*i (Mumps) *Ammai suram* (Chickenpox) in Siddha system and evaluate it scientifically.	PSY-GUD	DK	SH	DIS,BS	QZ ,M-CHT,CL-PR	F		-	NLHT15.2
CO5, CO6	Describe the etiology, signs,symptoms, investigations and management of dengue fever in children.	CK	MK	K	L&PPT	O-QZ,VV-Viva	F&S		-	LH
CO5, CO6	Discuss the national guidelines for the pediatric management of dengue fever and evidence based Siddha management of dengue fever and conditions for referral.	CK	MK	K	L&PPT	CL-PR	F&S		-	LH

CO5, CO6	Describe the definition,etiology, transmission, signs, symptoms, investigations and management of Acquired Immuno defiiency syndrome in Children (AIDS).	CC	MK	KH	L&PPT ,W,TUT ,TBL	QZ ,M-MO D,T-OBT,V V-Viva,PUZ	F&S		-	LH
CO5, CO6	Discuss the transmission dynamics, clinical manifestation and diverse outcomes of SARS-CoV-2 infection and Bird's Flu, Swine Flu in children and adolescents.	CK	NK	K	CBL,FC ,L&PPT	DEB,O-QZ,CL-PR	F		-	LH
CO5, CO6	Describe the etiology, pathogenesis, clinical manifestations, complications, investigations and management of *kudal puzhu noigal* (Helminthic infestations) (Amoebiasis, Ascariasis/ roundworm (N*aaku poochi)*, Pinworm (*Keeripoochi*), whipworm (*masarai poochi)*, Giardiasis, Hook worm, Taenia Species).	CC	MK	K	LRI,DIS ,L&PPT ,GBL,C BL	M-CHT,M-POS,T-CS, VV-Viva	F&S		-	LH
CO5	Perform the clinical examination to assess infectious disease in pediatric age group.	PSY-GUD	MK	SH	D-BED, CBL	RK,P-EXA M,P-VIVA,Log book,CBA	F&S		-	NLHP15.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 15.1	Procedure for tepid sponging.	The teacher teaches about the diagnostic investigations to evaluate febrile illness and management through tepid sponging. Case based learning : Divide the students into groups. The students are provided with case studies with different type of febrile illness. Each group has to write the correct investigative methods.

		They present their findings to the class and further discussions are made. Duration : 1 hour. Demonstration : Divide the students into pairs with one student demonstrating the tepid sponging procedure on the other. Duration : 1 hour. Case study discussions : Provide the students with case studies of patients and discuss about the indications,contraindications. Duration: 1 hour.
NLHT 15.2	Traditional treatment for exanthematous fevers.	The teacher discuss about the various traditional Siddha treatment and preventive measures of *Tattamma*i (Measles), *Puttallammai* (Mumps), *Ammai suram* (Chickenpox).The students learn them through activities. Discussions : The students are divided into groups and have discussions on the preventive measures by reading research articles. The students are made to write the preventive measures which they learnt from their real life experiences. Duration : 40 minutes. Making Charts : The students make charts on the topics of *Tattammai* (Measles) ,*Puttallammai* (Mumps) ,*Ammai suram* (Chickenpox) . Duration : 40 minutes. Quiz : Create quiz with questions based on symptoms and the corresponding type of fever. Duration : 40 minutes.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**

NLHP 15.1	Clinical examination to assess infectious diseases.	The teacher teaches how to perform the clinical examination to diagnose infectious diseases and the students perform the procedures. Follow the preparatory steps. Perform history taking, general examination, recording vital signs, anthropometry and immunization history. Perform disease based system wise examination - inspection, palpation, percussion, auscultation. Perform Siddha diagnostic procedures. Document the findings and frame a management plan. Duration : 8 hours.

Topic 16 Janana Uruppu Mandala Noikal (Genito Urinary Disorders) (LH :2 NLHT: 2 NLHP: 5)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5, CO6	Describe the definition, etiology, classification, clinical features, investigations, management of congenital defects of urogenital system.	CK	MK	K	L&PPT	O-GAME, O-QZ,QZ ,PUZ	F&S		-	LH
CO5, CO6	Conduct counselling for parents of children with congenital genito urinary defects.	PSY-GUD	DK	K	RP	INT	F		-	NLHT16.1
CO5, CO6	Describe the definition,etiology, clinical features, investigations,management of enuresis .	CK	MK	K	L&PPT	QZ ,PUZ	F&S		-	LH
CO5, CO6	Describe the definition, etiology, clinical features, investigations, management of encopresis.	CK	MK	K	L&PPT	QZ ,O-QZ,PUZ	F&S		-	LH
CO5, CO6	Describe the definition etiology, pathogenesis, clinical Features, investigations and management of acute glomerulo nephritis .	CC	MK	KH	L&PPT	CL-PR	F&S		-	LH
CO5, CO6	Describe the definition, etiology, pathogenesis, clinical Features, investigations, complications and management of nephrotic Syndrome.	CC	MK	KH	L&PPT	M-POS,T-OBT,INT,CL-PR	F&S		-	LH

CO5, CO6	Explain urinary tract infection in children .	CAN	DK	KH	L&PPT ,CBL	SP,INT	F		-	LH
CO5, CO6	Evaluate a child with acute retention of urine .	CAN	DK	K	TBL,CB L,PER	INT	F		-	NLHT16.2
CO5, CO6	Perform the clinical examination to assess genito urinary disorder in pediatric age group .	PSY-GUD	MK	SH	CBL,C D,LRI, D-BED	P-EXAM,P -PRF,P-CASE	F&S		-	NLHP16.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 16.1	Counselling for parents.	The teacher explains how to counsel the parents of children with congenital genito urinary defects and the students follow the same. Role plays : Divide the students into groups. Provide the students with case studies. Assign the roles of child, parent and counsellor. The students act accordingly and interact. The students then discuss about the challenges they faced during roleplay. Duration :1 hour.
NLHT 16.2	Evaluation of a child with acute retention of urine .	The teacher teaches how to evaluate a child with acute retention of urine and the students perform the procedures. Case based learning : Ask the student to prepare themselves with various etiologic causes , investigations, differential diagnosis of acute retention of urine Divide the students in the class into teams and propose a case scenario to each team. Each group discuss on different themes such as causes, impact ,clinical features,diagnosis and

		prevention of the problem. They present their discussions to the class. Duration: 1 hour.

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 16.1	Clinical examination of genito urinary disorders.	The teacher explains how to perform the clinical examination of genito urinary disorders and the students perform the procedures under the guidance of the teacher. Follow the preparatory steps. Perform a detailed history taking with complaints and duration. Conduct a general examination with importance to pitting edema,pallor,facial puffiness, distention of abdomen. Pay attention in evaluating physical growth to assess for stunted growth and record the vital signs. Conduct the systemic examination under inspection,palpation,percussion and auscultation. and fluid thrill if ascites is present including investigations. Perform the Siddha diagnostic procedures . Arrive the diagnosis with differential diagnosis. Based on the findings frame a management plan,diet restrictions,lifestyle modifications. Document in case records. Duration : 5 hours.

Topic 17 Thasai Matrum Enbu Kuraipadugal (Musculo skeletal disorders) (LH :3 NLHT: 2 NLHP: 10)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5, CO6	Describe the definition, etiology, classification, clinical features, investigations, management of muscular dystrophy.	CC	MK	KH	L&PPT ,CBL,D-BED	VV-Viva,QZ ,CL-PR	F&S		-	LH

CO5, CO6, CO7	Aware to parental guidelines to care for a child with Duchenne muscular dystrophy.	AFT-VAL	NK	KH	SIM,RP	INT,SBA	F		-	NLHT17.1
CO5, CO6	Describe the definition, etiology, clinical features, investigations, management (internal and external therapies) for lordosis.	CC	MK	KH	L&PPT ,DIS	C-VC,SP, CL-PR	F&S		-	LH
CO5, CO6	Describe the definition, etiology, clinical features, investigations, management (internal and external therapies) for kyphosis.	CC	MK	KH	L&PPT ,L_VC	O-QZ,SP,INT	F&S		-	LH
CO5, CO6	Describe the definition,etiology,clinical features, investigations, management (internal and external therapies) for scoliosis.	CC	MK	KH	L&PPT ,D-BED	M-POS,SP, PUZ,QZ	F&S		-	LH
CO5, CO6	Demonstrate the Siddha external therapies for various musculo skelatal disorders .	CAP	MK	KH	D-BED, CBL	P-PRF,DO PS,DOPS	F		-	NLHP17.1
CO5, CO6	Perform the clinical examination to evaluate *Thasai kolarukal* (musculo skeletal disorder).	PSY-GUD	MK	SH	D-BED, PT,CBL	P-EXAM,P -CASE,P-V IVA,P-PRF	F&S		-	NLHP17.2

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 17.1	Parental guidelines for duchenne muscular dystrophy.	The teacher explains the challenges faced by the parents of children with musculo skeletal disorders and about the guidelines to care their child. The students learn the concept and effectively communicate to the parents. Role play : Students will be asked to go through the published parental guidelines to care for a child with muscular dystrophy prior to the class. The students will be divided as teams to start the role play as follows. Students will be divided into a team of 6-8 students in each team. Procedure : One of student will be simulated to act like a parent of a child with genetic disorder and express his/her

		worries and anxieties about the child. Each student can explain about one of the above headings and express with empathy how to care for a child with muscular dystrophy. The students share their own ideas on the care of the child to the class and will be able to understand the challenges of parents . Duration : 2 hours.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 17.1	Siddha external therapies for musculo skelatal disorders .	The teacher explains about the various external therapies and demonstrate them in patients.The students understand the procedures and perform them under the guidance of the teacher. Case based learning : Follow the preparatory methods. Assess the clinical findings of the patient. Provide the students the necessary medicines like medicated oils, powders. The students perform the procedures under the supervision of the teacher. Assess the students through accuracy of the procedure and the understanding of their indications Duration : 5 hours.
NLHP 17.2	Clinical examination to assess musculo skeletal disorder.	The teacher teaches how to perform the clinical examination and the students perform the procedures. Follow the preparatory steps. Prepare the patient for the clinical examination. Take the history of the patient, complaints and duration with vitals. The child should lie flat or in siting position. Infants and small children may be examined on the mother’s lap. Higher function - Consciousness, behaviour, intelligence, memory,orientation,speech. Cranial nerves examination. Motor System Examination - Nutrition,bulk,power,tone.

		Sensory system examination - Superficial sensations, deep sensations,cortical sensations. Reflexes - Superficial reflex, deep tendon reflex. Observe the gait. Check for gower’s sign. Perform the Siddha diagnostic procedures and investigations. Based on the findings arrive the diagnosis with differential diagnosis. Frame a management plan. Duration : 5 hours.

Topic 18 Marabanu Kuraipadugal (Genetic disorders) (LH :8 NLHT: 2 NLHP: 5)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO4, CO5, CO6	Discuss on the causes of genetic disorders according to Siddha system of medicine and management of genetic disorders.	CK	MK	K	L&PPT	VV-Viva,O-QZ,PUZ	F&S		-	LH
CO4, CO5, CO6	Demonstrate and discuss on the role of genetic counselling for parents who care for a child with genetic disorder.	AFT-VAL	NK	KH	D,CBL	SBA,CL-PR,INT	F		-	NLHT18.1
CO4, CO5, CO6	State the definition, etiology, clinical features,screening tests, diagnosis and management of Down's syndrome (Trisomy21), Trisomy 13, Trisomy 18, Fragile X Syndrome, Klinefelter Syndrome, Turner Syndrome.	CC	MK	K	L_VC	VV-Viva,CBA	F&S		-	LH
CO5, CO6	State the definition, etiology, screening tests, diagnosis and management of cystic fibrosis.	CK	DK	K	L&PPT	VV-Viva,O-QZ	F&S		-	LH
CO4, CO5,	List the various genetic disorders in children.	CK	MK	K	L&PPT ,FV	VV-Viva	F		-	LH

CO6										
CO4, CO5, CO6	Demonstrate how AI tools and modern technologies can be used to accurately diagnose the rare pediatric genetic diseases.	PSY-GUD	DK	KH	CBL	PRN	F		-	NLHT18.2
CO5	Perform the clinical examination to assess genetic disorders.	PSY-GUD	MK	SH	CBL,D	OSCE,VV-Viva	F&S		-	NLHP18.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 18.1	Role of genetic counselling for parents.	The teacher explains the significance of genetic councelling for parents of children with genetic disorders. The students understand the significance through activities. Case based learning : Divide the students into small groups. Provide an overview of genetic councelling principles like risk assessment,inheritence patterns, emotional support. Assign each group a case scenario involving genetic disorder. Include details like family history, diagnostic results. Each group discusses the assigned case and identify the genetic disorder, risk of occurence, pshycological concerns of parents. Duration : 1 hour.
NLHT 18.2	AI tools and modern technologies in rare pediatric genetic diseases.	The teacher explains about the role of AI tools and modern technologies in accurately diagnosing the rare pediatric genetic diseases. The students understand how these tools transform the diagnosis. Case based learning : Divide the students into small groups. Provide brief introduction to AI and modern technologies in the context of rare pediatric disorders. Assign each group a case study of rare pediatric disease and information on AI technologies being used in similar cases.

		Each group discusses how AI and modern technologies help in diagnosing the disease earlier. Each group present their findings to the class. Duration : 1 hour.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 18.1	Clinical examination to assess genetic disorders.	The teacher explains how to perform the clinical examination and the students perform the procedures. Follow the preparatory steps. Prepare the patient for the clinical examination. Perform a detailed history taking, antenatal history, birth history and neonatal history. Elicit and record the symptoms and details of relevant events and illness. Perform general physical examination for A. General appearance, posture, comfort level, activity B. Vital parameters C .Anthropometry D. Stature and build E. Dysmorphic features F . Anemia, cyanosis, dependent pitting edema, clubbing. Assess the general examination for the features of intellectual disability, growth retardation, disproportionate short stature, weight gain and oedema, lethargy and hypothermia. Perform the systemic examination. A. Cardiovascular system B. Respiratory system C. GastroIntestinal System D. Central nervous system E. Musculoskeletal System Perform the Siddha diagnostic procedures and investigations. Derive the diagnosis with differential diagnosis.

		Based on the findings frame a management plan Duration : 5 hours.

Topic 19 Naalamillaa Surappigalin Kuraipadugal (Endocrine disorders) (LH :2 NLHT: 1 NLHP: 7)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5, CO6	Describe the definition, etiology, clinical features, diagnosis, management of cushing's syndrome	CK	MK	K	L&PPT ,L_VC	CL-PR	F&S		-	LH
CO5, CO6	Describe the definition,etiology,clinical features,diagnosis, management of *Balar mathu mega noi* (Juvenile diabetes mellitus).	CK	MK	K	PrBL,L &PPT ,TBL	QZ ,PUZ	F&S		-	LH
CO5, CO6	Describe the definition, etiology, classification,clinical features and management of *Kurai veethana kuraipadu* (Congenital Hypothyroidism).	CC	MK	KH	L&PPT	QZ ,PUZ	F&S		-	LH
CO5, CO6, CO7	Discuss the recognition of continuous care and support of the family for a child with endocrine disorders.	CAN	NK	KH	IBL,BL	INT,DEB	F		-	NLHT19.1
CO2	Conduct a clinical examination to assess endocrine disorders in children.	PSY-GUD	MK	SH	CBL,D-BED	P-EXAM,P-VIVA,DOPS,DOPS	F&S		-	NLHP19.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 19.1	Continuous care and support for a child with endocrine disorders.	The teacher explains how to care and support a child with endocrine disorders and the students understand the same and effectively communicate to the family members. Debate Topic : "Resolving the Challenges of Caring for Children with Endocrine Disorders: Family Support and Care"

		Preparation : Students may be given sufficient time in prior to prepare regarding the challenges for caring for children with endocrine disorders. Ask a team of students to volunteer for Team A and Team B. Others can represent the audience. The teams are assigned topics like comprehensive family support and specialized medical Care. The teams debate focusing on their topics. Summarize the key points, reiterate team positions, and emphasize the importance of balancing comprehensive family support with specialized medical care. Duration : 1 hour.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 19.1	Clinical examination of endocrine disorders.	The teacher explains how to perform the clinical examination to evaluate endocrine disorders and the students perform the examination. Follow the preparatory steps. The teacher explains how to perform the clinical examination and the students perform the procedures. Follow the preparatory steps. Prepare the patient for the clinical examination. Perform a detailed history taking, antenatal history, birth history and neonatal history. Elicit and record the symptoms and details of relevant events and illness. Perform general physical examination for A. General appearance, posture,comfort level, activity. B. Vital parameters C. Anthropometry D. Stature and build E. Dysmorphic features Assess the general examination for the features of intellectual disability, growth retardation, disproportionate short stature, weight gain and oedema, lethargy and hypothermia. Perform the Systemic Examination

		A. Cardiovascular system B. Respiratory system C. GastroIntestinal System D. Central nervous system E. Musculoskeletal System Perform the Siddha diagnostic procedures and investigations. Derive the diagnosis with differential diagnosis. Based on the findings frame a management plan. Duration : 7 hours.

Topic 20 Thol Noigal (Skin Diseases) (LH :4 NLHT: 3 NLHP: 13)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO3, CO5, CO6	Describe the *Iyal,Varum vayathu,Varum vazhi,Vagaigal,Kurikunangal* and *Maruthuvam* of *Karappan.*	CK	MK	K	L&PPT	PRN,VV-Viva,T-CS,INT	F&S		-	LH
CO3, CO5, CO6	Describe the types, clinical features, investigations, diagnosis and management of *Sirangu.*	CC	MK	KH	L&PPT	VV-Viva,T-CS,CBA	F&S		-	LH
CO3, CO5, CO6	Describe the definition, etiology, clinical features and management of atopic dermatitis.	CK	MK	K	L&PPT	CBA,QZ,CL-PR	F&S		-	LH
CO3, CO5, CO6	Describe the definition, etiology, clinical features and management of diaper rashes.	CK	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO3, CO5,		CK	MK	K	L_VC,L&PPT	VV-Viva,M-CHT,INT	F&S		-	LH

CO6	Describe the definition, etiology, clinical features and management of insect bites in infants.									
CO3, CO5, CO6	List the common skin disorders in children.	CK	MK	K	L	PRN,O-QZ	F&S		-	LH
CO3, CO5, CO6	Discuss the importance of diet in Siddha system for the management of skin diseases in children.	CAP	MK	K	DIS,GBL	INT,M-CHT,QZ	F		-	NLHT20.1
CO1, CO5	Perform the clinical examination of *Bala Karappan* and frame a management plan.	PSY-GUD	MK	SH	CBL,D-BED	VV-Viva,P-EXAM,P-VIVA,OSCE, Log book	F&S		-	NLHP20.1
CO1, CO5	Conduct the clinical examination including Siddha diagnostic procedures to evaluate *Sirangu* (scabies) in children.	PSY-GUD	MK	SH	D-BED, CBL	P-CASE,SP,P-VIVA,P-EXAM	F&S		-	NLHP20.2
CO3, CO4	Identify the basic skin lesions and their morphology.	CAP	DK	KH	GBL	INT,M-CHT	F		-	NLHT20.2
CO3, CO5, CO6	Describe the causes, clinical features, diagnosis and prevention of impetigo in children.	CC	MK	KH	L&PPT,DIS	VV-Viva,INT,C-VC	F&S		-	LH
CO3, CO5, CO6	Comprehend the types, causes, clinical presentation, diagnosis and psychosocial impact of psoriasis in children.	CC	MK	KH	CBL,L&PPT	VV-Viva,CL-PR,T-CS	F&S		-	LH

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

NLHT 20.1	Diet in Siddha system for skin diseases.	The teacher explains about the diets for the management of skin diseases and the students understand and know to advice the dietary advices. Group discussions : Dietary regimen design : Divide the students into groups and ask them to design a diet plan for a patient with specific skin condition. Duration : 40 minutes. Interactions : Provide the students with a list of medicines and ask them to study and discuss how diet interacts with the medicines. Quiz : Create a quiz that tests the student’s knowledge in Siddha diet management principles. Duration : 40 minutes. Making charts : The students are assigned with projects based on the dietary advices in managing skin diseases at home. They prepare and present charts to the class Duration : 40 minutes.
NLHT 20.2	Identification of the basic skin lesions.	The teacher explains how to identify the basic skin lesions and the student learns to diagnose the skin disease correctly. Game based learning : Create one set of flash cards with primary and secondary skin lesions. Create another set of cards with the skin diseases. Divide the students into groups. Give each group with a set of both cards. They have to match the cards correctly within the given time. The students then discuss the diseases and document in case records. They can also make charts to depict the basic skin lesions. Duration : 1 hour.

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 20.1	Clinical examination of *Bala karappan*	The teacher explains how to perform the clinical examination to evaluate *Bala karappan* and the students perform the procedures in clinical cases. Follow the preparatory steps Observe the patient data, complaints and duration present history, previous history, personal history, family history, habit, immunisation history Perform the examination to assess general examination, vital signs, anthropometry, *Udal thathukkal, Ennvagai thervu,Mukkutram,* clinical examination, differential diagnosis and diagnosis of *Bala karappan* Formulae the line of treatment and dietary advices and lifestyle modifications. Duration : 5 hours.
NLHP 20.2	Clinical examination of *Sirangu* (scabies).	The teacher explains how to perform the clinical examination and the students perform the procedures in cases. Follow the preparatory steps. Observe the patient data, complaints and duration, present history, previous history, personal history, family history, habit, immunisation history. Perform the examination to assess general examination, vital signs, anthropometry, *Udal thathukkal, Ennvagai thervu, Mukkutram*. Perform the clinical examination of skin by inspection, palpation, percussion and auscultation. Based on the findings discuss the differential diagnosis and diagnosis. Formulae the line of treatment Duration : 8 hours.

Topic 21 Sevi mooku thondai & Kann Noikal (ENT and Eye diseases) (LH :5 NLHT: 2 NLHP: 7)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**

CO4, CO6	List out the *Sevi Noigal* (Common ear infections) in pediatric age group and discuss the definition, causes, clinical features, diagnosis and management of otitis Media - acute and chronic.	CK	MK	K	L&PPT	QZ ,INT	F&S		-	LH
CO3, CO4, CO6	Discuss the definition causes, clinical features, diagnosis and management of rhinorrhea and epistaxis.	CK	MK	K	L&PPT	INT,O-QZ	F&S		-	LH
CO4, CO6	Discuss the definition, clinical features, investigations, diagnosis, complications and management of tonsilitis (*Lasuna thabitham*).	CK	MK	K	L&PPT	INT,VV-Viva,QZ	F&S		-	LH
CO4, CO6	State the definition, signs, symptoms and management of congenital cataract.	CK	MK	K	L&PPT	VV-Viva,SP	F&S		-	LH
CO4, CO6	State the definition, signs, symptoms and management of *Maalai kan* (Nyctalopia).	CK	MK	K	L_VC,L&PPT	INT,QZ	F&S		-	LH
CO4, CO6	Describe the signs and symptoms and management of myopia .	CK	MK	K	L&PPT	INT,VV-Viva,M-CHT	F&S		-	LH
CO5, CO6		CK	MK	K	L&PPT ,FC	INT,VV-Viva,CL-PR	F&S		-	LH

	Explain the causes, clinical features, diagnosis, complications and management of *Amaram* (Ophthalmia neonatarum).									
CO5, CO6	Evaluation of a child with ear pain and conjunctivitis.	PSY-GUD	MK	SH	SIM,DIS,CBL	CL-PR,VV-Viva,SP	F&S		-	NLHT21.1
CO5, CO6	Discuss on the impact of foreign body in ear, nose, throat (ENT) and eyes and its management.	CAP	MK	SH	RP,PBL	M-CHT,INT	F&S		-	NLHT21.2
CO5	Perform the clinical examination to assess ENT and eye diseases.	PSY-GUD	MK	SH	CBL,D-BED	DOPS,P-VIVA,P-EXAM,M-CHT,QZ	F&S		-	NLHP21.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 21.1	Approach to ear pain and conjunctivitis.	The teacher explains the methods to evaluate a child with ear pain and conjunctivitis and the students learn the same through activities. Case study discussions : Provide the students with case studies of children with ear pain and conjunctivitis and ask them to discuss the causes, diagnostic approaches and management strategies. Duration : 30 minutes. Simulations : Create a simulated patient scenario where students evaluate and manage the child with ear pain and conjunctivitis. Duration : 30 minutes.
NLHT 21.2	Management of foreign body in ear, nose, throat (ENT) and eyes .	The teacher teaches about the impact of foreign bodies into the ear, nose, throat and eyes. The students learn it through activities. Role plays : Divide the students into groups and provide a scenario and make them to act as the child, care giver

		and demonstrate the steps to remove the foreign body. Making charts : Making charts on common foreign bodies causing injury to children. Duration: 1 hour.

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 21.1	Clinical examination to assess ENT and eye diseases	The teacher explains how to perform the clinical examination to evaluate the diseases of eye, nose, throat and eyes. Follow the preparatory steps. Prepare the patient for the clinical examination. Take the history of the patient, complaints and duration with vitals. Perform the clinical examination relevant to the ENT and eye diseases. Document the findings . Frame a management plan. Duration : 7 hours.

Topic 22 Piravi Kuraipaadugal (Congenital birth defects) (LH :2 NLHT: 1 NLHP: 5)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5, CO6	Discuss the definition, etiology, clinical features and management of Cleft lip and Cleft palate.	CK	MK	K	L&PPT	M-POS,QZ	F&S		-	LH
CO5, CO6	Describe the definition, etiology, clinical features ad management of congenital talipes equinovarus (clubfoot).	CK	MK	K	L_VC,L &PPT	INT,O-QZ,M-CHT	F&S		-	LH
CO5,		CK	MK	K	L&PPT	INT,VV-	F&S		-	LH

CO6	Describe the definition, etiology, clinical features and management of osteogenesis imperfecta.					Viva				
CO5, CO6	Describe the definition, etiology, clinical features ad management of imperforate anus.	CK	DK	K	L&PPT	INT,M-CHT	F		-	LH
CO5, CO6	Identify and name the various congenital birth defects in children and advocate the management measures.	CAP	MK	K	FC	VV-Viva,INT,QZ	F&S		-	NLHT22.1
CO5	Perform clinical examination to assess congenital birth defects.	PSY-GUD	MK	SH	TBL,DIS,SIM	PRN,SP,RK,VV-Viva,Log book	F		-	NLHP22.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 22.1	Management measures in congenital birth defects.	The teacher teaches about the congenital birth defects and students understand through various activities and perform the same in cases. Flipped classroom : Pre classroom activity : Provide pre reading materials like case studies, video lectures, articles on the causes, screening methods, diagnostic criteria, post-natal care, genetic counseling methods. Quiz : Conduct a short quiz to ensure students have reviewed the materials. Have discussions on the topic and record the feedbacks. Duration: 1 hour.

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity
NLHP 22.1	Clinical examination to assess congenital birth defects.	The teaches explains the procedures of clinical examination through simulations and real life cases and the students perform the steps in the cases. Follow the preparatory steps. Obtain a detailed history of the child including maternal history, birth history, family history, immunization history. Conduct a general examination including assessing anthropometry and vital signs. Perform a head to toe examination to look for abnormal findings. Conduct a specific examination for common congenital defects like Cleft lip and palate - Inspect the upper lip and palate using a tongue depressor. Assess feeding difficulties. Osteogenesis imperfecta - Inspect for short stature, deformities of limbs due to fractures, macrocephaly, frontal bossing, blue sclerae, discoloured teeth, palpate for tenderness, bowing of legs. Clubfoot - Inspect and palpate for fixed deformities of the foot. Check flexibility and position of the heel. Imperforate anus - Examine the perineal region for for absence of a visible anal opening. Check for perineal reflex. Based on the findings, investigations, confirm the diagnosis. Conduct a Examination of Respiratory system, cardiovascular system, central nervous system. Document the findings. Duration : 5 hours.

Topic 23 Varmam Matrum Pura Maruthuvam (LH :2 NLHT: 4 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5, CO6	List out the diseases indicated and the preparatory methods, materials needed, procedures, benefits and contraindications to do *Thokkanam, Nasiyam, otradam, pugai.*	CK	MK	K	L_VC,L &PPT	P-PRF,SP, M-CHT,INT,VV-Viva	F&S		-	LH

CO5, CO6	Demonstrate the procedures of *Thokkanam, Nasiyam, Otradam, Pugai* in children.	PSY-GUD	MK	KH	RP,D,CBL	CL-PR,M-POS	F&S		-	NLHT23.1
CO5, CO6	List out the diseases indicated and the preparatory methods, materials needed, procedure, benefits and contraindications to do *Poochu, Patru, Pottanam, Mai, Kattu.*	CK	MK	KH	L&PPT	OSCE,M-CHT,VV-Viva,M-POS	F&S		-	LH
CO5, CO6	Demonstrate the procedures of *Poochu, Patru, Pottanam, Mai, Kattu* in children.	PSY-GUD	MK	KH	CBL,RP,D	CL-PR,DOPS,M-POS,DOPS	F&S		-	NLHT23.2

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 23.1	Demonstration of *Thokkanam, Nasiyam, Otradam, Pugai* in children.	The teacher teaches and demonstrates the steps to do *Thokkanam,Otradam, nasiyam and Pugai* . The students demonstrate the same in cases. Case based learning : Provide case scenarios where Siddha external therapies are needed. The students discuss about the steps and document the discussions. Duration : 40 minutes. Role play : Divide the students into groups. The students are assigned with the roles of physician and patient.Others observe the procedures. Students perform the external therapies and explain the procedures. Duration : 40 minutes. Making posters : The students are given instructions to design posters. Duration : 40 minutes.
NLHT 23.2	Demonstration of *Poochu, Patru, Pottanam, Mai, Kattu* .	The teacher teaches and demonstrates the steps to do *Poochu, Patru, Pottanam, Mai, Kattu*. The students demonstrate the same in cases.

		Case based learning : Provide case scenarios where siddha external therapies are needed. The students discuss about the steps and document the discussions. Duration : 40 minutes. Role play : Divide the students into groups. The students are assigned with the roles of physician and patient. Others observe the procedures. Students perform the external therapies and explain the procedures. Duration : 40 minutes. Making posters : The students are given instructions to design posters. Duration : 40 minutes.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**

Table 4 : NLHT Activity

(*Refer table 3 of similar activity number)

Activity No*	CO No	Activity details
1.1	CO1	Demonstration of neonatal reflexes.
1.2	CO3	Recitation of poems
1.3	CO1	Designing a newborn care unit.
1.4	CO1	Identification and documentation of herbal medicines for umbilical cord infections.
1.5	CO1	Resuscitation of distressed newborn.
2.1	CO1	Preparation of a list of common complementary foods.
2.2	CO1,CO6	Designing a lactation enhancement plan.
3.1	CO1	Identification of Siddha immunization priciples.
3.2	CO1	Traditional practices to strengthen immunity.
3.3	CO1	Integration of Siddha and modern principles of immunization.
4.1	CO2	Description of fetal growth as per literature.
4.2	CO2	Comparison of *Paruvangal* of children with developmental milestones.
4.3	CO2	Assessment of developmental milestones.
4.4	CO2,CO6	Identification and understanding of long term outcomes of developmental delays.
5.1	CO2,CO6	Significance of physical growth in growth disorders.
5.2	CO2,CO6	Interpretation of lab investigations.
5.3	CO2,CO6	Discussion on Siddha diagnostic principles.

5.4	CO2,CO6	Discussion on *Envagai thervu* and *Neerkuri,Neikuri.*
6.1	CO2	Significance of traditional toys .
6.2	CO2	Significance of feeding tools .
6.3	CO2,CO6	Influence of food in developmental delays.
7.1	CO2,CO6,CO7	Counselling to parents.
8.1	CO2,CO6	Assessment of pshycological status of adolescents.
8.2	CO2,CO6	Assessment of nutritional status.
9.1	CO1	Caloric value of Indian foods.
9.2	CO1,CO6	Significance of physical growth in nutritional disorders.
9.3	CO1,CO6	Calculation of daily nutrient requirements in children.
9.4	CO1,CO6	Discussion on Siddha diagnostic principles.
10.1	CO1	Arrangement of screening camps in schools.
11.1	CO3,CO5,CO6,CO7	Demonstration of counselling for parents .
11.2	CO5,CO6	Preparation of ORS solution.
11.3	CO5,CO6	Identification of warning signs of gastro intestinal disorders.
11.4	CO5,CO6	Management of pediatric accidental poisoning.
12.1	CO5,CO6	Laboratory intrepretations of upper respiratory infections.
12.2	CO5,CO6	Laboratory and imaging intrepretation of *Nuraieral kaatru pai thotru* (Pneumonia).
12.3	CO5,CO6	Laboratory and imaging interpretations in primary complex.

12.4	CO5,CO6	Management of emergency situations.
13.1	CO5,CO6	Identification of murmurs.
13.2	CO5,CO6	Identification of cyanotic heart diseases.
13.3	CO5,CO6	Identification of acyanotic heart diseases.
14.1	CO5,CO6	Counselling of children with neurological disorders.
14.2	CO5,CO6	Early approach to neurological disorders.
14.3	CO5,CO6,CO7	Approach to the child with seizure .
15.1	CO5,CO6	Procedure for tepid sponging.
15.2	CO5,CO6	Traditional treatment for exanthematous fevers.
16.1	CO5,CO6	Counselling for parents.
16.2	CO5,CO6	Evaluation of a child with acute retention of urine .
17.1	CO5,CO6,CO7	Parental guidelines for duchenne muscular dystrophy.
18.1	CO4,CO5,CO6	Role of genetic counselling for parents.
18.2	CO4,CO5,CO6	AI tools and modern technologies in rare pediatric genetic diseases.
19.1	CO5,CO6,CO7	Continuous care and support for a child with endocrine disorders.
20.1	CO3,CO5,CO6	Diet in Siddha system for skin diseases.
20.2	CO3,CO4	Identification of the basic skin lesions.
21.1	CO5,CO6	Management of foreign body in ear, nose, throat (ENT) and eyes .

21.2	CO5,CO6	Approach to ear pain and conjunctivitis.
22.1	CO5,CO6	Management measures in congenital birth defects.
23.1	CO5,CO6	Demonstration of *Thokkanam, Nasiyam, Otradam, Pugai* in children.
23.2	CO5,CO6	Demonstration of *Poochu, Patru, Pottanam, Mai, Kattu* .

Table 5 : List of Practicals

(*Refer table 3 of similar activity number)

Practical No*	CO No	Practical Activity details
1.1	CO1,CO6	Newborn history taking.
1.2	CO1,CO6	Assessment of physical growth.
1.3	CO1,CO6	Assessment of vital signs.
1.4	CO1,CO6	Systemwise examination of newborn.
1.5	CO1,CO6	Common preparatory procedures in clinical examination.
2.1	CO1,CO6	Breast feeding history taking.
2.2	CO1,CO6	Breast examination
2.3	CO1,CO6	Development of weaning plan.
3.1	CO1	Evaluation of immunization records.
3.2	CO1	Documentation of immunization history.
3.3	CO1	Administration of *Urai mathirai* and *Sei nei.*
3.4	CO1,CO7	Counselling on Siddha immunization principles.
4.1	CO2,CO6	Assessment of physical growth and vital signs.
4.2	CO2,CO6	Assessment of gross motor developmental milestones.
4.3	CO2,CO6	Assessment of fine motor developmental milestones.
4.4	CO2,CO6	Assessment of language developmental milestones.
4.5	CO2,CO6	Assessment of social and emotional developmental milestones.

5.1	CO2,CO6	Clinical examination of short stature.
5.2	CO2,CO6	Clinical examination of failure to thrive.
5.3	CO2,CO6	Management plan for growth disorders.
6.1	CO2,CO6	Assessment of *Envagaithervu, Neerkuri* and *Neikuri.*
6.2	CO2,CO6	Clinical examination of cerebral palsy.
6.3	CO2,CO6	Clinical examination and framing a management plan of autistic spectrum disorders.
7.1	CO2,CO6	Assessment of physical growth and vital signs .
7.2	CO2,CO6	Clinical examination of behavioural problems.
7.3	CO2,CO6	Assessment of behaviour problems.
7.4	CO2,CO6	Interpretation of questionners for behaviour problems.
8.1	CO2,CO6	Clinical examination of adolescents.
8.2	CO2,CO6	Management plan for adolescent problems.
9.1	CO1,CO6	Clinical examination in nutritional disorders.
9.2	CO1,CO6	Clinical differntiation of nutritional disorders
9.3	CO1,CO6	Management plan for nutritional disorders.
10.1	CO1	Arrangement of awareness programmes in college campus .
11.1	CO5	Clinical examination to evaluate a child with kazhichal.
11.2	CO1,CO5	Clinical examination to assess *akkaram.*
12.1	CO5,CO6	Clinical examination to assess respiratory disorders .

13.1	CO5	Clinical examination of Cardio Vascular system.
14.1	CO5	Clinical examination of central nervous system.
14.2	CO1,CO5,CO7	Clinical examination of a child with *Bala pakka vatham.* .
15.1	CO5	Clinical examination to assess infectious diseases.
16.1	CO5,CO6	Clinical examination of genito urinary disorders.
17.1	CO5,CO6	Siddha external therapies for musculo skelatal disorders .
17.2	CO5,CO6	Clinical examination to assess musculo skeletal disorder.
18.1	CO5	Clinical examination to assess genetic disorders.
19.1	CO2	Clinical examination of endocrine disorders.
20.1	CO1,CO5	Clinical examination of *Bala karappan*
20.2	CO1,CO5	Clinical examination of *Sirangu* (scabies).
21.1	CO5	Clinical examination to assess ENT and eye diseases
22.1	CO5	Clinical examination to assess congenital birth defects.

Table 6 : Assessment Summary: Assessment is subdivided in A to H points

6 A : Number of Papers and Marks Distribution

Subject Code	Papers	Theory	Practical/Clinical Assessment (150)					Grand Total
			Practical	Viva	Elective	IA	Sub Total	
SIDUG-KM	2	200	100	30	-	20	150	350

6 B : Scheme of Assessment (Formative and Summative)

PROFESSIONAL COURSE	FORMATIVE ASSESSMENT			SUMMATIVE ASSESSMENT
	First Term (1-6 Months)	Second Term (7-12 Months)	Third Term (13-18 Months)	
Third	3 PA & First TT	3 PA & Second TT	3 PA	**UE****

PA: Periodical Assessment; **TT:** Term Test; **UE:** University Examinations; **NA:** Not Applicable.
**University Examination shall be on entire syllabus

6 C : Calculation Method for Internal assessment Marks

Term	Periodical Assessment*				Term Test**	Term Assessment	
	A	B	C	D	E	F	G
	1 (20)	2 (20)	3 (20)	Average **(A+B+C/ 3)** (20)	Term Test (MCQ+SAQ+LAQ and Practical) (Converted to 20)	Sub Total	Term Assessment
First						**D+E**	**D+E /2**
Second						**D+E**	**D+E /2**
Third					NIL		**D**
Final IA	**Average of Three Term Assessment Marks as Shown in 'G' Column**						
	* Select an Evaluation Methods which is appropriate for the objectives of Topics from the Table 6 D. Convert it to 20 marks. ** Conduct Theory (100 Marks) (MCQ (20*1 Marks), SAQ (8*5), LAQ (4*10)) and Practical (100 Marks) Then convert to 20 Marks.						

6 D : Evaluation Methods for Periodical Assessment

S. No.	Evaluation Methods
1.	Practical / Clinical Performance
2.	Viva Voce, MCQs, MEQ (Modified Essay Questions/Structured Questions)
3.	Open Book Test (Problem Based)
4.	Summary Writing (Research Papers/ Samhitas)
5.	Class Presentations; Work Book Maintenance
6.	Problem Based Assignment
7.	Objective Structured Clinical Examination (OSCE), Objective Structured Practical Examination (OPSE), Mini Clinical Evaluation Exercise (Mini-CEX), Direct Observation of Procedures (DOP), Case Based Discussion (CBD)
8.	Extra-curricular Activities, (Social Work, Public Awareness, Surveillance Activities, Sports or Other Activities which may be decided by the department).
9.	Small Project
10.	Activities Indicated in Table 3 - Column G3 as per Indicated I, II or III term in column I3.

Topics for Periodic Assessments

Exam type	Paper 1	Paper 2
PA1	Topic No-1	Topic No-11
PA 2	Topic No-2	Topic No-12,
PA 3	Topic No-3	Topic No-13,14
TT 1	Topic No-1,2,3	Topic No-11,12,13,14
PA 4	Topic No-4	Topic No-15
PA 5	Topic No-5	Topic No-16,17
PA 6	Topic No-6,7	Topic No18,19
TT 2	Topic No-4,5,6,7	Topic No-15,16,17,18,19
PA 7	Topic No-8	Topic No-20
PA 8	Topic No-9	Topic No-21
PA 9	Topic No-10	Topic No-22,23

6 E : Question Paper Pattern

III PROFESSIONAL B.S.M.S EXAMINATIONS

SIDUG-KM

PAPER-I

Time: 3 Hours Maximum Marks: 100

INSTRUCTIONS: All questions compulsory

		Number of Questions	**Marks per question**	**Total Marks**
Q 1	MULTIPLE CHOICE QUESTIONS (MCQ)	20	1	20
Q 2	SHORT ANSWER QUESTIONS (SAQ)	8	5	40
Q 3	LONG ANSWER QUESTIONS (LAQ)	4	10	40
				100

Similar for Paper II.

6 F : Distribution of theory examination

Paper 1 (KUZHANTHAI MARUTHUVAM (PEDIATRICS PAPER) -1)					
Sr. No	**A List of Topics**	**B Marks**	**MCQ**	**SAQ**	**LAQ**
1	**Pachilam Kuzhanthaiyin Paramarippu (Care Of New Born)**	14	Yes	Yes	Yes
2	**Pachilam Matrum Ilam Kuzhanthaigalin Unavu (Feeding in Infants and Young children)**	9	Yes	Yes	No
3	**Vaccine Preventable diseases (Immunization)**	7	Yes	Yes	No
4	**Kuzhanthaigalin Iyalpana Udal Matrum Thiran Valarchi Nilaigal(Normal growth and development in children)**	7	Yes	Yes	No
5	**Kuzhanthaigalin Valarchi Kuraipadugal (Growth disorders in children)**	16	Yes	Yes	Yes
6	**Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children)**	16	Yes	Yes	Yes
7	**Kuzhanthaigalin Nadathai Kuraipadugal (Behavioural problems in children)**	6	Yes	Yes	No
8	**Pathin Paruvam (Adolescence)**	6	Yes	Yes	No
9	**Kuzhanthaigalin Iyalpana Ootachathum Ootachathu Kuraipadukalum(Normal Nutrition and Nutritional disorders)**	17	Yes	Yes	Yes
10	**National Health Programmes related to Children**	2	Yes	No	No
Total Marks		**100**			

Paper 2 (KUZHANTHAI MARUTHUVAM (PEDIATRICS) - PAPER II)					
Sr. No	**A List of Topics**	**B Marks**	**MCQ**	**SAQ**	**LAQ**
11	**Seerana Uruppu Mandala Noigal (Gastro intestinal disorders)**	11	Yes	Yes	Yes
12	**Suvaasa Noikal (Respiratory Disorders)**	11	Yes	Yes	Yes
13	**Thamaraga Noikal (Cardio Vascular disorders)**	10	Yes	Yes	Yes
14	**Narambu mandala Noikal (Neurological disorders)**	11	Yes	Yes	Yes
15	**Thotru Noikal (Infectious Diseases)**	8	Yes	Yes	No
16	**Janana Uruppu Mandala Noikal (Genito Urinary Disorders)**	5	Yes	Yes	No
17	**Thasai Matrum Enbu Kuraipadugal (Musculo skeletal disorders)**	10	Yes	Yes	Yes

18	**Marabanu Kuraipadugal (Genetic disorders)**	7	Yes	Yes	No
19	**Naalamillaa Surappigalin Kuraipadugal (Endocrine disorders)**	5	Yes	Yes	No
20	**Thol Noigal (Skin Diseases)**	10	Yes	Yes	Yes
21	**Sevi mooku thondai & Kann Noikal (ENT and Eye diseases)**	5	Yes	Yes	No
22	**Piravi Kuraipaadugal (Congenital birth defects)**	5	Yes	Yes	No
23	**Varmam Matrum Pura Maruthuvam**	2	Yes	No	No
Total Marks		**100**			

6 G : Instructions for UG Paper Setting & Blue print

1. All questions shall be compulsory.
2. The maximum marks for one question paper shall be 100.
3. Questions shall be drawn based on Table 6F, which provides the topic name, types of questions (MCQ(Multiple Choice Question), SAQ(Short Answer Question), LAQ(Long Answer Question)).
4. The marks assigned in Table 6F for each topic/group of topics shall be considered as the maximum allowable marks for that topic/group of topics.
5. Ensure that the total marks allocated per topic/group of topics do not exceed the limits specified in Table 6F.
6. Refer to Table 6F before setting the questions. Questions shall be framed only from topics where the type is marked as “YES”, and avoided if marked as “NO”.
7. Each 100-mark question paper shall contain:
   - 20 MCQs
   - 8 SAQs
   - 4 LAQs
8. MCQs:
   - Majority shall be drawn from the Must to Know part of the syllabus.
   - Questions from the Desirable to Know part of syllabus shall not exceed 3.
   - Questions from the Nice to Know part of syllabus shall not exceed 2.
9. SAQs:
   - Majority shall be drawn from the Must to Know part of the syllabus.
   - Questions from the Desirable to Know part of syllabus shall not exceed 1.
   - No questions shall be drawn from the Nice to Know part of syllabus.
   - SAQs shall assess understanding, application, and analysis, rather than simple recall.
10. LAQs:
    - All LAQs shall be drawn exclusively from the Must to Know part of the syllabus.
    - No questions shall be taken from the Desirable to Know or Nice to Know part of the syllabus.
    - Number of LAQs should not exceed one per topic unless maximum marks exceed 20 for the topic.
11. Long Answer Questions shall be structured to assess higher cognitive abilities, such as application, analysis, and synthesis.
12. Follow the guidelines in User Manual III for framing MCQs, SAQs, and LAQs.

Demo Blueprint for Illustration. Blue printing should be done based on Instructions for Question paper setting and using 6 F table.

Paper No:1		
Question No	**Type of Question**	**Question Paper Format**
Q1	**Multiple choice Questions** **20 Questions** **1 mark each** **All compulsory**	1. Kuzhanthaigalin Iyalpana Ootachathum Ootachathu Kuraipadukalum(Normal Nutrition and Nutritional disorders) / Kuzhanthaigalin Nadathai Kuraipadugal (Behavioural problems in children) / Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children) / Pachilam Matrum Ilam Kuzhanthaigalin Unavu (Feeding in Infants and Young children) 2. National Health Programmes related to Children / Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children) / Kuzhanthaigalin Valarchi Kuraipadugal (Growth disorders in children) / Pachilam Kuzhanthaiyin Paramarippu (Care Of New Born) 3. Kuzhanthaigalin Nadathai Kuraipadugal (Behavioural problems in children) / Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children) / Pachilam Matrum Ilam Kuzhanthaigalin Unavu (Feeding in Infants and Young children) 4. Kuzhanthaigalin Iyalpana Ootachathum Ootachathu Kuraipadukalum(Normal Nutrition and Nutritional disorders) / Pathin Paruvam (Adolescence) / Kuzhanthaigalin Valarchi Kuraipadugal (Growth disorders in children) / Vaccine Preventable diseases (Immunization) 5. Kuzhanthaigalin Nadathai Kuraipadugal (Behavioural problems in children) / Kuzhanthaigalin Iyalpana Udal Matrum Thiran Valarchi Nilaigal(Normal growth and development in children) / Pachilam Kuzhanthaiyin Paramarippu (Care Of New Born) 6. Pathin Paruvam (Adolescence) / Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children) / Vaccine Preventable diseases (Immunization) 7. Kuzhanthaigalin Iyalpana Ootachathum Ootachathu Kuraipadukalum(Normal Nutrition and Nutritional disorders) / Kuzhanthaigalin Nadathai Kuraipadugal (Behavioural problems in children) / Kuzhanthaigalin Valarchi Kuraipadugal (Growth disorders in children) /

			Pachilam Kuzhanthaiyin Paramarippu (Care Of New Born) 8. Kuzhanthaigalin Nadathai Kuraipadugal (Behavioural problems in children) / Kuzhanthaigalin Iyalpana Udal Matrum Thiran Valarchi Nilaigal(Normal growth and development in children) / Pachilam Matrum Ilam Kuzhanthaigalin Unavu (Feeding in Infants and Young children) 9. Pathin Paruvam (Adolescence) / Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children) / Kuzhanthaigalin Valarchi Kuraipadugal (Growth disorders in children) / Vaccine Preventable diseases (Immunization) 10. Pathin Paruvam (Adolescence) / Kuzhanthaigalin Valarchi Kuraipadugal (Growth disorders in children) / Pachilam Kuzhanthaiyin Paramarippu (Care Of New Born) 11. Kuzhanthaigalin Iyalpana Ootachathum Ootachathu Kuraipadukalum(Normal Nutrition and Nutritional disorders) / Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children) / Pachilam Matrum Ilam Kuzhanthaigalin Unavu (Feeding in Infants and Young children) 12. Kuzhanthaigalin Nadathai Kuraipadugal (Behavioural problems in children) / Kuzhanthaigalin Valarchi Kuraipadugal (Growth disorders in children) / Pachilam Kuzhanthaiyin Paramarippu (Care Of New Born) 13. Pathin Paruvam (Adolescence) / Kuzhanthaigalin Valarchi Kuraipadugal (Growth disorders in children) / Pachilam Kuzhanthaiyin Paramarippu (Care Of New Born) 14. Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children) / Kuzhanthaigalin Iyalpana Udal Matrum Thiran Valarchi Nilaigal(Normal growth and development in children) / Vaccine Preventable diseases (Immunization) 15. Kuzhanthaigalin Iyalpana Ootachathum Ootachathu Kuraipadukalum(Normal Nutrition and Nutritional disorders) / Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children) / Pachilam Kuzhanthaiyin Paramarippu (Care Of New Born) 16. Kuzhanthaigalin Iyalpana Ootachathum Ootachathu Kuraipadukalum(Normal Nutrition and Nutritional disorders) / Kuzhanthaigalin

		Valarchi Kuraipadugal (Growth disorders in children) / Vaccine Preventable diseases (Immunization) 17. Kuzhanthaigalin Iyalpana Ootachathum Ootachathu Kuraipadukalum(Normal Nutrition and Nutritional disorders) / Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children) / Kuzhanthaigalin Iyalpana Udal Matrum Thiran Valarchi Nilaigal(Normal growth and development in children) 18. Kuzhanthaigalin Iyalpana Ootachathum Ootachathu Kuraipadukalum(Normal Nutrition and Nutritional disorders) / Kuzhanthaigalin Valarchi Kuraipadugal (Growth disorders in children) / Pachilam Kuzhanthaiyin Paramarippu (Care Of New Born) 19. Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children) / Kuzhanthaigalin Valarchi Kuraipadugal (Growth disorders in children) / Vaccine Preventable diseases (Immunization) 20. Kuzhanthaigalin Iyalpana Ootachathum Ootachathu Kuraipadukalum(Normal Nutrition and Nutritional disorders) / Kuzhanthaigalin Nadathai Kuraipadugal (Behavioural problems in children) / Kuzhanthaigalin Iyalpana Udal Matrum Thiran Valarchi Nilaigal(Normal growth and development in children) / Pachilam Kuzhanthaiyin Paramarippu (Care Of New Born)
Q2	**Short answer Questions** **8 Questions** **5 Marks Each** **All compulsory**	1. Kuzhanthaigalin Iyalpana Udal Matrum Thiran Valarchi Nilaigal(Normal growth and development in children) / Pachilam Kuzhanthaiyin Paramarippu (Care Of New Born) 2. Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children) / Kuzhanthaigalin Valarchi Kuraipadugal (Growth disorders in children) 3. Kuzhanthaigalin Iyalpana Ootachathum Ootachathu Kuraipadukalum(Normal Nutrition and Nutritional disorders) / Pachilam Matrum Ilam Kuzhanthaigalin Unavu (Feeding in Infants and Young children) 4. Pathin Paruvam (Adolescence) / Kuzhanthaigalin Valarchi Kuraipadugal (Growth disorders in children) 5. Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children) / Pachilam Kuzhanthaiyin Paramarippu (Care Of New Born) 6. Kuzhanthaigalin Iyalpana Ootachathum

		Ootachathu Kuraipadukalum(Normal Nutrition and Nutritional disorders) / Kuzhanthaigalin Nadathai Kuraipadugal (Behavioural problems in children) 7. Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children) / Vaccine Preventable diseases (Immunization) 8. Kuzhanthaigalin Iyalpana Oothachathum Ootachathu Kuraipadukalum(Normal Nutrition and Nutritional disorders) / Kuzhanthaigalin Valarchi Kuraipadugal (Growth disorders in children)
Q3	**Long answer Questions** **4 Questions** **10 marks each** **All compulsory**	1. Pachilam Kuzhanthaiyin Paramarippu (Care Of New Born) 2. Kuzhanthaigalin Valarchi Kuraipadugal (Growth disorders in children) 3. Kuzhanthaigalin Thiran Valarchi Kuraipadugal (Developmental disorders in children) 4. Kuzhanthaigalin Iyalpana Oothachathum Ootachathu Kuraipadukalum(Normal Nutrition and Nutritional disorders)
Paper No:2		
Question No	**Type of Question**	**Question Paper Format**
Q1	**Multiple choice Questions** **20 Questions** **1 mark each** **All compulsory**	1. Piravi Kuraipaadugal (Congenital birth defects) / Narambu mandala Noikal (Neurological disorders) / Seerana Uruppu Mandala Noigal (Gastro intestinal disorders) 2. Varmam Matrum Pura Maruthuvam / Marabanu Kuraipadugal (Genetic disorders) / Thotru Noikal (Infectious Diseases) / Suvaasa Noikal (Respiratory Disorders) 3. Naalamillaa Surappigalin Kuraipadugal (Endocrine disorders) / Thasai Matrum Enbu Kuraipadugal (Musculo skeletal disorders) / Narambu mandala Noikal (Neurological disorders) 4. Piravi Kuraipaadugal (Congenital birth defects) / Marabanu Kuraipadugal (Genetic disorders) / Suvaasa Noikal (Respiratory Disorders) 5. Varmam Matrum Pura Maruthuvam / Thol Noigal (Skin Diseases) / Janana Uruppu Mandala Noikal (Genito Urinary Disorders) / Seerana Uruppu Mandala Noigal (Gastro intestinal disorders) 6. Naalamillaa Surappigalin Kuraipadugal (Endocrine disorders) / Thotru Noikal (Infectious Diseases) / Thamaraga Noikal (Cardio Vascular disorders)

		7. Piravi Kuraipaadugal (Congenital birth defects) / Thasai Matrum Enbu Kuraipadugal (Musculo skeletal disorders) / Suvaasa Noikal (Respiratory Disorders) 8. Sevi mooku thondai & Kann Noikal (ENT and Eye diseases) / Janana Uruppu Mandala Noikal (Genito Urinary Disorders) / Thamaraga Noikal (Cardio Vascular disorders) 9. Marabanu Kuraipadugal (Genetic disorders) / Narambu mandala Noikal (Neurological disorders) / Seerana Uruppu Mandala Noigal (Gastro intestinal disorders) 10. Sevi mooku thondai & Kann Noikal (ENT and Eye diseases) / Thasai Matrum Enbu Kuraipadugal (Musculo skeletal disorders) / Thamaraga Noikal (Cardio Vascular disorders) 11. Piravi Kuraipaadugal (Congenital birth defects) / Thol Noigal (Skin Diseases) / Narambu mandala Noikal (Neurological disorders) / Seerana Uruppu Mandala Noigal (Gastro intestinal disorders) 12. Sevi mooku thondai & Kann Noikal (ENT and Eye diseases) / Janana Uruppu Mandala Noikal (Genito Urinary Disorders) / Suvaasa Noikal (Respiratory Disorders) 13. Naalamillaa Surappigalin Kuraipadugal (Endocrine disorders) / Thasai Matrum Enbu Kuraipadugal (Musculo skeletal disorders) / Seerana Uruppu Mandala Noigal (Gastro intestinal disorders) 14. Thol Noigal (Skin Diseases) / Janana Uruppu Mandala Noikal (Genito Urinary Disorders) / Thamaraga Noikal (Cardio Vascular disorders) 15. Piravi Kuraipaadugal (Congenital birth defects) / Naalamillaa Surappigalin Kuraipadugal (Endocrine disorders) / Narambu mandala Noikal (Neurological disorders) / Suvaasa Noikal (Respiratory Disorders) 16. Thol Noigal (Skin Diseases) / Janana Uruppu Mandala Noikal (Genito Urinary Disorders) / Seerana Uruppu Mandala Noigal (Gastro intestinal disorders) 17. Sevi mooku thondai & Kann Noikal (ENT and Eye diseases) / Thasai Matrum Enbu Kuraipadugal (Musculo skeletal disorders) / Suvaasa Noikal (Respiratory Disorders) 18. Marabanu Kuraipadugal (Genetic disorders) / Narambu mandala Noikal (Neurological disorders) 19. Thol Noigal (Skin Diseases) / Marabanu

		Kuraipadugal (Genetic disorders) / Thamaraga Noikal (Cardio Vascular disorders) 20. Sevi mooku thondai & Kann Noikal (ENT and Eye diseases) / Naalamillaa Surappigalin Kuraipadugal (Endocrine disorders) / Thotru Noikal (Infectious Diseases)
Q2	**Short answer Questions** **8 Questions** **5 Marks Each** **All compulsory**	1. Marabanu Kuraipadugal (Genetic disorders) / Thamaraga Noikal (Cardio Vascular disorders) / Seerana Uruppu Mandala Noigal (Gastro intestinal disorders) 2. Janana Uruppu Mandala Noikal (Genito Urinary Disorders) / Suvaasa Noikal (Respiratory Disorders) 3. Thasai Matrum Enbu Kuraipadugal (Musculo skeletal disorders) / Seerana Uruppu Mandala Noigal (Gastro intestinal disorders) 4. Thotru Noikal (Infectious Diseases) / Suvaasa Noikal (Respiratory Disorders) 5. Thol Noigal (Skin Diseases) / Narambu mandala Noikal (Neurological disorders) 6. Naalamillaa Surappigalin Kuraipadugal (Endocrine disorders) / Thasai Matrum Enbu Kuraipadugal (Musculo skeletal disorders) 7. Thol Noigal (Skin Diseases) / Narambu mandala Noikal (Neurological disorders) 8. Sevi mooku thondai & Kann Noikal (ENT and Eye diseases) / Thamaraga Noikal (Cardio Vascular disorders)
Q3	**Long answer Questions** **4 Questions** **10 marks each** **All compulsory**	1. Thasai Matrum Enbu Kuraipadugal (Musculo skeletal disorders) / Seerana Uruppu Mandala Noigal (Gastro intestinal disorders) 2. Suvaasa Noikal (Respiratory Disorders) 3. Thol Noigal (Skin Diseases) / Thamaraga Noikal (Cardio Vascular disorders) 4. Narambu mandala Noikal (Neurological disorders)

6 H : Distribution of Practical Exam

S.No	Heads	Marks
1	Major - Clinical Examination of the patient through Long Case Duration : 1.30hrs Procedure – Writing the clinical findings as per case sheet model. Complaints & Duration – 5 Marks Pothu Parisothanai (Vital Signs & Anthropometry) – 10 Marks Sirappu Parisothanai – 10 Marks Assessing dearangement in Udaal Thathukkal/ Uyir Thathukkal - 5 Marks Assessment of Ennvagai Thervu – 10 Marks Laboratory Investigations – 5 Marks Noi Kanippu Vivatham – 5 Marks Mukkutra verupadugal - 5 Marks Noi Kanippu - 5 Marks Prescription of one day medicine – 5 Marks Medical & Dietary Advise – 5 Marks	70
2	Minor Clinical Duration : 30 minutes A. Procedure – OPD based Diagnosis -Duration: 20 minutes Complaints & Duration – 2 Marks Pothu Parisothanai – 2 Marks Investigations – 2 Marks Noi Kanippu – 2 Marks	20

	Medical & Dietary Advise – 2 Marks B. Spotters - Duration - 10 minutes Students will identify,interpret and explain clinical findings,instruments,investigations relevant to subject. Spotter 1 Identification: - 2.5 marks Interpretation - 2.5 marks Spotter 2 Identification: - 2.5 marks Interpretation - 2.5 marks	
3	Case Sheet - Total number of cases to be documented in case sheet is 10	10
4	Viva - The internal and external examiners will conduct the viva, each awarding 15 marks, for a total of 30 marks.	30
5	Internal Assessment	20
Total Marks		**150**

References Books/ Resources

S.No	Resources
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Abbreviations

Domain		T L Method		Level		Assessment		Integration	
CK	Cognitive/Knowledge	L	Lecture	K	Know	T-CS	Theory case study	V-SATV	V-SATV
CC	Cognitive/Comprehension	L&PPT	Lecture with PowerPoint presentation	KH	Knows how	T-OBT	Theory open book test	V-UK	V-UK
CAP	Cognitive/Application	L&GD	Lecture & Group Discussion	SH	Shows how	P-VIVA	Practical Viva	V-UT	V-UT
CAN	Cognitive/Analysis	L_VC	Lecture with Video clips	D	Does	P-REC	Practical Recitation	V-UV	V-UV
CS	Cognitive/Synthesis	REC	Recitation			P-EXAM	Practical exam	V-NU	V-NU
CE	Cognitive/Evaluation	SY	Symposium			PRN	Presentation	V-MT	V-MT
PSY-SET	Psychomotor/Set	TUT	Tutorial			P-PRF	Practical Performance	V-GMM	V-GMM
PSY-GUD	Psychomotor/Guided response	DIS	Discussions			P-SUR	Practical Survey	V-GMK	V-GMK
PSY-MEC	Psychomotor/Mechanism	BS	Brainstorming			P-EN	Practical enact	V-SSM-NM	V-SSM-NM
PSY-ADT	Psychomotor Adaptation	IBL	Inquiry-Based Learning			P-RP	Practical Role play	V-NN1	V-NN1
PSY-ORG	Psychomotor/Origination	PBL	Problem-Based Learning			P-MOD	Practical Model	V-NN2	V-NN2
AFT-REC	Affective/ Receiving	CBL	Case-Based Learning			P-POS	Practical Poster	V-NAVO	V-NAVO
AFT-RES	Affective/Responding	PrBL	Project-Based Learning			P-CASE	Practical Case taking	H-MM	H-MM
AFT-VAL	Affective/Valuing	TBL	Team-Based Learning			P-ID	Practical identification	H-VPS	H-VPS
AFT-SET	Affective/Organization	TPW	Team Project Work			P-PS	Practical Problem solving	H-AM	H-AM
AFT-CHR	Affective/ characterization	FC	Flipped Classroom			QZ	Quiz	H-SMM	H-SMM
PSY-PER	Psychomotor/perception	BL	Blended Learning			PUZ	Puzzles	H-KM	H-KM
PSY-COR	Psychomotor/ Complex Overt Response	EDU	Edutainment			CL-PR	Class Presentation	H-RM	H-RM
		ML	Mobile Learning			DEB	Debate		
		ECE	Early Clinical Exposure			WP	Word puzzle		
		SIM	Simulation			O-QZ	Online quiz		
		RP	Role Plays			O-GAME	Online game-based assessment		
		SDL	Self-directed learning			M-MOD	Making of Model		
		PSM	Problem-Solving Method			M-CHT	Making of Charts		

		KL	Kinaesthetic Learning			M-POS	Making of Posters		
		W	Workshops			C-INT	Conducting interview		
		GBL	Game-Based Learning			INT	Interactions		
		LS	Library Session			CR-RED	Critical reading papers		
		PL	Peer Learning			CR-W	Creativity Writing		
		RLE	Real-Life Experience			C-VC	Clinical video cases		
		PER	Presentations			SP	Simulated patients		
		D-M	Demonstration on Model			PM	Patient management problems		
		PT	Practical			CHK	Checklists		
		X-Ray	X-ray Identification			Mini-CEX	Mini-CEX		
		CD	Case Diagnosis			DOPS	DOPS		
		LRI	Lab Report Interpretation			CWS	CWS		
		DA	Drug Analysis			RS	Rating scales		
		D	Demonstration			RK	Record keeping		
		D-BED	Demonstration Bedside			COM	Compilations		
		DL	Demonstration Lab			Portfolios	Portfolios		
		DG	Demonstration Garden			Log book	Log book		
		FV	Field Visit			TR	Trainers report		
						SA	Self-assessment		
						PA	Peer assessment		
						360D	360-degree evaluation		
						PP-Practical	Practical		
						VV-Viva	Viva		
						DOAP	Demonstration Observation Assistance Performance		
						SBA	Scenario Based Assessment		
						CBA	Case based Assessment		
						S-LAQ	Structured LAQ		
						OSCE	Objective Structured Clinical Examination		
						OSPE	Objective Structured Practical Examination		

						DOPS	Direct observation of procedural skills		

COURSE CURRICULUM FOR THIRD PROFESSIONAL B.S.M.S (PRESCRIBED BY NCISM)

Research Methodology and Medical statistics

(SUBJECT CODE : SIDUG-RM)

(Applicable from 2021-22 batch, from the academic year 2024-25 onwards for 5 batches or until further notification by NCISM, whichever is earlier)

ncism

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NCISM

III Professional SIDDHA MARUTHUVA ARIGNAR
(Bachelor of Siddha Medicine and Surgery (B.S.M.S))
Subject Code : SIDUG-RM

Research Methodology and Medical statistics

Summary

Total number of Teaching hours: 150			
Lecture (LH) - Theory		**60**	**60(LH)**
Paper I	60		
Non-Lecture (NLHT)		**90**	**90(NLH)**
Paper I	90		
Non-Lecture (NLHP)		**0**	
Paper I	0		

Examination (Papers & Mark Distribution)					
Item	**Theory Component Marks**	**Practical Component Marks**			
		Practical	**Viva**	**Elective**	**IA**
Paper I	100	-	30	-	20
Sub-Total	100	50			
Total marks	150				

Important Note :- The User Manual III B.S.M.S is a valuable resource that provides comprehensive details about the curriculum file. It will help you understand and implement the curriculum. Please read the User Manual III before reading this curriculum file. The curriculum file has been thoroughly reviewed and verified for accuracy. However, if you find any discrepancies, please note that the contents related to the MSE should be considered authentic. In case of difficulty and questions regarding curriculum write to **syllabus24sid@ncismindia.org**

PREFACE

Research and statistics play a crucial role in advancing the scientific understanding of Siddha medicine. In today's world, traditional medical systems must be explored through rigorous scientific methods to establish their credibility as evidence-based medicine. There is an urgent need to validate the efficacy and safety of Siddha treatments using well-structured research methodologies. Understanding research methods and statistical analysis equips students with the skills to evaluate treatment efficacy, analyze data, and support Siddha medicine with scientific evidence. Additionally, these skills enhance logical thinking, problem-solving, and ultimately improve patient care.

This syllabus covers essential research topics, including types of research, study designs, research ethics, intellectual property rights (IPR), data collection and analysis techniques, evidence-based medicine, clinical trials, and scientific writing. Students will also learn to follow internationally recognized research guidelines such as PRISMA, CARE, CONSORT, and STROBE, ensuring the reliability and credibility of their studies. The teaching-learning (TL) methods include lectures, hands-on training, discussions, and the use of research tools and databases.

By integrating research and statistics into the Siddha curriculum, students will be better equipped to publish scientific papers, contribute to medical advancements, and support the globalization of Siddha medicine. Furthermore, applying modern research methodologies to traditional Siddha concepts, diagnostics, and therapeutics ensures that this time-tested system continues to evolve as a scientifically validated and evidence-based medical discipline.

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Course Code and Name of Course

Course code	Name of Course
SIDUG-RM	Research Methodology and Medical-statistics

Table 1 : Course learning outcomes and mapped PO

SR1 CO No	A1 Course learning Outcomes (CO) SIDUG-RM At the end of the course SIDUG-RM, the students should be able to-	B1 Course learning Outcomes mapped with program learning outcomes.
CO1	Explain and utilize basic research methods and statistical concepts.Explain and utilize basic research methods and statistical concepts.	PO6,PO8
CO2	Distinguish, analyse and apply basic research types. Recognize their application in Siddha.	PO6,PO8
CO3	Explore and utilize various databases and guidelines.	PO6,PO8
CO4	Distinguish, analyse and apply basic statistical tests. Recognize their application in Siddha.	PO4,PO6,PO8
CO5	Apply ethical aspect in conducting quality research.	PO6,PO7

Table 2 : Contents of Course

Paper 1 (RESEARCH METHODOLOGY AND MEDICAL STATISTICS)						
Sr. No	**A2 List of Topics**	**B2 Term**	**C2 Marks**	**D2 Lecture hours**	**E2 Non-Lecture hours Theory**	**F2 Non-Lecture hours Practical**
1	**Introduction to Research** This topic explains the definition, objectives and scope of research and its historical evolution. The topic also enables the students to have deeper understanding on the concepts of research in Siddha system (*Alavaikal*) Objectives Scope Historical background of research a. Classical (Siddha research concepts-*Alavaikal*) b. Contemporary science	1	12	3	5	0
2	**Evidence Based Medicine and Integrative Medicine** This topic elaborates on Evidence based medicine, Levels of evidence and integrative medicine Contents and principles Levels of Evidence Integrative medicine	1		2	2	0
3	**Types of Research** This topic enables the student to understand and distinguish between various types of research - Basic, Applied and Translational,Qualitaive, Quantitative, Mixed, Observational , Interventional, Descriptive and Analytical research a. Basic, Applied and Translational b. Qualitative,Quantitative and Mixed c. Descriptive, Analytical d. Observational, Interventional	1		4	4	0
4	**Research Designs** This topic describes various type of study designs with suitable examples, Clinical trial phases,	1	12	10	10	0

	Prerequisites for a clinical trial , Preclinical methods, Systematic review and meta analysis. a.Case Reports Case series Cross sectional Cohort study Case Control b.Clinical trial Pilot trials Phases of Clinical trial Randomized Controlled Trial Prerequisites for Clinical trial Research protocol Case report form Informed consent form Preclinical methods Systematic review and meta-analysis					
5	**Research Ethics** This topic enables the student to understand the composition and roles of Ethics committee, Publication ethics -Plagiarism and Orientation to various research Regulatory Bodies • Need and significance • Informed consent form • IEC and IAEC • Publication ethics – Plagiarism • Orientation to Research regulatory bodies CDSCO, ICMR, CCSEA, ICH	1	10	2	4	0
6	**Research Process** The present topic provides a step by step approach from selection of research topic , conduction of literature review, process of research, data collection methods and tools, data interpretation and Reporting of research, Scientific writing and stepwise preparation for conference presentations (Oral/Poster) a. Identifying a problem & Selection of topic b. Review of literature. c. Literature search & use of MeSH, boolean	2	15	8	12	0

	terms d. Formulation of Hypothesis e. Framing Aims and Objectives. f. Conducting the research (data collection methods, analysis method, interpretation and conclusion) g. Error, bias and confounding h. Validity and reliability studies --*En vagai thervu, Yakkai ilakkanam* a. Reporting of research ,Scientific writing, j. Encourage the student to Conference presentation (Oral/Poster) /participation* & publication in journal,scientific magazines,newsletters.					
7	**Various database and Portals** This topic orients the students to various research portals, databases and guidelines such as AYUSH Research Portal, NAMASTE Portal, Siddha I-ABC, SEARCHi, A-HMIS PubMed, SCOPUS, Web of science, UGC CARE, CTRI • AYUSH Research Portal, • PubMed, • SCOPUS, • Web of science, • UGC CARE • CTRI • Siddha YI-ABC, • SEARCHi • NAMASTE Portal, • A-HMIS	2	1	4	2	0
8	**Various Guidelines to report research** This topic explains various guidelines to report research like CARE, PRISMA, ARRIVE, CONSORT, STROBE and equips the student for conference presentations GCP-AYUSH, EQUATOR Network- CARE,	2	1	2	3	0

	PRISMA, ARRIVE, CONSORT, STROBE					
9	**Intellectual Property Right (IPR) /Patent/Copyright** This topic enables student to understand Intellectual property rights, Traditional knowledge digital library and appraise the importance of Intellectual property right Intellectual Property Right (IPR) Patent/Copyright TKDL	2	9	2	1	0
10	**Research Critique** This topic enables the student to critically appraise a published research work and to be aware of journal metrics and Predatory journals a. Concept b. Definition c. Steps d. Bibliometrics (impact factor,citescore,(WOS,SCOPUS) i-10 index,H-index e. different types of reference formats f. differentiate between predatory and quality journal	2		3	7	0
11	**Introduction to Medical Statistics** The topic Basics of statistics introduces the objectives and scopes of statistics in medical research and its relevance in Siddha system 1. Objectives and Scope 2. Relevance in Siddha Medicine	2	2	1	1	0
12	**Data** The current topic describes and classifies different types of Data and scales Concept of data in medical statistics Sources of data Type of Data: Quantitative, Qualitative (categorical), Discrete, Continuous, Discontinuous, Open end.	3	2	1	2	0

	Types of Scales: Ordinal, Nominal, Interval, Ratio					
13	**Basic Statistical terms** The topic provides a basic introduction on statistical terms such as population, sample, variables and attribute a. Population b. Sample c. Variable (Dependent and Independent) d. Attribute	3	1	1	2	0
14	**Collection and Presentation of Data** This topic differentiates the types of data collection and data presentation a.Types of Data Collection [Primary, Secondary, Observation, Survey, Focus Group, Interview] b.Types of Presentation of data Textual Tabular Graphical	3	10	2	4	0
15	**Measures of Central Tendency** This topic introduces the learners about the Measures of Central tendency (Mean, Median, Mode) and its calculations a. Qualities of Good measure of central tendency b. Arithmetic Mean c. Median d. Mode	3	5	2	4	0
16	**Measures of Deviation / Dispersion / Variability** This topic explains the measures of Deviation and dispersion, Qualities of Good measure of variability Variance and its coefficient, Standard Error and its calculations. a. Qualities of Good measure of variability b. Range c. Quartile Deviation d. Mean Deviation e. Standard deviation f. Variance and its co-efficient	3		3	6	0

	g. Standard Error					
17	**Probability** The topic of probability explains its significance in research, Normal and assymetric distribution and its identifications a. Concept of Probability b. Normal Probability Curve c. Asymmetric Distribution	3	10	2	4	0
18	**Hypothesis, Test of Significance and Sampling** The present topic introduces hypothesis testing , sampling types and sample size a. Hypothesis b. Test of Significance c. Sampling and its Type d. Sample Size	3		3	5	0
19	**Parametric and non-parametric tests** The topic explains the Parametric and Non parametric tests and their application in research a. Parametric tests and their relevance in research b. Non Parametric tests and their application in research	3	8	2	4	0
20	**Correlation and regression** This topic provides a preliminary understanding on various scenarios for application of correlation and regression in medical research a. Correlation and regression	3		2	4	0
21	**Commonly used statistical software** This topic outlines the different Software used for Statistical Analysis and provides knowledge on the application of Statistical softwares.	3	2	1	4	0

	a. Statistical softwares and their applications in research					
Total Marks			**100**	**60**	**90**	**0**

Table 3 : Learning objectives of Course

Paper 1 (RESEARCH METHODOLOGY AND MEDICAL STATISTICS)										
A3 Course outcome	**B3 Learning Objective (At the end of the session, the students should be able to)**	**C3 Domain/sub**	**D3 MK / DK / NK**	**E3 Level**	**F3 T-L method**	**G3 Assessment**	**H3 Assessment Type**	**I3 Term**	**J3 Integration**	**K3 Type**
Topic 1 Introduction to Research (LH :3 NLHT: 5 NLHP: 0)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO1	Define Research, goals of research and scope of research in Siddha	CK	MK	K	L&PPT,L,L&GD	M-CHT,M-POS,INT,P-ID	F&S	1	-	LH
CO1	Discuss historical development of Contemporary research and evidence of research in Classical Literature-*Alavaigal*	CK	MK	K	DIS,PBL,L&GD,EDU,D	DEB,INT,P-REC,P-RP,P-VIVA	F&S	1	-	NLHT1.1
CO1, CO2	Discuss on the importance of logical reasoning in research and research concepts of Siddha system	CC	MK	KH	DIS,BS,TBL,PBL	P-PRF,P-PS,P-ID	F&S	1	-	NLHT1.2

Non Lecture Hour Theory

S.No	**Name of Activity**	**Description of Theory Activity**
NLHT 1.1	Role play / discussion the history and evolution of research	**Small group discussions/ Role play** **Purpose**: This activity helps students to think about the importance of scientific research and the necessity for research ethics and gudelines. After several hours of preparation time in groups (during independent study/online resources), followed by up to 20 minutes of role play or group activity for each group can be done on the historical events on the evolution of research such as (Nazi camp, Thalidomide tragedy, Tuskegee syphilis study etc)

		Time duration : 3 Hours
NLHT 1.2	Game based learning on the importance of logical reasoning in research and research concepts of Siddha system	**Game based Learning** **Purpose**: This activity helps students to understand about the importance of logical reasoning in research and research concepts of Siddha system **Activity**: Students may be divided into small groups and they may be given sufficient time to study and recall the Siddha concepts of *Alavaikal*. Each group may be motivated to frame particular scenario/story/visual picture that will involve critical thinking and ask the other groups to identify the problem/flaws/to provide a logical conclusion to the scenario. The correct identifier will be the winning group. The teacher may conclude the session by comparing *Alavaikal* concepts with logical reasoning, induction, deduction, abduction etc. **Time duration : 2 Hours**
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**

Topic 2 Evidence Based Medicine and Integrative Medicine (LH :2 NLHT: 2 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1	Explain contents, principles and levels of Evidence based Medicine	CK	MK	K	BS,L&PPT ,FC, L_VC	PRN,T-CS, INT,P-ID,DEB	F	1	-	LH
CO1	Describe Integrative Medicine and uses an evidence-based approach	CK	MK	K	L&PPT ,BS,FC, EDU	COM,P-CASE,PRN,M-POS	F	1	-	LH
CO1	Identify the level of Evidence and concept of Evidence Based	CAP	MK	K	SY,CBL	P-POS,PR	F	1	-	NLHT2.1

	Medicine and Integrative Medicine				,DIS,FV ,RP	N,P-EN,DEB				

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 2.1	Debate on Interdisciplinary Collaboration- Group activity	**Group activity** **Purpose** : Student will be able to identify the levels of evidence and the hierarchy of evidence based medicine and its necessity in AYUSH systems. **Activity**: Students will be divided into groups and each group will be priorly informed to collect published manuscripts , reports , systemic review, case reports, research articles etc on Siddha system. In the class hour, the teacher will draw levels of evidence pyramid and each group will identify the levels of evidence of their manuscripts and mark it in the pyramid on board. Through this the students will be able to identify the research lacunae and the need of evidence based medicine Make students discuss on the need for collaboration and the possibilities with various disciplines of health sciences **Time duration : 1 Hour**

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity

Topic 3 Types of Research (LH :4 NLHT: 4 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2	Explain and differentiate between Basic, Applied and Translational Research	CK	MK	K	FC,IBL, L&PPT ,PL,L	Mini-CEX, CL-PR,DEB,P-SUR,P-CASE	F&S	1	-	LH
CO1,	Define and differentiate between Qualitative, Quantitative and	CK	MK	K	RLE,BS	P-SUR,PR	F&S	1	-	LH

CO3	Mixed Research				,PrBL,L&GD,DIS	N,CL-PR,INT				
CO1, CO3	Define and differentiate between Observational and Interventional Research	CK	MK	K	SDL,L&GD,L&PPT,IBL	P-ID,P-RP,P-REC	F	1	-	LH
CO1, CO2	Describe and differentiate between Descriptive and Analytical Research	CK	MK	K	L&PPT,PrBL,IBL,BS	P-EN,PRN,P-CASE,DEB	F&S	1	-	LH
CO1, CO2	Identify and Classify of research studies	CC	MK	KH	IBL,PBL,CBL,L&GD	P-PS,P-ID,P-SUR,P-REC	F&S	1	-	NLHT3.1
CO1, CO2	Discuss on Real-World Data collection	CAP	DK	KH	TPW,D,TBL	P-RP,P-PRF,P-ID	F&S	1	-	NLHT3.2

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 3.1	Small survey	**Small group activity** **Purpose** :The students will be able to identify and remember the different types of research with examples **Activity**: A set of cards or case studies with short descriptions of various research studies (some primary, some secondary, some descriptive, some analytical, basic, applied, and translational research.) are archived and used for engaging the students or provide students with abstracts of published studies and ask them to classify them as primary, secondary, descriptive, or analytical. **Time duration :2 Hours.**

NLHT 3.2	Real-World Data Collection	**Real-World Data Collection** Have role plays on how to Conduct a small survey (Primary Research) as team on health behaviors (e.g., smartphone use and sleep patterns). **Time duration : 2 Hours**
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**

Topic 4 Research Designs (LH :10 NLHT: 10 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2	Describe Case Reports	CK	MK	K	L&PPT ,L&GD, DIS	P-POS,PRN,P-SUR,CL-PR	F&S	1	-	LH
CO1, CO3	Explain Case Series	CK	MK	K	TBL,DIS	T-CS,P-SUR,PRN	F	1	-	LH
CO1, CO3	Define and differentiate between Observational and Interventional Research	CC	MK	K	BL,PBL ,DIS,BS	P-EN,P-REC,P-MOD, M-POS	F	1	-	LH
CO1, CO3	Describe Cross sectional study and explain COHORT study	CK	MK	K	SY,L&PPT ,IBL ,TBL	P-PS,M-CHT,P-REC,P-POS,M-POS	F	1	-	LH
CO1, CO3	Describe Case Control study	CK	MK	K	IBL,CBL,REC, L&PPT	CL-PR,P-EN,P-REC	F	1	-	LH
CO1,	Describe Pilot study, Phases of clinical trail, Randomized	CK	MK	K	L&PPT	P-REC,P-P	F	1	-	LH

CO3	Controlled Trial				,SIM,REC,IBL,FC	OS,Mini-CEX				
CO1, CO3	Describe Protocol writing, case report form (CRF) and informed consent form	CK	MK	K	PBL,L&PPT ,PrBL,BS	P-EXAM,P-PS,CL-PR,P-VIVA	F	1	-	LH
CO1, CO3	Recognise and explain Preclinical studies, In Situ, In Silico, In Vivo, In Vitro	CC	MK	KH	L&GD, PBL,SY ,PrBL	P-MOD,CL-PR,PRN,P-EN	F	1	-	NLHT4.1
CO1, CO3	Describe Systematic review and Meta-analysis	CAP	MK	KH	L&GD, PBL,DIS,IBL,BS	P-EN,M-CHT,P-PRF, CL-PR,P-CASE	F	1	-	NLHT4.2
CO1, CO2, CO3	Identification of Qualitative, Quantitative and Mixed Research, Observational and Interventional studies and differentiate between them.	CK	MK	K	IBL,L&GD,SY, BS	PRN,P-POS,P-RP	F	1	-	NLHT4.3
CO1, CO2	Discussion on Identification of study design and its significance in research	CC	MK	KH	PBL,DIS,FC,CBL,L&GD	PRN,P-POS,P-CASE,P-PS	F&S	1	-	NLHT4.4
CO1, CO2	Present Symposium on various research designs	CC	DK	KH	TBL,BS ,DIS,PBL,SDL	M-CHT,P-POS,Mini-CEX,P-PS,PRN	F&S	1	-	NLHT4.5
CO1, CO2	Present of research proposal	CAP	NK	KH	DIS,BS, TBL,PER	PRN	F	1	-	NLHT4.6

CO1, CO2	Understand and identify the Preclinical methods in research	CC	NK	KH	FV,D,PER,RLE,KL	PRN,CL-PR,P-ID,M-POS,M-CHT	F&S	1	-	NLHT4.7

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 4.1	In Situ, In Silico, In Vivo, In Vitro	1. Preclinical Studies Overview 2. In Situ Studies 3. In Silico Studies Applications in drug discovery, toxicology, and disease modelingComparison with experimental methods 4. In Vivo Studies Ethical considerations and alternatives Translational research aspects 5. In Vitro Studies • Cell culture techniques and experimental setups • Applications in pharmacology and toxicology • Advantages over in vivo studies Case Studies & Literature Reviews – Students analyze real-world research articles. Simulations & Computational Tools – Exposure to in silico modeling software. Ethical Debates – Discussion on the use of animals vs. cell culture vs. computational approaches. Mini-Projects – Students propose a study design using one or more methods. **Total Duration: 3 hours**
NLHT 4.2	Systematic review and Meta-analysis	**1. Self-Directed Learning** • Reading published systematic reviews and meta-analyses in high-impact journals. • Exploring PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines.

2. Case Studies and Critical Appraisal

- Students critically evaluate published systematic reviews and meta-analyses.
- Compare methodologies, strengths, and limitations.
- Use appraisal tools such as AMSTAR (A Measurement Tool to Assess Systematic Reviews).

3. Hands-on Literature Search & Screening

- Practical use of databases (PubMed, Cochrane Library, Scopus) for systematic searching.
- Training on Boolean operators and MeSH terms.
- Screening studies using Rayyan or Covidence software.

4. Data Extraction and Synthesis

- Students practice extracting data from selected studies.
- Learn about bias assessment tools like ROBIS or Cochrane Risk of Bias Tool.
- Basic statistical interpretation of meta-analysis results (e.g., forest plots, heterogeneity measures).

5. Group Discussion and Ethical Considerations

- Ethical issues in systematic reviews and meta-analysis.
- Challenges of publication bias and reporting quality.

Experiential Learning Additions (Optional)

		• **Mini-Project**: Students develop a protocol for a systematic review. • **Peer Review Exercise**: Students assess each other's systematic review frameworks. • **Workshops with Experts**: Collaboration with research methodologists or statisticians. **Total Duration: 3 hours**
NLHT 4.3	Differences between Qualitative, Quantitative and Mixed Research, Observational and Interventional studies.	**Purpose** : The students will be able to identify, remember and differentiate between Qualitative, Quantitative and Mixed Research, Observational and Interventional studies **Activity**: A set of case studies with short description or synopsis which have Qualitative, Quantitate, observational and interventional studies are archived and used as study material. Divide students into small groups. Distribute the cards/cases randomly. Ask each group to classify the research study given to them which may be either Qualitative, Quantitate, observational and interventional studies. After categorizing, the groups explain their reasoning behind the classification. Then later teacher facilitates a discussion to clarify any misunderstandings and to reinforce key concepts **Time duration : 1 Hour**
NLHT 4.4	Group activity on Identification of study design and its significance in research	**Group activity** **Purpose** : Identify and differentiate various study designs and to frame a well structured study design **Group activity.** Teacher should ask one group (G-A) of students with subgroups to prepare multiple handouts with scenarios of different medical research questions (e.g., "Does smoking increase the risk of lung cancer?" or "What is the prevalence of hypertension in a population of 40-year-olds?"). The other group (G-B) can be divided into subgroups with names such as cross-sectional, longitudinal, cohort, or case-control). As subgroups in group-A will proclaim the research questions, the suitable subgroup in Group B will stand up and match the study design with the research questions.

		Their task is to categorize each scenario into the correct study type based on the description. After 20 minutes, ask each group to present their study type and rationale for categorizing the research scenarios. **Debrief**: Clarify the key points for each study design, emphasizing differences such as the study direction (retrospective vs. prospective), timeframes, and data types (exposure vs. outcome). Discuss how the study design choice influences the type of questions they can answer (e.g., prevalence, incidence, risk factors). **Time duration: 1 hour**
NLHT 4.5	Symposium on various research designs	**Symposium on various research designs** Students can be allotted various study designs as team work and can be presented in a symposium. **Time duration :1 hour**
NLHT 4.6	Research Proposal Presentation Exercise	**Research Proposal Presentation Exercise** Provide students with a short research template and a topic in prior with sufficient time line and let students discuss as teams and present a proposal **Time duration : 1 Hour**
NLHT 4.7	Field visit to understand Preclinical methods in research	**Field visit** Visit to Research laboratory or academic research institute with preclinical research facilities. Review each preclinical method discuss about the different methods, their applications, challenges, and ethical considerations. Ask students to reflect on which method they found most interesting or challenging and why.

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**

Topic 5 Research Ethics (LH :2 NLHT: 4 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5	Define and discuss on Ethics and its Importance in research	CK	MK	K	DIS,PBL,L&PPT ,IBL	OSPE,P-POS,PRN	F&S	1	-	LH
CO5	Enlist the Composition and procedure of IAEC and IEC	CK	MK	K	PrBL,IBL,L&PPT ,DIS	P-POS,CL-PR,P-PS	F&S	1	-	LH
CO5	Explain Publication ethics -Plagiarism	CK	MK	K	SDL,L&PPT , BS,PSM ,PrBL	CL-PR,P-EN,CHK,P-REC	F&S	1	-	LH
CO5	Discuss Orientation to Research Regulatory Bodies (CDSCO, AYUSH-GCP, ICMR, CCSEA, ICH)	CK	DK	K	KL,L&PPT ,EDU,CBL,BL	PRN,P-CASE,P-PS	F&S	1	-	LH
CO5	Discuss on responsibilities of ethics committee and its constitution	CC	MK	KH	DIS,IBL ,TUT,BS,BL	P-VIVA,CHK,P-PS,INT	F&S	1	-	NLHT5.1
CO5	Perform Role play on taking Informed consent	CAP	DK	KH	TBL,CBL,PrBL, PL,DIS	DOAP,SA, PA,C-INT	F&S	1	-	NLHT5.2
CO5	Identify ethical compliance and plagiarism in published research	CAN	NK	KH	TBL,SD	DOPS,P-ID	F	1	-	NLHT5.3

	papers				L,BL,P L,BS	,CL-PR,DOPS				

Non Lecture Hour Theory		
S.No	**Name of Activity**	**Description of Theory Activity**
NLHT 5.1	Role play on responsibilities of ethics committee and its constitution	**Role play** **Purpose** : To make the students understand the constitution and roles of Ethics committee Divide the students into groups and each group will enact in the class room and the students will be able to recognize the do's and don't's of research ethics.Make a mock Ethics committee meeting and let the students in each group assign their roles and responsibilities and have a committee meeting. Let the member secretary read out the minutes of meeting of each Ethics committee after the meeting to everyone in the class . Allot suitable topic on research ethics to each group and give sufficient time to prepare the role play. **Time duration-2 Hours**
NLHT 5.2	Role play on Informed Consent	**Role-Play** • Split students into researchers and participants. • The researchers must explain the study and obtain ethical informed consent. • Evaluate how well they ensure voluntary participation, risk disclosure, and comprehension. **Time duration-1 Hour**
NLHT 5.3	Research Ethics Audit and plagiarism	**Group activity** • Give students a published research paper and ask them to assess it for ethical compliance. • They check for informed consent, conflicts of interest, and ethical committee approval.

		• Also let them have hands on training for using plagiarism check-softwares like turnitin **Time duration: 1 hour**

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**

Topic 6 Research Process (LH :8 NLHT: 12 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1	Describe the process for Selection of topic for research	CK	MK	K	BS,DIS,IBL,L&PPT,PBL	CL-PR,INT,P-VIVA	F&S	2	-	LH
CO2, CO3	Conduct Literature Search in Medical Databases, MeSH terms, Boolean search	PSY-GUD	MK	K	BL,PrBL,PBL,L&PPT,EDU	P-CASE,P-SUR,P-EN,OSPE,O-GAME	F&S	2	-	LH
CO1, CO4	Describe the process of Formulation of Hypothesis	CK	MK	K	CBL,FC,SY,L&PPT,BL	CL-PR,DEB,INT,P-PS,PRN	F&S	2	-	LH
CO1	Explain Aims and Objectives of Research	CK	MK	K	PBL,IBL,BS,TPW,L&GD	P-REC,P-ID,DEB	F&S	2	-	LH
CO1, CO2,	Describe the procedure to conduct of Research (data collection, methods of validating Siddha assessment tools in terms of validity	CK	MK	K	PrBL,LS,SDL,	P-SUR,CL-PR,P-MOD	F&S	2	-	LH

CO4	and reliability)				L&PPT ,PBL	,T-CS,P-PRF				
CO1, CO2, CO5	Explains various tools to removing Bias and Confounding	CK	DK	K	DIS,SIM,RP,BS,L&PPT	VV-Viva,DOAP,CBA	F&S	2	-	LH
CO1, CO2, CO3, CO4	Define Analysis and Interpretation of Results and conclusions.	CK	MK	K	IBL,ML ,FC,L&PPT	QZ ,CR-RED,VV-Viva ,RK,COM	F&S	2	-	LH
CO1, CO2, CO3, CO4, CO5	Explain steps of Reporting of Research (Scientific writing)	PSY-GUD	DK	KH	PER,BS ,L&PPT ,ML,EDU	CHK,PRN, P-RP,P-VIVA	F&S	2	-	LH
CO2, CO5	Explain to encourage Research Presentation (oral & Poster) and steps publication in research article or newsletter (* consider it for IA score calculation)	PSY-GUD	DK	KH	TPW,BL,L&GD,DIS	PRN,P-SUR,P-PS	F	2	-	NLHT6.1
CO2, CO5	Explain the Conduct Literature Search in Medical Databases, MeSH terms, Boolean search	PSY-GUD	MK	KH	SDL,ML,DIS,BS	DOPS,DOPS,SA,PP-Practical,VV-Viva	F&S	2	-	NLHT6.2
CO1, CO2, CO4, CO5	Identify the research topic, research problem, appraise review of literature and Formulate research hypothesis and objectives	PSY-SET	DK	KH	TBL,PrBL,L&GD,BS, RLE	P-SUR,PRN,P-PRF,P-RP	F&S	2	-	NLHT6.3
CO2,	Illustrate on Planning and conducting the research	PSY-	DK	KH	CBL,Pr	P-REC,CO	F&S	2	-	NLHT6.4

CO5		SET			BL,TPW,L&GD	M,PM,P-ID, C-VC					

Non Lecture Hour Theory		
S.No	**Name of Activity**	**Description of Theory Activity**
NLHT 6.1	Basic steps for research practice	**Foster a Research Culture** • Promote the importance of sharing research findings. • Encourage collaboration and knowledge exchange. • Provide mentorship from experienced researchers. **Identify Suitable Conferences & Journals** • Guide researchers in selecting relevant conferences (for oral/poster presentations). • Suggest appropriate journals or newsletters for publication. • Provide a list of high-impact events and submission deadlines. **Offer Training & Workshops** • Conduct workshops on effective research communication. • Provide training on poster design, presentation skills, and academic writing. • Arrange peer-review sessions to refine content before submission. **Support in Abstract & Manuscript Preparation**

- Assist in structuring abstracts for conferences.
- Guide researchers on manuscript writing, formatting, and citations.
- Encourage co-authoring with peers and mentors for quality enhancement.

Facilitate Funding & Resources

- Provide financial support for conference fees or publication costs.
- Help researchers apply for grants or institutional sponsorship.
- Offer access to design tools for poster preparation.

Encourage Peer Reviews & Feedback

- Set up internal review committees for pre-evaluation.
- Organize mock presentations for feedback and improvement.
- Create a supportive environment for constructive criticism.

Provide Recognition & Incentives

- Acknowledge successful presentations and publications.
- Offer awards or certificates for outstanding research communication.
- Highlight achievements in institutional newsletters or websites.

Streamline Submission Processes

- Guide researchers on submission timelines and requirements.
- Provide templates for posters, abstracts, and manuscripts.
- Maintain a repository of past successful submissions as references.

		Create Research Interest Groups (RIGs) • Form specialized groups based on research themes for discussions and collaboration. • Organize periodic meetings to review and discuss ongoing research. • Encourage interdisciplinary research to enhance innovation. **Establish Mentorship Programs** • Pair junior researchers with experienced mentors for guidance. • Provide personalized feedback on research, presentation, and writing skills. • Encourage networking with experts through seminars and webinars. **Organize Internal Research Presentation Days** • Set up regular research presentation events within the institution. • Encourage researchers to present their findings **Time Duration:3 hours**
NLHT 6.2	Conduct Literature Search in Medical Databases, MeSH terms, Boolean search	**Purpose** : Make the students Identify the problem, select research topic, and appraise review of literature Formulate research hypothesis and objectives Demonstration through Edu videos/ Orientation sessions by expert persons on Conduct Literature Search in Medical Databases, MeSH terms, Boolean search After Demonstartion, the students can have a hands on training sessions . **Time duration : 3 Hours**

NLHT 6.3	Identification of research topic, research problem and appraise review of literature	**Small group activity** **Purpose** : The students will be able to Identify the research topic, research problem and appraise review of literature Formulate research hypothesis and objectives and Select the appropriate materials and methods for research study. **Activity** Divide the students into four-five small groups. Each group will brainstorm possible research topics in a medical field of their choice. Ask each group to define a research problem based on the topic they selected. Example: If the topic is "Diabetes management", the research problem might be, "What are the factors affecting medication adherence in Type 2 Diabetes patients in urban areas?" Alternatively, ask the students to find a research article relevant to their topic using online databases. Ask students to Identify key findings, methods, and conclusions from the literature. Assess the gaps or limitations in the existing research. Discuss how this literature review informs their own research problem. Guide the students to frame the hypothesis for respective research question form the above activity. **Time duration : 3 Hours**
NLHT 6.4	Planning and conducting the research	**Purpose** : Students will be able to recognise Planning and conducting the research Start with a brief discussion of the importance of selecting appropriate materials and methods in research. **Group Formation**: Divide students into groups of 3–4. **Research Topic and materials**: Each group selects or is assigned a general research topic Depending on their chosen topic and problem ask the groups to decide on the materials they will need and Siddha assessment tools **Surveys and Questionnaires**: Tools for collecting self-reported data. **Medical Equipment**: Devices like blood pressure cuffs, thermometers, glucose meters. **Software**: Statistical tools (SPSS, R, Excel) or qualitative analysis software (NVivo). **Data Sources**: Databases, medical records, or patient registries. **Ethical Considerations**: Ensure that the materials selected are ethically sound (e.g., consent forms, patient confidentiality).

		Research design: Ask each group to decide on the data collection methods, statistical or techniques they will use to interpret their data that best suit their research problem by searching similar topics online. Ask the groups to select the **Time duration : 3 Hours**

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**

Topic 7 Various database and Portals (LH :4 NLHT: 2 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO3	Demonstrate the use of AYUSH Research Portal,PubMed,SCOPUS, Web of science,.UGC CARE,CTRI,Siddha YI-ABC,SEARCHi,	CC	NK	KH	BS,PrBL,L&GD,CBL,DIS	PA,P-SUR,P-ID,P-PRF,Mini-CEX	F&S	2	-	LH
CO3	**I**llustrate use of NAMASTE Portal, A-HMIS	CC	DK	KH	L&PPT,BS,DIS,TPW	P-PRF,P-SUR,P-POS,P-CASE,PRN	F&S	2	-	LH
CO1, CO2, CO3	Illustrate use of Various Database and portals of AYUSH, Siddha	PSY-SET	DK	KH	BS,CBL,DIS,TBL,BL	P-RP,P-PS,P-EN,P-PRF,P-EXAM	F&S	2	-	NLHT7.1

Non Lecture Hour Theory		
S.No	**Name of Activity**	**Description of Theory Activity**
NLHT 7.1	Team based learning	**Team based learning** **Purpose**

		Students will be able to appreciate use of AYUSH Research Portal, PubMed,SCOPUS, Web of science,.UGC CARE, CTRI, SiddhaYI-ABC, SEARCHi in Siddha research, **Activity** Allot the databases/portals to each student teams and let each on display the web pages of these databases/portals and educate the pupils on their benefits. **Time duration -2 hours**

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity

Topic 8 Various Guidelines to report research (LH :2 NLHT: 3 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO3	Explain various guidelines to report research like CARE, PRISMA, ARRIVE, CONSORT, STROBE	CK	NK	K	PBL,L&PPT ,PL,KL,L&GD	P-PRF,P-EXAM,DOPS,PA,DOPS	F&S	2	-	LH
CO4	Discuss and present various Guidelines to report research	PSY-SET	DK	KH	L&GD, TBL,CBL	360D,OSPE,CBA	F&S	2	-	NLHT8.1
CO1, CO3, CO4, CO5	Elaborate on steps of research presentation in a conference as oral or poster	PSY-MEC	NK	SH	PER,TPW,BS,TBL,PL	DOPS,DOPS	F	2	-	NLHT8.2

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 8.1	Group activity on Orientation on various	**Group activity**

	Guidelines to report research	Purpose : Students will be introduced to different reporting guidelines, focusing on their purposes and key components (e.g., CONSORT for clinical trials, STROBE for observational studies, PRISMA for systematic reviews, CARE for case reports). **Activity** Divide students into small groups (10-15 students per group). Assign each group a specific research study and provide them with the corresponding guideline checklist (e.g., CONSORT for clinical trial studies). Ask the groups to review the study using the reporting guideline checklist, identifying elements of the research that are missing or not clearly reported. Groups should note their findings on a whiteboard or in a shared document. After the review, each group presents their findings, focusing on the areas where the study complied with the reporting guidelines and where it fell short. Ask students to reflect on the activity and share any insights they gained about the importance of adhering to research reporting guidelines. **Time duration:1 hour**
NLHT 8.2	Role play on Research presentation in a conference as oral or poster	**Role play** Students can take any study results from a published paper and have a role play of presenting them in a conference among their peers and staffs. Presentations : Students present their research projects in a seminar or conference-style setting. Outcome: Develops communication skills and fosters scientific discussions **Time duration -2 hours**

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity

Topic 9 Intellectual Property Right (IPR) /Patent/Copyright (LH :2 NLHT: 1 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5	Identify and relate Intellectual Property Right (IPR)/Patent/TKDL	CK	NK	K	L&PPT	VV-Viva,	F&S	2	-	LH

					,IBL,SY ,BS,PB L	WP,QZ ,INT,P-POS				
CO5	Appraise on the importance of IPR	AFT-REC	NK	K	FC,L&P PT ,DIS ,REC,C BL	P-VIVA,M-CHT,CR-RED,P-PS,SA	F&S	2	-	LH
CO5	Identify and present Intellectual Property Right (IPR)/Patent/TKDL	PSY-SET	NK	K	CBL,PT ,LS,TP W,L&G D	P-POS,P-RP,QZ	F&S	2	-	NLHT9.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 9.1	Group activity /Feild visits/ Expert sessions on IPR, Patent and TKDL	**Group activity /Feild visits/ Expert sessions** **Purpose** : To understand IPR/Patent/TKDL.Divide the students in group and let one student from each group present on IPR, Patent and TKDL **Hands-on Patent Search & TKDL Exploration** • Provide training on how to search for patents in databases like WIPO, USPTO, and Indian Patent Office. • Explore the TKDL portal to understand its role in preserving traditional knowledge. **Field Visit or Industry Interaction** • Arrange visits to patent offices, law firms, or research institutions dealing with IPR. • Conduct expert sessions with patent attorneys, innovators, or TKDL experts.

		• Conduct an awareness drive to educate about the importance of protecting innovations and traditional knowledge. **Time duration -1 hour**
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**

Topic 10 Research Critique (LH :3 NLHT: 7 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO2, CO3, CO4, CO5	Describe the concept of Research Critique	CK	DK	K	L&PPT ,RLE,SDL,KL	VV-Viva,P-SUR,P-ID	F&S	2	-	LH
CO1, CO2, CO3, CO4, CO5	Explain and Define Research Critique	CK	MK	K	SDL,L &PPT , FC,DIS, BS	P-VIVA,INT,CL-PR,360D	F&S	2	-	LH
CO1, CO2, CO3, CO4, CO5	Recognize the process of critical evaluation of Research article	CC	DK	K	TBL,DIS,BS,L &GD	P-PS,P-VIVA,Mini-CEX,INT	F	2	-	LH
CO3, CO5	Explain Bibliometrics (Impact factor, i-10 index, h-index, cite score)	CK	NK	K	DIS,L&PPT ,TBL,SDL	P-VIVA,INT,COM,CHK	F	2	-	LH

CO3, CO5	Differentiate different types of Reference formats	CK	MK	K	TBL,L &PPT ,TPW,F C	P-EN,PRN, CL-PR,Min i-CEX,DEB	F&S	2	-	LH
CO3, CO5	Identify predatory and Quality Journals.	CK	NK	K	W,BS,S DL,TBL ,L&PPT	PRN,CL-P R,P-POS,CHK	F	2	-	LH
CO3, CO5	Identify study strength and weakness through Research Critiquing and its steps	PSY-SET	DK	KH	FC,ED U,ML,D IS,PER	C-INT,P-R P,T-CS,M-POS	F&S	2	-	NLHT10.1
CO1, CO2, CO3, CO4, CO5	Explore on Good vs. Bad Research through debate	PSY-SET	NK	KH	SDL,L &GD,P BL,BS	INT,P-EXA M,P-REC	F	2	-	NLHT10.2
CO4	Identify of“Red Flags” in Research	PSY-SET	DK	KH	L&GD, L_VC, ML,PE R	C-INT,P-P RF,DEB,C HK,P-RP	F&S	2	-	NLHT10.3

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 10.1	Research Critiquing	**Peer learning** **Purpose** : To identify the strength and weakness of a study **Activity:** Students need to select 3-4 research papers related to the topic of interest. Ensure these papers have a variety of strengths and weaknesses for discussion. Create critique sheets that participants can fill out for each study. Include questions like:

		What is the main research question or hypothesis, what are the key findings, what are the strengths of the study, what are the weaknesses or limitations of the study, how could the study be improved? Then divide participants into groups (ideally 10-15 people per group). Assign each group one research paper to start with. They'll spend 20-30 minutes reading the paper and completing the critique sheet. After 30 minutes, have each group rotate to the next research paper. Repeat the process until each group has reviewed all the papers Final Reflection (30 minutes): Once the above activity is complete, come together as a whole group to discuss insights and the overall critiques. What were common strengths and weaknesses across the studies? How can these insights be applied to future research? **Time duration : 3 hours**
NLHT 10.2	Good vs. Bad Research - debate	Debate on Good vs. Bad Research Let the students have two teams and discuss as debate on Good Vs Bad research 1.Structured Debate (Oxford-Style or Fishbowl) 2. Case Study Analysis. 3. Peer Review Simulation 4. Role-Playing 5. Gamification: "Spot the Flaw" Challenge 6. Research Integrity Mock Trial 7. Reverse Engineering a Fake Study 8. Real-World Expert Panel or Guest Speaker Discussion **Time duration -2 hours**
NLHT 10.3	"Red Flags" in Research Research Integrity Detective Role-Play Ethics Board Debate: "Should This Study Be	**Activity:** Provide students with three research abstracts—one well-structured, one with minor flaws, and one with major flaws (e.g., bias, missing methodology, exaggerated conclusions).

	Published?”	• Students identify weaknesses and discuss how to improve each study. • Outcome: Enhances the ability to detect biases, weak methodologies, and unethical research practices. **Peer-Review Simulation (“Find the Flaws”)** • Assign students to review flawed research proposals or papers. • Some students act as peer reviewers, while others defend their research. • They must argue their case using ethical and methodological reasoning. **Research Integrity Detective Role-Play** • Students play roles of investigators, researchers, ethics committee members, and whistleblowers. • Provide a case study of a manipulated or retracted study and let students uncover ethical breaches. • Discuss how these red flags affect public trust, policy, and scientific credibility. **Ethics Board Debate: “Should This Study Be Published?”** • Present a controversial or questionable research case. • Assign roles: ethics board members, researchers, funding agencies, and the public. • They debate whether the study should be approved, revised, or rejected based on ethical and methodological concerns. **Time duration -2 hours**

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**

Topic 11 Introduction to Medical Statistics (LH :1 NLHT: 1 NLHP: 0)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO1	Define Statistics, Medical statistics	CK	MK	K	PL,TBL	INT	F&S	2	-	LH
CO1, CO4	Describe Scope of Medical statistics, its application in research studies and its relevance in Siddha system	CC	MK	KH	TBL,IBL	PRN,INT	F&S	2	-	LH
CO1	Demonstfrate the Scope of medical statistics	CK	MK	K	PL,TBL,L&PPT	O-QZ,CL-PR	F&S	2	-	NLHT11.1

Non Lecture Hour Theory		
S.No	**Name of Activity**	**Description of Theory Activity**
NLHT 11.1	Hands on training to collect, organize, analyse and infer the data findings	**Demonstration by teacher:** Using a simple data set the teacher demonstrates and clarifies the concepts of Staistics, how it differ from Biostatistics. **Hands-on training:** The students are grouped into three or four or more, with a maximum of 20 students in each group.Then, they are asked to collect basic information regarding each student in their respective groups, like name, native place, height, and weight, and record the details in writing.The teacher helps the students to collect, organize, analyse and infer from the collected information.Every group should present their findings in the class. **Conclusion and summarization:** The teacher then discusses the key aspects and provides inputs for further application of the concepts. **Time duration : 1 Hour**

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**

Topic 12 Data (LH :1 NLHT: 2 NLHP: 0)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO1	Define Data , Describe and classify different types of Data [Quantitative, Qualitative (categorical), Discrete, Continuous]	CK	MK	K	L&PPT	P-ID,PUZ, T-OBT,PRN,QZ	F&S	3	-	LH
CO1	Define and classify different types of Scales: Ordinal, Nominal, Interval, Ratio	CK	MK	K	L&PPT	P-ID	F&S	3	-	LH
CO1	Dicuss on Data types and scales	CC	MK	KH	TBL,L &GD	INT	F&S	3	-	NLHT12.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 12.1	Hands on training of data types and scales	Demonstration by teacher: Using a simple data set, the teacher demonstrates various data types and scales. **Hands-on training:** The students are grouped into three or four groups, with a maximum of 20 students in each group. The teacher then presents a data set that contains different types of data. The students are then allowed to discuss and determine the correct data types and scales for the given data. The activity is repeated with two, three, or more data sets. **Conclusion and summarization:** The teacher then discusses the key aspects of data classification and measuring scales. **Time duration : 2 Hours**

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity

Topic 13 Basic Statistical terms (LH :1 NLHT: 2 NLHP: 0)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO1	Describe Basic Statistical terms	CK	MK	K	L&PPT	SA	F&S	3	-	LH
CO1	Differentiate between Variable (Dependent and Independent) and Attribute	CK	MK	K	L&PPT	QZ ,CL-PR,PUZ	F&S	3	-	LH
CO1, CO2	Demonstrate Basic Statistical terms.	PSY-GUD	MK	SH	D,L&GD	P-VIVA,Log book	F&S	3	-	NLHT13.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 13.1	Statistical terms	Demonstration by teacher: Using scientific articles, the teacher identifies the population, sample, variables and attributes appearing in the study. Hands-on training: The students are grouped into three or four groups, with a maximum of 20 students in each group. The teacher gives two or three scientific articles to each group. The students in the groups discuss, identify, and record the population, sample, variables, and attributes appearing in each article and present the findings in class. Conclusion and summarization: The teacher then concludes and summarizes key aspects and provides additional inputs for improvisation. **Total Duration - 2 Hrs**

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity

Topic 14 Collection and Presentation of Data (LH :2 NLHT: 4 NLHP: 0)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**

CO1	Differentiate between types of Data Collection [Primary, Secondary, Observation, Survey, Focus Group, Interview]	CK	MK	K	L&GD, TBL,PL ,L&PPT	T-OBT,INT ,PUZ,QZ ,O-QZ	F&S	3	-	LH
CO1	Demonstrate different types of Presentation of data (Textual, Tabular and Graphical)	CK	MK	K	D,DIS,T BL,L_V C,IBL	DOAP,PA, P-ID,PUZ,I NT	F&S	3	-	LH
CO1	Demonstrate the practical aspects of data collection methods	CC	MK	D	D,TBL, PrBL	P-PRF	F&S	3	-	NLHT14.1
CO1	Demonstrate various methods of data presentation	CAP	MK	KH	PER,TB L,D,BL, L&GD	DOPS,DOP S,PRN,P-PRF	F&S	3	-	NLHT14.2

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 14.1	Demonstartion on data collection methods	**Demonstration by teacher:** The teacher elaborates on practical aspects of data collection methods using various patient scenarios. **Hands-on training:** The students are grouped into three or four groups, with a maximum of 20 students in each group. Each group collects basic demographic, anthropometric, and clinical data of a minimum of 20 patients using specific data collection methods and records the data with the teacher's help within the allocated time. **Conclusion and summarization:** The teacher then concludes and summarizes the key aspects of data collection and their applicability in different scenarios. **Time duration :** 2 Hours
NLHT 14.2	Demonstration on Data presentation	**Demonstration by teacher:** The teacher demonstrates various methods of data presentation, highlighting the key components. **Hands-on training:** The student groups summarize the data collected from activity 14.1 into tables

		and then to appropriate graphs. Each group then present the data to the class. **Conclusion and summarization:** The teacher then concludes and summarizes the key aspects of data presentation and important aspects to be considered while presenting the data. **Time duration : 2 Hours**

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity

Topic 15 Measures of Central Tendency (LH :2 NLHT: 4 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1	Define Measures of Central Tendency and explain the qualities of Good measure of tendency	CK	MK	K	L&PPT,L	P-PRF,P-ID,PRN	F&S	3	-	LH
CO1	Define and calculate Arithmetic Mean, Median, Mode and its significance in research	CK	MK	K	PSM,D	P-PS,P-ID,CR-RED,SA,DOAP	F&S	3	-	LH
CO1	Calculate the measures of central tendency	CAP	MK	SH	D,PBL,PSM,PrBL	PRN,P-PRF	F&S	3	-	NLHT15.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 15.1	Calculation of measures of central tendency	**Demonstration by teacher:** Using specific data sets the teacher demonstrates how to calculate mean, median and mode from the given data. **Hands-on training:**The students are given three or four data sets to calculate different measures of central tendency from the data. **Conclusion and summarization:** Theteacher discusses the importance and applicability of various measures of central tendency and describes a good measure of central tendency.

		Time duration : 4 Hours

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**

Topic 16 Measures of Deviation / Dispersion / Variability (LH :3 NLHT: 6 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1	Define Measures of Deviation/ Dispersion / Variability and explain the Qualities of Good measure of variability	CK	MK	K	D,TBL, TPW,P BL,IBL	M-CHT,PR N,P-PS	F&S	3	-	LH
CO1	Measure the Range and calculate Quartile Deviation, Mean Deviation, Standard Deviation ,Variance and its coefficient and Standard Error	CK	MK	KH	TUT,L &GD,T BL,FC, L&PPT	CL-PR,INT ,PUZ	F&S	3	-	LH
CO1	Demonstrate Calculating measures of central tendency.	CAP	MK	SH	TBL,TP W,D	P-PS	F&S	3	-	NLHT16.1
CO1	Calculate measures of central tendency (variance and coefficient variation)	CC	DK	KH	PER,D, PL,PBL ,PrBL	CL-PR,PA, DOAP	F&S	3	-	NLHT16.2

Non Lecture Hour Theory		
S.No	**Name of Activity**	**Description of Theory Activity**
NLHT 16.1	Demonstartion on calculation of Range, Mean deviation and Standard deviation	**Demonstration by teacher:** Using specific data sets the teacher demonstrates how to calculate range,mean deviation and standard deviation from the given data. **Hands on training:** The students are given three or four data sets to calculate the Range, Mean Deviation, and standard deviation from the data. **Conclusion and summarization:** The teacher discusses the data sets and explains the difference

		between range, mean deviation, and standard deviation. **Time duration : 3 Hours**
NLHT 16.2	Demonstration on calculating measures of central tendency-02 (variance and coefficient variation)	**Demonstration by teacher:** Using the same data sets from activity -1 The teacher demonstrates how to calculate variance and coefficient variation from the given data. **Hands-on training:** The students are then given three or four data sets to calculate variance and coefficient variation from the data. **Conclusion and summarization:** The teacher discusses the data sets and explains variance and coefficient ofvariation and their applicability. Further, the teacher elaborates on good measures of dispersion. **Time duration : 3 Hours**

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity

Topic 17 Probability (LH :2 NLHT: 4 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1	Explain Probability and explain Normal Distribution Curve	CK	MK	K	TUT,TBL,L&PPT ,L&GD,BS	O-QZ,PUZ, PA	F&S	3	-	LH
CO1	Define and explain Symmetric and Asymmetric Distribution	CK	NK	K	L&PPT	INT	F&S	3	-	LH
CO1	Demonstrate normal distribution curve and its variations, like skewness and kurtosis and its significance	CC	MK	KH	PSM,TBL,PBL ,D	P-ID,INT,PRN	F&S	3	-	NLHT17.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 17.1	Identification of normal distribution curve and its variations, like skewness and kurtosis	**Demonstration by teacher:** The teacher demonstrates the normal distribution curve and its variations, like skewness and kurtosis, using different data. The teacher also demonstrates probability based on the normal distribution. **Hands on training:** The students are given tabulated data to develop normal distribution curves. Then,they conduct probability predictions from the curve.Also students can refer suitable published research articles and identify normal distribution curve and its variations, like skewness and kurtosis. **Conclusion and summarization:** The teacher discusses the findings and clarifies doubts. **Time Duration :4 Hours**

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity

Topic 18 Hypothesis, Test of Significance and Sampling (LH :3 NLHT: 5 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1	Explain Hypothesis and its significance in research	CK	MK	K	D,PSM,L,DIS,L&PPT	INT,PRN	F&S	3	-	LH
CO1	Explain Hypothesis	PSY-GUD	DK	SH	BS,L&GD,D-BED,RP,IBL	PRN,P-EN,PUZ,DEB	F&S	3	-	NLHT18.1
CO1	Explain Sampling and its types and define sample size	CK	MK	K	L_VC,L&GD,PBL,L&PPT ,IBL	VV-Viva,SBA	F&S	3	-	LH
CO1	Describe Testing of significance	CC	DK	KH	L&PPT	SBA,DOA	F&S	3	-	NLHT18.2

					,L&GD, PSM,D	P				

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 18.1	Development of Research Hypothesis	**Demonstration by teacher:** The teacher demonstrates systematic development of a hypothesis from a research problem. **Hands-on training:** The students are grouped into three or four groups, with a maximum of 20 students in each group. Each group develop hypotheses from three or four given research problems. Then, they present the hypotheses in class**.** **Conclusion and summarization:** The teacher discusses various hypotheses developed by the groups and summarizes the critical aspects. **Time Duration: 3 Hours**
NLHT 18.2	Identification of steps in Testing of significance	**Demonstration by teacher:** The teacher demonstrates the steps involved in testing a hypothesis using data from different scientific articles. **Hands-on training:** The students groups are then given three or four articles to identify and record the steps of hypothesis testing in them. Then, they will present the data in class. **Conclusion and summarization:** The teacher concludes with significant points regarding the testing of the hypothesis. **Time Duration: 2 Hours**

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity

Topic 19 Parametric and non-parametric tests (LH :2 NLHT: 4 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1	Explain and differentiate Parametric and Non-parametric tests	CK	MK	K	PER,GB	QZ ,O-	F&S	3	-	LH

					L,PBL,IBL,L&PPT	QZ,P-ID				
CO1	Demonstrate difference between Parametric and Non-parametric tests	CC	DK	KH	DIS,TBL,D,PL	DOAP,PA,CR-RED,INT	F&S	3	-	NLHT19.1

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 19.1	Demonstration and Hands on training on difference between Parametric and Non-parametric tests	**Demonstration by teacher:** The teacher demonstrates the difference between parametric and nonparametric tests and introduces various parametric and nonparametric tests. **Hands-on training:** The teacher provides three or four scientific articles to the students in groups. The students discuss and understand the application of parametric or nonparametric tests, and they record their findings. **Conclusion and summarization:** The teacher concludes with major points regarding the applicability of parametric and nonparametric tests. **Time Duration: 4 Hours**

Non Lecture Hour Practical

S.No	Name of Practical	Description of Practical Activity

Topic 20 Correlation and regression (LH :2 NLHT: 4 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO4	Explain Correlation and Regression and its applications in medical research	CK	MK	K	PBL,L&PPT ,D, TBL,IBL	PUZ,CL-PR,QZ	F&S	3	-	LH

CO1, CO4	Demonstrate the applications of Correlation and Regression	CC	NK	KH	PL,PBL,PER,D,BS	P-ID,PRN	F&S	3	-	LH

Non Lecture Hour Theory		
S.No	**Name of Activity**	**Description of Theory Activity**

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**

Topic 21 Commonly used statistical software (LH :1 NLHT: 4 NLHP: 0)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO4	Demonstrate different Software used for Statistical Analysis	CC	MK	K	L&PPT,L&GD	P-ID,P-PS,INT,CL-PR,QZ	F&S	3	-	LH
CO1, CO4	Demonstrate hands on training for statistical softwares	PSY-GUD	DK	KH	L_VC,TBL,RLE,TUT,L&PPT	P-PRF,DOPS,CL-PR,P-PS,QZ	F&S	3	-	NLHT21.1

Non Lecture Hour Theory		
S.No	**Name of Activity**	**Description of Theory Activity**
NLHT 21.1	Performing simple statistical statistical tests using software	**Demonstration by teacher:**The teacher introduces various statistical software and its features and demonstrates any of them by performing some simple statistical tests. **Hands-on training:**Students are allowed to review various statistical software, understand its features, and prepare a note. **Conclusion and summarization:** The teacher concludes with major points regarding statistical software and their applicability. **Time Duration: 4 Hours**

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**

Table 4 : NLHT Activity

(*Refer table 3 of similar activity number)

Activity No*	CO No	Activity details
1.1	CO1	Role play / discussion the history and evolution of research
1.2	CO1,CO2	Game based learning on the importance of logical reasoning in research and research concepts of Siddha system
2.1	CO1	Debate on Interdisciplinary Collaboration- Group activity
3.1	CO1,CO2	Small survey
3.2	CO1,CO2	Real-World Data Collection
4.1	CO1,CO3	In Situ, In Silico, In Vivo, In Vitro
4.2	CO1,CO3	Systematic review and Meta-analysis
4.3	CO1,CO2	Symposium on various research designs
4.4	CO1,CO2,CO3	Differences between Qualitative, Quantitative and Mixed Research, Observational and Interventional studies.
4.5	CO1,CO2	Group activity on Identification of study design and its significance in research
4.6	CO1,CO2	Research Proposal Presentation Exercise
4.7	CO1,CO2	Field visit to understand Preclinical methods in research
5.1	CO5	Role play on responsibilities of ethics committee and its constitution
5.2	CO5	Role play on Informed Consent

5.3	CO5	Research Ethics Audit and plagiarism
6.1	CO2,CO5	Conduct Literature Search in Medical Databases, MeSH terms, Boolean search
6.2	CO2,CO5	Basic steps for research practice
6.3	CO1,CO2,CO4,CO5	Identification of research topic, research problem and appraise review of literature
6.4	CO2,CO5	Planning and conducting the research
7.1	CO1,CO2,CO3	Team based learning
8.1	CO1,CO3,CO4,CO5	Role play on Research presentation in a conference as oral or poster
8.2	CO4	Group activity on Orientation on various Guidelines to report research
9.1	CO5	Group activity /Feild visits/ Expert sessions on IPR, Patent and TKDL
10.1	CO1,CO2,CO3,CO4, CO5	Good vs. Bad Research - debate
10.2	CO3,CO5	Research Critiquing
10.3	CO4	“Red Flags” in Research Research Integrity Detective Role-Play Ethics Board Debate: “Should This Study Be Published?”
11.1	CO1	Hands on training to collect, organize, analyse and infer the data findings
12.1	CO1	Hands on training of data types and scales
13.1	CO1,CO2	Statistical terms
14.1	CO1	Demonstartion on data collection methods
14.2	CO1	Demonstration on Data presentation
15.1	CO1	Calculation of measures of central tendency

16.1	CO1	Demonstartion on calculation of Range, Mean deviation and Standard deviation
16.2	CO1	Demonstration on calculating measures of central tendency-02 (variance and coefficient variation)
17.1	CO1	Identification of normal distribution curve and its variations, like skewness and kurtosis
18.1	CO1	Development of Research Hypothesis
18.2	CO1	Identification of steps in Testing of significance
19.1	CO1	Demonstration and Hands on training on difference between Parametric and Non-parametric tests
21.1	CO1,CO4	Performing simple statistical statistical tests using software

Table 5 : List of Practicals

Not Applicable

Table 6 : Assessment Summary: Assessment is subdivided in A to H points

6 A : Number of Papers and Marks Distribution

Subject Code	Papers	Theory	Practical/Clinical Assessment (50)					Grand Total
			Practical	Viva	Elective	IA	Sub Total	
SIDUG-RM	1	100	-	30	-	20	50	150

6 B : Scheme of Assessment (Formative and Summative)

PROFESSIONAL COURSE	FORMATIVE ASSESSMENT			SUMMATIVE ASSESSMENT
	First Term (1-6 Months)	Second Term (7-12 Months)	Third Term (13-18 Months)	
Third	3 PA & First TT	3 PA & Second TT	3 PA	**UE****

PA: Periodical Assessment; **TT:** Term Test; **UE:** University Examinations; **NA:** Not Applicable.
**University Examination shall be on entire syllabus

6 C : Calculation Method for Internal assessment Marks

Term	Periodical Assessment*				Term Test**	Term Assessment	
	A	B	C	D	E	F	G
	1 (20)	2 (20)	3 (20)	Average **(A+B+C/ 3)** (20)	Term Test (MCQ+SAQ+LAQ and Practical) (Converted to 20)	Sub Total	Term Assessment
First						**D+E**	**D+E /2**
Second						**D+E**	**D+E /2**
Third					NIL		**D**
Final IA	**Average of Three Term Assessment Marks as Shown in 'G' Column**						
	* Select an Evaluation Methods which is appropriate for the objectives of Topics from the Table 6 D. Convert it to 20 marks. ** Conduct Theory (100 Marks) (MCQ (20*1 Marks), SAQ (8*5), LAQ (4*10)) and Practical (100 Marks) Then convert to 20 Marks.						

6 D : Evaluation Methods for Periodical Assessment

S. No.	Evaluation Methods
1.	Practical / Clinical Performance
2.	Viva Voce, MCQs, MEQ (Modified Essay Questions/Structured Questions)
3.	Open Book Test (Problem Based)
4.	Summary Writing (Research Papers/ Samhitas)
5.	Class Presentations; Work Book Maintenance
6.	Problem Based Assignment
7.	Objective Structured Clinical Examination (OSCE), Objective Structured Practical Examination (OPSE), Mini Clinical Evaluation Exercise (Mini-CEX), Direct Observation of Procedures (DOP), Case Based Discussion (CBD)
8.	Extra-curricular Activities, (Social Work, Public Awareness, Surveillance Activities, Sports or Other Activities which may be decided by the department).
9.	Small Project
10.	Activities Indicated in Table 3 - Column G3 as per Indicated I, II or III term in column I3.

Topics for Periodic Assessments

Exam type	Paper 1
PA1	Topic No – 1
PA 2	Topic No - 2,3
PA 3	Topic No – 4
TT 1	Topic No – 1-5
PA 4	Topic No – 6,7
PA 5	Topic No – 8,9
PA 6	Topic No – 10
TT 2	Topic No – 6-11
PA 7	Topic No – 12,13,14
PA 8	Topic No – 15,16,17
PA 9	Topic No – 18,19,20,21

6 E : Question Paper Pattern

III PROFESSIONAL B.S.M.S EXAMINATIONS
SIDUG-RM
PAPER-I
Time: 3 Hours Maximum Marks: 100
INSTRUCTIONS: All questions compulsory

		Number of Questions	**Marks per question**	**Total Marks**
Q 1	MULTIPLE CHOICE QUESTIONS (MCQ)	20	1	20
Q 2	SHORT ANSWER QUESTIONS (SAQ)	8	5	40
Q 3	LONG ANSWER QUESTIONS (LAQ)	4	10	40
				100

6 F : Distribution of theory examination

Paper 1 (RESEARCH METHODOLOGY AND MEDICAL STATISTICS)					
Sr. No	**A List of Topics**	**B Marks**	**MCQ**	**SAQ**	**LAQ**
1	**Introduction to Research**	12	Yes	Yes	Yes
2	**Evidence Based Medicine and Integrative Medicine**		Yes	Yes	No
3	**Types of Research**		Yes	Yes	Yes
4	**Research Designs**	12	Yes	Yes	Yes
5	**Research Ethics**	10	Yes	Yes	Yes
6	**Research Process**	15	Yes	Yes	Yes
7	**Various database and Portals**	1	Yes	No	No
8	**Various Guidelines to report research**	1	Yes	No	No
9	**Intellectual Property Right (IPR) /Patent/Copyright**	9	Yes	Yes	No
10	**Research Critique**		Yes	Yes	No
11	**Introduction to Medical Statistics**	2	Yes	No	No
12	**Data**	2	Yes	No	No
13	**Basic Statistical terms**	1	Yes	No	No
14	**Collection and Presentation of Data**	10	No	Yes	Yes
15	**Measures of Central Tendency**	5	Yes	Yes	No
16	**Measures of Deviation / Dispersion / Variability**		Yes	Yes	No
17	**Probability**	10	No	No	Yes
18	**Hypothesis, Test of Significance and Sampling**		No	No	Yes
19	**Parametric and non-parametric tests**	8	Yes	Yes	No
20	**Correlation and regression**		Yes	Yes	No
21	**Commonly used statistical software**	2	Yes	No	No
Total Marks		**100**			

6 G : Instructions for UG Paper Setting & Blue print

1. All questions shall be compulsory.
2. The maximum marks for one question paper shall be 100.
3. Questions shall be drawn based on Table 6F, which provides the topic name, types of questions (MCQ(Multiple Choice Question), SAQ(Short Answer Question), LAQ(Long Answer Question)).
4. The marks assigned in Table 6F for each topic/group of topics shall be considered as the maximum allowable marks for that topic/group of topics.
5. Ensure that the total marks allocated per topic/group of topics do not exceed the limits specified in Table 6F.
6. Refer to Table 6F before setting the questions. Questions shall be framed only from topics where the type is marked as “YES”, and avoided if marked as “NO”.
7. Each 100-mark question paper shall contain:
   - 20 MCQs
   - 8 SAQs
   - 4 LAQs
8. MCQs:
   - Majority shall be drawn from the Must to Know part of the syllabus.
   - Questions from the Desirable to Know part of syllabus shall not exceed 3.
   - Questions from the Nice to Know part of syllabus shall not exceed 2.
9. SAQs:
   - Majority shall be drawn from the Must to Know part of the syllabus.
   - Questions from the Desirable to Know part of syllabus shall not exceed 1.
   - No questions shall be drawn from the Nice to Know part of syllabus.
   - SAQs shall assess understanding, application, and analysis, rather than simple recall.
10. LAQs:
    - All LAQs shall be drawn exclusively from the Must to Know part of the syllabus.
    - No questions shall be taken from the Desirable to Know or Nice to Know part of the syllabus.
    - Number of LAQs should not exceed one per topic unless maximum marks exceed 20 for the topic.
11. Long Answer Questions shall be structured to assess higher cognitive abilities, such as application, analysis, and synthesis.
12. Follow the guidelines in User Manual III for framing MCQs, SAQs, and LAQs.

Demo Blueprint for Illustration. Blue printing should be done based on Instructions for Question paper setting and using 6 F table.

Paper No:1		
Question No	**Type of Question**	**Question Paper Format**
Q1	**Multiple choice Questions** **20 Questions** **1 mark each** **All compulsory**	1. Types of Research / Evidence Based Medicine and Integrative Medicine / Introduction to Research 2. Research Ethics / Research Designs 3. Research Process 4. Various database and Portals 5. Various Guidelines to report research 6. Intellectual Property Right (IPR) /Patent/Copyright 7. Intellectual Property Right (IPR) /Patent/Copyright 8. Research Critique 9. Intellectual Property Right (IPR) /Patent/Copyright 10. Introduction to Medical Statistics 11. Basic Statistical terms 12. Data 13. Data 14. Introduction to Medical Statistics 15. Research Ethics / Research Designs 16. Research Process 17. Correlation and regression / Parametric and non-parametric tests 18. Correlation and regression / Parametric and non-parametric tests 19. Commonly used statistical software 20. Introduction to Research
Q2	**Short answer Questions** **8 Questions** **5 Marks Each** **All compulsory**	1. Evidence Based Medicine and Integrative Medicine / Introduction to Research 2. Types of Research 3. Research Designs 4. Research Critique / Intellectual Property Right (IPR) /Patent/Copyright 5. Research Process 6. Measures of Central Tendency / Collection and Presentation of Data 7. Measures of Deviation / Dispersion / Variability / Measures of Central Tendency 8. Correlation and regression / Parametric and non-parametric tests
Q3		1. Research Designs / Introduction to Research 2. Research Ethics / Research Designs

	Long answer Questions **4 Questions** **10 marks each** **All compulsory**	3. Research Process 4. Hypothesis, Test of Significance and Sampling / Probability / Collection and Presentation of Data

6 H : Distribution of Practical Exam

S.No	Heads	Marks
1	Viva	30
2	Internal Assessment	20
Total Marks		**50**

References Books/ Resources

S.No	Resources
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Abbreviations

Domain		T L Method		Level		Assessment		Integration	
CK	Cognitive/Knowledge	L	Lecture	K	Know	T-CS	Theory case study	V-SATV	V-SATV
CC	Cognitive/Comprehension	L&PPT	Lecture with PowerPoint presentation	KH	Knows how	T-OBT	Theory open book test	V-UK	V-UK
CAP	Cognitive/Application	L&GD	Lecture & Group Discussion	SH	Shows how	P-VIVA	Practical Viva	V-UT	V-UT
CAN	Cognitive/Analysis	L_VC	Lecture with Video clips	D	Does	P-REC	Practical Recitation	V-UV	V-UV
CS	Cognitive/Synthesis	REC	Recitation			P-EXAM	Practical exam	V-NU	V-NU
CE	Cognitive/Evaluation	SY	Symposium			PRN	Presentation	V-MT	V-MT
PSY-SET	Psychomotor/Set	TUT	Tutorial			P-PRF	Practical Performance	V-GMM	V-GMM
PSY-GUD	Psychomotor/Guided response	DIS	Discussions			P-SUR	Practical Survey	V-GMK	V-GMK
PSY-MEC	Psychomotor/Mechanism	BS	Brainstorming			P-EN	Practical enact	V-SSM-NM	V-SSM-NM
PSY-ADT	Psychomotor Adaptation	IBL	Inquiry-Based Learning			P-RP	Practical Role play	V-NN1	V-NN1
PSY-ORG	Psychomotor/Origination	PBL	Problem-Based Learning			P-MOD	Practical Model	V-NN2	V-NN2
AFT-REC	Affective/ Receiving	CBL	Case-Based Learning			P-POS	Practical Poster	V-NAVO	V-NAVO
AFT-RES	Affective/Responding	PrBL	Project-Based Learning			P-CASE	Practical Case taking	H-MM	H-MM
AFT-VAL	Affective/Valuing	TBL	Team-Based Learning			P-ID	Practical identification	H-VPS	H-VPS
AFT-SET	Affective/Organization	TPW	Team Project Work			P-PS	Practical Problem solving	H-AM	H-AM
AFT-CHR	Affective/ characterization	FC	Flipped Classroom			QZ	Quiz	H-SMM	H-SMM
PSY-PER	Psychomotor/perception	BL	Blended Learning			PUZ	Puzzles	H-KM	H-KM
PSY-COR	Psychomotor/ Complex Overt Response	EDU	Edutainment			CL-PR	Class Presentation	H-RM	H-RM
		ML	Mobile Learning			DEB	Debate		
		ECE	Early Clinical Exposure			WP	Word puzzle		
		SIM	Simulation			O-QZ	Online quiz		
		RP	Role Plays			O-GAME	Online game-based assessment		
		SDL	Self-directed learning			M-MOD	Making of Model		
		PSM	Problem-Solving Method			M-CHT	Making of Charts		

		KL	Kinaesthetic Learning			M-POS	Making of Posters		
		W	Workshops			C-INT	Conducting interview		
		GBL	Game-Based Learning			INT	Interactions		
		LS	Library Session			CR-RED	Critical reading papers		
		PL	Peer Learning			CR-W	Creativity Writing		
		RLE	Real-Life Experience			C-VC	Clinical video cases		
		PER	Presentations			SP	Simulated patients		
		D-M	Demonstration on Model			PM	Patient management problems		
		PT	Practical			CHK	Checklists		
		X-Ray	X-ray Identification			Mini-CEX	Mini-CEX		
		CD	Case Diagnosis			DOPS	DOPS		
		LRI	Lab Report Interpretation			CWS	CWS		
		DA	Drug Analysis			RS	Rating scales		
		D	Demonstration			RK	Record keeping		
		D-BED	Demonstration Bedside			COM	Compilations		
		DL	Demonstration Lab			Portfolios	Portfolios		
		DG	Demonstration Garden			Log book	Log book		
		FV	Field Visit			TR	Trainers report		
						SA	Self-assessment		
						PA	Peer assessment		
						360D	360-degree evaluation		
						PP-Practical	Practical		
						VV-Viva	Viva		
						DOAP	Demonstration Observation Assistance Performance		
						SBA	Scenario Based Assessment		
						CBA	Case based Assessment		
						S-LAQ	Structured LAQ		
						OSCE	Objective Structured Clinical Examination		
						OSPE	Objective Structured Practical Examination		

						DOPS	Direct observation of procedural skills		

COURSE CURRICULUM FOR THIRD PROFESSIONAL B.S.M.S
(PRESCRIBED BY NCISM)

Sool and Magalir Maruthuvam
(Obstetrics and Gynaecology)

(SUBJECT CODE : SIDUG-SMM)

(Applicable from 2021-22 batch, from the academic year 2024-25 onwards for 5 batches or until further notification by NCISM, whichever is earlier)

ncism

।। आयुषे सर्वलोकानाम् ।।

BOARD OF UNANI, SIDDHA AND SOWA-RIGPA
NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE
NEW DELHI-110026

NCISM

III Professional SIDDHA MARUTHUVA ARIGNAR
(Bachelor of Siddha Medicine and Surgery (B.S.M.S))
Subject Code : SIDUG-SMM

Sool and Magalir Maruthuvam
(Obstetrics and Gynaecology)

Summary

Total number of Teaching hours: 350			
Lecture (LH) - Theory		**110**	**110(LH)**
Paper I	55		
Paper II	55		
Non-Lecture (NLHT)		**70**	**240(NLH)**
Paper I	35		
Paper II	35		
Non-Lecture (NLHP)		**170**	
Paper I	85		
Paper II	85		

Examination (Papers & Mark Distribution)					
Item	**Theory Component Marks**	**Practical Component Marks**			
		Practical	**Viva**	**Elective**	**IA**
Paper I	100	100	30	-	20
Paper II	100				
Sub-Total	200	150			
Total marks	350				

Important Note :- The User Manual III B.S.M.S is a valuable resource that provides comprehensive details about the curriculum file. It will help you understand and implement the curriculum. Please read the User Manual III before reading this curriculum file. The curriculum file has been thoroughly reviewed and verified for accuracy. However, if you find any discrepancies, please note that the contents related to the MSE should be considered authentic. In case of difficulty and questions regarding curriculum write to **syllabus24sid@ncismindia.org**

PREFACE

Sool Maruthuvam (Obstetrics) plays a crucial role in maternal and infant healthcare, ensuring the well-being of women during pregnancy, childbirth, and the postpartum period. This syllabus integrates Siddha principles with modern healthcare, equipping BSMS graduates with the knowledge and skills to provide holistic, patient-centered, and personalized care. It covers Sikkalgal (complications), Karanangal (causes), and Parigarangal (management strategies) related to pregnancy, alongside preventive care, maternal monitoring, and evidence-based management of complications. By emphasizing Thirithoda constitutions, Envagai Thervu, and other diagnostic tools, the curriculum ensures that students develop a deep understanding of obstetric principles and Siddha interventions to promote safe motherhood and reduce maternal and neonatal mortality rates.

In addition to obstetrics, Magalir Maruthuvam (Gynaecology) is a vital component of this curriculum, focusing on the female reproductive system, reproductive health, and the management of complex disorders. With women's health gaining increasing recognition, the syllabus is designed to provide comprehensive knowledge of gynaecological principles and advancements, ensuring evidence-based practice and a patient-centric approach. Through a blend of traditional wisdom and emerging research, students will be equipped to diagnose, treat, and manage gynaecological conditions effectively, incorporating modern medical insights while staying rooted in Siddha traditions.

This competency-based curriculum prepares students to adapt to advancements in obstetric and gynaecological care, integrating clinical guidelines, case studies, and innovative therapies to enhance their diagnostic and treatment capabilities. The inclusion of technology-driven healthcare solutions and contemporary methodologies ensures that Siddha graduates emerge as skilled, confident, and ethical practitioners. With a strong foundation in both traditional and modern practices, this syllabus empowers future Siddha physicians to provide high-quality care, contribute to research, and uphold excellence in women's health.

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Course Code and Name of Course

Course code	Name of Course
SIDUG-SMM	Sool and Magalir Maruthuvam

Table 1 : Course learning outcomes and mapped PO

SR1 CO No	A1 Course learning Outcomes (CO) SIDUG-SMM At the end of the course SIDUG-SMM, the students should be able to-	B1 Course learning Outcomes mapped with program learning outcomes.
CO1	Describe the health needs of seven stages of women from childhood to post-menopausal period.	PO1,PO3,PO7,PO9
C02	Acquire knowledge and treatment on common Magalir noigal (Gynaecological diseases) and their screening.	PO2,PO7,PO8
CO3	Apply the principles of Siddha Piniarri Muraigal (Diagnostic tools) and correlate with modern concepts to treat all Sool and Magalir noigal (Obstetrics and Gynaecology disorders).	PO4,PO5,PO9,PO10
CO4	Diagnose and manage normal Sool kalam, Magaperu, Sool poopu kalam (Pregnancy, Labour and Puerperium) and recognize any deviation from normalcy.	PO3,PO4,PO8
CO5	Demonstrate the importance of Makkal thogai kattuppattu (population control), Kudumbakattupadu Muraigal (contraception), Saatam saarintha maruthuvam (Medico legal and ethical aspects) of practicing Sool and Magalir Maruthuvam (Obstetrics and Gynaecology).	PO1,PO2,PO7
CO6	Illustrate the various aspects of Siddha tools for diagnosis and learn internal and external medicines related to Sool and Magalir maruthuva noigal (Obstetrics and Gynaecological disorders).	PO1,PO6,PO7
CO7	Exhibit the importance of good clinical practice in preventing the morbidity and mortality in Sool and Magalir Maruthuvam. (Obstructers and Gynaecology)	PO2,PO5,PO6
CO8	Perform systematic data handling and statistical presentation in a scientific and organized manner for seminars, symposia, and research papers.	PO11,PO12

Table 2 : Contents of Course

Paper 1 (SOOL MARUTHUVAM)						
Sr. No	**A2 List of Topics**	**B2 Term**	**C2 Marks**	**D2 Lecture hours**	**E2 Non-Lecture hours Theory**	**F2 Non-Lecture hours Practical**
1	**Koobaga Udalkoorugal (Pelvic Anatomy)** 1.1. Types and measurements of *Enbu Koobagam* (Bony pelvis) 1.2. Diameters of *Magavu kabalam* (Fetal skull) 1.3 Fetopelvic relations and its importance. 1.4 *Uthayam* and different types of *Uthayam* (Presentation) 1.5 Normal and abnormal types of *Uthayapagam* (Denomination) 1.6 *Vedabam* (Perineum) and its layers.	1	7	6	2	9
2	**Iyalbana sool (Normal Pregnancy)** 2.1 *Karuurpathi* - (Fertilization) Siddha aspect. 2.2 *Karuurpathi* - (Fertilization) Modern aspect. 2.3 *Karupudaidal, Mayai thotram,* (Implantation, Placental development) its functions, and Fetal circulation. 2.4 *Thopulkodi,* (Umbilical cord) and Panikudaneer (Amniotic fluid) 2.5 Karpini Urubu maruthalgal (Maternal changes during pregnancy) 2.6 *Sool kanippu* (Diagnosis of pregnancy) 2.7 *Karpini tharkappu*-Karpini parisodhanai Muraigal (Antenatal care and antenatal investigations) 2.8 *Sool kala Sikkalgal* (Complications of pregnancy)	1	20	10	9	16

	2.9 *Sool kala Yoga, Pranayama* and Siddha *maruthuva Muraigal* 2.10 *Kudumba kattupaadu muraigal (*Contraceptive methods)					
3	**Suga magapperu (Normal delivery)** 3.1 *Suga magapperu kurikunangal* (Signs of symptoms of normal labour) 3.2 *Suga magapperu nadai* (Stages of normal labour) 3.3 *Suga magapperu nigalchegal* (Mechanism of normal labour) 3.4 *Suga magapperu sathanangal* (Factors influence the normal labour) 3.5 *Suga magapperu Kankanippu, vedapakizhichal* (Course of labour with episiotomy) 3.6 Pain management, energy maintance and breathing exercise of normal delivery 3.7 *Suga magapperu sikalgal* (Complication of normal labour)	2	10	7	5	13
4	**Asaatharana magapperu (Abnormal labour)** 4.1 *Pinpedari uthayam* (Occipito posterior presentation) 4.2 *Karnangal, kurikunangal for Putta uthayam* (causes and clinical features of Breech presentation) 4.3 *Noi Kanippu* and *parigaram* for *Putta udhaya*m (Breech presentation) 4.4 *Muga uthayam* (Face presentation) 4.5 *Puruva uthayam* (Brow presentation) 4.6 *Kuruku uthayam* (Transverse presentation) 4.7 *Erattai kulavi sool, Pan sool* (Twin pregnancy and Multiple pregnancy)	2	17	8	5	12

	4.8 *Pinthangiya maayai* (Retained Placenta)					
5	**Asaatharana sool (Pathology of pregnancy)** 5.1 *kurai magaperu* (Preterm labour) 5.2 *Purakarupai sool* (Ectopic pregnancy) 5.3 *Neerkumil kalalai* (Hydatiform Mole) 5.4 *Athepanineer, Kuraipanineer* (Polyhydramnios's and Oligohydramnios's) 5.5 *Karuchethaivu* (Abortion) 5.6 *Magaperu mun utherasalai* (Placenta Previa) and *Magaperu pin utherasalai* (Postpartum haemorrhage) 5.7 *Sakthiyatra karuppai* (Atonic Uterus)	2	18	7	3	10
6	**Soolkaala pothu noigal (General diseases in pregnancy)** 6.1 *Soolkala Athe kuruthealzutham* (Gestational Hypertension) 6.2 *Soolvali murkuri* (Preeclampsia) 6.3 *Sool valeppu* (Eclampsia) 6.4 *Soolkaala mathumegam* (Gestational Diabetes mellitus) 6.5 *Sool kaala pandu noi* (Gestational Anaemia) 6.6 *Soolkala Thotru noigal* (Gestational Infections) 6.7 *Soolkaala kuruthi thogupu noigal* (Rh-Incompact ability disorder) 6.8 State and Central Government schemes 6.9 *Soolkaala kuraiveethana noi* (Gestational Hypothyroidisum) 6.10 *Veda soolvanthi* (Hyperemesis gravid arum) 6.11 *Soolkaala Magalir noigal* (Gynaecological	3	18	11	7	15

	diseases which influence pregnancy)					
7	**Soolpoopu kalam (Puerperal period)** 7.1 *Abarenamam* (Involution) 7.2 *Sool poopu sugaranam* (Puerperal changes) 7.3 *Sool poopu paramarippu* (Management of puerperal period) 7.4 *Sool poopu sanchara noigal* (Puerperal sepsis) 7.5 *Suga Magavu* (Term baby) 7.6 *Manovigara noigal in sool poopu kalam* (Puerperal psychosis)	3	10	6	4	10
Total Marks			**100**	**55**	**35**	**85**

Paper 2 (MAGALIR MARUTHUVAM)						
Sr. No	**A2 List of Topics**	**B2 Term**	**C2 Marks**	**D2 Lecture hours**	**E2 Non-Lecture hours Theory**	**F2 Non-Lecture hours Practical**
8	**Inaperukka Udalkoorugal (Reproductive Anatomy)** 8.1. *Karuppaiyin amaippu* (Structure of Uterus) 8.2. *Sinaippai, Sinaipaathai, Yoni and Koobaga thaaraiyin amaippu.* (Structure of ovary and fallopian tube, vagina and pelvic floor) 8.3. *Piravi Kuraipadugal in Magalir pirappu uruppugal* (Congenital malformations of female genital organs), Turners syndrome, Klinefelter syndrome.	1	9	3	2	4
9	**Inaperukka Udalseyaliyal (Reproductive physiology)** 9.1. HPO-axis, and *Mun suvali surappugal* (Anterior pituitary hormones)	1	10	9	5	15

	9.2. *Sinaippai surappugal and Peethaga surappugal* (Oestrogen and Progesterone) 9.3. *Veethana surappugal and Pirukoobari surappugal* (Thyroid hormones and Adrenal sex hormones) 9.4. *Poopu suzharchi nigazhvugal* (Phases of Menstrual Cycle) 9.5. *Muthal poopu* (Menarche) 9.6. *Thuritha mutual poopu* (Precocious puberty) 9.7 *Kadaipoopu kolarugal*. (Menopausal symptoms) 9.8. *Kadai poopu pin noigal* (Post-menopausal Diseases) 9.9. *Irupalina noigal* (Intersex diseases)					
10	**Poopu suzharchi noigal (Menstrual disorders)** 10.1. *Soothaga thadai* (Amenorrhoea) 10.2. *Saatharana Perumpadu* (Abnormal uterine bleeding - AUB) 10.3 *Asaatharana Perumpadu* (Dysfunctional uterine bleeding - DUB) 10.4. *Soothaga vali and Poopu murkurigal* (Dysmenorrhoea, Premenstrual syndrome) 10.5. *Kadai poopu pin utherasalai* (Postmenopausal bleeding)	1	14	5	4	6
11	**Mageparinmai (Infertility)** 11.1. Siddha aspects of Magaperinmai (Infertility) 11.2. *Aan Magaperinmai* - K*aranangal* (Male Infertility-causes). 11.3. *Pen Magaperinmai* - K*aranangal* (Female Infertility-causes)	2	12	7	5	12

	11.4. *Aan Magaperinmai - Noi kanippu, Siddha maruthuvam* (Male Infertility - Investigation, Siddha Treatment) 11.5. *Pen Magaperinmai - Noi kanippu, Siddha maruthuvam* (Female Infertility - (Investigation, Siddha Treatment,) 11.6. Ethical guidelines of *Magaperinmai* 11.7. Assisted Reproduction Techniques - Intra uterine Insemination - (IUI), In vitro fertilization (IVF), Intra cytoplasmic sperm injection (ICSI).					
12	**Sinaippai noigal (Ovarian disorders)** 12.1. *Sinaippai katti* (Simple ovarian cyst) 12.2. *Sinaippai kalalai* (Benign ovarian tumours). 12.3. *Sinaippai Neerkatti* (Polycystic ovarian syndrome - PCOS) 12.4. *Sinaippai piravi katti* (Dermoid cyst) 12.5. *Sinaippai kuruthi katti* (Chocolate cyst of ovary) with endometriosis. 12.6. *Sinaippai seyelpaadu kuraivu* (Ovarian insufficiency) 12.7. *Sinaippai thirugal* (Ovarian torsion) 12.8. *Thuritha Sinaippai seyalizhappu* (Premature ovarian failure) 12.9. *Sinaippai thunduthal noi* (Ovarian Hyper stimulation syndrome) 12.10. *Sinaippai putru noi* (Carcinoma of ovary)	2	12	10	5	14
13	**Marbaga noigal (Diseases of Breast)** 13.1.*Nakil katti* - (Fibro adenoma breast) 13.2.*Nakil thabitham* - (Mastitis), 13.3.*Nakil seelkatti* - (Breast abscess) 13.4.*Nakil putru noi - noi karanam and vagaigal*	2	10	5	4	8

	(Breast Cancer-cause and types) 13.5.*Nakil putru noi - Ayvu kooda thervugal and maruthuvam* (Breast Cancer - Investigation and treatment)					
14	**Karuppai noigal (Uterine disorders)** 14.1. *Karuppai thasai narkalalai* (Fibroid uterus). 14.2. *Karuppai kambu kazhalai* (Endometrial polyp), *Kazhunthu kambu kalalai* (Cervical polyp), *Karuppai utkavasa neetchi* (Adenomyosis), *Karuppai utkavasa thadippu* (endometrial hyperplasia). 14.3. *Karuppai kazhunthu putru noi* (Carcinoma of cervix). 14.4. *Karuppai kazhunthu thabitham* (Cervicitis), ethics for menstrual hygiene, its internal and external management 14.5. *Karuppai adithalal* (Uterine prolapse) including internal and external management.	3	13	5	3	9
15	**Koobaga thotru noigal (Pelvic inflammatory diseases)** 15.1. *Yoni roga padalam*- Siddha aspect and *Vellai noi* (Leucorrhoea). 15.2. *Palvenai noigal* (Sexually transmitted diseases - STD) - *Vettai noi* (Gonorrhoea), *Aema noi* (Acquired immunodeficiency syndrome - AIDS), *Kuruku pun* (Syphilis), *Earl Sanchara thabitham* (Hepatitis B, C) 15.3. *Sinaippai thabitham* (Oophoritis), *Sinaipaathai thabitham* (salinities) 15.4. Bartholin *surapi thabitham* (Bartholinitis), *Narpatta Koopaga vali* (Chronic pelvic pain) 15.5. *Karuppai utkavasa thabitham* (Endometritis), 15.6. *Koopaga arai thabitham* due to *Illaipu noi* (Pelvic inflammatory disease due to Tuberculosis), *Karuppai age Pura azharchi* (Para metritis).	3	12	6	4	10

16	**Siruneer vega kolaarugal (Urogynaecological disorders)** *16.1. Yoni adithalal* (Vaginal prolapse) 16.2. *Siruneer adangamai* (Stress Incontinence (SI), Urge Incontinence (UI) 16.3. *Siruneer paathai thotrugal* (Urinary tract Infection) 16.4. *Siruneer paathai kayangal* (Urinary tract injury) 16.5. *Punarchi vali* (Dyspareunia), *Poopu, Mangai, Kadaipoopu kala mana matrangal* (Psycho somatic problem in reproductive and menopausal period)	3	8	5	3	7
Total Marks			**100**	**55**	**35**	**85**

Table 3 : Learning objectives of Course

Paper 1 (SOOL MARUTHUVAM)										
A3 Course outcome	**B3 Learning Objective (At the end of the session, the students should be able to)**	**C3 Domain/sub**	**D3 MK / DK / NK**	**E3 Level**	**F3 T-L method**	**G3 Assessment**	**H3 Assessment Type**	**I3 Term**	**J3 Integration**	**K3 Type**
Topic 1 Koobaga Udalkoorugal (Pelvic Anatomy) (LH :6 NLHT: 2 NLHP: 9)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO1, C02	Define the structure *of Enbu Koobagam* (bony pelvis) its divisions, types, measurements, and its importance in *Sool Maruthuvam*.	CK	MK	KH	L&PPT ,DIS	QZ ,Log book	F&S		V-UK	LH
CO1, C02	Describe *Magavu Kabalam* (Fetal skull) including *Mun utchikuli* (Anterior fontanelle), *Pin utchikuli* (Posterior fontanelle), *Karakaigal* (Sutures*)*, size, shape, fetal skull diameters and adaptation for childbirth.	CK	MK	KH	DIS,PL, L_VC	M-CHT,PUZ	F&S		-	LH
CO1, C02	Describe the diameters of *Koobagam* related to *Magavu* (Feto pelvic diameters relation) *Kabala vitta alavugal* and its clinical importance.	CK	MK	KH	SIM,L& PPT	QZ ,T-CS	F&S		-	LH
CO1, C02	Explain about *Uthayam* (Presentation), such as normal, and abnormal presentation, and the importance of determining presentation about *Magaperu* (Labour).	CK	MK	KH	TPW,L_ VC	T-CS,M-POS	F&S		-	LH
CO1, C02	Explain the types of Uthayapagam (Denomination) related to Magaperu (labour), such as normal and abnormal *Uthayapagam* (Denomination).	CK	MK	KH	L_VC,DIS	PUZ,INT	F&S		-	LH
CO1, C02	Describe the location, boundaries, layers, nerve supply, blood supply, and lymphatics of *Vedabam* (Perineum), along with the clinical importance of *Vedabam kizhisal* (Episiotomy).	CK	NK	KH	DIS,L,SIM,PL	INT,QZ ,M-CHT	F&S		-	LH

CO1, C02	Describe the subtypes of *Utchi uthayam* (*C*ephalic presentation) related to *Suga magaperu* (Normal delivery).	CK	MK	KH	IBL,DIS ,D-M	INT,M-CHT,QZ	F&S		-	NLHT1.1
CO1, C02	Describe the normal and abnormal types of *Magavu Uthayam* (Fetal presentation) and their *Uthayapagam* (denomination) related *to Magaperu* (Labour).	CK	MK	KH	DIS,DL, D-M	M-MOD,PUZ	F&S		-	NLHT1.2
CO1, C02	Observe the *structure*, dimensions, and variations of the Enbu Koobagam (bony pelvis) for managing *sool kalam* and *magaperu* (pregnancy and delivery).	PSY-GUD	MK	SH	DIS,D-M	C-VC,M-CHT	F&S		-	NLHP1.1
CO1, C02	Observe and assess the *Magavu kabalam* (Fetal skull) with its sutures and diameters, which help assess whether vaginal delivery is possible.	PSY-GUD	MK	SH	SIM,RP	P-MOD,WP	F&S		-	NLHP1.2
CO1, C02	Demonstrate the adaptation mechanism between the *Magavu kabalam* (Fetal skull) and the *Enbu Koopagam* (Bony pelvis), as well as the mechanism of Cephalo pelvic disproportions.	PSY-GUD	MK	SH	SIM,DL ,DIS	P-ID,Log book	F&S		-	NLHP1.3
CO1, C02	Demonstrate the normal and abnormal *Uthayam* (Presentation) related to *Magaperu* (Abnormal labour).	PSY-GUD	MK	SH	CD,DL	INT, C-VC	F&S		-	NLHP1.4
CO1, C02	Observe the normal and abnormal *Uthayapagam* related to *Asaatharana Magaperu* (Abnormal labour).	PSY-GUD	MK	SH	DL,DIS, SIM	SP,Log book	F&S		-	NLHP1.5
CO1, C02	Demonstrate the deep and superficial layers of	PSY-GUD	MK	SH	SIM,DI S	INT,QZ	F&S		-	NLHP1.6

	Vedabam (Perineum*)* and its clinical importance such as *Vidapakizhisa*l (Episiotomy).									

Non Lecture Hour Theory		
S.No	**Name of Activity**	**Description of Theory Activity**
NLHT 1.1	Subtypes of *Utchi uthayam* (*C*ephalic presentation) related to *Suga magaperu* (Normal delivery).	1. Demonstration Lab: The teacher explains the anatomy and the process of cephalic presentation, including the fetal skull bones to the students in the demonstration lab. Students will observe and record their case record. 2. Quizzes: The teacher will divide the students into small groups and conduct a quiz program related to the subtypes of *Utchi uthayam* (Cephalic presentation). Finally, based on their performance, the teacher will give those scores. Total duration: 1hr
NLHT 1.2	Normal and abnormal types of *Uthayam* (presentation*) and Uthayapagam* (denomination)	1. Demonstration Lab: The teacher will demonstrate the normal and abnormal types of *Uthayam* (presentation*) and Uthayapagam* (denomination) to the students in the demonstration lab. Students will observe and record his/her log book. 2. Puzzle The Teacher will instruct the students to identify the different types of *Uthayam* (Presentation) and *Uthayapagam* (Denomination). Total duration: 1hr

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 1.1	Enbu Koobagam (bony pelvis).	1. Demonstration Lab / Simulation

		The teacher will demonstrate the Structure and dimensions of *Enbu Koobagam* (Bony pelvis) in demonstration lab or simulation. Students' will observe and record his/her log book. 2. Making of charts Students are instructed to make a chart of different types of E*nbu Koobagam* related to *sool kalam* and *magaperu* (pregnancy and delivery). Total duration: 2 hrs
NLHP 1.2	Diameters and sutures of *Magavu kabalam* (Fetal skull) *related to Magaperu* (*Labour).*	1. Demonstration Lab: The teacher will demonstrate the sutures of the M*agavu kabalam* (Fetal skull) *related to magaperu* (l*abour).* Students will observe and record her/his log book. 2. Word puzzle Through a word puzzle, students are instructed by teacher to identify the features of fetal skull and its clinical importances. Total duration: 1hr
NLHP 1.3	Cephalo pelvic relation to *Magavu kabalam* (Fetal skull) with *Enbu Koobagam* (Bony pelvis)	1. Simulation The teacher demonstrates the adaptation mechanism between the *Magavu kabalam* (Fetal skull) and *the Enbu Koopagam* (Bony pelvis) in simulation lab. Students are observe and record his/her observations in a log book.. 2. Discussion The teacher will discuss with students related to adaptation mechanism between the *Magavu kabalam* (Fetal skull) and *the Enbu Koopagam* (Bony pelvis). Total duration: 1hr
NLHP 1.4	Normal and abnormal *Uthayam* (Presentation) related to *Magaperu* (Abnormal labour)	Common Standard Operating Procedure - (SOP) Self-introduce yourself to the patients, The Teacher and students will stand on the right side of the patient, and confirm patient data, one female attendee should accompany the patient during examination, follow sterile procedures during examinations, prepare necessary materials, collect

		concerns from the patient, record clinical examination finding in dairy and also informed to the patient, after examination, the used material should be disposed of properly. This common general SOP should be follow all clinical examinations. 1. Demonstration lab The teacher will demonstrate the normal and abnormal *Uthayam* (Presentation*)* related to *Magaperu* (Abnormal labour) in demonstration lab. Students are observed and record his/her log book. 2. Interactions Students are interacting about normal and abnormal *Uthayam*-related *Asaatharana magaperu* Total Duration: 2 hrs
NLHP 1.5	Normal and abnormal *Uthayapagam* (Denomination*)* related to *Asaatharana Magaperu* (Abnormal labour).	1. Simulation In the simulation lab, the teacher will demonstrate normal *Uthayapagam* (Denomination) and abnormal u*thayapagam* related to As*aatharana Magaperu* (abnormal labour). Students are observed and record his/her observations in a log book 2. Group discussion The teacher will discuss with students related to normal and abnormal *uthayapagam* (Denomination*)* related to *Asaatharana Magaperu* (abnormal labour). Total Duration: 2 hrs
NLHP 1.6	Layers of *Vedabam* (Perineum) and *Vidapa kizhisal* (Episiotomy).	1. Simulation lab The teacher will demonstrates the layers of *Vedabam* (Perineum) and *Vidapa kizhisal* (Episiotomy) in

		simulation lab,the students will observe and repeat the same. 2. Quiz Students are divided into groups by teacher and conducted a quiz program for the layers of the perineum and *vidapakizhisal* (Episiotomy). Total duration: 1 hr

Topic 2 Iyalbana sool (Normal Pregnancy) (LH :10 NLHT: 9 NLHP: 16)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO4, CO6, CO7	Describe the process of *Karuurpathi* (Fertilization) in various aspects of Siddha literature.	CK	MK	KH	DIS,PL, L	Log book, M-MOD	F&S		V-NN1	LH
CO4, CO6, CO8	Discuss *Karuurpathi* in naveena Maruthuvam (fertilization in modern concepts), such as the approach and recognition of gametes, capacitation, acrosome reaction, sperm penetration and fusion.	CK	MK	KH	DIS,L& PPT	CL-PR,M-CHT	F&S		-	LH
CO4, CO6, CO7	Explain the *Karu puthaithal* (Implantation), *Maayai thotram* (Chorionic villi development), and early embryonic development from three germinal layers (Prelaminar germ disc development).	CK	MK	KH	L_VC,L S	CL-PR,M-CHT	F&S		-	LH
CO4, CO6,	Describe the information about the formation and function of *Thoppul kodi* (Umbilical cord) and *Panikudaneer*	CK	DK	KH	L,L&PP T	PUZ,M-CHT,T-CS	F&S		-	LH

CO7	*urpathi* (Amniotic fluid formation) and their clinical importance during *sool kalam* (Prenatal period).									
CO4, CO6, CO7	Summarize the anatomical changes, physiological changes, hormonal changes, and immunological changes in *Sool kaalam* (Maternal changes during pregnancy).	CE	MK	KH	DIS,L&PPT	M-CHT,PA,QZ	F&S		-	LH
CO4, CO6, CO8	Describe the *Yuga kurikunangal, Nambe thaguntha kurikunangal* and *Nichaya kurikunangal* (subjective, objective and confirmative signs and symptoms) of *Sool Kanippu.*	CK	MK	KH	PrBL,L&PPT	PUZ,T-CS	F&S		-	LH
CO4, CO6, CO7	Discuss the *Karpini tharkappu* (Prenatal care) includes various aspects such as health promotion, risk identification, disease prevention, and preparation for birth.	CK	MK	KH	L,L&GD	T-CS,PUZ	F&S		-	LH
CO6, CO7	Describe the potential complications of *Suga magaperu* (Normal labour) such as maternal complications, fetal complications, Labour-related complications, and postpartum complications.	CK	DK	KH	L&GD, L&PPT	T-CS,WP	F&S		-	LH
CO4, CO6, CO7	Explain the Siddha management including diet and medical advice during *Sool kaalam* (Prenatal period).	CK	DK	KH	DIS,L,BS	RK,QZ	F&S		-	LH
CO3, CO5	Discuss the *Karuthadai Muraigal* (contraceptive methods), such as Natural methods, Barrier methods, Hormonal methods, and intra-uterine devices, (Temporary and Permanent contraceptive methods).	CK	MK	KH	L&PPT,TPW,L	INT,M-MOD,QZ	F&S		-	LH
CO4, CO6	Discuss the*Thirumoolar* concept of *Karuurpathi* (*Fertilization)* from the Siddha perspective.	CK	MK	KH	DIS,BL	M-MOD,QZ	F&S		-	NLHT2.1
CO4, CO7	Discuss the male and female causative factors	CK	MK	KH	TPW,DIS,LRI	T-CS,Log book,CL-PR	F&S		-	NLHT2.2

	influencing *Karuurpathi* (Fertilization) according to the Siddha system.									
CO4, CO6, CO7	Describe the abnormal site of *Karu puthaithal* and *Maayai valarchi* (Fetal implantation and Placental development) and its complications.	CK	MK	KH	ML,TUT,DIS	INT,M-CHT, C-VC	F&S		-	NLHT2.3
CO4, CO7, CO8	Describe the abnormal formation and functions of *Thopulkodi* and *Panikudaneer* (Umbilical cord and Amniotic fluid)	CK	MK	KH	ML,FV, FC,SY	CL-PR, C-VC	F&S		-	NLHT2.4
CO1, CO4, CO7	Describe the maternal changes during *Sool kaalam* (pregnancy).	CK	MK	KH	CBL,LRI,FC	CL-PR,QZ, C-VC	F&S		-	NLHT2.5
CO4, CO5	Discuss the Naadi, Neerkuri, and Neikuri, laboratory investigations and evaluate the *Sool Kanippu* (Diagnosis of pregnancy).	CK	MK	KH	CBL,DIS	T-CS,Log book	F&S		-	NLHT2.6
CO4, CO6, CO7	Illustrate the various stages of *Karuurpathi* (Fertilization) according to the Siddha aspect.	CK	MK	SH	D-M,DIS,PL	M-CHT,P-MOD,INT	F&S		-	NLHP2.1
CO4, CO7, CO8	Discuss the various stages of *Karuurpathi* (Fertilization) according to the modern aspect.	PSY-GUD	MK	SH	LS,DIS, CBL	P-VIVA,M-CHT,INT	F&S		-	NLHP2.2
CO4, CO7	Discuss the *Karu puthithal* and *Maayai Valarchi* (Fetal implantation and Placental development) and their abnormalities.	CAP	MK	SH	PBL,CBL	C-VC,M-CHT,SBA	F&S		-	NLHP2.3
CO4, CO7	Discuss the importance of medical visits, diet, medical advice, Maternity Benefit Act 1961, and Maternity Amendment Act 2017	CK	MK	KH	PL,DIS	M-POS,QZ	F&S		-	NLHT2.7

	during *Sool kaalam* (Ante-natal period).									
CO4, CO7, CO8	Discuss the USG findings to assess the Amniotic Fluid Index [AFI].	CAP	MK	SH	DIS,LRI ,CBL,D L	P-PRF,DOPS, C-VC,DOPS	F&S		-	NLHP2.4
CO4, CO6, CO7	Describe the anatomical and physiological changes in women during *Sool Kaalam* (Pregnancy)	CK	MK	SH	PL,CBL	CL-PR,P-V IVA,P-PRF,CBA	F&S		-	NLHP2.5
CO3, CO4, CO8	List out the confirmative signs of pregnancy, such as fetal heart sounds, visualization of the fetus, and fetal movements using an Ultra sonogram (USG).	CK	MK	SH	CBL,SI M,LRI, DL	O-QZ,INT	F&S		-	NLHP2.6
CO3, CO4, CO6	State the abdominal and pelvic grip examination during *Sool kaalam* (Ante-natal period).	CK	MK	SH	CBL,PE R	SP,DOPS,P-PRF	F&S		-	NLHP2.7
CO4, CO6, CO7	Explain the systemic maternal complications of *Sool kaalam* (Ante-natal period).	CK	MK	SH	CBL,DI S	PA,P-PRF	F&S		-	NLHP2.8
CO4, CO6, CO7	Elaborate and apply the administration of specific Siddha medicines, such as the *Magapperu Sanjeevi* medicine kit, during the *Sool kaalam* (Ante-natal period) and explain its importance.	CAP	MK	SH	PSM,Pr BL	P-PRF,RK	F&S		-	NLHP2.9
CO4, CO6, CO7	Describe the method of temporary *Karuthadai Murai of* Copper-T	CK	MK	SH	DIS,D-M,CBL	C-VC,PA	F&S		-	NLHP2.10

	insertion.									
CO4, CO6, CO7	Discuss the complications of mother during *Sool kaalam* (Pregnancy period).	CK	MK	KH	LS,PBL	M-POS, C-VC	F&S		-	NLHT2.8
CO4, CO6, CO7	Describe the advantages and disadvantages of natural, temporary, permanent, and recent types of *Karuthadai Muraigal* (Contraceptive methods).	CK	MK	KH	D-M,DIS	QZ ,T-OBT	F&S		-	NLHT2.9

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 2.1	*Thirumoolar* concept of *Karuurpathi* (Fertilization).	1. Discussion The teacher will discuss with students related to *Thirumoolar* concept of *Karuurpathi (*Fertilization) in the Siddha system. Students will observe and record their log book. 2. Quiz The teacher will give the outline of the topic like the *Thirumoolar* concept of *Karuurpathi (*Fertilization) in the Siddha system students will attend the quiz to get their scores at the end. Total Duration: 1hour
NLHT 2.2	Male and female causes influence the *Karuurpathi* (Fertilization) in the Siddha system.	1. Theory case study The teacher will discuss with students the male and female factors influencing the *Karuurpathi* (Fertilization) in the Siddha system. 2. Class presentations Students will be able to prepare and make a class presentation on the topic of male and female causes influencing the *Karuurpathi* (Fertilization) in the Siddha system. Total Duration: 1 hour
NLHT 2.3	*A*bnormal site of *Karu puthithal* and *Maayai valarchi* (Fetal implantation and Placental	1. Clinical case videos The teacher will interact with students about monitoring *Karu puthithal, and Maayai vala*rchi (fetal

	development)	implantation and placental development) in the abnormal site through Clinical case videos. 2. Making of charts Students will be instructed about preparing the charts for *Karu puthithal, and Maayai vala*rchi (fetal implantation and placental development). Total Duration: 1hour
NLHT 2.4	Abnormal formation and functions of *Thopulkodi* and *Panikudaneer* (umbilical cord and amniotic fluid)	1. Making of posters The teacher will discuss general maternal complications during *Sool kalam (*Pregnancy period) with the students. Students will be divided into small groups to discuss the topics and create posters on general maternal complications during *Sool kaalam* (Pregnancy period). 2. Discussion Students will be divided into small groups by the teacher to discuss General maternal *c*omplications during *Sool Kaalam* (Pregnancy period) and gain more knowledge about this topic. Total duration: 1hr
NLHT 2.5	Maternal changes during *Sool kaalam* (pregnancy).	1. Making of posters The teacher will discuss general maternal complications during *Sool kaalam (*Pregnancy period) with the students. Students will be divided into small groups to discuss the topics and create posters on general maternal complications during *Sool kalam* (Pregnancy period). 2. Discussion Students will be divided into small groups by the teacher to discuss General maternal *c*omplications during *Sool Kaalam* (Pregnancy period) and gain more knowledge about this topic. Total duration: 1hr
NLHT 2.6	Siddha and modern diagnostic methods of *Sool Kanippu* (Diagnosis of pregnancy).	1. Case-based learning The teacher will discuss with students the Siddha (Naadi, Neerkuri, and Neikuri), and laboratory investigations are used to evaluate the *Sool Kanippu* (Diagnosis of pregnancy) by Case-based learning. Students will understand and perform the same clinically. Duration: 1 hour

NLHT 2.7	Diet and medical advice, and Maternity Benefit Act 1961 and Maternity Amendment Act 2017 for *Sool kaalam* (Ante-natal period).	1. Quiz The Teacher will conduct a Quiz program with students based on an outline of topics such as the importance of medical visits, diet, medical advice, the Maternity Benefit Act 1961, and the Maternity Amendment Act 2017, these legislation are important for the antenatal period in India as they provide provisions for maternity leave and workplace benefits to promote maternal health and well-being. Students will attend the quiz and receive the cores at the end. 2. Making of posters Students are instructed to create posters on topics such as medicine, medical advice, diet, and the Maternity Benefit Act 1961 along with the Maternity Amendment Act 2017 for *Sool kaalam* (Ante-natal period). Total duration: 1 hour
NLHT 2.8	Complications of mother during *Sool kaalam* (Pregnancy period).	1. Making of posters The teacher will discuss general maternal complications during *Sool kalam (*Pregnancy period) with the students. Students will be divided into small groups to discuss the topics and create posters on general maternal complications during *Sool kaalam* (Pregnancy period). 2. Discussion Students will be divided into small groups by the teacher to discuss General maternal *c*omplications during *Sool Kaalam* (Pregnancy period) and gain more knowledge about this topic. Total duration: 1hr
NLHT 2.9	Advantages and disadvantages of *Kudumba kattuppattu Muraigal* (Contraceptive method).	1. Making of posters The teacher will discuss general maternal complications during *Sool kalam (*Pregnancy period) with the students. Students will be divided into small groups to discuss the topics and create posters on general maternal complications during *Sool kaalam* (Pregnancy period).

		2. Discussion Students will be divided into small groups by the teacher to discuss General maternal *c*omplications during *Sool Kaalam* (Pregnancy period) and gain more knowledge about maternal *c*omplications during *Sool Kaalam* (Pregnancy period) Total duration: 1 hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 2.1	Various stages of *Karuurpathi* (Fertilization) according to Siddha aspect.	1. Practical Model The tyeacher will instruct to students make practical models related with Various stages of *Karuurpathi* (Fertilization) according to Siddha aspect. 2. Discussion Students will be divided into groups by teacher and discuss the *karuurpathi* for the Siddha aspect. Students will observe and record their log book. Total duration: 2 hours
NLHP 2.2	Various stages of *Karuurpathi* (Fertilization) according to modern aspects.	1. Chart making The teacher will be instructed by students make chart related to various stages of *Karuurpathi* (Fertilization) according to modern aspects. 2 Discussions The teacher will discuss with students will interact about fertilization according to modern aspects. The students will gain more knowledge about this topic. Total duration: 2 hours
NLHP 2.3	*Karu puthaithal* and *Maayai Valarchi* (Fetal implantation and Placental development) and its	1.Clinical video case The teacher will demonstrate the *Karu puthaithal* and *Maayai Valarchi* (Foetal implantation and

	abnormalities.	Placental development) and its abnormalities, such as placenta praevia, and placental abruption through clinical videos. 2. Making of charts Students will be instructed to make a chart for *karu puthaitha*l and *Maayai valarchi.* (Fetal implantation and Placental development) Total duration: 1 hour
NLHP 2.4	USG findings to assess the Amniotic Fluid Index [AFI].	1. Case-based learning The teacher will discuss the USG findings to assess the Amniotic Fluid Index [AFI]. Students were discussing on the normal AFI range, the range of *Kurai panineer and Athi panineer* (Oligohydramnios's, Polyhydramnios).To evaluation of pregnancy risk, fetal anomaly screening and its clinical importance. Duration: 1 hour
NLHP 2.5	Anatomical and physiological changes of the women during *Sool Kaalam* (Pregnancy).	1. Practical performance The teacher will describe the anatomical and physiological changes of the women during Sool *Kaalam* (Pregnancy). Students will follow the SOP of History taking, general examination, pelvic examination, haematological investigation, physiological changes. 2. Class Presentation Students will be instructed to students prepare recording anatomical and physiological changes of the women during *Sool Kaalam* (Pregnancy). Total duration: 2 hours
NLHP 2.6	Confirmative signs of *Sool kaalam* (pregnancy) are detected by Ultra sonogram (USG).	1. Interactions The teacher will demonstrate the confirmative signs such as fetal heart sounds, Visualization of the fetus, and fetal movements are detected by using an Ultra sonogram. Students will follow the SOP of

		History taking, general examination, pelvic examination, fetal heart rate, positive pregnancy test, USG finding, and fetal movement for *Sool Kaalam* (Prenatal period). 2. Case-based learning The teacher will discuss the confirmative signs of pregnancy, such as fetal heart sounds, visualization of the fetus, and fetal movements in case based learning. . Duration: 2 hours
NLHP 2.7	Abdominal and pelvic grip examination of *Sool kaalam* (Ante-natal period)	1. Practical performance The teacher will demonstrate abdominal and pelvic grip examination of the *Sool kaalam* (Ante-natal period). Students will be divided into groups and patients will be allotted. SOP will be followed for History taking, General examination, Pelvic examination, fundal height, and pelvic grip examinations. 2. Simulated patients Students will be instructed to perform abdominal and pelvic grip examinations on simulated patients. Total duration: 2 hours
NLHP 2.8	Systemic complications of *Sool kaalam* (Ante-natal period)	1 Practical performance The teacher will demonstrate systemic maternal complications during *Sool kaalam* (Ante-natal period). Students will provide details on their assigned topics an of the topic and identify issues that could affect maternal health. Case presentations will be done by the students. 2. Discussion Students will be separated into small groups to discuss topics such as systemic complications during *sool kaalam (*Antenatal period). Total duration: 2 hours

NLHP 2.9	*Magapperu Sanjeevi* medicine kit adminstrated during *Sool kaalam* (Ante natal period) and its importances.	1. Making of posters The teacher will discuss general maternal complications during *Sool kalam (*Pregnancy period) with the students. Students will be divided into small groups to discuss the topics and create posters on general maternal complications during *Sool kalam* (Pregnancy period). 2. Discussion Students will be divided into small groups by the teacher to discuss General maternal *c*omplications during *Sool Kaalam* (Pregnancy period) and gain more knowledge about maternal *c*omplications during *Sool Kaalam* (Pregnancy period) Total duration: 1hr
NLHP 2.10	Copper-T insertion.	1. Simulation The teacher will demonstrate copper-T insertion on simulated patients to help students gain clinical knowledge about copper-T- -insertion. 2. Discussion Teacher will discuss with students about indication and contraindication of insertion of Copper-T into uterus. Total duration: 1 hour

Topic 3 Suga magapperu (Normal delivery) (LH :7 NLHT: 5 NLHP: 13)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO4, CO6, CO7	Describe the early signs and symptoms such as dropping, increased vaginal discharge, frequent urination, and regular uterine contraction of *Suga magapperu* (Normal Labour).	CK	DK	KH	PL,DL, L	QZ ,INT	F&S		-	LH
CO4, CO7	Describe the three stages of S*uga magapperu nadai* (Normal Labour) such as *karuppai kazhunthu virivadaithal* (cervical dilatation), *Magavu velithallal* (fetal expulsion), and *maayai*	CK	MK	KH	L_VC,D IS	QZ ,INT	F&S		-	LH

	pirithal mattrum velithallal (placental separation and expulsion).									
CO4	Describe the mechanisms which are essential for a successful process of S*uga magapperu* (Normal Labour).	CC	MK	KH	CBL,L &PPT	T-CS,INT	F&S		-	LH
CO4, CO7	Describe the S*uga magapperu sathanangal* (essential factors for normal labour) like *Sakthi, paathai, and prayani* (Power, Delivery passage, and Fetus).	CK	MK	KH	FC,L_V C	INT,PUZ	F&S		-	LH
CO4, CO7	Describe the S*uga magapperu nigazhchigal* (Mechanism of labour) such as *thalai sorugal* (engagement), *Magavu Iran gal* (fetal descent), *matrangal* (flexion), *ul suzharchi* (internal rotation), *neetal* (extension), *thirugal* (restitution), *veli suzharchi* (external rotation).	CK	MK	KH	DIS,FC, L_VC	QZ ,INT,T-CS	F&S		-	LH
CO4, CO6, CO7	Explain and discuss the Siddha pain management, positioning, and breathing techniques used during S*uga magapperu* (Normal Labour).	CC	NK	KH	L,IBL,G BL	QZ ,INT,PM	F&S		-	LH
CO4, CO7	Describe some potential complications like Maternal and fetal complications, and labour-related and post-partum complications of *Suga magapperu* (Normal Labour).	CK	DK	KH	L&PPT ,CBL,D L	RK,CL-PR,QZ	F&S		-	LH
CO4, CO6, CO7	Illustrate the cardiotocography (CTG) finding and monitors the fetal heart rate and different false and true labour pain evaluates.	CK	MK	KH	LRI,PE R,DIS	P-PRF,PRN	F&S		-	NLHT3.1
CO4, CO6, CO7	Discuss the causes and clinical features of the second stage of prolonged labour.	CC	MK	KH	CBL,DI S	INT,PRN	F&S		-	NLHT3.2
CO4, CO7	Discuss the different mechanisms also known as the cardinal movement of *Suga magapperu nigazhchigal* (Mechanism of	CK	MK	KH	TUT,SI M	CBA,INT	F&S		-	NLHT3.3

	labour).									
CO4, CO7	Describe the maternal and fetal factors which influence S*uga magapperu nadai* (stages of normal labour).	CK	MK	KH	BS,RP, SIM	O-GAME,T-CS	F&S		-	NLHT3.4
CO4, CO6, CO7	Discuss about the phases and pain management in labour.	CK	MK	KH	BS,CBL	PRN	F&S		-	NLHT3.5
CO4, CO7	Distinguish the clinical manifestations from pre phase to the true phase of S*uga magapperu nadai* (stages of normal labour).	CK	MK	SH	DIS,D-BED,CBL	P-PRF,DOPS	F&S		-	NLHP3.1
CO4, CO7	Elaborate the three stages of S*uga magapperu nadai* (stages of normal labour) such as *karuppai kazhunthu virivadaithal* (cervical dilatation), *Magavu velithallal* (fetal expulsion), *maayai pirithal mattrum velithallal* (placental separation and expulsion).	CAP	MK	SH	D,D-BED,DIS	SP,P-PS,OSCE	F&S		-	NLHP3.2
CO4, CO7	Discuss the clinical manifestations in the S*uga magapperu nigazhchigal* (mechanism of labour).	CK	MK	SH	FV,PL, SIM	P-PRF,SP	F&S		-	NLHP3.3
CO4, CO7	Discuss the factors which affect mechanisms of s*uga magapperu* (normal labour)	CAP	MK	SH	D-BED, DIS,FV	P-PRF,INT	F&S		-	NLHP3.4
CO4, CO6, CO7	Elaborate the third stage management of S*uga magapperu* (Normal delivery).	CK	MK	SH	DIS,D-BED	DOPS,PRN	F&S		-	NLHP3.5
CO4, CO6, CO7	Discuss the Siddha medicine, *Varma therapy (Patchy Nema Varmam),* and positioning which reduces the need for medical interventions by supporting the natural processes of S*uga magapperu* (Normal delivery).	CK	MK	SH	DIS,D-BED,FV	P-PRF,P-PS	F&S		-	NLHP3.6
CO4,	Enlist the *Suga magapperu* (Normal delivery) related to *Sool*	CAN	MK	SH	FV,D-B	P-	F&S		-	NLHP3.7

CO7	*poopu kugaranam* (post-partum complications).				ED,DIS	PS,DOAP					

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 3.1	Labour pain is evaluated with cardiotocography (CTG) and monitors the fetal heart rate.	1. Discussion Students will discuss with teacher related to how the labour pain is evaluated with cardiotocography (CTG) and monitors the fetal heart rate. 2. Case presentation Students will be instructed by teacher to give case presentation related to Labour pain is evaluated with cardiotocography (CTG) and monitors the fetal heart rate. Total Duration: 1 hour
NLHT 3.2	Causes and clinical features of the second stage of prolonged labour.	1. Interactions: Students are instructed to participate in group discussions and interactions about the second stage of prolonged labour 2. Case-based learning Provide students with case based learning of the prolonged second stage of labour and ask them to analyze the causes and clinical features. Total Duration: 1 hours
NLHT 3.3	Mechanism o*f Suga magapperu nigazhchigal* (Mechanism of labour)	1. Case-based assessment: Students are instructed to use models to demonstrate the cardinal movements of *Suga magapperu nigazhchigal* (Mechanism of labour) labour. Students can visualise the process and understand how each movement contributes to the birth process. 2. Interactions: Students are instructed to divide into groups and ask them to interact about the cardinal movements of *Suga magapperu* (mechanism of labour).

		Total Duration: 1 hour.
NLHT 3.4	Influencing factors of *Suga magapperu nadai* (stages of normal labour).	1. Theory case study: The teacher will provide students with case studies of different pregnancies and ask them to analyze the maternal and fetal factors that influence the *Suga magapperu nadai* (stages of normal labour) 2. Online game based assessment: Create a game that tests knowledge of the maternal and fetal factors that influence *Suga magapperu nadai* (stages of normal labour). Total Duration: 1 hour.
NLHT 3.5	Phases of labour and pain management in labour.	1. Scenario based learning The teacher will provide students with case scenario of laboring women who received different pain management options. Ask students to analyze the effectiveness of each option and discuss potential alternatives. 2. Case-based learning The teacher will divide students into groups to discuss with phases of labour and pain management in labour. Students will observe and record their log book. Total Duration: 1 hour.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 3.1	Clinical manifestations of S*uga magapperu nadai* (stages of normal labour).	1. Practical performance According to SOP, the teacher will demonstrate the clinical manifestations of pre-phase to the true phase of S*uga magapperu Nadai* (stages of normal Labour). Students will take a clinical history according to the standard operating procedures. Students will monitor the procedure and record their observations in their logbooks. Duration: 1hour

NLHP 3.2	Three stages of S*uga magapperu nadai* (stages of normal labour).	1. Demonstration Bedside / Simulation According to SOP, the teacher will demonstrate the three stages of S*uga magapperu nadai* (stages of normal labour) such as *karuppai kazhunthu virivadaithal* (cervical dilatation), *agave velithallal* (fetal expulsion), *maayai pirithal mattrum velithallal* (placental separation and expulsion) through bedside demonstration or simulation lab. Students will monitor the procedure and record their observations in their logbooks. Duration: 2 hours
NLHP 3.3	Clinical manifestations in the S*uga magapperu nigazhchigal* (mechanism of labour).	1. Case-based learning According to SOP, the teacher will discuss the clinical manifestations in S*uga magapperu nigazhchigal* (Mechanism of Labour) such as *thalai sorugal* (engagement), *Magavu Iran gal* (fetal descent), *madangal* (flexion), *ul suzharchi* (internal rotation), *neetal* (extension), *thirugal* (restitution), *veli suzharchi* (external rotation) through simulated patients. Students will monitor the clinical findings and record them in his/her log book. Duration: 2 hours
NLHP 3.4	Factors that affect the mechanisms of S*uga magapperu* (Normal labour).	1. Case presentation According to SOP, the teacher will describe the factors affecting the mechanisms of S*uga magapperu* (normal labour) through clinical videos. Students will observe the procedures and record their observations in his/her logbook. *2. Discussion* Students will interact with teacher regarding factors that affect the mechanisms of S*uga magapperu* (normal labour). Students will observe the procedures and record their observations in his/her logbook.

		Duration: 2 hours
NLHP 3.5	Third stage management of S*uga magapperu* (Normal delivery).	1. Demonstration Bedside According to SOP, the teacher will demonstrate the third stage of management of S*uga magapperu* (Normal Delivery). Students will be instructed to follow the SOP, which includes a general examination, abdominal examination of third stage management of S*uga magapperu* (Normal Delivery). Students will monitor the procedure and record it in his/her logbook Duration: 2 hours
NLHP 3.6	Siddha management (both internal and external therapy) for S*uga magapperu* (Normal delivery).	1. Practical performance According to SOP, the teacher will demonstrate the Siddha medicine, Varma therapy (Patchy Nema Varmam), and positioning techniques that reduce the need for medical interventions by supporting the natural processes of S*uga magapperu* (Normal Delivery) in the simulation lab with students. Students will monitor the procedure and record it in his/her log book. 2. Discussion The teacher will discuss with students such as the Siddha medicine, *Varma therapy (Patchy Nema Varmam),* and positioning which reduces the need for medical interventions during labour. Total duration: 2 hours
NLHP 3.7	*Suga magapperu* (Normal delivery) related to S*ool poopu kugaranam* (post-partum complications).	1. Demonstration Bedside According to SOP, the teacher will demonstrate the S*uga Magapperu* (Normal Delivery) related to s*ool poopu kugaranam* (Postpartum Complications). Students will be instructed to take a history, conduct general examinations, and identify complications like PPH (Postpartum Haemorrhage), infections, episiotomy, perineal tears, and their clinical management for S*uga magapperu* (Normal Delivery). Students will monitor the procedure and record it in his/her logbook

		Duration: 2 hours

Topic 4 Asaatharana magapperu (Abnormal labour) (LH :8 NLHT: 5 NLHP: 12)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO6, CO7	Define *Pinpedari udhayam* (Occipito posterior presentation) and describe the *Karanangal* (causes), *kurikunangal* (signs and symptoms), *magapperu nigazhchigal* (mechanism of labour), *sikalgal* (complications), and *parikara muraigal* (management) of *Pinpedari udhayam* (Occipito posterior presentation).	CK	MK	KH	L&PPT	QZ ,T-CS	F&S		-	LH
CO6, CO7	Define *Asaatharana magapperu* (abnormal labour) and elaborate the maternal causes, fetal causes, placental or umbilical cord issues, cervical factors, psychological factors, and iatrogenic causes for *Asaatharana magapperu* (Abnormal labour).	CK	MK	KH	L&GD, FC	T-CS,WP,CL-PR	F&S		-	LH
CO6, CO7	Define P*utta udhayam* (Breech presentation) and describe the *vagaigal* (types), *Karanangal* (causes), *kurikunangal* (signs and symptoms), s*ikalgal* (risks and complications) and *parigaram muraigal* (management) of *Putta udhayam* (Breech presentation).	CK	MK	KH	L&GD, SY	T-CS,SBA, PUZ	F&S		-	LH

CO6, CO7	Distingush between M*ugam mattrum Puruva udhayam* (Face and Brow presentation) and describe the *Karanangal* (causes), *kurikunangal* (signs and symptoms), *magapperu nigazhchigal* (mechanism of labour), *sikalgal* (complications) and *parikara muraigal (*management) of *Mugam mattrum Puruva udhayam* (Face and Brow presentation).	CK	DK	KH	L&PPT ,L_VC	M-POS	F&S		-	LH
CO6, CO7	Define *kurukku paduththal* (Transverse and oblique lie) and describe the *kaaranangal* (causes), *kurikunangal* (signs and symptoms), *magapperu nigazhchigal* (mechanism of labour), and p*arikara muraigal* (management) of K*urukku paduththal* (Transverse and oblique lie).	CK	MK	KH	BL,L,Pr BL	INT,COM, CL-PR	F&S		-	LH
CO6, CO7	Define *Irattai kuzhavi sool* (twin pregnancy) and discuss the causes including biological and genetic factors, environmental and lifestyle factors, and clinical manifestations for *Irattai kuzhavi sool* (twin pregnancy).	CK	MK	KH	DIS,L_ VC	CL-PR,QZ	F&S		-	LH
CO6, CO7	Describe the *noikanippu* (diagnosis), *sikkalgal* (complications), and *maruthuva parigaram* (management) of *Irattai kuzhavi sool* (Twin pregnancy).	CK	MK	KH	L&PPT ,PBL	QZ ,CL-PR	F&S		-	LH
CO6, CO7	Define - Asaatharana magapperu (Dystocia) and discuss its causes, types, diagnosis, risk factors, complications, and management.	CK	DK	KH	DIS,SI M,L&P PT	T-CS,M-POS	F&S		-	LH
CO6, CO7	Describe the abnormal mechanism of *Pinpedari Udhayam* (Occipito posterior position) and its complications.	CK	MK	KH	DIS,CD	T-CS,QZ	F&S		-	NLHT4.1
CO6, CO7	Discuss the management of P*utta udhayam* (Breech presentation)	CK	MK	KH	DIS,CB L	C-VC,T-CS	F&S		-	NLHT4.2

CO6, CO7	Discuss about the different fetal and maternal complications of *Muga udhayam* (Face presentation)	CC	MK	KH	TBL,DIS,FC	T-CS,M-CHT	F&S		-	NLHT4.3
CO6, CO7	Discuss the maternal and fetal complications of *Kurukku paduththal* (Transverse and oblique lie).	CK	MK	KH	DIS,ML	C-VC,INT,PUZ	F&S		-	NLHT4.4
CO6, CO7	Define conjoined twins and discuss the conjoined twins such as thoracopagus, omphalopagus, and craniopagus and their complications.	CK	MK	KH	PBL,ML	INT,T-CS	F&S		-	NLHT4.5
CO6, CO7	Discuss the clinical manifestations of *Pin pidari udhayam* (Occipito posterior position) through pelvic and vaginal examination.	PSY-GUD	MK	SH	D-M,D-BED,PSM	DOPS,OSCE,P-ID,INT	F&S		-	NLHP4.1
CO6, CO7	Describe the clinical manifestations of *Putta udhayam* (Breech presentation) through abdominal and pelvic examinations.	PSY-GUD	MK	SH	CD,SIM,D-BED	SP,INT,DOPS	F&S		-	NLHP4.2
CO6, CO7	Describe and apply the diagnostic techniques and further evaluation of *Putta udhayam* (Breech presentation)	PSY-GUD	MK	SH	CD,SIM	DOAP,SP	F&S		-	NLHP4.3
CO6, CO7	Identify the signs for abdominal palpation, and vaginal examination of *Muga udhayam* (Face presentation)	PSY-GUD	MK	SH	CBL,SIM,D-M	P-PRF,OSCE,DOPS,DOPS	F&S		-	NLHP4.4
CO6, CO7	Describe the clinical manifestations, abdominal palpation, and vaginal examination of *Puruva udhayam* (Brow presentation) through pelvic and vaginal examination.	PSY-GUD	MK	SH	D-BED,DIS,SIM	OSCE,SP,DOAP,P-PRF,P-CASE	F&S		-	NLHP4.5
CO6, CO7	Demonstrate the abdominal and pelvic examination to assess the fetal lie to identify *Kurukku paduththal* (transverse and oblique lie).	PSY-GUD	MK	SH	D-BED,CBL	DOAP,P-PRF,OSCE	F&S		-	NLHP4.6
CO6,	Apply skills in physical examination for twin pregnancies,	PSY-	MK	SH	SIM,D	DOAP,P-	F&S		-	NLHP4.7

CO7	including uterine fundal height, fetal positioning, and abdominal palpation for *Irattai kuzhavi sool* (Twin pregnancy).	GUD				ID				
CO6, CO7	Describe the clinical manifestations of *Pin thangiya maayai* (Retained placenta) by manual and vaginal examination.	CK	MK	SH	SIM,DIS,D-BED	OSCE,P-PRF,SP	F&S		-	NLHP4.8

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 4.1	Discussion on *Pinpedari udhayam* (Occipito posterior position)	1. Theory case study: The teacher will provide students with case studies of women with *Pinpedari udhayam* (Occipito posterior position) and ask them to analyse the complications and management options. 2. Quiz: The teacher will conduct a quiz that tests asses students' knowledge about *Pinpedari udhayam* (Occipito posterior position) and its complications. Total Duration: 1 hour
NLHT 4.2	Management of *Putta udhayam* (Breech presentation)	1. Theory case study: The teacher will provide students with case studies of P*utta udhayam* (breech presentation) and ask them to analyze the management and its complications. 2. Interaction The teacher will interact with students like management of *Putta udhayam* (Breech presentation). Students will observe and record their log book. Total Duration: 1 hour
NLHT 4.3	Complications of *Muga udhayam* (Face presentation)	1. Case-based learning The teacher will discuss about the different fetal and maternal complications of *Muga udhayam* (Face presentation). Students are observe and record their log book. 2. Group Discussion:

		Students are divided into groups to discuss the fetal and maternal complications of M*uga udhayam* (face presentation) Total Duration: 1 hour.
NLHT 4.4	Complications of *Kurukku paduththal* (Transverse and oblique lie)	1. Puzzles: The teacher will create a puzzle that tests the student's knowledge about the maternal and fetal complications of *Kurukku paduththal* (Transverse and oblique lie). 2. Interactions: The teacher will interact with students through create interactive diagrams illustrating the maternal and fetal complications of K*urukku paduththal* (Transverse and oblique lie). Total Duration: 1 hour.
NLHT 4.5	Conjoined twins and their complications.	1. Theory case study: The teacher will provide students with case studies of conjoined twins such as thoracopagus, omphalopagus, and craniopagus's and their complications and ask the students to analyse surgical separation options for each case. 2. Interactions: The teacher will divide students into groups and ask them to discuss the conjoined twins such as thoracopagus, omphalopagus, and craniopagus, and their complications. Total Duration: 1 hour.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 4.1	Clinical manifestations of *Pin pidari udhayam* (Occipito posterior position).	1. Demonstration bed side According to SOP, the teacher will demonstrate clinical manifestations of the *pin pidari udhayam* (Occipito posterior position) through pelvic and Vaginal examination. A case history will be taken according to SOP per abdominal, and vaginal examination, prolonged labour duration will be

		explained for identification of the *pin pidari udhayam* (Occipito posterior position). Students will monitor the procedure and record it in his/her logbook Duration: 2 hours
NLHP 4.2	Clinical examinations *of Putta udhayam* (Breech presentation).	1. Demonstration Bedside / Simulation According to SOP, the teacher will demonstrate the clinical manifestations of *Putta udhayam* (Breech presentation) through abdominal and pelvic examinations and its management such as *Petti kaalam in* demonstration lab or Simulation. Case history will be taken by the students according to SOP per abdominal, vaginal examination, Leopold's Manoeuvres, frank breech or complete breech, footling breech, fetal position, prolonged labor, placental location, lack of fetal heart sounds, USG findings will be explained for identification of the *Putta udhayam* (Breech presentation) Students will monitor the procedure and record it in his/her logbook Duration: 2 hours.
NLHP 4.3	Diagnostic techniques and evaluation of *Putta udhayam* (Breech presentation).	1. Simulation lab According to SOP, the teacher will demonstrate the clinical manifestations of *Putta udhayam* (Breech presentation) through abdominal and pelvic examinations, Imaging study, and further evaluation by pelvic, maternal, and fetal factors, gestational age and size, and maternal conditions that might complicate the delivery through simulation. Students will monitor the procedure and record it in his/her logbook Duration: 1 hour
NLHP 4.4	Identification, abdominal palpation, and vaginal examination of *Muga udhayam* (Face presentation)	1. Practical performance According to SOP, the teacher will demonstrate the identification, abdominal palpation, and vaginal examination of *Muga udhayam* (Face presentation). A case history will be taken by students according to SOP per abdominal, vaginal examination, fundal height, and shape, palpating fetal parts, and fetal

		position, USG findings will be explained for identification of the *muga udhayam* (Face presentation) Students will monitor the procedure and record it in his/her logbook. Duration: 1 hour.
NLHP 4.5	Clinical manifestations of *Puruva udhayam* (Brow presentation).	1. Demonstration Bedside / Simulation The teacher will demonstrate the clinical manifestations of *Puruva udhayam* in bed side demonstration or simulation. A case history will be taken by students according to SOP per abdominal, vaginal examination, fundal height, and shape, palpating fetal parts, fetal position, prolonged labour, and placental location will be explained for identification of the P*uruva udhayam* (Brow presentation) Students will monitor the procedure and record it in his/her logbook Duration: 1 hour.
NLHP 4.6	Abdominal and pelvic examination to assess the fetal lie and identify *Kurukku paduththal* (transverse and oblique lie).	1. Simulation According to SOP, the teacher will demonstrate the *undhi and koobaga sothanai* (abdominal and pelvic examination) students are able to assess the fetal lie and identify *Kurukku paduththal* (transverse and oblique lie) in simulation. 2. Case presentation History will be taken according to SOP per abdominal, pelvic examination, fundal height and shape, palpating fetal parts, and the fetal position will be explained for identification of the *Kurukku paduththal* (transverse and oblique lie). Students will monitor the procedure and record it in his/her log book. Total Duration: 2 hours
NLHP 4.7	Clinical examination and abdominal palpation for *Irattai kuzhavi sool* (Twin pregnancy).	1. Simulation According to SOP, the teacher will demonstrate physical examination for twin pregnancies including fundal height, fetal positioning, and abdominal palpation for *Irattai kuzhavi sool* (Twin pregnancy). Students are divided into groups and SOP will be followed for history taking, confirming the number of foetuses, two different fetal heartbeat monitoring, USG findings, and clinical management for

		Irattai kuzhavi sool (Twin pregnancy). Students will monitor the procedure and record it in his/her logbook Duration: 2 hours
NLHP 4.8	Clinical manifestations of *Pin thangiya maayai* (Retained placenta) by manual and vaginal examination.	1. Demonstration bedside / Simulation The teacher will demonstrate clinical manifestations of *Pin thangiya maayai* (Retained placenta) in demonstration bed side or simulated patients. Students will be instructed to follow the SOP and take the general examination, pelvic and vaginal examination, identify post-partum haemorrhage (PPH), post-procedure monitoring, uterine massage, cord traction, medication and its clinical management for *pin thangiya maayai* (Retained placenta) Students will monitor the procedure and record it in his/her logbook. Duration: 1 hour

Topic 5 Asaatharana sool (Pathology of pregnancy) (LH :7 NLHT: 3 NLHP: 10)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO3, CO7	Describe the *Noi Karanangal (*causes), Risk factors, *kurikunangal* (clinical manifestations), *noi kanippu* (Diagnosis*),* and *parigaram* (treatment and management) of *Kurai* M*agaperu* (Preterm labour).	CK	NK	KH	FC,L&PPT	PUZ,INT	F&S		-	LH
CO3, CO7	Describe the No*i karanangal (*causes) k*urikunangal* (clinical features) *sikalgal (*complications) *and parigara muraigal* (treatment and management) of *Pura karuppai sool. (*Ectopic pregnancy).	CK	MK	KH	L&PPT ,PBL,PrBL	WP,M-CHT	F&S		-	LH
CO3, CO6,	Explain the Pathogenesis, Genetics, HCG Elevation, Neoplastic Potential clinical features, and *Parigara Muraigal* (management)	CK	MK	KH	DIS,L_VC	WP,T-CS	F&S		-	LH

CO7	of *Neer Kumizhl Kalalai* (Hydatiform mole)									
CO3, CO7	Describe the *Noi karangal, (*causes) *kurikunangal* (Clinical features), *Sikalgal* (complications), and *Noi kanippu (Diagnosis) of Athi Pani Neer and Kurai Pani Neer* (Polyhydramnios's and Oligo hydroamniosis)	CK	DK	KH	DIS,L& PPT ,PBL	QZ ,INT	F&S		-	LH
CO3, CO7	Define *Karuchethaivu* (Abortion*)* and Describe its *Noi karanagal,* (causes) *vagaigal* (Types*), Kurikunangal* (clinical features), *noi kanippu* (diagnosis*) noi kanippu vivatham,* (differential diagnosis) *and Parigara muraigal* (management) in *Karuchethaivu* (Abortion).	CK	MK	KH	CBL,L &PPT	T-CS,INT, QZ	F&S		-	LH
CO3, CO6, CO7	Distinguish between the of *Magaperu Mun Uthira Salai (*Ante-partum haemorrhage*)* and *Magaperu Pin Utherasalai* (Post-partum haemorrhage) like *Iyel* (definition), *noi karanagal* (causes), k*urikunangal (*clinical features*),* *vagaigal* (types), *noi kanippu* (diagnosis), and P*arigara muraigal* (management).	CK	MK	KH	IBL,L& PPT	M-CHT,IN T,T-CS	F&S		-	LH
CO3, CO7	Describe the *Iyel (*definition), *noi karanagal (*causes), k*urikunangal* (clinical features), *vagaigal (*types), *noi kanippu (*diagnosis*)* and P*arigara muraigal (*management*)* of *Magaperu pin Uthira Salai (*Postpartum haemorrhage) *and Sakthiyatra karuppai (*Atonic uterus). .	CK	MK	KH	L&PPT ,LRI,Pr BL	Log book,PUZ	F&S		-	LH
CO3, CO7	Describe the *noi kanippu* (diagnosis), *sikalgal* (complications), and *Parikara muraig*a*l* (management) of *Pura karuppai Sool (*Ectopic pregnancy).	CK	MK	KH	PBL,SI M,LRI	CL-PR,INT ,P-ID	F&S		-	NLHT5.1
CO3, CO6, CO8	Discuss the congenital anomalies associated with *Athi panineer* (Polyhydramnios's)	CK	MK	KH	TBL,DI S	QZ , C-VC,SBA	F&S		-	NLHT5.2

CO3, CO6, CO8	Discuss the ethical, moral, philosophical, and cultural considerations of *Karuchethaivu.* (Abortion).	CK	MK	KH	IBL,CBL	P-RP,DEB	F&S		-	NLHT5.3
CO3, CO7	Describe the clinical manifestations of *Kurai Magapperu* (Preterm delivery) through pelvic and vaginal examination.	CK	MK	SH	CBL,LRI,PBL	OSCE,P-PRF,P-RP	F&S		-	NLHP5.1
CO3, CO7	Differentiate the clinical manifestations of *Pura karuppai sool* (Ectopic pregnancy) through abdominal, pelvic, and vaginal examinations.	CAN	MK	SH	DIS,CBL	OSCE,P-PRF,INT	F&S		-	NLHP5.2
CO3, CO7	Describe the abdominal, pelvic, and vaginal examination interpret with the USG findings to assess the *Neer kumil kazhalai* (*H*ydatiform mole).	CK	MK	SH	LRI,DIS	P-PRF,DOAP	F&S		-	NLHP5.3
CO3, CO7	Define and describe the abdominal examination and interpret the findings with USG findings such as the amniotic fluid index (AFI) in correlation with *Athepanineer (Polyh*ydramnios).	CAN	MK	SH	LRI,CBL	DOPS,RK	F&S		-	NLHP5.4
CO3, CO7	Distinguish the signs and symptoms, of abdominal, pelvic, and vaginal examinations of different types of *Karuchethaivu (*Abortion).	CAN	MK	SH	DIS	P-PRF,DOAP,OSCE	F&S		-	NLHP5.5
CO3, CO7	Define and describe the clinical manifestations of *Magaperu mun utherasalai (*Antepartum haemorrhage).	CK	MK	SH	D-M,DIS	M-CHT,P-PRF	F&S		-	NLHP5.6
CO3, CO7	Perform clinical demonstration of *Magaperu pin utherasalai* (Post-partum hemorrhage) and *Sakthiyatra karuppai* (Atonic uterus).	CAP	MK	SH	D-BED, DIS,CBL	SBA	F&S		-	NLHP5.7

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

NLHT 5.1	*Noi kanippu* (diagnosis), *sikalgal* (complications), *Parikara muraiga*l (management) of *Pura karuppai Sool (*Ectopic pregnancy).	1. Class presentation Students will be instructed to prepare topics such as *noi kanippu* (diagnosis), *sikalgal* (complications), and *Parikara muraiga*l (management) of *Pura karuppai Sool (*Ectopic pregnancy) and to present in the classroom. 2. Lab report interpretation The teacher will interact with the student to the laboratory investigation and USG findings for *Pura Karuppai Sool (*Ectopic pregnancy) Total Duration: 1 hour
NLHT 5.2	Congenital anomalies due to *Athi panineer* (Polyhydramnios).	1. Quiz Students will be given the outline of the topic such as congenital anomalies due to *Athi panineer* (Polyhydramnios) to attend the quiz to get their scores at the end. 2. Case-based learning The teacher will discuss with students related to congenital anomalies due to *Athi panineer* (Polyhydramnios) through a case study like symptoms, management of *Athi panineer* (Polyhydramnios). Total Duration: 1 hour
NLHT 5.3	Ethical, moral, philosophical, and cultural considerations of *Karuchethaivu* (Abortion).	1. Practical Roleplay Practical role-play will be given to the students, about how to differentiate and relate the different types of *Karuchethaivu* and its ethical, moral, philosophical, and cultural considerations. 2. Debate Students will be sectioned into two teams, and discuss the different types, signs, and symptoms of *Karuchethaivu* (Abortion), also it includes MTP act ethical procedures, arguments, rebuttals, and also conducting a Q&A session by teacher. Total Duration: 1hour

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 5.1	Clinical manifestations of *Kurai Magapperu* (Preterm delivery).	1. Practical performance The teacher will demonstrate the clinical manifestations of *Kurai Magapperu* (Preterm delivery) followed by students who will be advised to follow the SOP of vaginal and pelvic examination. Find out the diagnosis of the *Kurai magaperu* by the symptoms, physical signs like low birth weight, neonatal jaundice, and behavioural signs, laboratory investigation, and the management for *Kurai magaperu (*Preterm baby) Duration: 1 hour
NLHP 5.2	Clinical examination of *Pura karuppai sool (*Ectopic pregnancy).	1. Practical performance The teacher will demonstrate clinical manifestations of *Pura Karuppai Sool (*ectopic pregnancy) through abdominal, pelvic, and vaginal examinations. Students will be advised to follow the SOP of abdominal and pelvic examination to find out the diagnosis of *Pura Karuppai Sool (*Ectopic pregnancy). 2. Interactions Students will interact about the topic like clinical examination of *Pura karuppai sool (*Ectopic pregnancy). Total Duration: 2 hours
NLHP 5.3	Clinical manifestations of *Neer kumil kazhalai* (*H*ydatiform mole).	1. Practical performance The teacher will demonstrate the abdominal, pelvic, and vaginal examinations and interpret them with the USG findings to assess the *Neer kumil kazhalai* (hydatid form mole). Students will be followed SOP for abdominal and vaginal examination symptoms like enlarged uterus, GTD (Gestational Trophoblastic neoplasia), and clinical management for *Neer kumil kazhalai (*hydatid form mole). 2. Online Quiz

		Students will participate in an online quiz on the Clinical manifestations of *Neer kumil kazhalai* (*H*ydatid form mole) to get scores at the end. Total Duration: 1 hour
NLHP 5.4	Clinical manifestations of *Athepanineer* (Polyhydramnios's)	1. Case-based learning The teacher will discuss with students like the Clinical manifestations of *Athepanineer* (Polyhydramnios's) in type of case study with abdominal examination and interpret the USG findings such as amniotic fluid index (AFI) correlated with *Athepanineer (Polyh*ydramnios). 2. Lab report interpretation Students will discuss the clinical manifestations of *Athepanineer* (Polyhydramnios) including the USG scan report. Total Duration: 1 hour
NLHP 5.5	Diagnosis of different types of *Karuchethaivu (*Abortion).	1. Practical performance The teacher will demonstrate the sign and symptoms of abdominal, pelvic, and vaginal examinations of different types of *Karuchethaivu (*Abortion). Students will be advised to follow the SOP of General, pelvic and vaginal examination to find out the diagnosis of the topic, USG findings, differential diagnosis, and the management of *Karuchethaivu (*Abortion). 2. Discussion Students discuss with the teacher about signs and symptoms, of abdominal, pelvic, and vaginal examinations of different types of *Karuchethaivu (*Abortion). Total Duration: 2 hours
NLHP 5.6	Diagnosis of *Magaperu mun utherasalai* (Antepartum haemorrhage).	1. Practical performance Students will be advised to follow the SOP of abdominal and pelvic examination to find out the clinical manifestations of *Magaperu mun utherasalai* (Antepartum haemorrhage). 2. Case Diagnosis

		Students will be trained to diagnose the *Magaperu mun utherasalai* (Antepartum haemorrhage). Total duration: 1 hour
NLHP 5.7	Clinical manifestations of *Magaperu pin utherasalai* (Post-partum haemorrhage) and *Sakthiyatra karuppai* (Atonic uterus).	1. Case scenario The teacher will give case scenario related to clinical manifestations of *Magaperu pin utherasalai* (Post-partum haemorrhage) and *Sakthiyatra karuppai* (Atonic uterus). Students will able to find out the diagnosis and discuss with teacher. 2. Interactions After the demonstration students will interact with the teacher about the clinical manifestation of *Magaperu pin utherasalai* (Post-partum haemorrhage) and *Sakthiyatra karuppai* (Atonic uterus). Total duration: 2 hours

Topic 6 Soolkaala pothu noigal (General diseases in pregnancy) (LH :11 NLHT: 7 NLHP: 15)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO4, CO6, CO7	Describe the *kaaranangal* (causes), *kurikunangal* (signs and symptoms), *noi kanippu* (diagnosis) and *Parigarangal* (management) of *Sool kaala Athi kuruthi azhuththam* (Gestational Hypertension).	CK	MK	KH	BL,CBL ,L&PPT	INT,QZ	F&S		-	LH
CO4, CO6, CO7	Define *Soolvali murkuri* (Pre-eclampsia) and Describe the *kaaranangal* (causes), *kurikunangal* (signs and symptoms), Investigations, *sikalgal* (risks and complications) and *maruthuvam* (treatment) of *Soolvali murkuri* (Pre-eclampsia).	CK	MK	KH	PBL,L& GD	T-CS,QZ	F&S		-	LH

CO4, CO6, CO7	Define *sool valippu* (eclampsia) and explain in detail the *noi karanam* (causes), *kurikunangal* (signs and symptoms), *noi kanippu* (diagnosis), Investigations, and *Maruthuvam* (treatment and management) of *sool valippu* (Eclampsia).	CK	MK	KH	L&PPT ,BL	Log book, M-POS,PUZ	F&S		-	LH
CO4, CO6, CO7	Define S*ool kaala mathumega noi* (Gestational diabetes mellitus) and describe the *kaaranangal* (causes), *noi undaagum vitham* (etiopathogenesis), *kurikunangal* (signs and symptoms), *sikalgal* (complications), diagnosis and m*aruthuvam* (treatment) of S*ool kaala mathumega noi* (Gestational diabetes mellitus).	CK	MK	KH	CD,L& GD	T-CS,WP	F&S		-	LH
CO4, CO6, CO7	Enumerate and detail about S*ool kaala pandu noi* (Gestational Anaemia) and describe the *kaaranangal* (causes), *noi undaagum vitham* (etiopathogenesis), *kurikunangal* (clinical features), *noi kanippu* (diagnosis), *sikalgal* (complications) and *maruthuvam* (treatment) of S*ool kaala pandu noi* (Gestational Anaemia).	CK	MK	KH	L&PPT ,CBL	Log book,CL-PR	F&S		-	LH
CO4, CO6, CO7	Classify and describe the *kaaranangal* (causes), *kurikunangal* (signs and symptoms), *noi kanippu* (diagnosis), fetal complications, *thadupu muraigal* (prevention) and *parikara muraigal* (management) of *sool kaala Thotru noigal* (Maternal infectious diseases).	CK	MK	KH	TPW,L &GD,IB L	QZ ,T-CS	F&S		-	LH
CO4, CO6, CO7	Define Rh incompatibility and describe the pathogenesis *of Rh* Incompatibility and its complications, risk factors, prevention, and management of *Rh* Incompatibility in pregnancy.	CK	DK	KH	L&GD, CBL	PA,QZ ,CL-PR	F&S		-	LH
CO7, CO8	Explain National anaemia schemes such as Anaemia Mukt Bharat (AMB), National Iron Plus Initiative (NIPI), and WHO recommendations for S*ool kaala paandu noi* (Gestational Anaemia).	CC	NK	KH	L&GD, PrBL	QZ ,Log book,P-SUR	F&S		-	LH
CO4,	Define S*ool kaala Kurai Veethana kolarugal* (Gestational	CK	MK	KH	PL,L&	T-CS,QZ	F&S		-	LH

CO6, CO7	Hypothyroidism) and describe about the *kaaranangal* (causes), *kurikunangal* (signs and symptoms), *sikalgal* (complications) *noi kanipp*u (diagnosis), and *parikara muraigal* (management) of S*ool kaala Kurai Veethana kolarugal* (Gestational Hypothyroidism).				GD,PrBL					
CO4, CO6, CO7	Define V*ida sool vaanthi* (Hyperemesis gravidarum) and describe about the *noi kaaranangal* (causes), *kurikunangal* (signs and symptoms), *noi kanippu* (diagnosis), prevention, *sikalgal* (complications) and *Parigarangal* (management) of V*ida sool vaanthi* (Hyperemesis gravidarum).	CK	MK	KH	L&PPT,FC,PBL	T-OBT,WP	F&S		-	LH
CO4, CO6, CO7	Describe about the *gynaecological disorders which are influence the sool kaalam* (pregnancy) and *magapperu* (Labour).	CK	NK	KH	L,CBL	M-CHT,DEB	F&S		-	LH
CO6, CO7, CO8	Discuss about the maternal and fetal complications of S*ool valippu* (Eclampsia)	CK	MK	KH	PBL,DIS	T-CS,QZ	F&S		-	NLHT6.1
CO4, CO6, CO7	Discuss about the prevention and complications of S*ool kaala mathumega noi* (Gestational diabetes mellitus).	CK	MK	KH	DIS,PSM	T-CS,M-POS	F&S		-	NLHT6.2
CO4, CO7	Discuss about the maternal and fetal complications during pregnancy due to S*ool kaala paandu noi* (Gestational Anaemia)	CK	MK	KH	PBL,IBL	QZ ,M-CHT	F&S		-	NLHT6.3
CO4, CO7	Enlist the detail about the different types of S*ool kaala Thotru noigal* (Maternal infections) and their effects on pregnancy.	CK	MK	KH	GBL,CBL	QZ ,CR-W	F&S		-	NLHT6.4
CO4, CO7	Discuss about the importance of blood grouping in S*ool kaalam* (Pregnancy*)* and complications of Rh-Incompatibility	CK	MK	KH	TBL,IBL	M-CHT,T-CS	F&S		-	NLHT6.5
CO3, CO4	State the several factors which influence V*ida sool vaanthi* (Hyperemesis gravidarum) and its pathophysiology	CK	MK	KH	DIS,CD,PL	INT,T-CS	F&S		-	NLHT6.6

CO7, CO8	Discuss the gynecological diseases that influence abortion during *sool kaalam* (pregnancy).	CK	MK	KH	DIS,PSM	DEB,PUZ	F&S		-	NLHT6.7
CO4, CO7	Explain the early detection and management of *sool kaala Athi kuruthi azhuththam* (Gestational hypertension).	CC	MK	SH	D,D-BED,PBL	DOAP,P-SUR,RK	F&S		-	NLHP6.1
CO4, CO6, CO7	Describe the clinical manifestations of *Sool vali murkuri* (Pre-eclampsia).	CK	MK	SH	BL,D-BED	DOAP,OSCE,P-PRF	F&S		-	NLHP6.2
CO4, CO6, CO7	Describe the clinical assessment and management of *Sool valippu* (Eclampsia).	CC	MK	KH	DIS,D-BED	INT,P-PRF	F&S		-	NLHP6.3
CO4, CO6, CO8	Demonstrate the clinical assessment, complications, and management of S*ool kaala mathumegam* (Gestational diabetes)	PSY-GUD	MK	SH	LRI,D-BED,PBL	P-PRF,DOAP	F&S		-	NLHP6.4
CO4, CO7	Demonstrate the clinical features, maternal and fetal complications of S*ool kala Paandu noi* (Gestational Anaemia)	PSY-GUD	MK	KH	D-BED, DIS	P-PRF,P-CASE	F&S		-	NLHP6.5
CO4, CO6, CO7	Demonstration of maternal and fetal complications due to S*ool kaala Thotru noigal* (Maternal Infections during pregnancy)	PSY-GUD	MK	SH	D-BED, PBL	OSCE,P-PRF	F&S		-	NLHP6.6
CO4, CO6, CO7	Discuss the clinical features of Erythroblastosis foetalis and management of Rh incompatibility in pregnancy.	CAN	MK	SH	CBL,DIS,LRI	P-PS,DOAP,P-CASE	F&S		-	NLHP6.7
CO4, CO8	Discuss and apply the National schemes related to *Sool Kaalam* and State scheme such as *Magapperu Sanjeevi Petagam* for safe motherhood program.	CC	MK	KH	PSM,DIS	OSCE,INT,P-RP	F&S		-	NLHP6.8
CO4, CO6,	Demonstrate the clinical manifestations of *sool kaala kurai Veethana kolarugal* (Gestational hypothyroidism).	PSY-GUD	MK	SH	DIS,PSM	OSCE,RK	F&S		-	NLHP6.9

CO7										
CO4, CO6	Discuss the pathophysiology, signs and symptoms, and diagnosis of V*ida sool vaanthi* (Hyperemesis gravidarum).	CC	MK	KH	D-BED, LS,PSM	P-PRF,Mini-CEX	F&S		-	NLHP6.10
CO3, CO4, CO6	Discuss the Impact of gynaecological diseases which complicate *sool kaalam* (pregnancy) and *magapperu* (Labour), such as *Karuppai naar thasai kattigal* (Fibroid uterus), S*inaippai kattigal* (Ovarian tumours), K*aruppai kazhunthu putru noi* (Carcinoma of cervix), and *magapperu* (Labour).	CC	MK	SH	CD,PBL ,SIM	SBA,P-CASE,P-ID	F&S		-	NLHP6.11

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 6.1	Complications of S*ool valippu* (Eclampsia).	1. Theory case study: The teacher will provide students with case studies of eclampsia and ask them to analyze the maternal and fetal complications of S*ool valeppu* (Eclampsia). 2. Quiz: The teacher will create interactive quizzes that test the student's knowledge about the maternal and fetal complications of S*ool valeppu* (Eclampsia). Total Duration: 1 hour
NLHT 6.2	Complications and preventions of S*ool kaala mathumega noi* (Gestational diabetes mellitus).	1. Theory case study: The teacher will provide students with case studies about the prevention and complications of S*ool kaala mathumega noi* (Gestational diabetes mellitus) and ask them to analyze the strategies. 2. Group Discussion: The teacher will ask the students to divide into groups to discuss the prevention and complications of S*ool kaala mathumega noi* (Gestational diabetes mellitus). Total Duration: 1 hour.

NLHT 6.3	Maternal and fetal complications due to S*ool kaala paandu noi* (Gestational Anaemia)	1. Quiz: The teacher will create a quiz to test the student's knowledge about maternal and fetal complications during pregnancy due to S*ool kaala paandu noi* (Gestational Anaemia). 2. Group Discussion: The teacher will ask the students to divide into groups to discuss the maternal and fetal complications during pregnancy due to S*ool kaala paandu noi* (Gestational Anaemia). Total Duration: 1 hour.
NLHT 6.4	Different types of S*ool kaala Thotru noigal* (Maternal infections)	1. Quiz The teacher will create a quiz to test the student's knowledge about the different types of S*ool kaala Thotru noigal* (Maternal infections) and their effects on pregnancy. 2. Creativity writing: The teacher will ask the students to develop a prevention plan and an education brochure for different types of S*ool kaala Thotru noigal* (Maternal infections) and their effects on pregnancy Total Duration: 1 hour.
NLHT 6.5	Importance of blood grouping in S*ool kaalam* (Pregnancy).	1. Theory case study: The teacher will provide case studies of Rh incompatibility and ask them to analyze the complications and strategies. 2. Making of charts: The teacher will ask the students to make charts related to blood grouping and complications of Rh incompatibility. Total Duration: 1 hour.

NLHT 6.6	Factors that influence *Vida sool vaanthi* (Hyperemesis gravidarum) and its pathophysiology.	1. Theory case study: The teacher will provide a case study to the student about the several factors that influence V*ida sool vaanthi* (Hyperemesis gravidarum) and its pathophysiology. 2. Interactions: The teacher will divide the students into groups to discuss the several factors that influence V*ida sool vaanthi* (Hyperemesis gravidarum) and its pathophysiology. Total Duration: 1 hour
NLHT 6.7	Gynecological diseases that influence abortion during *sool kaalam* (pregnancy).	1. Debate: The teacher will divide the students into groups and make debate about the gynecological diseases which influence abortion during *sool kaalam* (pregnancy). 2. Puzzles: The teacher will create a puzzle that tests the student's knowledge related to gynecological diseases that influence abortion during *sool kaalam* (pregnancy). Total Duration: 1 hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 6.1	Early detection and management of *sool kaala Athi kuruthi azhuththam* (Gestational hypertension)	1. Demonstration Bedside According to Sthe OP, the teacher will demonstrate to the students, follow the SOP for the previous history of *Athi kuruthi azhuththam* (Hypertension) and its general examination, laboratory investigation, diet, medical advice, and management for *sool kaala Athi kuruthi azhuththam* (Gestational hypertension). Students will monitor the procedure record it in his/her log book and repeat the same. Duration: 2 hours

NLHP 6.2	Clinical manifestations of *Sool vali murkuri* (Pre-eclampsia).	1. Demonstration bedside According to SOP, the teacher will demonstrate to the students taking history of *Athi kuruthi azhutham* (Hypertension), related general examination, systemic examination, laboratory investigation, diet, medical advice, and management for S*ool vali murkuri* (Pre-eclampsia). Students will monitor the procedure record it in his/her log book and repeat the same. Duration: 1 hour
NLHP 6.3	Clinical assessment and management of S*ool valippu* (Eclampsia).	1. Demonstration Bedside According to SOP, the teacher will demonstrate to the students taking history of *Athi kuruthi azhutham* (Hypertension), albuminuria, edema in lower limbs, general examination, systemic examination, laboratory investigation, diet, medical advice and management of S*ool valippu* (Eclampsia). Students will monitor the procedure and record it in his/her logbook Duration: 1 hour
NLHP 6.4	Clinical assessment and complications of *Sool kaala Mathumegam* (Gestational diabetes).	1. Practical performance According to SOP, the teacher will demonstrate with the students for history taking, general examination for S*ool kaala Mathumegam* (Gestational diabetes)Students will monitor the procedure and record it in his/her logbook The teacher will demonstrate with the student laboratory investigations like GTT, OGCT, diet, medical advice, and its management for s*ool kaala Mathumegam* (Gestational diabetes) Students will monitor the procedure and record it in his/her logbook Duration: 2 hours
NLHP 6.5	Diagnosis and complications of *Sool kala paandu noi* (Gestational Anaemia).	1. Demonstration Bed side According to SOP, teacher will demonstrate the students about history taking, general examination for *Sool kala paandu noi* (Gestational Anaemia) Students will monitor the procedure and record it in his/her log book

		According to SOP, teacher will demonstrate the students for systemic examination, laboratory investigations, diet and management for *Sool kala paandu noi* (Gestational Anaemia). Students will monitor the procedure and record it in his/her log book Duration: 2 hours
NLHP 6.6	Clinical assessment of complications due to S*ool kaala Thotru noigal* (Maternal Infections during pregnancy).	1. Case-based learning The teacher will discuss with student's related to clinical assessment of complications due to S*ool kaala Thotru noigal* (Maternal Infections during pregnancy) like examination, and laboratory investigation like TORCH infections, and other infections. Discuss with clinical manifestations of maternal and fetal complications due to S*ool kaala Thotru noigal* (Maternal Infections during pregnancy). Students will monitor the procedure and record it in his/her log book. Duration: 2 hours
NLHP 6.7	Clinical features of Erythroblastosis foetalis and its management.	1. Lab report interpretation According to SOP, the teacher will demonstrate with students for general examinations, laboratory investigations like blood group positive or negative, clinical features of Erythroblastosis fetal is, and management of *Rh* incompatibility in pregnancy. Students will monitor the procedure and record it in his/her logbook Duration: 1 hour
NLHP 6.8	Clinical importance of state and central government schemes related to pregnancy.	1. Practical role play According to the SOP, the teacher will demonstrate and discuss with students the National schemes related to *sool kaalam* (pregnancy) and state-ga schemes such as *Magapperu Sanjeevi Petagam* administrated for safe motherhood program. Students will observe and record it in his/her log book. Duration: 1 hour

NLHP 6.9	*C*linical management of *sool kaala kurai Veethana kolarugal* (Gestational hypothyroidism).	1. Demonstration bedside According to SOP, the teacher will demonstrate with the students history taking, thyroid gland examination, thyroid profile, and management for *sool kaala kurai Veethana kolarugal* (Gestational Hypothyroidism). Students will monitor the procedure and record it in his/her logbook Duration: 1 hour
NLHP 6.10	Pathophysiology, signs and symptoms, and diagnosis of V*ida sool vaanthi* (Hyperemesis gravidarum).	1. Demonstration Bedside According to SOP, the teacher will demonstrate to the student's pathophysiology, signs and symptoms, general examination, laboratory investigations, medical advice, and management for *Vida sool vaanthi* (Hyperemesis gravidarum). Students will monitor the procedure record it in his/her log book and repeat the same. Duration: 1 hour
NLHP 6.11	Impact of gynaecological diseases which complicate *sool kaalam* (pregnancy) and *magapperu* (labour).	1.Simulation According to SOP, the teacher will demonstrate to students for the impact of gynaecological diseases which complicate *sool kaalam* (pregnancy) and *magapperu* (labour), such as *karuppai naar thasai kattigal* (fibroid uterus), *sinaippai kattigal* (ovarian tumours), *karuppai kazhunthu putru noi* (carcinoma of the cervix), and *magapperu* (labour) through simulation. Students will monitor the procedure and record it in his/her log book. Duration: 1 hour

Topic 7 Soolpoopu kalam (Puerperal period) (LH :6 NLHT: 4 NLHP: 10)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3

CO4, CO7	Define *Abarenamam (*Involution*)* and explain the stages of uterine Involution, factors influencing Involution, and its signs and symptoms.	CK	MK	KH	L&PPT ,IBL,BL	INT,Log book,PUZ	F&S		-	LH
CO4, CO6, CO7	Describe the *Sool poopu sugarana nigazhchigal* (puerperium) such as urinary and gastrointestinal changes, cardiovascular changes, psychological changes, and post-partum bleeding.	CK	MK	KH	L&GD, FC	T-CS,WP	F&S		-	LH
CO4, CO6	Interpret the *Sool poopu paramarippu* and intervention of Siddha medications during *Sool Poopu Kaalam*	CK	DK	KH	TPW,L &GD,F C	WP,RK	F&S		-	LH
CO3, CO6, CO7	Explain the *noi kaaranangal* (causes), risk factors, *kurikunangal (*clinical features), *noi kanippu* (diagnosis), *parigaram* (management) and prevention of *Sool poopu sanchara noi* (puerperal Infection).	CK	MK	KH	DIS,L& PPT ,FC	T-CS,WP	F&S		-	LH
CO3, CO4	Describe Newborn care after birth, including breastfeeding, routine monitoring, APGAR Score, neonatal reflexes, physical examination, and anthropometry of a *Suga Magavu* (Term baby).	CK	NK	KH	IBL,L& GD	T-CS,QZ	F&S		-	LH
CO3, CO7	Discuss the *kaaranangal* (causes), risk factors, *kurikunangal* (clinical features) *noi kanippu* (diagnosis), and *Parigara muraigal (*treatment*) of Sool poopu ula pirazhlvu noigal (Puerperal psychosis)*	CK	NK	KH	PBL,L& GD,PS M	WP,CL-PR	F&S		-	LH
CO4, CO6, CO7	Discuss the *kaaranangal* (causes), *kurikunangal* (clinical features), *noi kanippu* (diagnosis), *paramarippu muraigal* (management) and prevention of *Asaatharana* s*ool poopu kaalam (*Abnormal Involution)	CK	MK	KH	BL,DIS	PRN,SBA	F&S		-	NLHT7.1
CO4, CO6,	Discuss the importance of care of S*ool poopu sugaranam* (puerperal care) and the clinical features of an	CK	MK	KH	PL,PBL ,L&GD	QZ ,M-POS	F&S		-	NLHT7.2

CO7	abnormal puerperium.									
CO3, CO6, CO7	Classified the specific infections that cause *Sool poopu sanchara noigal* (Puerperal infection).	CK	MK	KH	FC,PBL	PA,INT	F&S		-	NLHT7.3
CO1, CO3	Describe the principles of Siddha puerperal care such as herbal medicines, oil massage, and diet, and rest, spiritual and emotional support.	CK	MK	KH	CBL,DIS	CHK,WP,INT	F&S		-	NLHT7.4
CO4, CO6, CO7	Deplain the *Karuppai matrangal* (Uterus changes) in *Sool poopu kaalam (*Puerperal period).	CK	MK	SH	DIS,CBL,PSM	CBA,Log book	F&S		-	NLHP7.1
CO3, CO4, CO7	Demonstrate the systemic physiological changes in *Sool Poopu kaalam* (Post-partum period).	PSY-GUD	MK	SH	CBL,PSM	SBA,CBA	F&S		-	NLHP7.2
CO3, CO6, CO7	Elaborate the clinical manifestations of the *Sool poopppu paramarippu (*Postpartum management)	CC	MK	SH	DIS,PSM	P-ID,QZ	F&S		-	NLHP7.3
CO3, CO6, CO7	Describe the clinical manifestations of *Sool poopu sanjchara noigal* (Puerperal sepsis)	CK	MK	SH	CBL,PBL	DOPS,P-RP,DOPS,M-CHT	F&S		-	NLHP7.4
CO3, CO7	Demonstrate the physical features and care of *Suga Magavu* (Term baby) and their development.	PSY-GUD	MK	SH	FC,DIS	PM,P-PRF	F&S		-	NLHP7.5
CO3, CO7	Demonstrate the clinical examination of *Sool poopu kaala ula pirazhlvu noigal (*Puerperal psychosis)	PSY-GUD	MK	SH	PSM,PBL,DIS	P-PRF,OSCE,M-CHT	F&S		-	NLHP7.6

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

NLHT 7.1	*Kaaranangal* (causes), *kurikunangal* (clinical features), *noi kanippu* (diagnosis), and prevention of *Asaathool poopu kaalam (*Abnormal Involution).	1. Discussion Students will discuss with teacher related to k*aaranangal* (causes), *kurikunangal* (clinical features), *noi kanippu* (diagnosis), and prevention of *Asaathool poopu kaalam (*Abnormal Involution). 2. Scenario-based assessment Students will give the outline of the topic such as *kaaranangal* (causes), *kurikunangal* (clinical features), *noi kanippu* (diagnosis), *paramarippu muraigal* (management), and prevention for *Asaatharana s**ool poopu kaalam (*Abnormal Involution) to take part in scenario-based and marks will be given based on their performance. Total Duration: 1 hour
NLHT 7.2	Clinical manifestations of abnormal puerperium.	1. Quiz Students will be given the outline of the topic like the importance of care of S*ool poopu sugaranam (*puerperal care) and clinical features of abnormal puerperium, to attend the quiz to get their scores at the end. 2. Discussions Students will be divided into small groups by the teacher and discuss the clinical features of abnormal puerperium to gain more knowledge about *Sool poopu sugaranam (*puerperium). Total Duration: 1hour
NLHT 7.3	Specific infections that cause *Sool pooppu sanjchara noigal* (Puerperal infection)	1. Lab report interpretation Students will be given the outline of the topic such as specific infections that cause *Sool pooppu sanjchara noigal* (Puerperal infection) to go through and accompanied by Lab report Interpretations of *Sool pooppu sanjchara noigal* (Puerperal infection) cases. 2. Interactions Students will interact with teacher about the Specific infections that cause *Sool pooppu sanjchara noigal* (Puerperal infection) Total Duration: 1 hour

NLHT 7.4	Principles of Siddha puerperal care.	1. Check list Students will be directed to the library for referring books according to topics like Siddha puerperal care such as herbal medicines, oil massage, and diet, and rest, spiritual and emotional support. And they are asked to list out the Siddha medicine, and presentation at the end. 2. Word puzzle Students will split into groups, to play word puzzles on topics like Siddha puerperal care such as herbal medicines, oil massage, diet, rest, and spiritual and emotional support. Total Duration: 1 hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 7.1	*Karuppai matrangal* (Uterus changes) during *Sool poopu kaalam* (Puerperal period)	1. Case-based learning The teacher will discuss with students related to *Karuppai matrangal* (Uterus changes) in *Sool poopu kaalam* (Puerperal period) through case study. Students will observe and record their logbooks. 2. Discussions Students will discuss with the teacher to related k*aruppai matrangal* (Uterus changes) in *Sool poopu kaalam* (Puerperal period) and gain their knowledge. Total Duration: 2 hours
NLHP 7.2	Systemic physiological changes in the *Sool Poopu kalam (*Post-partum period).	1. Secnario based learning The teacher will discuss systemic physiological changes in the *Sool Poopu kalam. (*Post-partum period) in case secnario. Students will observe and record the observations and apply the knowledge in the corresponding clinical setting. Duration: 1 hour
NLHP 7.3	Demonstrate the clinical manifestations of the	1. Practical identification

	*Sool poopu paramarippu (*Postpartum management)	The teacher will demonstrate the physiological and pathological clinical manifestations of the *Sool poopu paramarippu (*Postpartum management). Students will be advised to follow timely postpartum care, including regular assessments of vital signs, identifying complications early, and ensuring recovery during the puerperium. Duration: 1 hour
NLHP 7.4	Clinical manifestations of *Sool poopu sanjchara noigal* (Puerperal sepsis).	1. Practical Identification Students will be trained to identify the causative pathogen and explain the clinical manifestations of puerperal sepsis. 2. Discussion Students will be divided into small groups by teacher and discuss with clinical manifestations of *sool poopu sanjara noigal* (puerperal sepsis) Total duration: 2 hours
NLHP 7.5	Physical features and care of *Suga Magavu* (Term baby).	1. Practical performance The teacher will demonstrate the features and care of *Suga Magavu* [Term baby] and their development, students will observe and record their logbook. 2. Discussions: Students will discuss with the teacher how to handle the newborn baby and its management. Total Duration: 2 hours
NLHP 7.6	Clinical examination of *Sool poopu kaala ula pirazhlvu noigal* (Puerperal psychosis).	1. Practical performance The teacher will demonstrate the clinical examination for *Sool poopu kaala ula pirazhlvu noigal (*Puerperal Psychosis). Students will be instructed to follow the SOP of post-partum examination and do the examination after childbirth. Advice is given to the patient through counselling and medication. 2. Discussions Students will be divided into small groups by teacher and discuss with clinical examination of *Sool poopu kaala ula pirazhlvu noigal* (Puerperal psychosis) and gain more knowledge about *Sool poopu*

		kaala ula pirazhlvu noigal (Puerperal psychosis) Total duration: 2 hours

Paper 2 (MAGALIR MARUTHUVAM)										
A3 Course outcome	**B3 Learning Objective (At the end of the session, the students should be able to)**	**C3 Domain/sub**	**D3 MK / DK / NK**	**E3 Level**	**F3 T-L method**	**G3 Assessment**	**H3 Assessment Type**	**I3 Term**	**J3 Integration**	**K3 Type**
Topic 8 Inaperukka Udalkoorugal (Reproductive Anatomy) (LH :3 NLHT: 2 NLHP: 4)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO1, C02,CO3	Describe in detail the structure, layers, blood supply, nerve supply, ligaments, and functions of *karuppai* (uterus).	CK	MK	K	L&PPT,D-M,PL	M-CHT,INT,WP	F&S		V-UK	LH
CO1, C02,CO3	Enumerate the *Udalkoorugal* of *Sinaippai, Sinaippathai, Yoni,* and K*oobaga thara*i (Anatomy of ovary, fallopian tube, vagina, and pelvic floor).	CK	MK	K	D-M,DIS,L&PPT	M-CHT,INT,CL-PR	F&S		V-UK	LH
CO1, C02,CO3	Explain the *Piravi Kuraipadugal* of *Magalir pirappu uruppugal* (congenital malformations of female genital organs). Enumerate the *noi varum vazhi, noi kurikunangal, and noi kanippu* (Aetiology, clinical features, and diagnosis) of Turner's syndrome and Klinefelter syndrome.	CK	DK	KH	L_VC,DIS,L&PPT	WP,O-QZ,M-CHT	F&S		-	LH
CO1, C02,CO3	Define *Pin sarintha karuppai* (Retroverted Uterus) and describe its complications.	CK	MK	KH	LS,DIS,D-M	QZ ,M-CHT,CL-PR	F&S		-	NLHT8.1

CO1, C02,CO3,CO6	Explain the Yogasanas and Pranayama for strengthening Pelvic floor muscles.	CK	MK	KH	DIS,PBL	M-CHT,T-CS	F&S		-	NLHT8.2
CO3, CO6, CO7, CO8	State the clinical importance of *karuppai visigal* (Uterine ligaments) and their relations.	CK	MK	SH	D-BED, CBL,SIM	P-PRF,PRN,INT	F&S		-	NLHP8.1
CO1, C02,CO3	Describe the anatomy, physiology, and clinical relevance of *Sinaippai and Sinaippathai* (ovary and fallopian Tube).	CK	MK	SH	X-Ray,SIM,D-M	P-PRF,P-EXAM,PRN	F&S		-	NLHP8.2
CO3, CO7, CO8	Demonstrate the deep and superficial layers of *Koobaga tharai* (pelvic floor), including palpation and digital examination and discuss pelvic floor dysfunctions with USG findings.	PSY-GUD	MK	SH	CBL,PBL	P-ID,CBA	F&S		-	NLHP8.3
CO3, CO7, CO8	Describe the clinical manifestations of *Piravi Kuraipadugal* (Congenital Malformations) of female genital organs.	CK	MK	SH	DIS,L_VC,CBL	PRN,COM,C-VC	F&S		-	NLHP8.4

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 8.1	Complications of *Pin sarintha Karuppai* (Retroverted Uterus).	1. Demonstration on model Students will explain the *Pin sarintha karuppai* (Retroverted uterus) and it's complications using a mannequin. 2. Quiz Students will be divided into groups. A quiz will be conducted based on the topic such as complications of *Pin sarintha karuppai* (Retroverted uterus) to determine scores. Total duration: 1 hour.

NLHT 8.2	Yogasanas and Pranayama for strengthening Pelvic floor muscles. .	1. Group discussion The teacher will discuss with students such as of Yogasanas and Pranayama for strengthening ow them and apply the pelvic floor muscles. Students are able to know and apply in clinical side. 2. Making of charts Students will be divided into groups by teacher to create charts on name the Yogasanas and Pranayama for strengthening the pelvic floor muscles. Total duration: 1 hour.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 8.1	Clinical importance of *Karuppai visigal* (Uterine ligaments).	1. Demonstration lab The teacher will explain the clinical aspects of *Karuppai visigal* (Uterine ligaments), including their anatomical attachments, functions, and clinical applications such as pelvic floor disorders, pelvic organ prolapse. Additionally, the stretching of these ligaments to accommodate the gravid uterus during pregnancy, which can cause pain and discomfort, will be discussed. Students will observe and record their log book. Duration: 1 hour.
NLHP 8.2	Clinical relevance of *Sinaippai and Sinaippathai* (ovary and fallopian tube).	1. Demonstration on Model The teacher will explain the location, structure through model and clinical , surgical applications of s*inaippai* (ovary), and the anatomy, clinical relevance of s*inaippathai* (fallopian tube). 2. X-ray identification The teacher will explain the clinical applications of HSG (hysterosalpingography) imaging modalities of s*inaippathai* (fallopian tube) through X-ray identification. Total duration: 1 hour.

NLHP 8.3	Layers of *Koobaga tharai* (Pelvic floor), and discuss the pelvic floor dysfunction.	1. Case based learning The teacher will demonstrate the deep and superficial layers of *Koobaga tharai* (pelvic floor) including palpation and digital examination and discuss pelvic floor dysfunctions such as weakness (hypo tonicity) and tightness (hypertonicity) by using mannequin, USG findings and Kegel exercises. 2. Discussion The teacher will discuss with students on applied anatomy of deep and superficial layers of *Koobaga tharai* (pelvic floor). Students will observe and record their observation. Total duration: 1 hour .
NLHP 8.4	Clinical manifestations of *Piravi Kuraipadugal* (Congenital Malformations) of female genital organs	1. Lecture with Video clips The teacher will describe the video clips related to the clinical manifestations of *Piravi Kuraipadugal* (congenital malformations) of female genital organs such as *karuppai, sinaippai, sinaippathai* and y*oni* (uterus, ovary, fallopian tube, and vagina). 2. Discussion The teacher will discuss with students related to the clinical manifestations of *Piravi Kuraipadugal* (congenital malformations) of female genital organs such as *karuppai, sinaippai, sinaippathai* and y*oni* (uterus, ovary, fallopian tube, and vagina). Total duration: 1 hour.

Topic 9 Inaperukka Udalseyaliyal (Reproductive physiology) (LH :9 NLHT: 5 NLHP: 15)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, C02,C O3	Explain in detail the HPO (Hypothalamic-Pituitary-Ovarian) axis, describe *Mun Suvali Surappugal* (anterior pituitary hormones), and their role in *Magalir Maruthuvam* (gynaecology).	CK	MK	KH	L&PPT ,PL,FC	CL-PR,O-GAME,QZ	F&S		-	LH

CO1, C02,C O3	Describe *Sinaippai surappu* (oestrogen) and *Peethaga surappu* (progesterone) and their roles in female reproduction.	CK	MK	KH	LS,L&P PT ,BL	T-CS,WP,QZ	F&S		V-UT	LH
CO1, C02,C O3	Enumerate the *Veethana surappu* (Thyroid hormones) and *Pirukoobari Surappu* (Adrenal hormones) and their roles in female reproduction.	CK	MK	KH	L&PPT ,DIS	M-CHT,QZ	F&S		-	LH
CO1, C02,C O3	Define *Muthal Poopu* (menarche), and discuss the factors influencing it from biological, social, psychological and evolutionary perspectives.	CK	MK	KH	L&PPT ,DIS	M-POS,DEB	F&S		-	LH
CO1, C02,C O3	Describe the biological, psychological, environmental and lifestyle impacts of *Poopu suzharchi* nigalvugal (phases of the menstrual cycle).	CK	MK	KH	L&PPT ,TPW	DEB,CL-PR	F&S		-	LH
CO1, C02,C O3	Explain the *noi varum vazhi* (causes), *noi kurikunangal* (clinical features) and *noi kanippu* (diagnosis) of *Thuritha Muthal Poopu* (Precocious puberty).	CK	DK	KH	DIS,L&GD	PA,QZ	F&S		-	LH
CO1, C02,C O3,C O6	Describe in detail the *kurikunangal* (clinical features), *Kadai poopu kala uruppu maruthalgal* (menopausal changes), and *noi kanippu* (diagnosis), along with *Siddha maruthuva parigaram* (Siddha treatment) of *Kadaipoopu kolarugal* (menopausal syndrome).	CK	MK	KH	L&PPT ,CBL	CL-PR,WP	F&S		-	LH
CO1, C02,C O3,C O6	Illustrate the *Kadaipoopu pin noigal* (Post menopausal Diseases) along with it's *kurigunangal* (clinical features), *noi kanippu* (diagnosis) and *Siddha Maruthuvam* (Siddha Treatment).	CAN	MK	KH	L&PPT ,DIS,CBL	QZ ,S-LAQ,T-CS	F&S		-	LH
CO1, C02,C O3,C	Enumerate the chromosomal variations, hormonal influences, anatomical differences, ethical considerations, human rights issues, and psychological support related to intersex diseases.	CK	DK	KH	L&PPT ,LS	QZ ,WP	F&S		-	LH

O5										
CO1, C02,CO3	Discuss in detail about the diseases associated with hyperestrogenism.	CK	MK	KH	PER,DIS	DEB,CL-PR	F&S		-	NLHT9.1
CO1, C02,CO3	Describe the correlation between *Veethana surappu* (Thyroid hormones), *Pirukoobari surappu* (adrenal hormones) and *Poopu sularchi* (menstrual cycle).	CK	MK	KH	IBL,DIS	M-CHT,DEB	F&S		-	NLHT9.2
CO1, C02,CO3,CO6	Discuss the *kaaranangal* (aetiology), risk factors, *noi kanippu* (diagnosis), *parikaram* (Treatment) and life style modifications of Premenstrual Dysphoric Disorder (PMDD).	CK	MK	KH	PSM,IBL,DIS	P-RP,QZ	F&S		-	NLHT9.3
CO1, C02,CO3	Discuss the physical, psychological, and emotional complications, long term health risks, and management of *Thuritha muthal poopu* (precocious puberty).	CK	MK	KH	PBL,PL	DEB,QZ	F&S		-	NLHT9.4
CO1, C02,CO3	Discuss the nutrition, diet, bone health, mental, emotional well-being, and regular health screenings after *Kadaipoopu kalam* (post-menopausal period).	CK	MK	KH	IBL,TPW	P-SUR,M-POS	F&S		-	NLHT9.5
CO1, C02,CO3	Disuss the HPO (Hypothalamic-Pituitary-Ovarian) axis, particularly in addressing menstrual disorders, infertility, and hormonal imbalances.	CC	MK	SH	CBL,DIS,PBL	PRN, C-VC	F&S		-	NLHP9.1
CO1, C02,CO3,CO8	Interpret the clinical significance and diagnostic applications of FSH and LH hormones.	CAN	MK	SH	LRI,CBL	PRN,INT,Log book	F&S		-	NLHP9.2
CO1, C02,CO3,C	Enlist how *Sinaippai surappu* (oestrogen) and *Peethaga surappu* (progesterone), which are female sex hormones, play vital roles in reproductive health, menstruation, and pregnancy.	CAN	MK	SH	PBL,W,TBL	INT,CBA,PRN	F&S		-	NLHP9.3

O7										
CO1, C02,C O3	Demonstrate the significant roles of *Veethana Surappu* (thyroid hormone) and *Pirukoobari surappu* (adrenal hormones) in regulating the menstrual cycle by influencing the balance of sex hormones and overall reproductive health.	PSY-GUD	MK	SH	LRI,DIS ,CBL	P-CASE,INT	F&S		-	NLHP9.4
CO1, C02,C O3,C O7	Demonstrate the clinical manifestations of *Poopu suzharchi nigazhvugal* (phases of the menstrual cycle) and it's hygiene management.	PSY-GUD	MK	SH	EDU,P BL,D	PRN,QZ , C-VC	F&S		-	NLHP9.5
CO1, CO3, CO5	Discuss the impact of lifestyle changes on *Poopu suzharchi nigazhvugal* (phases of the menstrual cycle).	CC	MK	SH	PBL,DI S	P-CASE,P-PRF	F&S		-	NLHP9.6
CO1, CO3, CO8	Specify the diagnostic tools and clinical considerations of *Muthal poopu* (menarche).	CAN	MK	SH	CBL,SI M	P-PRF,P-CASE,SP	F&S		-	NLHP9.7
CO1, CO3, CO7, CO8	Discuss the clinical manifestations of *Thuritha muthal poopu* (Precocious puberty).	CC	MK	SH	CBL,DI S	C-VC,SBA ,INT	F&S		-	NLHP9.8
CO1, CO3, CO7, CO8	Discuss the stages, and clinical assessment of *Kadaipoopu* (Menopause).	CK	MK	SH	DIS,CB L	P-EXAM,S BA	F&S		-	NLHP9.9
CO1, CO3, CO7, CO8	Enumerate the clinical manifestations, and diagnosis of *Kadaipoopu pin noigal* (Post -menopausal diseases).	CK	MK	SH	CD,CB L,LRI	P-PRF,P-E XAM,SBA	F&S		-	NLHP9.10

CO3, CO7, CO8	Discuss the diagnostic evaluation and management of *Irupalina noigal* (Intersex diseases).	CK	MK	SH	DIS,CBL	CBA,INT	F&S		-	NLHP9.11

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 9.1	Diseases associated with hyperestrogenism.	1. Presentation Students will be divided into groups by teacher with each group assigned a topic, such as diseases associated with hyperestrogenism. A discussion and presentation will follow at the end.. 2. Debate Students will be divided into groups by teacher and a debate will be conducted on diseases associated with hyperestrogenism. Total duration: 1 hour.
NLHT 9.2	Correlation between thyroid hormones and adrenal hormones with the menstrual cycle.	1. Debate Students will be given an outline of topics, such as the correlation between thyroid hormones, adrenal hormones related with menstrual cycle, and a debate will be held at the end of the lecture. 2. Making of Charts Students will be divided into groups by teacher instruct to make charts on the correlation between thyroid hormones, adrenal hormones, and the menstrual cycle. Total duration: 1 hour.
NLHT 9.3	Premenstrual Dysphoric Disorder (PMDD) and life style modifications.	1. Quiz Students will be divided into groups to conduct a quiz program by teacher like the Premenstrual Dysphoric Disorder (PMDD), and life style modifications, and scores will be given at the end. 2. Practical Role play The teacher will instruct to students will be divided into groups to perform role plays on the Premenstrual Dysphoric Disorder (PMDD), and life style modifications, and marks will be given based

		on their performance. Total duration: 1 hour.
NLHT 9.4	Factors influencing and management of *Thuritha muthal poopu* (Precocious puberty).	1. Quiz Students will be divided into groups by teacher and a quiz will be conducted based on the topic such as long term health risks and management of *Thuritha muthal poopu* (Precocious puberty) determine scores at the end. 2. Debate Students will be divided into groups by teacher and a debate will be conducted on the topic like, long-term health risks and management of *Thuritha muthal poopu* (Precocious puberty). Total duration: 1 hour.
NLHT 9.5	Health management after *Kadaipoopu kalam* (Post- Menopausal period).	1. Practical Survey The teacher will instruct to students will be divided into groups, and the designed questionnaires on the topic such as health management after *Kadaipoopu kalam* (Post-Menopausal period) will be shared to collect data. After analysing the data, decision will be made. 2. Making of Posters Students will be divided into groups to make posters on the health management after *Kadaipoopu kalam* (Post-Menopausal period), and followed by a presentation at the end. Total duration: 1 hour.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 9.1	Influences of the HPO (Hypothalamic-Pituitary-Ovarian) axis on menstrual disorders.	1.Group discussion The teacher will discuss with students about the clinical conditions involving the HPO (Hypothalamic-

		Pituitary-Ovarian) axis to understand gynaecological diseases such as menstrual disorders, infertility and hormonal imbalances. Duration: 1 hour.
NLHP 9.2	Clinical significance and diagnostic applications of FSH and LH hormones.	1. lab report interpretations The teacher will explain the laboratory report interpretations, diagnostic applications, clinical significance of FSH and LH hormones such as Infertility, Menstrual disorders, and premature ovarian failure. Duration: 1 hour.
NLHP 9.3	Functions of *Sinaippai surappu* (oestrogen), and *Peethaga surappu* (progesterone) in relation to reproductive health.	1. Symposium A Symposium will be conducted on how *Sinaippai surappu* (oestrogen) and *Peethaga surappu* (progesterone), which are female sex hormones, play vital roles in reproductive health, menstruation, and pregnancy. 2. Discussions Group discussions will be conducted by teacher regarding functions of *Sinaippai surappu* (oestrogen), and *Peethaga surappu* (progesterone) in relation to reproductive health menstruation, and pregnancy. Total duration: 1 hour.
NLHP 9.4	Role of *Veethana surappu* (Thyroid hormone) and *Pirukoobari surappu* (adrenal hormones) in regulating the menstrual cycle.	1. Case-based learning The teacher will demonstrate the significant roles of *Veethana surappu* (Thyroid hormone) and *Pirukoobari surappu* (Adrenal hormones) in regulating the menstrual cycle and the clinical manifestations of increased and decreased levels of these hormones. 2. Discussion: Students will separate small groups by teacher and discuss the topic like role of V*eethana surappu* (Thyroid hormone) and P*irukoobari surappu* (adrenal hormones) in regulating the menstrual

		cycle. Finally they have more knowledge about this topic. Total duration: 1 hour.
NLHP 9.5	Clinical manifestations of *Poopu suzharchi nigazhvugal* (phases of menstrual cycle).	1. Demonstration of video clips The teacher will demonstrate video clips of endometrial and ovarian changes during the *Poopu suzharchi nigazhvugal* (phases of the menstrual cycle). Students will observe and record their log book. 2. Quiz The Teacher will conduct quiz program related to clinical manifestations of *Poopu suzharchi nigazhvugal* (phases of menstrual cycle) with students, finally the score will be recorded. Total duration: 1 hour.
NLHP 9.6	The impact of lifestyle changes on *Poopu suzharchi nigazhvugal* (phases of the menstrual cycle).	1. Discussions The teacher will discuss with students how lifestyle changes can impact Po*opu suzharchi nigazhvugal* (phases of the menstrual cycle). Duration: 1 hour
NLHP 9.7	Diagnosis and clinical features of *Muthal poopu* (menarche).	1. Case - Based learning - The teacher will specify the diagnostic tools and clinical considerations of *Muthal poopu* (menarche). Students will be divided into groups, and patients will be allotted. SOP will be followed for history taking and general examination for pubertal development. 2. Simulation Students will be directed by teacher to simulation lab to demonstrate about clinical features of *Muthal poopu* (menarche). Total duration: 2 hours.

NLHP 9.8	Clinical manifestations of *Thuritha muthal poopu* (Precocious puberty).	1. Discussions The teacher will discuss with students about the clinical manifestations of Thuritha muthal poopu (Precocious puberty). 2. Scenario based learning The teacher will give case scenario like Clinical manifestations of Thuritha muthal poopu (Precocious puberty).Students will observe and record their observations. Total duration: 2 hours.
NLHP 9.9	Stages and clinical assessment of *Kadaipoopu* (Menopause).	1. Scenario Based Assessment Students will be given a case scenario by teacher related to stages, and clinical assessment of *Kadaipoopu* (Menopause) to diagnose the disease, and final marks will be given based on their performance. 2. Discussions Students will discuss with teacher the topic like stages, and clinical assessment of *Kadaipoopu* (Menopause).Thereafter, they will have more knowledge about *Kadaipoopu* (Menopause). Total duration: 2 hours.
NLHP 9.10	Clinical manifestations and diagnosis, of *Kadaipoopu pin noigal* (Post-menopausal diseases).	1. Scenario based Assessment Students will be given a case scenario by teacher related to clinical manifestations, and diagnosis of *Kadaipoopu pin noigal* (Post -menopausal diseases) to diagnose the disease, and final marks will be given based on their performance. 2. Lab Report Interpretations The teacher will demonstrate the interpretations of Pap smear reports and BMD (Bone Mineral Density) reports on Osteoporosis in post-menopausal women. Total duration: 2 hours.

NLHP 9.11	Diagnostic evaluation and management of *Irupalina noigal* (Intersex diseases).	1. Discussions The teacher will discuss with students about the diagnostic evaluation, management of *Irupalina Noigal* (intersex diseases). Students are gain more knowledge about them. 2. Case-based learning The teacher will give case study related to with students about diagnostic evaluation, management of *Irupalina Noigal* (intersex diseases). Students will observe and record their log book. Total duration: 1 hour

Topic 10 Poopu suzharchi noigal (Menstrual disorders) (LH :5 NLHT: 4 NLHP: 6)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, C02,C O3,C O6	Define *Soothaga thadai* (Amenorrhea). Describe its *noi varum vazhi, vagaigal, kurikunangal, noi kanippu* and *Siddha Maruthuva muraigal* (aetiology, types, clinical features, and diagnosis and Siddha treatment methods).	CK	MK	KH	L&PPT ,DIS	CL-PR,QZ	F&S		-	LH
CO1, C02,C O3	Describe the *noi varum vazhi, vagaigal, kurikunangal, noi kanippu,* and *Siddha Maruthuva muraigal* of *Saatharana Perumpadu* (aetiology, types, symptoms, diagnosis, and Siddha Treatment of Abnormal uterine bleeding).	CK	MK	KH	DIS,L& PPT ,CBL	INT,DEB,C L-PR	F&S		-	LH
CO1, C02,C O3,C O5,C O6,C O8	Describe the *noi varum vazhi, vagaigal, kurikunangal, noi kanippu and Maruthuva muraigal* of *Asaatharana Perumpadu* (aetiology, types, symptoms, diagnosis, and Treatment of Dysfunctional uterine bleeding).	CK	MK	KH	DIS,L& PPT ,CBL	INT,VV-Vi va,CL-PR	F&S		-	LH
CO1, C02,C O3,C	Define *Poopu Murkurigal* (Premenstrual Syndrome). Classify the *Soothaga vali* (Dysmenorrhea), and describe its *noi varum vazhi, kurikunangal, noi kanippu muraigal and maruthuvam.*	CK	MK	KH	LS,L&P PT ,CBL	S-LAQ,CL-PR,M-POS	F&S		-	LH

O6	(Aetiology, clinical features, diagnostic methods and treatment).									
CO1, C02,C O3,C O6	Describe the *noi kaaranangal* (aetiology), *noi kanippu* (diagnosis), and management of *Kadaipoopu pin utherasalai* (Postmenopausal bleeding).	CK	MK	KH	L,DIS	RK,INT	F&S		-	LH
CO1, C02,C O3	Illustrate the pathophysiology, kurikunangal (signs and symptoms) and *parikara muraigal* (Management) for *Poli soothaga thadai* (Cryptomenorrhea).	CAP	MK	KH	SIM,DI S	DEB,QZ	F&S		-	NLHT10.1
CO1, C02,C O3	Discuss *Saatharana Perumpadu* (Abnormal Uterine Bleeding) based on the PALM-COEIN classification.	CK	MK	KH	DIS,BS	INT,O-QZ,CL-PR	F&S		-	NLHT10.2
CO1, C02,C O3	Discuss the different theoretical perspectives of *Soothaga vali* (Dysmenorrhea).	CK	MK	KH	BS,DIS, FC	QZ ,M-POS	F&S		-	NLHT10.3
CO1, C02,C O3,C O7	Enumerate the complications of *Kadaipoopu pin utherasalai* (Postmenopausal Bleeding), and the screening methods for *Karuppai kazhunthu putrunoi* (Carcinoma of the Cervix).	CK	MK	KH	CBL,DI S	T-CS,O-QZ,INT	F&S		-	NLHT10.4
CO3, CO6, CO7, CO8	Describe the clinical manifestations of *Soothaga thadai* (Amenorrhea).	CC	MK	SH	KL,SIM ,D-BED	SP,P-PRF	F&S		-	NLHP10.1
CO3, CO7, CO8	Describe the clinical manifestations and complications of *Perumpadu* (Menorrhagia).	CK	MK	SH	D-BED, PSM,C BL	P-PRF,Log book	F&S		-	NLHP10.2
CO3, CO6,	Explain the Siddha management of *Perumpadu* (Menorrhagia).	CC	MK	SH	PSM,C BL	P-PRF,INT	F&S		-	NLHP10.3

CO7, CO8										
CO3, CO6, CO7, CO8	Summarize the diagnostic evaluation and external therapy management of *Soothaga vali* (Dysmenorrhea).	CC	MK	SH	CBL,D-BED,KL	PRN,P-EXAM,P-PRF	F&S		-	NLHP10.4
CO3, CO7, CO8	State the clinical manifestations of *Kadaipoopu pin utherasalai* (Postmenopausal bleeding).	CC	MK	SH	CBL,DIS	P-PRF,P-EXAM,PRN	F&S		-	NLHP10.5

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 10.1	Pathophysiology and *aruvai maruthuva muraigal* (Surgical interventions) for *Poli soothaga thadai* (Cryptomenorrhea).	1. Debate Students will be divided into groups to conduct a debate on the pathophysiology and *aruvai maruthuva muraigal* (Surgical interventions) for *Poli soothaga thadai* (Cryptomenorrhea). 2. Simulation The teacher will demonstrate to students related to *pathophysiology*, and *parikara muraigal* (Management) for *Poli soothaga thadai* (Cryptomenorrhea). Students will observe and record their log book. Total duration: 1 hour.
NLHT 10.2	*Saatharana Perumpadu* (Abnormal Uterine Bleeding) based on the PALM-COEIN classification.	1. Online Quiz Students will participate in an online quiz on the topic such as S*aatharana Perumpadu* (Abnormal Uterine Bleeding) based on the PALM-COEIN classification system to get scores at the end. 2. Class presentation Students will be given an outline of the S*aatharana Perumpadu* (Abnormal Uterine Bleeding) based on the PALM-COEIN classification system. To review, followed by a participatory discussion, and finally a presentation at the end of the session

		Total duration: 1 hour.
NLHT 10.3	Theoretical perspectives of *Soothaga vali* (Dysmenorrhea).	1. Quiz Students will be divided into groups to conduct a Quiz on the *Soothaga vali* (Dysmenorrhea) and receive scores at the end. 2. Making of Posters Students will be divided into groups to make posters on the topic like *Soothaga vali* (Dysmenorrhea). Total duration: 1 hour.
NLHT 10.4	Complications of *Kadaipoopu pin utherasalai* (Postmenopausal bleeding), and the screening methods for *Karuppai kazhunthu putru noi* (Carcinoma of the Cervix).	1. Theory case study The teacher will discuss with students will discuss with complications of *Kadaipoopu pin utherasalai* (Postmenopausal bleeding), and the screening methods for *Karuppai kazhunthu putru noi* (Carcinoma of the Cervix) through theory case study. Students will observe and record their log book. 2. Online Quiz Students will participate in an online quiz on the complications of *Kadaipoopu pin utherasalai* (Postmenopausal bleeding), and the screening methods for *Karuppai kazhunthu putru noi* (Carcinoma of the Cervix). And receive scores at the end. Total duration: 1 hour.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**

NLHP 10.1	Clinical manifestations of *Soothaga thadai* (Amenorrhea).	1. Demonstration Bedside The teacher will explain the clinical manifestations of *Soothaga thadai* (Amenorrhea). Then, students will be divided into groups, and patients will be allotted. The SOP will be followed for history taking, general examination, abdominal examination, pelvic examination, PV examination, and clinical management for *Soothaga thadai* (Amenorrhea). 2. Simulation Students will be directed to the simulation lab, then the teacher will demonstrate the Clinical manifestations of s*oothaga thadai* (Amenorrhea). Total duration: 2 hours.
NLHP 10.2	Clinical manifestations and complications of *Perumpadu* (Menorrhagia).	1. Bedside demonstration The teacher will enlist the clinical manifestations, and complications of *Perumpadu* (Menorrhagia). Students will be divided into groups, and allowed to discuss about the history taking, general examination, abdominal examination, and pelvic examination of *Perumpadu* (Menorrhagia). 2. Log book Students will observe and record the clinical manifestations and complications of *Perumpadu* (Menorrhagia) in their log book. Total duration: 1 hour.
NLHP 10.3	Siddha management of *Perumpadu* (Menorrhagia).	1. Case Based learning The teacher will explain the Siddha management of *Perumpadu* (Menorrhagia) to students, including herbal remedies, Siddha external and internal Medicines, dietary guidelines, lifestyle modifications. 2. Interactions After demonstration students will interact with the teacher about Siddha management of *Perumpadu* (Menorrhagia). Total duration: 1 hour.
NLHP 10.4	Diagnostic evaluation and external therapy management of *Soothaga vali* (Dysmenorrhea)	1. Case- Based learning The teacher will explain the diagnostic evaluation and external therapy management of *Soothaga*

		Vali (Dysmenorrhea) to students, including history taking, general examination, abdominal examination, investigations, hot water fomentation, abdominal massage, and *Varmam* therapy. 2. Log book Students will observe the diagnostic evaluation and external therapy management of *Soothaga vali* (Dysmenorrhea) and record in their log book. Total duration: 1 hour.
NLHP 10.5	Clinical manifestations of *Kadaipoopu pin utherasalai* (Postmenopausal bleeding).	1. Case - Based learning The teacher will elaborate the clinical manifestations of *Kadaipoopu Pin utherasalai* (Postmenopausal bleeding). Students will be divided into groups, and allowed to discuss the SOP and procedure for history taking, general examination, abdominal examination, pelvic examination, and PV examination to diagnose Postmenopausal bleeding. 2. Discussion: Students will discuss with the topic like clinical manifestations of *Kadaipoopu pin utherasalai* (Postmenopausal bleeding) with teacher to gain more knowledge to the topic. Total duration: 1 hr.

Topic 11 Mageparinmai (Infertility) (LH :7 NLHT: 5 NLHP: 12)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, C02,CO3	Classify and describe *Magaperinmai* (infertility) according to various Siddha concepts.	CK	MK	KH	PBL,L	INT,M-CHT,CL-PR	F&S		-	LH
CO1, C02,CO3	Explain in detail the pre-testicular, testicular, and post-testicular causes (aetiology) of *Aan Magaperinmai* (male infertility).	CK	MK	KH	PBL,L& PPT ,PL	QZ ,CL-PR	F&S		-	LH
CO1,	Illustrate in detail the investigation, *Siddha*	CK	MK	KH	DIS,L&	QZ ,CL-PR	F&S		-	LH

C02,CO3,CO8	*maruthuvam* (Siddha Treatment), and medical advice for *Aan Magaperinmai* (male infertility).				PPT					
CO1, C02,CO3,CO6	Illustrate in detail ovulatory dysfunction, tubal factors, uterine abnormalities, endocrine disorders, and age-related factors in *Pen Magaperinmai* (female infertility).	CK	MK	KH	DIS,L&PPT	O-GAME, CL-PR	F&S		-	LH
CO1, C02,CO3,CO6	Enumerate the investigation, *maruthuvam* (treatment), and medical advice for *Pen Magaperinmai* (female infertility).	CK	MK	KH	PBL,L&PPT ,LRI	CL-PR,T-CS	F&S		-	LH
CO1, C02,CO3,CO5	Discuss the ethical guidelines for IVF procedures, sperm donation, donor eggs, surrogacy, cryopreservation, prenatal diagnosis, and screening.	CK	MK	KH	ML,L&GD	CL-PR,INT	F&S		-	LH
CO1, C02,CO3	Describe Assisted Reproduction Techniques (ART) such as IUI, GIFT, ZIFT, IVF, ICSI and Surrogacy.	CK	DK	KH	L_VC,DIS	WP,INT	F&S		-	LH
CO1, C02,CO3	Discuss the emotional support and counselling for *Magaperinmai* (Infertility).	CK	MK	KH	SDL,TBL,PBL,ML	INT,P-RP,QZ	F&S		-	NLHT11.1
CO1, C02,CO3	Discuss the diet and life style modifications in the management of *Aan Magaperinmai* (Male Infertility).	CK	MK	KH	DIS,PER	INT,P-RP	F&S		-	NLHT11.2
CO1, C02,C	Enumerate the importance of hormonal assays along with AMH in *Pen Magaperinmai* (female infertility).	CK	MK	KH	LRI	M-CHT,QZ	F&S		-	NLHT11.3

O3										
CO1, C02,C O3	Discuss in detail about Semen analysis.	CK	MK	KH	LRI,DIS	WP,INT	F&S		-	NLHT11.4
CO1, C02,C O3	Discuss in detail about unexplained infertility and the management of ART.	CK	MK	KH	CBL,PS M	PM,INT	F&S		-	NLHT11.5
CO3, CO7, CO8	Specify the diagnostic approaches of *Pen Magaperinmai* (female infertility).	CAN	MK	SH	PSM,C D	P-ID,PM	F&S		-	NLHP11.1
CO3, CO7, CO8	Explain the clinical manifestations of *Aan Magaperinmai* (Male Infertility).	CC	MK	SH	LRI,CB L	P-PRF,P-CASE	F&S		-	NLHP11.2
CO3, CO7, CO8	Describe the clinical manifestations of *Pen Magaperinmai* (female Infertility).	CC	MK	SH	PER,CB L	P-PRF,PRN	F&S		-	NLHP11.3
CO3, CO6, CO7, CO8	Elaborate the siddha medical management of *Aan Magaperinmai* (Male Infertility).	CAP	MK	SH	W,CBL	P-PS,PRN	F&S		-	NLHP11.4
CO3, CO6, CO7, CO8	Explain the Siddha medical management of *Pen Magaperinmai* (female Infertility).	CC	MK	SH	CBL,TP W	P-PRF,P-CASE	F&S		-	NLHP11.5
CO3, CO7	Elaborate the videos of Assisted Reproduction Techniques like IUI, IVF, and ICSI.	CAN	MK	SH	PBL,D	P-ID, C-VC	F&S		-	NLHP11.6

Non Lecture Hour Theory		
S.No	**Name of Activity**	**Description of Theory Activity**
NLHT 11.1	Emotional support and counselling for *Magaperinmai* (Infertility).	1. Practical Role play The teacher will instruct to students will be divided into groups to conduct practical role plays on the topic such as emotional support and counselling for *Magaperinmai* (Infertility). 2. Quiz Students will be divided into groups by teacher to conduct a quiz on the topic like emotional support and counselling for *Magaperinmai* (Infertility). Total duration: 1 hour.
NLHT 11.2	Diet and life style modifications in the management of *Aan Magaperinmai* (Male Infertility).	1. Presentation Students will be given an outline of the topic such as diet and life style modifications in the management of *Aan Magaperinmai* (Male Infertility). To review, followed by a participatory discussion, and finally a presentation at the end of the session. 2. Practical Role play Students will be divided into groups to take part in a role plays on the diet and life style modifications in the management of *Aan Magaperinmai* (Male Infertility), Marks will be given based on their performance. Total duration: 1 hour.
NLHT 11.3	Hormonal assays along with AMH in *Pen Magaperinmai* (female Infertility).	1. Lab report Interpretations Students will be given an outline of the importance of hormonal assays along with AMH in *Pen Magaperinmai* (female Infertility). To review, accompanied by lab report interpretations of female infertility cases. 2. Making of charts Students will be divided into groups to make charts based on the importance of hormonal assays

		along with AMH in *Pen Magaperinmai* (female Infertility) Total duration: 1 hour.
NLHT 11.4	Interpretations of Semen analysis.	1. Lab report Interpretations The teacher will instruct to students will be given an outline of the interpretations of Semen analysis. To review, accompanied by lab report interpretations of semen analysis. 2. Discussion Discussions will be conducted by teacher with the students on research articles based on the interpretations of Semen Analysis. Total duration: 1 hour.
NLHT 11.5	Unexplained infertility and management of ART.	1. Patient management problem The teacher will discuss with students related to unexplained infertility and management of ART. Students are gain more knowledge about unexplained infertility. 2. Case-based learning The teacher will discuss with students like case study of unexplained infertility and management of ART. Students will observe and record their log book. Total duration: 1 hour
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 11.1	Diagnostic approaches of *Pen Magaperinmai* (female infertility).	1. Case diagnosis The teacher will demonstrate the diagnostic approaches for *Pen Magaperinmai* (female infertility). Students will be given an outline of the topic, followed by a participatory discussion, and diagnose *Pen Magaperinmai* (female infertility) with the specific causes. 2. Problem solving method The teacher will discuss with students related to diagnostic approaches of *Pen Magaperinmai* (female infertility) such as history taking, general examination, pelvic examination followed by diagnostic

		approaches of *Pen Magaperinmai* (female infertility). Students will observe and record their observations. Total duration: 2 hours.
NLHP 11.2	Clinical manifestations of *Aan Magaperinmai* (Male Infertility).	1. Case - Based Learning The teacher will explain the clinical approach for *Aan Magaperinmai* (male infertility). Students will be divided into groups, and patients will be allotted. The SOP will be followed for history taking, general examination, abdominal examination, scrotal examination and investigations for male infertility. 2. USG report and Lab report interpretations The teacher will show the Scrotal Ultrasound findings such as varicocele, semen analysis, hormone levels, and Post-ejaculation urine analysis report interpretations. Total duration: 2 hours.
NLHP 11.3	Clinical manifestations of *Pen Magaperinmai* (female Infertility).	1. Case - Based Learning The teacher will enlist the clinical manifestations of *Pen Magaperinmai* (female infertility). Students will be divided into groups, and patients will be allotted. The SOP will be followed for history taking, general examination, abdominal examination, pelvic examination, and P/V examination for female infertility. 2. Presentation Students will take part in a presentation to gain knowledge on the clinical manifestations of *Pen Magaperinmai* (female Infertility). Total duration: 2 hours.
NLHP 11.4	Siddha medical management of *Aan Magaperinmai* (Male Infertility).	1. Presentation The teacher will discuss the siddha medical management of *Aan Magaperinmai* (Male Infertility). Students will be given an outline of the topic to review, followed by a participatory discussion, and finally, a presentation at the end of the session.

		2. Workshop The teacher will instruct the students to participate in a workshop to gain knowledge on siddha medical management of *Aan Magaperinmai* (Male Infertility). Total duration: 2 hours.
NLHP 11.5	Siddha medical management of *Pen Magaperinmai* (female Infertility).	1. Case - Based Learning The teacher will discuss the Siddha medical management of *Pen Magaperinmai* (Female Infertility). Students will be divided into groups. The SOP will be followed for history taking, general examination, abdominal examination, pelvic examination, P/V examination, and Siddha medical management for *Pen Magaperinmai* (female Infertility). 2. Team project work The teacher will instruct to students will be divided into team, should discuss various kinds of siddha medical management of *Pen Magaperinmai* (female Infertility). Total duration: 2 hours.
NLHP 11.6	Video demonstration of assisted reproduction techniques like IUI, IVF, ICSI.	1. Clinical video cases The teacher will explain the videos of Assisted Reproduction Techniques like IUI, IVF, and ICSI. Students will observe and record given the details of ART to review, accompanied by participatory discussion. 2. Practical Identification Students will be trained to understand the clinical applications of equipment / instruments used in ART and its procedures. Total duration: 2 hours.

Topic 12 Sinaippai noigal (Ovarian disorders) (LH :10 NLHT: 5 NLHP: 14)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, C02,C	Describe in detail the *noi kaaranangal, noi kurikunangal,* and *Maruthuvam* of *Sinaippai katti* (aetiology, clinical features,	CK	MK	KH	DIS,L& PPT	INT,QZ	F&S		-	LH

O3,CO6	and treatment of Simple ovarian cyst).									
CO1, C02,CO3,CO6	Discuss in detail the *noi kaaranangal, noi kurikunangal, vagaigal* and *Maruthuvam* of *Sinaippai kazhalaigal* (aetiology, clinical features, types and treatment of benign ovarian tumours and cystadenomas).	CK	MK	KH	L_VC,DIS	INT,PUZ,DEB	F&S		-	LH
CO1, C02,CO3,CO6	Interpret the *noi kaaranangal* (causes), pathophysiology, *noi kurikunangal, sikalgal* and m*aruthuvam* (clinical features, complications, and Siddha Treatment) of *Sinaippai Neerkatti* (Poly Cystic Ovarian Disease).	CK	MK	KH	DIS,L&PPT ,RP	T-CS,M-POS,O-QZ	F&S		-	LH
CO1, C02,CO3,CO6	Illustrate the *noi varum vazhi, noi kurikunangal, noi kanippu,* and m*aruthuvam* (causes, clinical features, diagnosis and Treatment) of *Sinaippai piravi katti* (Dermoid cyst).	CAN	DK	KH	PBL,L&PPT	CL-PR,M-CHT	F&S		-	LH
CO1, C02,CO3,CO6	Illustrate the *noi varum vazhi, noi kurikunangal, noi kanippu* and *Siddha Maruthuvam* of *Sinaippai kuruthi katti* (aetiology, clinical features, diagnosis and Siddha treatment of Chocolate cyst of Ovary) with *Soothaga sane* (Endometriosis).	CK	MK	KH	DIS,L&PPT ,PL	S-LAQ,T-CS,QZ	F&S		-	LH
CO1, C02,CO3,CO6	Interpret the *noi kaaranangal, noi kurikunangal, noi kanippu and Siddha Maruthuva muraigal* (aetiology, clinical features, and diagnosis and Siddha treatment methods) of Si*naippai seyelpaadu kuraivu* (Ovarian Insufficiency).	CAN	NK	KH	DIS,L&PPT ,PBL	PM,CL-PR,WP	F&S		-	LH
CO1, C02,CO3,CO6	Describe in detail the *noi varum vazhi, noi kurikunangal, noi kanippu,* and *parigaram* of *Sinaippai thirugal* (aetiology, clinical features, diagnosis and management of ovarian torsion).	CK	DK	KH	L,DIS,PSM	Log book, WP,T-CS	F&S		-	LH

CO1, C02,C O3,C O6	Discuss in detail the *noi kaaranangal, noi kurikunangal, noi kanippu and Parigara muraigal* of *Thuritha Sinaippai seyalizhappu* (aetiology, clinical features, diagnosis and management of premature ovarian failure).	CK	NK	KH	PSM,DI S,L&PP T	T-CS,DEB, QZ	F&S		-	LH
CO1, C02,C O3,C O6	Describe in detail the *kaaranangal, kurikunangal, sikalgal* and *Parigara muraigal* of *Sinaippai thunduthal noi* (aetiology, clinical features, risk factors, and management of Ovarian Hyper Stimulation Syndrome -OHSS).	CK	NK	KH	ML,L& PPT ,DIS	M-CHT,DEB	F&S		-	LH
CO1, C02,C O3,C O6	Interpret the *kaaranangal, (causes)* pathogenesis, *vagaigal, (types) kurikunangal, (clinical features) noi kanippu, (investigations)* and *Siddha Maruthuva muraigal* (treatment) of *Sinaippai putru noi (Carcinoma of Ovary)*	CAN	NK	KH	L&PPT ,TPW,P BL,DIS	CL-PR,O-QZ	F&S		-	LH
CO1, C02,C O3,C O6	Discuss the role of life style modifications in *Sinaippai Neerkatti* (PCOD).	CK	MK	KH	DIS,FC	QZ ,P-PRF	F&S		-	NLHT12.1
CO1, C02,C O3	Discuss in detail the various theories and common sites of Endometriosis.	CK	MK	KH	LS,DIS	DEB,M-CHT	F&S		-	NLHT12.2
CO1, C02,C O3	Discuss in detail the complications of *Thuritha sinaippai seyalizhappu* (Premature ovarian failure).	CK	MK	KH	PBL,IB L	WP,P-RP	F&S		-	NLHT12.3
CO1, C02,C O3	Discuss the clinical importance of tumour markers in the diagnosis of gynaecological cancers.	CK	MK	KH	DIS,ML	M-CHT,O-QZ	F&S		-	NLHT12.4
CO1, C02,C	Describe in detail the *maruthuva muraigal* (Treatment methods) for premalignant and borderline ovarian tumours.	CK	MK	KH	DIS,CB L	CBA,CL-PR	F&S		-	NLHT12.5

O3,CO6										
CO3, CO6, CO7, CO8	Discuss the clinical manifestations of *sinaippai katti* (simple ovarian cyst).	CC	MK	SH	CBL,TBL,KL	PRN,P-PS,P-PRF	F&S		-	NLHP12.1
CO3, CO6, CO7, CO8	Discuss the clinical manifestations for *Sinaippai kazhalaigal* (benign tumours in the ovary)	CC	MK	SH	TBL,CBL	P-ID,Log book,P-PRF	F&S		-	NLHP12.2
CO3, CO6, CO7, CO8	Explain the clinical manifestations of *Sinaippai Neerkatti* (PCOD).	CC	MK	SH	CBL,PL	SBA,P-ID	F&S		-	NLHP12.3
CO3, CO6, CO7, CO8	Discuss the clinical management of *Sinaippai piravi katti* (dermoid cyst).	CC	MK	SH	DIS,PBL,CBL	P-PRF,M-CHT	F&S		-	NLHP12.4
CO3, CO6, CO7, CO8	Describe the clinical manifestations of *Sinaippai kuruthi katti* (Chocolate cyst of ovary).	CK	MK	SH	LRI,CBL	P-ID,PA,OSCE	F&S		-	NLHP12.5
CO3, CO6, CO7, CO8	Elaborate the clinical features of *Sinaippai seyalpadu kuraivu* (Ovarian insufficiency).	PSY-GUD	MK	SH	PBL,TBL	P-PRF,M-CHT	F&S		-	NLHP12.6
CO3,	Explain the clinical features of *Sinaippai thirugal* (Ovarian	CC	MK	SH	PBL,DI	P-PS	F&S		-	NLHP12.7

CO6, CO7, CO8	torsion).				S					
CO3, CO6, CO7, CO8	Enumerate the clinical features of *Thuritha sinaippai seyalizhappu* (Premature ovarian failure).	CC	MK	SH	CD,CBL	SBA,CBA	F&S		-	NLHP12.8
CO3, CO6, CO7, CO8	Discuss the risk factors and clinical features of *Sinaippai thunduthal noi* (Ovarian Hyper Stimulation Syndrome).	CAN	MK	SH	D,PBL, DIS	C-VC,COM,PRN	F&S		-	NLHP12.9
CO3, CO6, CO7, CO8	Elaborate the stages and management of *Sinaippai putru noi* (Carcinoma of Ovary).	PSY-GUD	MK	SH	SY,CBL,CD	DOAP,P-PRF	F&S		-	NLHP12.10

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 12.1	Life style modifications in *Sinaippai Neerkatti* (PCOD).	1. Flipped Classroom Students engage with instructional content like life style modifications for *Sinaippai Neerkatti* (PCOD),at home and classroom time is used for interactive, hands-on learning. 2. Practical Performance Students will advise to balanced diet, low glycaemic and high fibre intake, regular physical activity like *Surya Namaskar*, adequate sleep and stress management such as *Yoga* and *meditation* for *Sinaippai Neerkatti* (PCOD) patients. Total duration: 1 hour.

NLHT 12.2	Various theories and common sites of Endometriosis.	1. Making of charts The teacher will instruct to students will be divided into groups to make Charts to understand the topic like various theories and common sites of Endometriosis. 2. Debate Students will be divided into groups by teacher to conduct debate on the topic such as various theories and common sites of Endometriosis. Total duration: 1 hour.
NLHT 12.3	Complications of *Thuritha sinaippai seyalizhappu* (Premature ovarian failure).	1. Practical Role play Students will be given an outline of the topic like complications of *Thuritha sinaippai seyalizhappu* (Premature ovarian failure).to take part in a role play, and marks will be given based on their performance. 2. Word puzzle Students will be divided into groups to play a word puzzle based on the topic like complications of *Thuritha sinaippai seyalizhappu* (Premature ovarian failure). Total duration: 1 hour.
NLHT 12.4	Clinical importance of tumour markers in the diagnosis of gynaecological cancers.	1. Online Quiz Students will be given an outline of the topic like clinical importance of tumour markers in the diagnosis of gynaecological cancers. to attend an online quiz and receive their scores at the end. 2. Making of charts Students will be divided into groups to make charts based on the topic, such as clinical importance of tumour markers in the diagnosis of gynaecological cancers. Total duration: 1 hour.
NLHT 12.5	*Maruthuva muraigal* (Treatment aspect) for pre malignant and borderline ovarian tumours.	1. Case-based learning The teacher will discuss with Students related to m*aruthuva muraigal* (Treatment aspect) for pre

		malignant and borderline ovarian tumours. Students will observe and record their log book. 2. Group Discussion Students will be divided into groups by teacher to discuss research articles based on the m*aruthuva muraigal* (Treatment aspect) for pre malignant and borderline ovarian tumours. Total duration: 1 hour.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 12.1	Clinical features for *sinaippai katti* (simple ovarian cyst).	1. Case - Based Learning The teacher will demonstrate the clinical manifestations of *sinaippai katti* (Simple ovarian cyst). Students will be divided into groups and patients will be allotted. SOP will be followed for history taking, general examination and abdominal, pelvic examination, and clinical management for *sinaippai katti* (simple ovarian cyst). Duration: 1 hour.
NLHP 12.2	Clinical features for S*inaippai kazhalaigal* (benign tumours in the ovary).	1. Case - Based Learning The teacher will demonstrate the clinical manifestations of *Sinaippai Kazhalaigal* (benign tumours) in the Ovary. Students will be divided into groups, and patients will be allotted. SOP will be followed for history taking, general examination, abdominal examination, and clinical management for S*inaippai kazhalaigal* (benign tumours in the Ovary). Duration: 1 hour.
NLHP 12.3	Clinical manifestations of *Sinaippai Neerkatti* (PCOD).	1. Case - Based Learning The teacher will demonstrate the clinical manifestations of *Sinaippai Neerkatti* (PCOD). Students will be divided into groups, and patients will be allotted. SOP will be followed for history taking,

		general examination, abdominal, pelvic examination, management for *Sinaippai Neerkatti* (PCOD). 2. Scenario based Assessment Students will be given a case scenario to diagnose the disease, and final marks will be given based on their performance 3. Practical identification Students will be trained to identify the specimen and explain the clinical manifestations of *Sinaippai Neerkatti* (PCOD). Total duration: 2 hours.
NLHP 12.4	Clinical management of *Sinaippai piravi katti* (dermoid cyst).	1. problem-Based Learning The teacher will demonstrate the clinical management of *sinaippai piravi katti* (Dermoid cyst). Students will be divided into groups and patients will be allotted. SOP will be followed for history taking, general examination, abdominal examination and clinical management for *sinaippai piravi katti* (dermoid cyst). 2. Discussion Students will discuss with teacher recording clinical management of *sinaippai piravi katti* (Dermoid cyst). Total duration: 1 hour.
NLHP 12.5	Clinical manifestations of *Sinaippai kuruthi katti* (Chocolate cyst of ovary).	1. Case - Based Learning The teacher will demonstrate the clinical manifestations of *Sinaippai kuruthi katti* (Chocolate cyst of ovary). Students will be divided into groups and patients will be allotted. SOP will be followed for history taking, general examination and abdomino pelvic examination for *Sinaippai kuruthi katti* (Chocolate cyst of ovary). 2. Lab report Interpretations The teacher will demonstrate the USG findings of a Chocolate cyst of the ovary. 3. Practical Identification Students will be trained to identify the specimen and explain the clinical manifestations of a

		chocolate cyst of the ovary. Total duration: 2 hours.
NLHP 12.6	Clinical features of *Sinaippai seyelpaadu kuraivu* (Ovarian insufficiency).	1. Case - Based Learning - The teacher will demonstrate the clinical management of *Sinaippai seyelpaadu kuraivu* (Ovarian insufficiency). Students will be divided into groups and patients will be allotted. SOP will be followed for history taking, general examination, and clinical management for *Sinaippai seyelpaadu kuraivu* (Ovarian insufficiency). 2. Making charts Students will divide into groups to make charts based on the clinical management of *Sinaippai seyelpaadu kuraivu* (Ovarian insufficiency). Total duration: 1 hour.
NLHP 12.7	Clinical features of *Sinaippai thirugal* (Ovarian torsion).	1. Discussion The teacher will discuss the clinical management of *Sinaippai thirugal* (Ovarian torsion). Students will be divided into groups and patients will be allotted. SOP will be followed for history taking, general examination, abdominal examination and clinical management for *Sinaippai thirugal* (Ovarian torsion). 2. Problem solving method The teacher will demonstrate the clinical management of *Sinaippai thirugal* (Ovarian torsion). Students will observe and repeat the same in clinical postings. Total duration: 1 hour. .
NLHP 12.8	Clinical features of *Thuritha sinaippai seyalizhappu* (Premature ovarian failure).	1. Case - Based Learning The teacher will demonstrate the clinical management of *Thuritha sinaippai seyalizhappu* (Premature ovarian failure). Students will be divided into groups, and patients will be allotted. SOP will be

		followed for history taking, general examination and abdomino pelvic examination and clinical management for *Thuritha Sinaippai seyalizhappu* (Premature ovarian failure). 2. Scenario Based Assessment Students will be given a case scenario by teacher related to clinical management of *Thuritha sinaippai seyalizhappu* (Premature ovarian failure). To diagnose the disease, and final marks will be given based on their performance. Total duration: 2 hours.
NLHP 12.9	Clinical features of *Sinaippai thunduthal noi* (Ovarian Hyper Stimulation Syndrome)	1. Compilation of Video clips The teacher will demonstrate the risk factors and management of *Sinaippai thunduthal noi* (Ovarian Hyper Stimulation Syndrome). Students will be instructed to compile and demonstrate video clips related to the topic to gain more knowledge. 2. Discussion Students will discuss with teacher regarding management of *Sinaippai thunduthal noi* (Ovarian Hyper Stimulation Syndrome) and learn more knowledge related to this topic. Total duration: 1 hour.
NLHP 12.10	Stages related to management of *Sinaippai putru noi* (Carcinoma of Ovary).	1. Case - Based Learning The teacher will demonstrate the stages, and management of *Sinaippai putru noi* (Carcinoma of Ovary). Students will be divided into groups, and patients will be allotted. SOP will be followed for history taking, examinations, investigations, and clinical management for *Sinaippai putru noi* (Carcinoma of Ovary). 2. Case diagnosis Students will be trained to diagnose the stages of s*inaippai putru noi* (Carcinoma of Ovary) by relavent.investigations and management of ovarian carcinoma. 3. Symposium Students will take part in a symposium to gain more knowledge on the topic. Total duration: 2 hours.

Topic 13 Marbaga noigal (Diseases of Breast) (LH :5 NLHT: 4 NLHP: 8)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO1, C02,C O3	Summarize *noi varum vazhi, vagaigal, kurikunangal, noi kanippu, sikalgal, maruthuvam* for *Nakil katti* (causes, types, clinical features, diagnosis, complications and treatment for Fibro adenoma of breast).	CS	MK	KH	DIS,L& PPT	QZ ,M-CHT	F&S		-	LH
CO1, C02,C O3	Interpret the *Nakil thabitham* (Mastitis) and its *noi varum vazhi, noi kurikunangal, vagaigal,* n*oi kanippu*, s*ikalgal and maruthuvam* (etiological factors, causes, types, diagnosis, complications and treatment for Mastitis)	CAP	MK	KH	L&PPT ,LS	PUZ,QZ	F&S		-	LH
CO1, C02,C O3	Interpret the *noi varum vazhi, kurikunangal, noi kanippu; sikalgal and maruthuvam* for *Nakil seal katti* (causes, symptoms, diagnosis, complications and management for Breast abscess).	CE	MK	KH	FC,L,P L	WP,QZ	F&S		-	LH
CO1, C02,C O3	Describe the *noi varum vazhi, vagaigal, kurikunangal, stages* of *Nakil putru noi* (cause, types, and clinical features of breast cancer)	CK	MK	K	L&PPT ,FC	M-POS,QZ ,CL-PR	F&S		-	LH
CO1, C02,C O3	Describe the prevention, early detection, *Noi kanippu (diagnosis) maruthuvam (treatment)* for *Nakil putru noi* (breast cancer).	CK	MK	KH	DIS,L& PPT	PUZ,M-CHT	F&S		-	LH
CO1, C02,C O3	Discuss *the* screening methods such as clinical breast examination and self-breast examinations for detecting *Nakil Katti* (fibro adenoma) in women.	CK	MK	KH	FV,SIM ,TBL	CL-PR,M-CHT	F&S		-	NLHT13.1
CO1, C02,C O3	Discuss the *vagaigal* (types) of *Nakil putrunoi* (Breast cancer) based on its location, behaviour and receptor status.	CK	MK	KH	LS,DIS	CR-RED,O -QZ,O-GAME	F&S		-	NLHT13.2
CO1,	Discuss how lifestyle modifications significantly influence the	CK	MK	KH	BS,LS	WP,M-	F&S		-	NLHT13.3

C02,CO3	risk, progression and outcomes of *Nakil putrunoi* (breast cancer).					CHT,INT				
CO1, C02,CO3	Discuss a *Nakil putrunoi vizhipunarvu thittam* (Breast cancer awareness program) like interactive workshops, screening campaign, aware events, support services and monitoring evaluation.	CK	MK	KH	W,DIS	WP,INT	F&S		-	NLHT13.4
CO3, CO7, CO8	Elaborate the clinical manifestations of *Marbaga naarthasai katti* (Fibro adenoma breast) and its diagnosis, treatment and medical advice.	CC	MK	SH	CD,D-BED	RK,SBA	F&S		-	NLHP13.1
CO3, CO7, CO8	Distinguish the clinical manifestations of *Nakil thabitham* (Mastitis) and *Nakil seelkatti* (Breast abscess).	CAN	MK	SH	LRI,D-BED	CBA,RK,P-CASE	F&S		-	NLHP13.2
CO3, CO7, CO8	Discuss the diagnostic approaches and management of Nakil putru noi (Breast cancer)	CC	MK	SH	D-BED, CBL	RK,P-ID,P-CASE	F&S		-	NLHP13.3
CO3, CO7, CO8	Discuss the clinical manifestations of *Nakil putrunoi* (Breast cancer) across its different stages, emphasizing the distinct signs and symptoms associated with each stage.	CC	MK	SH	D-BED, LRI	RK,P-EXAM,P-CASE	F&S		-	NLHP13.4

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 13.1	*S*creening method such as breast examination for *Nakil katti* (fibro adenoma).	1. Simulation Teacher will demonstrate clinical breast examination and self-breast examinations for detecting *Nakil katti* (fibro adenoma). Students will be demonstrated to gain the clinical knowledge about clinical breast examination for detecting *Nakil Katti* (fibro adenoma in breast) simulated patients. 2. Team based learning Students will be directed to split into small groups by teacher and discuss and review about clinical breast examination for detecting *Nakil katti* (fibro adenoma) in women and to get more knowledge

		about soya *parisodhanai muraigal (self-examination* methods) and its significance. Total duration: 1 hour.
NLHT 13.2	*Vagaigal* (types) of *Nakil putrunoi* (Breast cancer).	1. Library session Students will be instructed by teacher to analyse and collecting data from books and recent research papers on *Nakil putrunoi vagaipadu (*Breast Cancer classification) based on its location, behaviour and receptor status. 2. Online Quiz Teacher will conduct online quiz to students will be attended the objective type online quiz questionnaires to assess students understanding about *Nakil putrunoi vagaipadu (*Breast cancer classification). Total duration: 1 hour.
NLHT 13.3	Lifestyle modifications which influence the risk, progression and outcomes of *Nakil putrunoi* (breast cancer).	1. Library session Teacher will directed to students will go to the library for refer the top journals and books for understanding about the topic of lifestyle modifications significantly influence the risk, progression, and outcomes of *Nakil putrunoi* (breast cancer). 2. Brainstorming Brainstorm creative assessment will be given to the students by teacher about how lifestyle modifications significantly influence the risk, progression, and outcomes of *Nakil putrunoi* (breast cancer) then an evaluator will assess the student's performance by ask some questions to patient for asses the level of students to patient interaction and performance. Total duration: 1 hour.
NLHT 13.4	*Nakil putrunoi vizhipunarvu thittam* (Breast cancer awareness program)	1. Discussion Students will divide into small groups by teacher to discuss topics of *"Nakil putrunoi vizhipunarvu*

		thittam"(Breast cancer awareness program). After that they will be evaluated by their knowledge, communication and teamwork skills. 2. Workshop Students will be instructed by teacher to organize and participate in the workshop on *Nakil putrunoi vizhipunarvu thittam* (Breast cancer awareness program) it will be help to assess their knowledge and critical thinking. Total duration: 1 hour.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 13.1	Clinical manifestations of *Marbaga naarthasai katti* (Fibro adenoma breast) .	1. Demonstration bed side Teacher will demonstrate the clinical manifestations of *Marbaga narthasai katti* (Fibro adenoma breast) and its diagnosis, treatment and medical advice according to regular protocol. Students will observe, repeat and record the same. 2. Scenario based assessment Students will be assigned by teacher to evaluate a case scenario suspected to *Marbaga naarthasai katti* (Fibro adenoma breast), considering the clinical findings, diagnosis, differential diagnosis, and its management. Total duration: 2 hours.
NLHP 13.2	Clinical features of *Nakil thabitham* (Mastitis) and *Nakil seelkatti* (Breast abscess).	1. Demonstration bedside Teacher will demonstrate the clinical manifestations of *Nakil thabitham* (Mastitis) and *Nakil seelkatti* (Breast abscess) in clinical presentation. Students will be advised to repeat in another five patients. 2. Lab report interpretation Students will be advised to review the provided ultrasound (USG) report, focusing on key findings like tissue thickening, fluid collection and presence of abscess formation also identify the

		distinguishing features between *Nakil thabitham* (Mastitis) and *Nakil seelkatti (*Breast Abscess). Total duration: 2 hours.
NLHP 13.3	Diagnosis and management of Nakil putru noi (Breast cancer).	1. Case based learning Teacher will demonstrate about the diagnostic approaches like examination of breast, self-examination, FNA procedures, the Siddha medicines prescribed for Nakil putru noi and also the modern management strategies. The students will be applied the same and record the findings in their log book. 2. Spotter identification Students will be instructed by teacher to identify the *Nakil putrunoi* (*B*reast cancer) via provided clinical image, such as a mammogram or biopsy slide, focusing on key signs like mass irregularity or micro calcifications. Total duration: 2 hours.
NLHP 13.4	Clinical manifestation of different stages of *Nakil putrunoi* (Breast cancer)	1. Demonstration bedside Teacher will demonstrate the clinical manifestations of *Nakil putrunoi* (Breast cancer) in clinical presentation. Students will be advised to take a brief medical history, focusing on the presenting and past complaint. Inspect and palpate the breast, investigations, discuss differential diagnosis, and confirm the diagnosis of *Nakil putrunoi* (Breast cancer), finally educate the patient about *Nakil putrunoi* (Breast cancer) and document the assessment findings and management plan. 2. Lab report interpretation Students will be instructed by teacher to analyse the provided PET (positron emission tomography) scan report identifying regions with increased FDG (fluorodeoxyglucose) uptake in the breast tissue and any signs of metastasis to lymph nodes or distant organs. Total duration: 2 hours.
Topic 14 Karuppai noigal (Uterine disorders) (LH :5 NLHT: 3 NLHP: 9)		

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, C02,C O3	Describe the *kaaranangal, vagaigal, kuri kunangal, noi kanippu, sikalgal* and *maruthuvam* of *Karuppai thasai narkalalai* (aetiology, types, signs and symptoms, diagnosis, complications and treatment of Fibroid uterus).	CK	MK	KH	BS,FC, L&PPT	PUZ,M-CHT,Log book	F&S		-	LH
CO1, C02,C O3	Discuss the *noi varum vazhi,* (causes) *kurikunam* (clinical features) *noi kanippu,* (diagnosis) *sikalgal* (complication) *and parigara muraigal* of *Karuppai kambu kazhalai* (Endometrial polyp),*Kazhunthu kambu kazhalai,* (Cervical polyp), *Karuppai utkavasa neetchi, (*Adenomyosis) and *Karuppai utkavasa thadippu* (Endometrial hyperplasia).	CK	MK	KH	L&PPT ,PBL	M-CHT,QZ	F&S		-	LH
CO1, C02,C O3	Describe the kaaranangal (causes), *vagaigal* (types) *kurikunam* (clinical features) *noi kanippu,* (diagnosis) *sikalgal* (complication) *and Parigara muraigal* of Karuppai *kazhunthu putru noi.* (Carcinoma of cervix).	CK	MK	KH	L_VC,D IS	QZ ,M-CHT	F&S		-	LH
CO1, C02,C O3	Describe the kaaranangal (causes), *vagaigal* (types) *kurikunam* (clinical features) *noi kanippu,* (diagnosis) *sikalgal* (complication) *and Parigara muraigal* of *Karuppai kazhunthu thabitham* (Cervicitis).	CK	MK	KH	L&PPT ,PSM	P-POS	F&S		-	LH
CO1, C02,C O3	Describe the *kaaranangal* (causes), *vagaigal* (types) *kurikunam* (clinical features) *noi kanippu and* (diagnosis) *sikalgal* (complication) *and Parigara muraigal, including external therapy of Karuppai adithalal* (Uterine prolapse).	CK	MK	KH	L_VC,D IS	QZ ,O-GAME	F&S		-	LH
CO1, C02,C O3	Discuss the complications of *Karuppai kazhunthu thabitham* (cervicitis) and its *thadupu muraigal* (prevention methods).	CK	MK	KH	SY,FC	INT,WP	F&S		-	NLHT14.1

CO1, C02,CO3	Describe the risk factors, screening methods, prevention, lifestyle modifications and the importance of regular health care visits for *Karuppai kazhunthu putru* (Cervical Cancer).	CK	MK	KH	PrBL	INT,QZ	F&S		-	NLHT14.2
CO1, C02,CO3	Enumerate the pelvic support system and risk factors of *Karuppai adithalal* (Uterine prolapse).	CAP	MK	KH	BS,PBL	QZ ,INT	F&S		-	NLHT14.3
CO3, CO7, CO8	Discuss the clinical manifestations of *Karuppai thasai naarkazhalai* (Fibroid Uterus) and their interpretations.	CC	MK	SH	DIS,D-BED	RK,DOAP, OSCE	F&S		-	NLHP14.1
CO3, CO7, CO8	Differentiate clinical manifestations of *Karuppai kambu kazhalai* (Endometrial polyp), *kazhunthu kambu kazhalai* (cervical polyp) and K*aruppai utkavasa neetchi* (Adenomyosis), *Karuppai utkavasa thadippu* (endometrial hyperplasia).	CAN	MK	SH	D-BED	P-CASE,RK,INT	F&S		-	NLHP14.2
CO3, CO7, CO8	Differentiate the stages of *Karuppai kazhunthu putru* (Cancer of the cervix), which reflects the extent of cancer spread and its specific clinical features.	CAN	MK	SH	PBL,CBL	DOAP,P-CASE,OSCE	F&S		-	NLHP14.3
CO3, CO7, CO8	Describe the clinical manifestations of acute and chronic *Karuppai kazhunthu thabitham* (Cervicitis), which will typically reveal changing characteristic of the inflammatory process.	CK	MK	SH	D,D-BED	OSCE,P-VIVA, C-VC	F&S		-	NLHP14.4
CO3, CO7, CO8	Discuss the clinical manifestations of *Karuppai adithalal* (Uterine prolapse).	CC	MK	SH	CD,CBL,D-BED	P-PRF,INT	F&S		-	NLHP14.5

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 14.1	Complications of *Karuppai kazhunthu thabitham* (cervicitis) and its *thadupu*	1. Symposium Students will be instructed by teacher to participate the symposium about the topic of *Sikkalgal* of

	muraigal (prevention methods).	*Karuppai kazhunthu thabitham* (complications of cervicitis) and its *thadupu muraigal* (prevention methods) it will assist to interact with expert speakers, participate in discussions, present their research. 2. Flipped classroom Activity will be allotted to students on "*Sikkalgal* of *Karuppai kazhunthu thabitham* (complications of cervicitis) and its *thadupu muraigal* (prevention methods),where they watch pre-recorded videos or complete online modules before class and then student will present their understanding followed by teacher will be providing their feedback. Total duration: 1 hour.
NLHT 14.2	Screening, prevention, life style modifications of *Karuppai kazhunthu putru (*cervical cancer).	1. Project based learning Teacher will divide the students into small groups and assign each group a specific project. From this assignment students will design and implement a public awareness to educate the importance of risk factors, screening methods, prevention strategies, lifestyle modifications and the importance of regular health care visits for *Karuppai kazhunthu putru* (Cervical cancer). 2. Quiz Teacher will conduct quiz program to students related will be instructed screening, prevention, life style modifications of *Karuppai kazhunthu putru (*cervical cancer) and asses the students' knowledge about *Karuppai kazhunthu putru noi (C*ervical cancer). Total duration: 1 hour.
NLHT 14.3	Pelvic support system and risk factors of *Karuppai adithalal* (uterine prolapse)	1. Brainstorming A brainstorming activity will be given to the students to encourage critical thinking on the topic. Students will collaborate in small groups to discuss and list factors that affect pelvic health. Each group will present their findings using creative methods such as mind maps, posters or skits, fostering

		teamwork, engagement and deeper understanding of the topic. 2. Quiz Teacher will conduct quiz program regarding pelvic support system and risk factors of *Karuppai adithalal* (uterine prolapse). To assess and enhance student knowledge. Total duration: 1 hour.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 14.1	Clinical features of *Karuppai thasai naarkazhalai* (Fibroid Uterus).	1. Demonstration bedside Teacher will demonstrate the clinical manifestations of *Karuppai thasai naar kazhalai* (Fibroid Uterus) in clinical presentation. Students will be observe and record his/her record note. 2. Discussion Students will separate small groups by teacher and discuss the topic like clinical manifestations of *Karuppai thasai naarkazhalai* (Fibroid Uterus). Finally they have more knowledge about this topic. Total duration: 2 hours.
NLHP 14.2	Clinical manifestations of *Karuppai kambu kazhalai* (Endometrial polyp), *Karuppai kazhunthu kambu kazhalai* (cervical polyp), K*aruppai utkavasa neetchi* (Adenomyosis), *Karuppai utkavasa thadippu* (endometrial hyperplasia).	1. Demonstration bedside Teacher will demonstrate and differentiate he clinical manifestations of *Karuppai kambu kazhalai* (Endometrial polyp), *Karuppai kazhunthu kambu kazhalai* (cervical polyp) and K*aruppai utkavasa neetchi* (Adenomyosis), *Karuppai utkavasa thadippu* (endometrial hyperplasia) in clinical presentation. Students will observe and document the assessment findings and management plan. Duration: 1 hour.
NLHP 14.3	Stages of *Karuppai kazhunthu putru* (Cervical cancer)	1. Problem based learning The teacher will discuss with students the clinical manifestations of difference stages of *Karuppai kazhunthu putru* (Cervical Cancer) in clinical presentation. Students will be advised to introduce self

		and obtain patient consent for the assessment and take a brief medical history, as well confirm the diagnosis of *Karuppai kazhunthu putru* (Cervical cancer) through clinical examination and investigations. 2. Lab report interpretation Students will be instructed to analyse the provided Pap smear (Papanicolaou test) report, identifying any abnormal cell changes, or precancerous lesions. They should interpret the results to assess the likelihood of cervical dysplasia, metaplasia or neoplasia. Total duration: 2 hours.
NLHP 14.4	Clinical features of acute and chronic *Karuppai kazhunthu thabitham* (Cervicitis).	1. Demonstration bedside Teacher will demonstrate the clinical manifestations of acute and chronic *Karuppai kazhunthu thabitham* (Cervicitis) in clinical presentation. Students will be advised to focusing on the presenting and past complaint and palpate through P/v examination. Discuss the differential diagnosis, as well as confirm the diagnosis of *Karuppai kazhunthu thabitham* (Cervicitis) 2. Discussions Students will be divided into small groups by teacher and discuss with clinical manifestations of acute and chronic *Karuppai kazhunthu thabitham* (Cervicitis) gain more knowledge about acute and chronic *Karuppai kazhunthu thabitham* (Cervicitis). Total duration: 2 hours.
NLHP 14.5	Clinical features of *Karuppai adithalal* (Uterine prolapse).	1. Demonstration bedside Teacher will demonstrate the clinical manifestations of *Karuppai adithalal* (Uterine prolapse) in clinical presentation. Students will be observed and record the same. Later on students will repeat the same manner in different patients 2. Spotter identification Students will be instructed to identify *Karuppai adithalal* (Uterine Prolapse) using the provided spotter such as clinical posters. They should carefully observe the spotter and recognize the clinical condition and signs indicative of stages of uterine prolapse. Total duration: 2 hours.

Topic 15 Koobaga thotru noigal (Pelvic inflammatory diseases) (LH :6 NLHT: 4 NLHP: 10)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO1, C02,C O3	Describe the kaaranangal (causes), *vagaigal* (types) *kurikunam* (clinical features), *noi kanippu* (diagnosis), *sikalgal* (complication) *and Parigara muraigal* and medical advice for *Vellai noi* (Leucorrhoea).	CK	MK	KH	DIS,L& PPT	QZ ,WP	F&S		-	LH
CO1, C02,C O3	Describe the kaaranangal (mode of transmission), *vagaigal* (types) *kurikunam* (clinical features), *noi kanippu* (diagnosis), *sikalgal* (complication) *and Parigara muraigal* and medical advice for *Palvenai noigal* (STD).	CK	MK	K	FC,ML, L&PPT	Log book,O-QZ,PA	F&S		-	LH
CO1, C02,C O3	Discuss and differentiate the kaaranangal (causes), *vagaigal* (types) *kurikunam* (clinical features) *noi kanippu,* (diagnosis) *sikalgal* (complication) *and Parigara muraigal* and medical advice for *Sinaippai thabitham* (Oophoritis) and *Sinaippathai thabitham* (Salinities).	CK	MK	KH	FC,BL, L&PPT	M-CHT,CL-PR,CWS	F&S		-	LH
CO1, C02,C O3	Describe the *kaaranangal, kurikunangal, Ayvu kooda thervugal* and *maruthuvam* (causes, clinical features, investigations, and treatment) of *Bartholin surapi thabitham* (Bartholinitis).	CK	DK	KH	L&PPT ,DIS,C D	QZ ,INT,M-CHT	F&S		-	LH
CO1, C02,C O3	Explain the kaaranangal (causes), *vagaigal* (types) *kurikunam* (clinical features) *noi kanippu,* (diagnosis) *sikalgal* (complication) *and Parigara muraigal* and medical advice for of *Karuppai utkavasa thabitham* (Endometritis) .	CK	DK	KH	PSM,L	M-MOD,C L-PR,CR-W	F&S		-	LH
CO1, C02,C O3	Describe the kaaranangal (causes), *vagaigal* (types) *kurikunam* (clinical features) *noi kanippu,* (diagnosis) *sikalgal* (complication) *and Parigara muraigal* and medical advice for *Koobaga Illaipu noi* (genital TB) and *karuppai agapura alarchi*	CK	MK	KH	L,DIS,L &PPT	T-OBT,WP ,QZ ,CL-PR	F&S		-	LH

	(Parametritis).									
CO1, C02,C O3	Discuss the *Vellai noi* (Leucorrhoea), due to hormonal imbalance and its clinical features, management and medical advice.	CK	MK	KH	PER,DI S	INT,O-QZ	F&S		-	NLHT15.1
CO1, C02,C O3	Discuss the t*hadupu muraigal* (preventive measures), risk factors, early detection and screening methods of *Paalvenai noigal* (Sexually transmitted diseases).	CK	MK	KH	RP,TBL ,DIS	DEB,VV-Viva,INT	F&S		-	NLHT15.2
CO1, C02,C O3	Enumerate the diagnostic evaluation and complications of *Sinaippai thabitham* (Oophoritis) and *Sinaippathai thabitham* (Salpingitis)	CK	MK	KH	DIS,GB L,EDU, BL	QZ ,PUZ,O-GAME	F&S		-	NLHT15.3
CO1, C02,C O3	Discuss the objectives and implementation steps of the *Koobaga eliaipu noi* (Genital tuberculosis) awareness program.	CK	MK	KH	DIS,PE R,LS	CL-PR,M-CHT,PA	F&S		-	NLHT15.4
CO3, CO7, CO8	Differentiate the clinical manifestations and preparation of a vaginal smear for *Vellai noi* (Leucorrhoea).	CAN	MK	SH	CBL,DI S	DOPS,P-PRF,OSCE	F&S		-	NLHP15.1
CO3, CO7, CO8	Discuss the clinical manifestations of *Paalvenai noigal* (Sexually transmitted diseases - STDs).	CC	MK	SH	D-BED, CBL,LR I,D	P-PRF,DO AP,OSPE	F&S		-	NLHP15.2
CO3, CO7, CO8	Elaborate the clinical manifestations of *Sinaippai thabitham* (Oophoritis) and *Sinaippathai thabitham* (Salpingitis) and its management.	CC	MK	SH	PBL,D-BED,C D	OSCE,DO AP	F&S		-	NLHP15.3
CO3, CO7, CO8	Differentiate the clinical manifestations of *Bartholin surapi thabitham* (Bartholinitis) and *Yoni neerkatti* (Vaginal cyst) and its management .	CAN	MK	SH	CBL,D-BED	RK,INT	F&S		-	NLHP15.4
CO3,	Discuss the clinical manifestations of *Karuppai utkavasa*	CC	MK	SH	CBL,C	PM,OSCE,	F&S		-	NLHP15.5

CO7, CO8	*thabitham* (Endometritis).				D,D-BED	P-PRF				
CO3, CO7, CO8	Summarise the clinical manifestations of *Koobaga ellaippunoi* (Pelvic tuberculosis-TB).	CC	MK	SH	D,DIS, D-BED	Log book,OSCE	F&S		-	NLHP15.6

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 15.1	Clinical features, management and medical advice for *Vellai noi* (Leucorrhoea)	1. Case-based learning The teacher will discuss with students related to *Vellai noi* (Leucorrhoea) to due to hormonal imbalance and its clinical features, management and medical advice. Students will observe and record their log book. 2. Presentation Students will be instructed to give a presentation session about hormonal imbalance and its clinical features, management and medical advice. *Vellai noi* (Leucorrhoea). The teacher will evaluate them based on content accuracy, presentation skills and their ability to answer questions effectively. Total duration: 1 hour.
NLHT 15.2	T*hadupu muraigal* (prevention), early detection and screening of *Paalvenai noigal* (Sexually transmitted diseases).	1. Debate The teacher will be divided the students into two groups and advise them to discuss the topic T*hadupu muraigal* (preventive measures), risk factors, early detection and screening of *Paalvenai noigal* (Sexually transmitted diseases). such as The discussion will be including statements, procedures, arguments rebuttals and Q&A session. Afterward, the teacher will evaluate the students based on their participation and understanding. 2. Role play Students will be directed to role-play as teacher, guiding a patient through this topic. They should be required to collect informed consent, ensure patient comfort and clearly explain the treatment procedure.

		Total duration: 1 hour.
NLHT 15.3	Diagnostic evaluation of *Sinaippai thabitham* (Oophoritis) and *Sinaippathai thabitham (*salpingitis).	1. Quiz Students will be divided to groups and assigned to a quiz activity that combines education and entertainment related to *Sinaippai thabitham* (Oophoritis) and *Sinaippathai thabitham* (Salpingitis). This activity will help them identify the symptoms and signs of both conditions in an engaging and interactive manner. 2. Edutainment Students will be advised to participate in a trivia competition on *Sinaippai thabitham* (Oophoritis) and *Sinaippathai thabitham* (Salpingitis),assessing their ability to diagnose and manage the conditions. Total duration: 1 hour.
NLHT 15.4	*Koobaga ellaippunoi* (Genital tuberculosis) awareness program.	1. Group Discussion Students will be divided into small groups to discuss topics related to the *Koobaga eliaipu Noi* (Genital Tuberculosis) awareness program and asked to present their findings. Afterward, they will be evaluated based on their knowledge, communication and teamwork skills. 2. Presentation Students will be instructed to give a presentation session on this topic, after the presentation session, advised to improve their knowledge, critical thinking and application skills, focusing on any flawed parts of their presentation. Total duration: 1 hour.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 15.1	Clinical features and preparation of a vaginal smear for *Vellai noi* (Leucorrhoea).	1.Case Based Learning Teacher will demonstrate the clinical manifestations of V*ellai noi* (Leucorrhoea) in clinical

		presentation. Students will be observe and repeat the same procedure and management for *Vellai noi* (Leucorrhoea). 2. Discussion Students will discuss the topic like clinical manifestations and preparation of a vaginal smear for *Vellai noi* (Leucorrhoea). Finally they have more knowledge about this topic. Total duration: 2 hours.
NLHP 15.2	Clinical features of *Paalvenai noigal* (STD - Sexually transmitted diseases).	1. Demonstration bed side: The teacher will demonstrate with students to analyse the provided serological test report, identifying any abnormalities related to *Paalvinai noigal* (Sexually Transmitted Diseases - STDs like HIV, syphilis, hepatitis, herpes) and correlate these findings with clinical symptoms for accurate diagnosis. 2. Disscussion: The teacher will discuss with students related to clinical manifestations of *Paalvenai noigal* (Sexually transmitted diseases - STDs). Students will observe and repeat the same. Total duration: 2 hours.
NLHP 15.3	Clinical features of Si*naippai thabitham* (Oophoritis) and *Sinaippathai thabitham* (Salpingitis).	1.Case diagnosis Teacher will demonstrate the clinical manifestations of Si*naippai thabitham* (Oophoritis) and *Sinaippathai thabitham* (Salpingitis) and its management. Students will inspecting and palpating the genital area, discussing differential diagnoses and confirming Si*naippai thabitham* (Oophoritis) and *Sinaippathai thabitham* (Salpingitis) through clinical examination and relevant investigations and management. Duration: 1 hour.
NLHP 15.4	Clinical features of *Bartholin surapi thabitham* (Bartholinitis) and *Yoni neerkatti* (vaginal cyst) and its management.	1.Demonstration bedside Teacher will demonstrate the clinical manifestations of *Bartholin surapi thabitham* (Bartholinitis) and *Yoni neerkatti* (vaginal cyst) as simulation. Students will inspect and palpating the genital areas, differential diagnosis and confirming *Bartholin surapi thabitham* (Bartholinitis) and *Yoni Neerkatti* (Vaginal cyst) through clinical examination and discuss the relevant investigations.

		Duration: 1 hour.
NLHP 15.5	Clinical features of *Karuppai utkavasa thabitham* (Endometritis).	1. Case -based learning Teachers will demonstrate with students to a case-based learning activity focusing on *Karuppai utkavasa thabitham* (Endometritis). Students will review a real-life case study of a patient with *Karuppai utkavasa thabitham* and work collaboratively in groups to analyse the case, identify risk factors and develop appropriate management strategies. Duration: 2 hours.
NLHP 15.6	Clinical features of *Koobaga* el*laippunoi* (Pelvic tuberculosis-TB).	1. Demonstration bedside Teacher will demonstrate the clinical manifestations of *Koobaga* e*llaippunoi* (Pelvic tuberculosis-TB) in clinical presentation. Students will be guided discussing and relevant investigations, management. 2. Discussion Students will separate small groups and discuss the topic like *Koobaga ellaippunoi* (Pelvic tuberculosis-TB).Finally students have more knowledge about clinical manifestations of *Koobaga ellaippunoi* (Pelvic tuberculosis-TB). Total duration: 2 hours.

Topic 16 Siruneer vega kolaarugal (Urogynaecological disorders) (LH :5 NLHT: 3 NLHP: 7)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, C02,CO3	Describe the kaaranangal (causes),*vagaigal* (types) *kurikunangal* (clinical features) *noi kanippu,* (diagnosis) *sikalgal* (complication) *and parigara muraigal including external therapy* for *Yoni Adithalal* (Vaginal wall prolapse).	CK	MK	KH	PL,L&PPT ,DIS	QZ ,M-POS	F&S		-	LH
CO1,	Describe the k*aaranangal, vagaigal, kurikunangal, noi kanippu,*	CK	MK	KH	W,L&G	INT,PUZ	F&S		-	LH

C02,CO3	*maruthuvam* for S*iruneer vega kolarugal* (causes, types, symptoms, diagnosis and its s*iddha* management for stress incontinence-SI and Urge incontinence-UI).				D,FC					
CO1, C02,CO3	Describe the *noi varum vazhi, kurikunangal, noi kanippu* and *maruthuvam* for S*iruneer paathai thotrugal* (Causes, sign and symptoms, diagnosis and treatment for urinary tract infections) in females.	CK	MK	KH	BL,L&PPT	VV-Viva, WP,O-QZ	F&S		-	LH
CO1, C02,CO3	Summarize the n*oi varum vazhi ,kurikunangal, noi kanippu,* and m*aruthuvam* for *Siruneer paathai kayangal* (causes, clinical features, diagnosis and treatment for trauma in urinary tract)	CAN	DK	KH	L&GD,IBL,PL	INT,O-GAME	F&S		-	LH
CO1, C02,CO3	Describe the kaaranangal (causes), *kurikunangal* (clinical features) *noi kanippu,*(diagnosis) and management for Psychosomatic changes in adolescent, reproductive and menopausal period) and also discuss the *Punarchi vali noi* (Dyspareunia).	CK	MK	KH	FC,L&GD	QZ ,INT	F&S		-	LH
CO1, C02,CO3	Describe the theory behind *Yoni suvar adithalal (V*aginal wall prolapse),specifically anterior or posterior vaginal wall prolapse, which primarily relates to the weakening of the structures that support the pelvic organs. 4o mini	CK	MK	KH	LS	O-QZ,Log book	F&S		-	NLHT16.1
CO1, C02,CO3	Discuss the lifestyle modifications for managing *Siruneer adangamai* (Urinary incontinence) in women, including fluid management, dietary changes, and life style modifications.	CK	MK	KH	PL,SIM	CL-PR,Log book	F&S		-	NLHT16.2
CO1, C02,CO3	Discuss the risk factors and complications of urinary tract infections (UTI) in pregnant and postmenopausal women.	CK	MK	KH	FC	CR-W,T-CS	F&S		-	NLHT16.3
CO3, CO7,	Observe and discuss the clinical manifestations of *Yoni suvar adithalal* (Vaginal wall prolapse).	CC	MK	SH	D-BED	P-PRF,SBA	F&S		-	NLHP16.1

CO8										
CO3, CO7, CO8	Differentiate the clinical manifestations of *Siruneer vega kolaarugal* (urinary incontinence), such as stress incontinence and urge incontinence.	CAN	MK	SH	D-BED	DOPS,P-PRF,OSCE, DOPS	F&S		-	NLHP16.2
CO3, CO7, CO8	Discuss and elaborate the clinical manifestations of *Siruneer paathai thotrugal* (Urinary tract infection).	CC	MK	SH	D-BED, CBL	OSCE,P-CASE	F&S		-	NLHP16.3
CO3, CO7, CO8	State the clinical manifestations of *Siruneer paathai kayangal* (Urinary tract injury).	CC	MK	SH	CBL	SBA,DOPS ,OSCE,P-PRF,DOPS	F&S		-	NLHP16.4
CO3, CO7, CO8	Discuss the clinical manifestations of *Manovigara noigal* (psychosomatic disorders) in adolescent, reproductive and menopausal age groups of women.	CC	MK	SH	CBL	P-PRF,INT	F&S		-	NLHP16.5

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 16.1	Theory behind *Yoni suvar adithalal* (vaginal wall prolapse).	1.Online quiz Teacher will instruct and conduct online quiz to students related to theory behind *Yoni suvar adithalal (V*aginal wall prolapse) to assess student's understanding of theory behind *Yoni suvar adithalal* (Vaginal wall prolapse) . 2. Library session Students will be directed by the teacher to the library for referring the top journals and books for understanding about "Theory behind *Yoni suvar adithalal* (Vaginal wall prolapse) . Total duration: 1hour.
NLHT 16.2	Medical advice and pelvic floor exercise of	1. Class Presentation

	Siruneer adangamai (Urinary Incontinence) in women.	Students will be instructed to given a class presentation session to create a poster includes information about this topic. 2. Simulation Students will be instructed to use a Mannequin to simulate a patient with *Siruneer adangamai* (Urinary incontinence), then allowing students to practice physical examination and bladder catheterization skills. Total duration: 1 hour.
NLHT 16.3	Discuss risk factors and complications, urinary tract infections (UTI) in pregnant post-menopausal women.	1. Flipped classroom Flipped classroom activity will be given to students about risk factors, complications of urinary tract infections (UTI) in special populations such as pregnant women and postmenopausal women. Students will be watch pre-recorded videos or complete online modules on before the class and then students will present their understanding followed by teacher will be providing their feedback. 2. Creativity Writing Students will be commanded to write a reflective essay on the topic then an evaluator will assess the student's performance by their writing skill. Total duration: 1 hour.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 16.1	Clinical features of *Yoni suvar adithalal* (Vaginal wall prolapse).	1. Demonstration bedside Teacher will demonstrate the clinical manifestations of *Yoni suvar adithalal* (Vaginal wall prolapse) in clinical presentation. Students will observe and repeat the same like detailed medical history, general examination, vaginal examination, differential diagnoses and management in clinical postings. 2. Scenario based assessment Students will be advised to assess a patient with a suspected *Yoni suvar adithalal* (Vaginal wall prolapse) considering the clinical findings, diagnosis and possible differential diagnosis. They should

		also outline a management plan, including internal and external treatment options, patient education and follow-up recommendations. Total duration: 2 hours.
NLHP 16.2	Clinical features of *Siruneer vega kolaarugal* like stress incontinence and urge incontinence.	1. Demonstration bedside Teacher will demonstrate the clinical manifestations of *Siruneer vega kolarugal* like stress incontinence and urge incontinence in clinical presentation. Students will observe and repeat the same in clinical side. 2. Discussion Teacher will discuss with students like differentiate the clinical manifestations of *Siruneer vega kolaarugal* (urinary incontinence), such as stress incontinence and urge incontinence. Total duration: 2 hours.
NLHP 16.3	Clinical features of *Siruneer paathai thotrugal* (Urinary tract infection).	1.Case based learning Teacher will elaborate the clinical manifestations of *Siruneer paathai thotrugal* (Urinary tract infection) in bedside presentation. Students will observe and repeat the same like taking medical history, perform genital and urinary tract examination as well as confirm *Siruneer paathai thotrugal* (Urinary tract infection) through relevant investigations and discuss a proper management. Duration: 1 hour
NLHP 16.4	Clinical features of *Siruneer paathai kayangal* (Urinary tract injury).	1. Case Based Learning Teacher will present a case with the clinical manifestations of *Siruneer paathai kayangal* (Urinary tract injury) in clinical presentation. Students will observe and record in their log book to enhance their clinical knowledge. 2. Scenario based learning The teacher will discuss with students to case scenario like *Siruneer paathai kayangal* (Urinary tract injury). Students are able to know and diagnose in this topic. Duration: 1 hour.

NLHP 16.5	Clinical features of *Manovigara noigal* (Psychosomatic disorders) in women's.	1. Scenario based Learning: Teacher will discuss the possible clinical manifestations of *Manovigara noigal* (Psychosomatic disorders) in different age groups such as adolescent, reproductive and at menopause in clinical presentation. Students will observe and repeat the same as simulation Duration: 1 hour.

Table 4 : NLHT Activity

(*Refer table 3 of similar activity number)

Activity No*	CO No	Activity details
1.1	CO1,C02	Subtypes of *Utchi uthayam* (*C*ephalic presentation) related to *Suga magaperu* (Normal delivery).
1.2	CO1,C02	Normal and abnormal types of *Uthayam* (presentation*) and Uthayapagam* (denomination)
2.1	CO4,CO5	Siddha and modern diagnostic methods of *Sool Kanippu* (Diagnosis of pregnancy).
2.2	CO4,CO6	*Thirumoolar* concept of *Karuurpathi* (Fertilization).
2.3	CO4,CO7	Male and female causes influence the *Karuurpathi* (Fertilization) in the Siddha system.
2.4	CO4,CO6,CO7	*A*bnormal site of *Karu puthithal* and *Maayai valarchi* (Fetal implantation and Placental development)
2.5	CO4,CO7,CO8	Abnormal formation and functions of *Thopulkodi* and *Panikudaneer* (umbilical cord and amniotic fluid)
2.6	CO1,CO4,CO7	Maternal changes during *Sool kaalam* (pregnancy).
2.7	CO4,CO7	Diet and medical advice, and Maternity Benefit Act 1961 and Maternity Amendment Act 2017 for *Sool kaalam* (Ante-natal period).
2.8	CO4,CO6,CO7	Complications of mother during *Sool kaalam* (Pregnancy period).
2.9	CO4,CO6,CO7	Advantages and disadvantages of *Kudumba kattuppattu Muraigal* (Contraceptive method).
3.1	CO4,CO6,CO7	Causes and clinical features of the second stage of prolonged labour.

3.2	CO4,CO6,CO7	Phases of labour and pain management in labour.
3.3	CO4,CO6,CO7	Labour pain is evaluated with cardiotocography (CTG) and monitors the fetal heart rate.
3.4	CO4,CO7	Mechanism o*f Suga magapperu nigazhchigal* (Mechanism of labour)
3.5	CO4,CO7	Influencing factors of *Suga magapperu nadai* (stages of normal labour).
4.1	CO6,CO7	Discussion on *Pinpedari udhayam* (Occipito posterior position)
4.2	CO6,CO7	Management of *Putta udhayam* (Breech presentation)
4.3	CO6,CO7	Complications of *Muga udhayam* (Face presentation)
4.4	CO6,CO7	Complications of *Kurukku paduththal* (Transverse and oblique lie)
4.5	CO6,CO7	Conjoined twins and their complications.
5.1	CO3,CO7	*Noi kanippu* (diagnosis), *sikalgal* (complications), *Parikara muraiga*l (management) of *Pura karuppai Sool (*Ectopic pregnancy).
5.2	CO3,CO6,CO8	Congenital anomalies due to *Athi panineer* (Polyhydramnios).
5.3	CO3,CO6,CO8	Ethical, moral, philosophical, and cultural considerations of *Karuchethaivu* (Abortion).
6.1	CO6,CO7,CO8	Complications of S*ool valippu* (Eclampsia).
6.2	CO4,CO6,CO7	Complications and preventions of S*ool kaala mathumega noi* (Gestational diabetes mellitus).
6.3	CO4,CO7	Maternal and fetal complications due to S*ool kaala paandu noi* (Gestational Anaemia)
6.4	CO4,CO7	Different types of S*ool kaala Thotru noigal* (Maternal infections)

6.5	CO4,CO7	Importance of blood grouping in S*ool kaalam* (Pregnancy).
6.6	CO3,CO4	Factors that influence *Vida sool vaanthi* (Hyperemesis gravidarum) and its pathophysiology.
6.7	CO7,CO8	Gynecological diseases that influence abortion during *sool kaalam* (pregnancy).
7.1	CO4,CO6,CO7	*Kaaranangal* (causes), *kurikunangal* (clinical features), *noi kanippu* (diagnosis), and prevention of *Asaathool poopu kaalam (*Abnormal Involution).
7.2	CO4,CO6,CO7	Clinical manifestations of abnormal puerperium.
7.3	CO3,CO6,CO7	Specific infections that cause *Sool pooppu sanjchara noigal* (Puerperal infection)
7.4	CO1,CO3	Principles of Siddha puerperal care.
8.1	CO1,C02,CO3	Complications of *Pin sarintha Karuppai* (Retroverted Uterus).
8.2	CO1,C02,CO3,CO6	Yogasanas and Pranayama for strengthening Pelvic floor muscles. .
9.1	CO1,C02,CO3	Diseases associated with hyperestrogenism.
9.2	CO1,C02,CO3	Correlation between thyroid hormones and adrenal hormones with the menstrual cycle.
9.3	CO1,C02,CO3,CO6	Premenstrual Dysphoric Disorder (PMDD) and life style modifications.
9.4	CO1,C02,CO3	Factors influencing and management of *Thuritha muthal poopu* (Precocious puberty).
9.5	CO1,C02,CO3	Health management after *Kadaipoopu kalam* (Post- Menopausal period).
10.1	CO1,C02,CO3	Theoretical perspectives of *Soothaga vali* (Dysmenorrhea).
10.2	CO1,C02,CO3	Pathophysiology and *aruvai maruthuva muraigal* (Surgical interventions) for *Poli soothaga thadai* (Cryptomenorrhea).

10.3	CO1,C02,CO3	*Saatharana Perumpadu* (Abnormal Uterine Bleeding) based on the PALM-COEIN classification.
10.4	CO1,C02,CO3,CO7	Complications of *Kadaipoopu pin utherasalai* (Postmenopausal bleeding), and the screening methods for *Karuppai kazhunthu putru noi* (Carcinoma of the Cervix).
11.1	CO1,C02,CO3	Interpretations of Semen analysis.
11.2	CO1,C02,CO3	Unexplained infertility and management of ART.
11.3	CO1,C02,CO3	Emotional support and counselling for *Magaperinmai* (Infertility).
11.4	CO1,C02,CO3	Diet and life style modifications in the management of *Aan Magaperinmai* (Male Infertility).
11.5	CO1,C02,CO3	Hormonal assays along with AMH in *Pen Magaperinmai* (female Infertility).
12.1	CO1,C02,CO3	Various theories and common sites of Endometriosis.
12.2	CO1,C02,CO3,CO6	Life style modifications in *Sinaippai Neerkatti* (PCOD).
12.3	CO1,C02,CO3	Complications of *Thuritha sinaippai seyalizhappu* (Premature ovarian failure).
12.4	CO1,C02,CO3	Clinical importance of tumour markers in the diagnosis of gynaecological cancers.
12.5	CO1,C02,CO3,CO6	*Maruthuva muraigal* (Treatment aspect) for pre malignant and borderline ovarian tumours.
13.1	CO1,C02,CO3	*S*creening method such as breast examination for *Nakil katti* (fibro adenoma).

13.2	CO1,C02,CO3	*Vagaigal* (types) of *Nakil putrunoi* (Breast cancer).
13.3	CO1,C02,CO3	Lifestyle modifications which influence the risk, progression and outcomes of *Nakil putrunoi* (breast cancer).
13.4	CO1,C02,CO3	*Nakil putrunoi vizhipunarvu thittam* (Breast cancer awareness program)
14.1	CO1,C02,CO3	Complications of *Karuppai kazhunthu thabitham* (cervicitis) and its *thadupu muraigal* (prevention methods).
14.2	CO1,C02,CO3	Screening, prevention, life style modifications of *Karuppai kazhunthu putru (*cervical cancer).
14.3	CO1,C02,CO3	Pelvic support system and risk factors of *Karuppai adithalal* (uterine prolapse)
15.1	CO1,C02,CO3	Clinical features, management and medical advice for *Vellai noi* (Leucorrhoea)
15.2	CO1,C02,CO3	T*hadupu muraigal* (prevention), early detection and screening of *Paalvenai noigal* (Sexually transmitted diseases).
15.3	CO1,C02,CO3	Diagnostic evaluation of *Sinaippai thabitham* (Oophoritis) and *Sinaippathai thabitham (*salpingitis).
15.4	CO1,C02,CO3	*Koobaga ellaippunoi* (Genital tuberculosis) awareness program.
16.1	CO1,C02,CO3	Theory behind *Yoni suvar adithalal* (vaginal wall prolapse).
16.2	CO1,C02,CO3	Medical advice and pelvic floor exercise of *Siruneer adangamai* (Urinary Incontinence) in women.
16.3	CO1,C02,CO3	Discuss risk factors and complications, urinary tract infections (UTI) in pregnant post-menopausal women.

Table 5 : List of Practicals

(*Refer table 3 of similar activity number)

Practical No*	CO No	Practical Activity details
1.1	CO1,C02	Enbu Koobagam (bony pelvis).
1.2	CO1,C02	Diameters and sutures of *Magavu kabalam* (Fetal skull) *related to Magaperu* (*Labour).*
1.3	CO1,C02	Cephalo pelvic relation to *Magavu kabalam* (Fetal skull) with *Enbu Koobagam* (Bony pelvis)
1.4	CO1,C02	Normal and abnormal *Uthayam* (Presentation) related to *Magaperu* (Abnormal labour)
1.5	CO1,C02	Normal and abnormal *Uthayapagam* (Denomination*)* related to *Asaatharana Magaperu* (Abnormal labour).
1.6	CO1,C02	Layers of *Vedabam* (Perineum) and *Vidapa kizhisal* (Episiotomy).
2.1	CO4,CO6,CO7	Copper-T insertion.
2.2	CO4,CO6,CO7	Various stages of *Karuurpathi* (Fertilization) according to Siddha aspect.
2.3	CO4,CO7,CO8	Various stages of *Karuurpathi* (Fertilization) according to modern aspects.
2.4	CO4,CO7	*Karu puthaithal* and *Maayai Valarchi* (Fetal implantation and Placental development) and its abnormalities.
2.5	CO4,CO7,CO8	USG findings to assess the Amniotic Fluid Index [AFI].
2.6	CO4,CO6,CO7	Anatomical and physiological changes of the women during *Sool Kaalam* (Pregnancy).
2.7	CO3,CO4,CO8	Confirmative signs of *Sool kaalam* (pregnancy) are detected by Ultra sonogram

		(USG).
2.8	CO3,CO4,CO6	Abdominal and pelvic grip examination of *Sool kaalam* (Ante-natal period)
2.9	CO4,CO6,CO7	Systemic complications of *Sool kaalam* (Ante-natal period)
2.10	CO4,CO6,CO7	*Magapperu Sanjeevi* medicine kit adminstrated during *Sool kaalam* (Ante natal period) and its importances.
3.1	CO4,CO7	Clinical manifestations of S*uga magapperu nadai* (stages of normal labour).
3.2	CO4,CO7	Three stages of S*uga magapperu nadai* (stages of normal labour).
3.3	CO4,CO7	Clinical manifestations in the S*uga magapperu nigazhchigal* (mechanism of labour).
3.4	CO4,CO7	Factors that affect the mechanisms of S*uga magapperu* (Normal labour).
3.5	CO4,CO6,CO7	Third stage management of S*uga magapperu* (Normal delivery).
3.6	CO4,CO6,CO7	Siddha management (both internal and external therapy) for S*uga magapperu* (Normal delivery).
3.7	CO4,CO7	*Suga magapperu* (Normal delivery) related to S*ool poopu kugaranam* (post-partum complications).
4.1	CO6,CO7	Clinical manifestations of *Pin pidari udhayam* (Occipito posterior position).
4.2	CO6,CO7	Clinical examinations *of Putta udhayam* (Breech presentation).
4.3	CO6,CO7	Diagnostic techniques and evaluation of *Putta udhayam* (Breech presentation).
4.4	CO6,CO7	Identification, abdominal palpation, and vaginal examination of *Muga udhayam* (Face presentation)
4.5	CO6,CO7	Clinical manifestations of *Puruva udhayam* (Brow presentation).
4.6	CO6,CO7	Abdominal and pelvic examination to assess the fetal lie and identify *Kurukku*

		paduththal (transverse and oblique lie).
4.7	CO6,CO7	Clinical examination and abdominal palpation for *Irattai kuzhavi sool* (Twin pregnancy).
4.8	CO6,CO7	Clinical manifestations of *Pin thangiya maayai* (Retained placenta) by manual and vaginal examination.
5.1	CO3,CO7	Clinical manifestations of *Kurai Magapperu* (Preterm delivery).
5.2	CO3,CO7	Clinical examination of *Pura karuppai sool (*Ectopic pregnancy).
5.3	CO3,CO7	Clinical manifestations of *Neer kumil kazhalai* (*H*ydatiform mole).
5.4	CO3,CO7	Clinical manifestations of *Athepanineer* (Polyhydramnios's)
5.5	CO3,CO7	Diagnosis of different types of *Karuchethaivu (*Abortion).
5.6	CO3,CO7	Diagnosis of *Magaperu mun utherasalai* (Antepartum haemorrhage).
5.7	CO3,CO7	Clinical manifestations of *Magaperu pin utherasalai* (Post-partum haemorrhage) and *Sakthiyatra karuppai* (Atonic uterus).
6.1	CO4,CO6,CO7	Clinical features of Erythroblastosis foetalis and its management.
6.2	CO4,CO8	Clinical importance of state and central government schemes related to pregnancy.
6.3	CO4,CO6	Pathophysiology, signs and symptoms, and diagnosis of V*ida sool vaanthi* (Hyperemesis gravidarum).
6.4	CO4,CO7	Early detection and management of *sool kaala Athi kuruthi azhuththam* (Gestational hypertension)
6.5	CO4,CO6,CO7	Clinical manifestations of *Sool vali murkuri* (Pre-eclampsia).
6.6	CO4,CO6,CO7	Clinical assessment and management of S*ool valippu* (Eclampsia).

6.7	CO4,CO6,CO8	Clinical assessment and complications of *Sool kaala Mathumegam* (Gestational diabetes).
6.8	CO4,CO7	Diagnosis and complications of *Sool kala paandu noi* (Gestational Anaemia).
6.9	CO4,CO6,CO7	Clinical assessment of complications due to S*ool kaala Thotru noigal* (Maternal Infections during pregnancy).
6.10	CO4,CO6,CO7	*C*linical management of *sool kaala kurai Veethana kolarugal* (Gestational hypothyroidism).
6.11	CO3,CO4,CO6	Impact of gynaecological diseases which complicate *sool kaalam* (pregnancy) and *magapperu* (labour).
7.1	CO3,CO4,CO7	Systemic physiological changes in the *Sool Poopu kalam (*Post-partum period).
7.2	CO3,CO6,CO7	Demonstrate the clinical manifestations of the *Sool poopu paramarippu (*Postpartum management)
7.3	CO3,CO6,CO7	Clinical manifestations of *Sool poopu sanjchara noigal* (Puerperal sepsis).
7.4	CO3,CO7	Physical features and care of *Suga Magavu* (Term baby).
7.5	CO4,CO6,CO7	*Karuppai matrangal* (Uterus changes) during *Sool poopu kaalam* (Puerperal period)
7.6	CO3,CO7	Clinical examination of *Sool poopu kaala ula pirazhlvu noigal* (Puerperal psychosis).
8.1	CO3,CO6,CO7,CO8	Clinical importance of *Karuppai visigal* (Uterine ligaments).
8.2	CO1,C02,CO3	Clinical relevance of *Sinaippai and Sinaippathai* (ovary and fallopian tube).
8.3	CO3,CO7,CO8	Layers of *Koobaga tharai* (Pelvic floor), and discuss the pelvic floor dysfunction.
8.4	CO3,CO7,CO8	

		Clinical manifestations of *Piravi Kuraipadugal* (Congenital Malformations) of female genital organs
9.1	CO1,C02,CO3	Influences of the HPO (Hypothalamic-Pituitary-Ovarian) axis on menstrual disorders.
9.2	CO1,C02,CO3,CO8	Clinical significance and diagnostic applications of FSH and LH hormones.
9.3	CO1,CO3,CO5	The impact of lifestyle changes on *Poopu suzharchi nigazhvugal* (phases of the menstrual cycle).
9.4	CO1,C02,CO3,CO7	Functions of *Sinaippai surappu* (oestrogen), and *Peethaga surappu* (progesterone) in relation to reproductive health.
9.5	CO1,C02,CO3	Role of *Veethana surappu* (Thyroid hormone) and *Pirukoobari surappu* (adrenal hormones) in regulating the menstrual cycle.
9.6	CO1,C02,CO3,CO7	Clinical manifestations of *Poopu suzharchi nigazhvugal* (phases of menstrual cycle).
9.7	CO1,CO3,CO8	Diagnosis and clinical features of *Muthal poopu* (menarche).
9.8	CO1,CO3,CO7,CO8	Clinical manifestations of *Thuritha muthal poopu* (Precocious puberty).
9.9	CO1,CO3,CO7,CO8	Stages and clinical assessment of *Kadaipoopu* (Menopause).
9.10	CO1,CO3,CO7,CO8	Clinical manifestations and diagnosis, of *Kadaipoopu pin noigal* (Post-menopausal diseases).
9.11	CO3,CO7,CO8	Diagnostic evaluation and management of *Irupalina noigal* (Intersex diseases).
10.1	CO3,CO6,CO7,CO8	Siddha management of *Perumpadu* (Menorrhagia).
10.2	CO3,CO6,CO7,CO8	Clinical manifestations of *Soothaga thadai* (Amenorrhea).
10.3	CO3,CO7,CO8	Clinical manifestations and complications of *Perumpadu* (Menorrhagia).
10.4	CO3,CO6,CO7,CO8	Diagnostic evaluation and external therapy management of *Soothaga vali* (Dysmenorrhea)

10.5	CO3,CO7,CO8	Clinical manifestations of *Kadaipoopu pin utherasalai* (Postmenopausal bleeding).
11.1	CO3,CO7,CO8	Diagnostic approaches of *Pen Magaperinmai* (female infertility).
11.2	CO3,CO7,CO8	Clinical manifestations of *Aan Magaperinmai* (Male Infertility).
11.3	CO3,CO7,CO8	Clinical manifestations of *Pen Magaperinmai* (female Infertility).
11.4	CO3,CO6,CO7,CO8	Siddha medical management of *Aan Magaperinmai* (Male Infertility).
11.5	CO3,CO6,CO7,CO8	Siddha medical management of *Pen Magaperinmai* (female Infertility).
11.6	CO3,CO7	Video demonstration of assisted reproduction techniques like IUI, IVF, ICSI.
12.1	CO3,CO6,CO7,CO8	Clinical features for *sinaippai katti* (simple ovarian cyst).
12.2	CO3,CO6,CO7,CO8	Clinical features for S*inaippai kazhalaigal* (benign tumours in the ovary).
12.3	CO3,CO6,CO7,CO8	Clinical manifestations of *Sinaippai Neerkatti* (PCOD).
12.4	CO3,CO6,CO7,CO8	Clinical management of *Sinaippai piravi katti* (dermoid cyst).
12.5	CO3,CO6,CO7,CO8	Clinical manifestations of *Sinaippai kuruthi katti* (Chocolate cyst of ovary).
12.6	CO3,CO6,CO7,CO8	Clinical features of *Sinaippai seyelpaadu kuraivu* (Ovarian insufficiency).
12.7	CO3,CO6,CO7,CO8	Clinical features of *Sinaippai thirugal* (Ovarian torsion).
12.8	CO3,CO6,CO7,CO8	Clinical features of *Thuritha sinaippai seyalizhappu* (Premature ovarian failure).
12.9	CO3,CO6,CO7,CO8	Clinical features of *Sinaippai thunduthal noi* (Ovarian Hyper Stimulation

		Syndrome)
12.10	CO3,CO6,CO7,CO8	Stages related to management of *Sinaippai putru noi* (Carcinoma of Ovary).
13.1	CO3,CO7,CO8	Clinical manifestations of *Marbaga naarthasai katti* (Fibro adenoma breast) .
13.2	CO3,CO7,CO8	Clinical features of *Nakil thabitham* (Mastitis) and *Nakil seelkatti* (Breast abscess).
13.3	CO3,CO7,CO8	Diagnosis and management of Nakil putru noi (Breast cancer).
13.4	CO3,CO7,CO8	Clinical manifestation of different stages of *Nakil putrunoi* (Breast cancer)
14.1	CO3,CO7,CO8	Clinical features of *Karuppai thasai naarkazhalai* (Fibroid Uterus).
14.2	CO3,CO7,CO8	Clinical manifestations of *Karuppai kambu kazhalai* (Endometrial polyp), *Karuppai kazhunthu kambu kazhalai* (cervical polyp), K*aruppai utkavasa neetchi* (Adenomyosis), *Karuppai utkavasa thadippu* (endometrial hyperplasia).
14.3	CO3,CO7,CO8	Stages of *Karuppai kazhunthu putru* (Cervical cancer)
14.4	CO3,CO7,CO8	Clinical features of acute and chronic *Karuppai kazhunthu thabitham* (Cervicitis).
14.5	CO3,CO7,CO8	Clinical features of *Karuppai adithalal* (Uterine prolapse).
15.1	CO3,CO7,CO8	Clinical features of *Karuppai utkavasa thabitham* (Endometritis).
15.2	CO3,CO7,CO8	Clinical features and preparation of a vaginal smear for *Vellai noi* (Leucorrhoea).
15.3	CO3,CO7,CO8	Clinical features of *Paalvenai noigal* (STD - Sexually transmitted diseases).
15.4	CO3,CO7,CO8	Clinical features of Si*naippai thabitham* (Oophoritis) and *Sinaippathai thabitham* (Salpingitis).
15.5	CO3,CO7,CO8	Clinical features of *Bartholin surapi thabitham* (Bartholinitis) and *Yoni neerkatti* (vaginal cyst) and its management.

15.6	CO3,CO7,CO8	Clinical features of *Koobaga* el*laippunoi* (Pelvic tuberculosis-TB).
16.1	CO3,CO7,CO8	Clinical features of *Manovigara noigal* (Psychosomatic disorders) in women's.
16.2	CO3,CO7,CO8	Clinical features of *Yoni suvar adithalal* (Vaginal wall prolapse).
16.3	CO3,CO7,CO8	Clinical features of *Siruneer vega kolaarugal* like stress incontinence and urge incontinence.
16.4	CO3,CO7,CO8	Clinical features of *Siruneer paathai thotrugal* (Urinary tract infection).
16.5	CO3,CO7,CO8	Clinical features of *Siruneer paathai kayangal* (Urinary tract injury).

Table 6 : Assessment Summary: Assessment is subdivided in A to H points

6 A : Number of Papers and Marks Distribution

Subject Code	Papers	Theory	Practical/Clinical Assessment (150)					Grand Total
			Practical	Viva	Elective	IA	Sub Total	
SIDUG-SMM	2	200	100	30	-	20	150	350

6 B : Scheme of Assessment (Formative and Summative)

PROFESSIONAL COURSE	FORMATIVE ASSESSMENT			SUMMATIVE ASSESSMENT
	First Term (1-6 Months)	Second Term (7-12 Months)	Third Term (13-18 Months)	
Third	3 PA & First TT	3 PA & Second TT	3 PA	**UE****

PA: Periodical Assessment; **TT:** Term Test; **UE:** University Examinations; **NA:** Not Applicable.
******University Examination shall be on entire syllabus

6 C : Calculation Method for Internal assessment Marks

Term	Periodical Assessment*				Term Test**	Term Assessment	
	A	B	C	D	E	F	G
	1 (20)	2 (20)	3 (20)	Average **(A+B+C/ 3)** (20)	Term Test (MCQ+SAQ+LAQ and Practical) (Converted to 20)	Sub Total	Term Assessment
First						**D+E**	**D+E /2**
Second						**D+E**	**D+E /2**
Third					NIL		**D**
Final IA	**Average of Three Term Assessment Marks as Shown in 'G' Column**						
	* Select an Evaluation Methods which is appropriate for the objectives of Topics from the Table 6 D. Convert it to 20 marks. ** Conduct Theory (100 Marks) (MCQ (20*1 Marks), SAQ (8*5), LAQ (4*10)) and Practical (100 Marks) Then convert to 20 Marks.						

6 D : Evaluation Methods for Periodical Assessment

S. No.	Evaluation Methods
1.	Practical / Clinical Performance
2.	Viva Voce, MCQs, MEQ (Modified Essay Questions/Structured Questions)
3.	Open Book Test (Problem Based)
4.	Summary Writing (Research Papers/ Samhitas)
5.	Class Presentations; Work Book Maintenance
6.	Problem Based Assignment
7.	Objective Structured Clinical Examination (OSCE), Objective Structured Practical Examination (OPSE), Mini Clinical Evaluation Exercise (Mini-CEX), Direct Observation of Procedures (DOP), Case Based Discussion (CBD)
8.	Extra-curricular Activities, (Social Work, Public Awareness, Surveillance Activities, Sports or Other Activities which may be decided by the department).
9.	Small Project
10.	Activities Indicated in Table 3 - Column G3 as per Indicated I, II or III term in column I3.

Topics for Periodic Assessments

Exam type	Paper 1	Paper 2
PA1	Topic No - 1	Topic No – 8
PA 2	Topic No - 1,2	Topic No – 9
PA 3	Topic No - 2	Topic No – 10
TT 1	Topic No - 1,2	Topic No – 8.9.10
PA 4	Topic No - 3	Topic No – 11
PA 5	Topic No - 4	Topic No – 12
PA 6	Topic No - 5	Topic No – 13
TT 2	Topic No - 3,4,5	Topic No – 11,12,13
PA 7	Topic No - 6	Topic No -14
PA 8	Topic No - 6/7	Topic No – 15
PA 9	Topic No - 7	Topic No -16

6 E : Question Paper Pattern

III PROFESSIONAL B.S.M.S EXAMINATIONS
SIDUG-SMM
PAPER-I
Time: 3 Hours Maximum Marks: 100
INSTRUCTIONS: All questions compulsory

		Number of Questions	**Marks per question**	**Total Marks**
Q 1	MULTIPLE CHOICE QUESTIONS (MCQ)	20	1	20
Q 2	SHORT ANSWER QUESTIONS (SAQ)	8	5	40
Q 3	LONG ANSWER QUESTIONS (LAQ)	4	10	40
				100

Similar for Paper II.

6 F : Distribution of theory examination

Paper 1 (SOOL MARUTHUVAM)					
Sr. No	**A List of Topics**	**B Marks**	**MCQ**	**SAQ**	**LAQ**
1	**Koobaga Udalkoorugal (Pelvic Anatomy)**	7	Yes	Yes	No
2	**Iyalbana sool (Normal Pregnancy)**	20	Yes	Yes	Yes
3	**Suga magapperu (Normal delivery)**	10	Yes	Yes	Yes
4	**Asaatharana magapperu (Abnormal labour)**	17	Yes	Yes	Yes
5	**Asaatharana sool (Pathology of pregnancy)**	18	Yes	Yes	Yes
6	**Soolkaala pothu noigal (General diseases in pregnancy)**	18	Yes	Yes	Yes
7	**Soolpoopu kalam (Puerperal period)**	10	Yes	Yes	Yes
Total Marks		**100**			

Paper 2 (MAGALIR MARUTHUVAM)					
Sr. No	**A List of Topics**	**B Marks**	**MCQ**	**SAQ**	**LAQ**
8	**Inaperukka Udalkoorugal (Reproductive Anatomy)**	9	Yes	Yes	No
9	**Inaperukka Udalseyaliyal (Reproductive physiology)**	10	Yes	Yes	Yes
10	**Poopu suzharchi noigal (Menstrual disorders)**	14	Yes	Yes	Yes
11	**Mageparinmai (Infertility)**	12	Yes	Yes	Yes
12	**Sinaippai noigal (Ovarian disorders)**	12	Yes	Yes	Yes
13	**Marbaga noigal (Diseases of Breast)**	10	Yes	Yes	Yes
14	**Karuppai noigal (Uterine disorders)**	13	Yes	Yes	Yes
15	**Koobaga thotru noigal (Pelvic inflammatory diseases)**	12	Yes	Yes	Yes
16	**Siruneer vega kolaarugal (Urogynaecological disorders)**	8	Yes	Yes	No
Total Marks		**100**			

6 G : Instructions for UG Paper Setting & Blue print

1. All questions shall be compulsory.
2. The maximum marks for one question paper shall be 100.
3. Questions shall be drawn based on Table 6F, which provides the topic name, types of questions (MCQ(Multiple Choice Question), SAQ(Short Answer Question), LAQ(Long Answer Question)).
4. The marks assigned in Table 6F for each topic/group of topics shall be considered as the maximum allowable marks for that topic/group of topics.
5. Ensure that the total marks allocated per topic/group of topics do not exceed the limits specified in Table 6F.
6. Refer to Table 6F before setting the questions. Questions shall be framed only from topics where the type is marked as “YES”, and avoided if marked as “NO”.
7. Each 100-mark question paper shall contain:
   - 20 MCQs
   - 8 SAQs
   - 4 LAQs
8. MCQs:
   - Majority shall be drawn from the Must to Know part of the syllabus.
   - Questions from the Desirable to Know part of syllabus shall not exceed 3.
   - Questions from the Nice to Know part of syllabus shall not exceed 2.
9. SAQs:
   - Majority shall be drawn from the Must to Know part of the syllabus.
   - Questions from the Desirable to Know part of syllabus shall not exceed 1.
   - No questions shall be drawn from the Nice to Know part of syllabus.
   - SAQs shall assess understanding, application, and analysis, rather than simple recall.
10. LAQs:
    - All LAQs shall be drawn exclusively from the Must to Know part of the syllabus.
    - No questions shall be taken from the Desirable to Know or Nice to Know part of the syllabus.
    - Number of LAQs should not exceed one per topic unless maximum marks exceed 20 for the topic.
11. Long Answer Questions shall be structured to assess higher cognitive abilities, such as application, analysis, and synthesis.
12. Follow the guidelines in User Manual III for framing MCQs, SAQs, and LAQs.

Demo Blueprint for Illustration. Blue printing should be done based on Instructions for Question paper setting and using 6 F table.

Paper No:1		
Question No	**Type of Question**	**Question Paper Format**
Q1	**Multiple choice Questions** **20 Questions** **1 mark each** **All compulsory**	1. Koobaga Udalkoorugal (Pelvic Anatomy) 2. Iyalbana sool (Normal Pregnancy) 3. Iyalbana sool (Normal Pregnancy) 4. Iyalbana sool (Normal Pregnancy) 5. Asaatharana magapperu (Abnormal labour) 6. Asaatharana magapperu (Abnormal labour) 7. Asaatharana sool (Pathology of pregnancy) 8. Asaatharana sool (Pathology of pregnancy) 9. Asaatharana sool (Pathology of pregnancy) 10. Soolkaala pothu noigal (General diseases in pregnancy) 11. Soolkaala pothu noigal (General diseases in pregnancy) 12. Soolkaala pothu noigal (General diseases in pregnancy) 13. Soolpoopu kalam (Puerperal period) 14. Soolpoopu kalam (Puerperal period) 15. Soolpoopu kalam (Puerperal period) 16. Soolpoopu kalam (Puerperal period) 17. Soolpoopu kalam (Puerperal period) 18. Koobaga Udalkoorugal (Pelvic Anatomy) 19. Suga magapperu (Normal delivery) 20. Suga magapperu (Normal delivery)
Q2	**Short answer Questions** **8 Questions** **5 Marks Each** **All compulsory**	1. Koobaga Udalkoorugal (Pelvic Anatomy) 2. Iyalbana sool (Normal Pregnancy) 3. Suga magapperu (Normal delivery) 4. Suga magapperu (Normal delivery) 5. Asaatharana magapperu (Abnormal labour) 6. Asaatharana sool (Pathology of pregnancy) 7. Soolkaala pothu noigal (General diseases in pregnancy) 8. Soolpoopu kalam (Puerperal period)
Q3	**Long answer Questions** **4 Questions** **10 marks each** **All compulsory**	1. Asaatharana magapperu (Abnormal labour) 2. Asaatharana sool (Pathology of pregnancy) 3. Soolkaala pothu noigal (General diseases in pregnancy) / Suga magapperu (Normal delivery) 4. Soolpoopu kalam (Puerperal period) / Iyalbana sool (Normal Pregnancy)
Paper No:2		
Question No	**Type of Question**	**Question Paper Format**

Q1	**Multiple choice Questions** **20 Questions** **1 mark each** **All compulsory**	1. Inaperukka Udalkoorugal (Reproductive Anatomy) 2. Inaperukka Udalkoorugal (Reproductive Anatomy) 3. Inaperukka Udalkoorugal (Reproductive Anatomy) 4. Poopu suzharchi noigal (Menstrual disorders) 5. Poopu suzharchi noigal (Menstrual disorders) 6. Poopu suzharchi noigal (Menstrual disorders) 7. Mageparinmai (Infertility) 8. Mageparinmai (Infertility) 9. Sinaippai noigal (Ovarian disorders) 10. Sinaippai noigal (Ovarian disorders) 11. Karuppai noigal (Uterine disorders) 12. Karuppai noigal (Uterine disorders) 13. Koobaga thotru noigal (Pelvic inflammatory diseases) 14. Koobaga thotru noigal (Pelvic inflammatory diseases) 15. Siruneer vega kolaarugal (Urogynaecological disorders) 16. Siruneer vega kolaarugal (Urogynaecological disorders) 17. Inaperukka Udalseyaliyal (Reproductive physiology) 18. Inaperukka Udalseyaliyal (Reproductive physiology) 19. Marbaga noigal (Diseases of Breast) 20. Marbaga noigal (Diseases of Breast)
Q2	**Short answer Questions** **8 Questions** **5 Marks Each** **All compulsory**	1. Inaperukka Udalkoorugal (Reproductive Anatomy) 2. Inaperukka Udalseyaliyal (Reproductive physiology) 3. Sinaippai noigal (Ovarian disorders) 4. Koobaga thotru noigal (Pelvic inflammatory diseases) 5. Mageparinmai (Infertility) 6. Marbaga noigal (Diseases of Breast) 7. Poopu suzharchi noigal (Menstrual disorders) 8. Siruneer vega kolaarugal (Urogynaecological disorders) / Karuppai noigal (Uterine disorders)
Q3	**Long answer Questions** **4 Questions** **10 marks each** **All compulsory**	1. Marbaga noigal (Diseases of Breast) 2. Poopu suzharchi noigal (Menstrual disorders) / Inaperukka Udalseyaliyal (Reproductive physiology) 3. Sinaippai noigal (Ovarian disorders) / Mageparinmai (Infertility) 4. Koobaga thotru noigal (Pelvic inflammatory

		diseases) / Karuppai noigal (Uterine disorders)

6 H : Distribution of Practical Exam

S.No	Heads	Marks
1	Major-clinical examination (Long case - 1) Duration 1&1/2 hrs Procedure: IPD case diagnosis Distribution of Marks 1. Complaints and duration- 5 marks 2. History Taking - 5 marks 3. Pothu parisodhanai, vital signs - 5 marks 4. Sirappu parisodhanai (Pelvic, vaginal, and breast examinations) -10 marks 5. Udal thathukkal- 5 marks 6. Envagai thervu - 10 marks 7. Investigations, Neer kuri and Nei kuri - 5 marks 8. Noi kanippu vivatham - 5 marks 9. Mukkutra verupadugal - 5 marks 10. Noi kanippu - 5 marks 11. One day medicine - 5 marks 12. Medical advice - 5 marks	70
2	Minor clinical examination (Spotters) Total no of spotters / Marks (5 x 4 = 20) Duration: Each spotter has 6 minutes. 1. Instrument 1. Identify the instrument.	20

	2. What is the use of these instrument? 3. Write its application. 4. Write clinical relevant about the instruments 2 .Specimens / Slides 1. Identify the specimen / slide. 2. What are the typical features? 3. Write the clinical implication and relevance. 4. Write its relevant differential diagnosis. 3. Imaging studies 1. Identify the image study. 2. Name the diseases diagnose by the image study. 3. Write its differential diagnosis 4. Write its complication 4. Case scenario 1. What is the most likely diagnosis? 2. Write its differential diagnosis. 3. Write its investigations. 4. Write its treatment aspect 5. Procedures 1. What is its indication? 2. Write its mechanism 3. Write the performance of the procedure 4. Write its relevent medical advice	
3	Case sheet record	10

4	Viva	30
5	Internal assessment	20
Total Marks		**150**

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Abbreviations

Domain		T L Method		Level		Assessment		Integration	
CK	Cognitive/Knowledge	L	Lecture	K	Know	T-CS	Theory case study	V-SATV	V-SATV
CC	Cognitive/Comprehension	L&PPT	Lecture with PowerPoint presentation	KH	Knows how	T-OBT	Theory open book test	V-UK	V-UK
CAP	Cognitive/Application	L&GD	Lecture & Group Discussion	SH	Shows how	P-VIVA	Practical Viva	V-UT	V-UT
CAN	Cognitive/Analysis	L_VC	Lecture with Video clips	D	Does	P-REC	Practical Recitation	V-UV	V-UV
CS	Cognitive/Synthesis	REC	Recitation			P-EXAM	Practical exam	V-NU	V-NU
CE	Cognitive/Evaluation	SY	Symposium			PRN	Presentation	V-MT	V-MT
PSY-SET	Psychomotor/Set	TUT	Tutorial			P-PRF	Practical Performance	V-GMM	V-GMM
PSY-GUD	Psychomotor/Guided response	DIS	Discussions			P-SUR	Practical Survey	V-GMK	V-GMK
PSY-MEC	Psychomotor/Mechanism	BS	Brainstorming			P-EN	Practical enact	V-SSM-NM	V-SSM-NM
PSY-ADT	Psychomotor Adaptation	IBL	Inquiry-Based Learning			P-RP	Practical Role play	V-NN1	V-NN1
PSY-ORG	Psychomotor/Origination	PBL	Problem-Based Learning			P-MOD	Practical Model	V-NN2	V-NN2
AFT-REC	Affective/ Receiving	CBL	Case-Based Learning			P-POS	Practical Poster	V-NAVO	V-NAVO
AFT-RES	Affective/Responding	PrBL	Project-Based Learning			P-CASE	Practical Case taking	H-MM	H-MM
AFT-VAL	Affective/Valuing	TBL	Team-Based Learning			P-ID	Practical identification	H-VPS	H-VPS
AFT-SET	Affective/Organization	TPW	Team Project Work			P-PS	Practical Problem solving	H-AM	H-AM
AFT-CHR	Affective/ characterization	FC	Flipped Classroom			QZ	Quiz	H-SMM	H-SMM
PSY-PER	Psychomotor/perception	BL	Blended Learning			PUZ	Puzzles	H-KM	H-KM
PSY-COR	Psychomotor/ Complex Overt Response	EDU	Edutainment			CL-PR	Class Presentation	H-RM	H-RM
		ML	Mobile Learning			DEB	Debate		
		ECE	Early Clinical Exposure			WP	Word puzzle		
		SIM	Simulation			O-QZ	Online quiz		
		RP	Role Plays			O-GAME	Online game-based assessment		
		SDL	Self-directed learning			M-MOD	Making of Model		
		PSM	Problem-Solving Method			M-CHT	Making of Charts		

		KL	Kinaesthetic Learning			M-POS	Making of Posters		
		W	Workshops			C-INT	Conducting interview		
		GBL	Game-Based Learning			INT	Interactions		
		LS	Library Session			CR-RED	Critical reading papers		
		PL	Peer Learning			CR-W	Creativity Writing		
		RLE	Real-Life Experience			C-VC	Clinical video cases		
		PER	Presentations			SP	Simulated patients		
		D-M	Demonstration on Model			PM	Patient management problems		
		PT	Practical			CHK	Checklists		
		X-Ray	X-ray Identification			Mini-CEX	Mini-CEX		
		CD	Case Diagnosis			DOPS	DOPS		
		LRI	Lab Report Interpretation			CWS	CWS		
		DA	Drug Analysis			RS	Rating scales		
		D	Demonstration			RK	Record keeping		
		D-BED	Demonstration Bedside			COM	Compilations		
		DL	Demonstration Lab			Portfolios	Portfolios		
		DG	Demonstration Garden			Log book	Log book		
		FV	Field Visit			TR	Trainers report		
						SA	Self-assessment		
						PA	Peer assessment		
						360D	360-degree evaluation		
						PP-Practical	Practical		
						VV-Viva	Viva		
						DOAP	Demonstration Observation Assistance Performance		
						SBA	Scenario Based Assessment		
						CBA	Case based Assessment		
						S-LAQ	Structured LAQ		
						OSCE	Objective Structured Clinical Examination		
						OSPE	Objective Structured Practical Examination		

						DOPS	Direct observation of procedural skills		

COURSE CURRICULUM FOR THIRD PROFESSIONAL B.S.M.S (PRESCRIBED BY NCISM)

Varmam, Puramaruthuvam and Sirappumaruthuvam (Varmam, External Therapy and Special Medicine)

(SUBJECT CODE : SIDUG-VPS)

(Applicable from 2021-22 batch, from the academic year 2024-25 onwards for 5 batches or until further notification by NCISM, whichever is earlier)

ncism

।। आयुषे सर्वलोकानाम् ।।

BOARD OF UNANI, SIDDHA AND SOWA-RIGPA
NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE
NEW DELHI-110026

NCISM

III Professional SIDDHA MARUTHUVA ARIGNAR
(Bachelor of Siddha Medicine and Surgery (B.S.M.S))
Subject Code : SIDUG-VPS

Varmam, Puramaruthuvam and Sirappumaruthuvam
(Varmam, External Therapy and Special Medicine)

Summary

Total number of Teaching hours: 460			
Lecture (LH) - Theory		**160**	**160(LH)**
Paper I	80		
Paper II	80		
Non-Lecture (NLHT)		**90**	**300(NLH)**
Paper I	45		
Paper II	45		
Non-Lecture (NLHP)		**210**	
Paper I	105		
Paper II	105		

Examination (Papers & Mark Distribution)					
Item	**Theory Component Marks**	**Practical Component Marks**			
		Practical	**Viva**	**Elective**	**IA**
Paper I	100	100	20	10 (Set-TB)*	20
Paper II	100				
Sub-Total	200	150			
Total marks	350				

Important Note :- The User Manual III B.S.M.S is a valuable resource that provides comprehensive details about the curriculum file. It will help you understand and implement the curriculum. Please read the User Manual III before reading this curriculum file. The curriculum file has been thoroughly reviewed and verified for accuracy. However, if you find any discrepancies, please note that the contents related to the MSE should be considered authentic. In case of difficulty and questions regarding curriculum write to **syllabus24sid@ncismindia.org**

PREFACE

The National Commission for Indian System of Medicine (NCISM) has introduced a competency-based curriculum for Siddha Medicine undergraduate students, specifically tailored for final-year students in *Varmam*, *Pura Maruthuvam*, and *Sirappu Maruthuvam*. This curriculum is crafted to equip students with the skills, knowledge, and self-confidence necessary to excel as capable Siddha practitioners, marked by a distinct sense of individuality and professional self-efficacy.

The syllabus places a strong emphasis on External Medicine and procedural management techniques, with detailed protocols for comprehensive disease management. Students will deepen their understanding of Siddha methodologies as outlined in *Varmam*— which provides precise approaches to treating conditions related to bones, joints, and nerves through *Varmam* therapy alone. Additionally, the curriculum integrates contemporary advancements, enhancing student expertise in the management of bone and joint disorders, fractures, and neuromuscular issues, thereby fostering a holistic approach to therapeutic strategies and problem-solving skills.

Addressing the growing need for mental health care amid modern stressors, the curriculum also explores parallels with psychotherapeutic principles in Siddha, offering students critical insights into managing psychiatric conditions. In recognition of the challenges associated with geriatric care, it also includes preventive approaches and treatments for age-related illnesses, utilizing *varmam* techniques and specialized medicine to deliver an integrative care framework.

"Thottanaith thoorum manarkeni maandharkkuk

katranaith thoorum arivu" - Kural 396

Reflecting the philosophy of *Kural 396, "The more you learn, the freer streams of wisdom flow"* this curriculum is structured to foster knowledge, flexibility, and skill development, allowing students to achieve their fullest potential.

"Arivatrang kaakkung karuvi seruvaarkkum

Ullazhikka laakaa aran" – Kural 421

As *Kural* 421 reminds us, *"Wisdom is a fortress impenetrable to destruction,"* this syllabus equips students with wisdom and expertise, aligning with the Siddha tenet,

"Noyatra vazhve kuraivatra selvam"

According to the above proverb *"A disease-free life is an infinite wealth."*

Interest in yogic practices and rejuvenation therapies for a healthy body, mind, and soul continues to grow daily. *Kayakarpam* (rejuvenation therapies) and yogic techniques are essential tools for disease prevention, effective management, and promoting longevity. This curriculum is crafted to nurture practitioners capable of advancing health and well-being. With this strong foundation, it is anticipated that students will emerge as confident Siddha physicians, ready to share the healing potential of Siddha Medicine with the global community.

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Course Code and Name of Course

Course code	Name of Course
SIDUG-VPS	Varmam, Puramaruthuvam and Sirappumaruthuvam

Table 1 : Course learning outcomes and mapped PO

SR1 CO No	A1 Course learning Outcomes (CO) SIDUG-VPS At the end of the course SIDUG-VPS, the students should be able to-	B1 Course learning Outcomes mapped with program learning outcomes.
CO1	Comprehend and apply fundamental ethical principles such as confidentiality, informed consent, and reporting obligations applicable to medical practice.	PO1,PO12
CO2	Apply a holistic approach to manage various disorders by integrating Kayakalpam medicines and yoga practices, with a focus on preventive care and well-being.	PO6,PO7,PO8
CO3	Describe and perform external therapy procedures in Siddha therapeutics, that aims at balancing the three humours Vali, Azhal, and Iyyam.	PO3,PO5,PO6
CO4	Understand and apply the anatomical and physiological principles related to Varma points, enabling the effective practice of specialized Varmam techniques.	PO6,PO9,PO10,PO11
CO5	Conduct comprehensive physical, cognitive, and psychosocial evaluations to diagnose and treat Geriatric conditions, including Musculoskeletal and Neurological disorders.	PO1,PO2,PO4,PO5,PO9
CO6	Perform mental health assessments and gain knowledge of various treatment approaches for psychiatric disorders within the siddha system of medicine.	PO1,PO2,PO11
CO7	Apply skills required to maintain comprehensive and accurate medical documentation in accordance with established standards for medical record.	PO1,PO12

Table 2 : Contents of Course

Paper 1 (Varmam,Puramaruthuvam and Sirappumaruthuvam)						
Sr. No	**A2 List of Topics**	**B2 Term**	**C2 Marks**	**D2 Lecture hours**	**E2 Non-Lecture hours Theory**	**F2 Non-Lecture hours Practical**
1	**PURA MARUTHUVAM -I (EXTERNAL THERAPY)** External therapy procedures are as important as internal treatments in managing overall health and vitality. Most of these therapies aim to maintain a healthy balance of the three humors, *vatham, pitham, and kabam*, as well as the seven udalthathukkal of the body. According to the Siddha system of medicine, 32 external therapies can be classified into several categories: topical applications, nasal applications, ophthalmic treatments, bloodletting, bone setting, physical therapy, and heat therapy. The *puramaruthuvam I* primarily focus on physical therapy, heat therapy, and topical applications. **1.1 Introduction to *puramaruthuvam*** Definition, ethics in *pura maruthuvam* treatment, types of *puramaruthuvam Kattu* (bandage), *Pattru* (Poultice), *Poochu* (Liquid poultice / Anointing), *Kalimbu* (Ointment), *Seelai* (Medicated gauze), *Varthy* (Medicated wick), *Pasai* (Medicated cream), *Kali* (Medicated paste), *Podi* (Dusting powder), *Neer* (Medicated liquid), *Nasiyam* (Liquid nasal application), *Nasikaparanam* (Powder nasal application), *Suttigai* (Cautery), *Ottradam* (Fomentation), *Pugai* (Fumigation), *Salaagai* (Probe application), *Oodhal* (Medicated blowing), *Mai* (Collyrium), *Kalikkam*, *Anjanam* (Liquid ophthalmic applications), *U rinchal* (Suction), *Attai vidal* (Leech), *Kuruthi vangal* (Blood letting), *Murichal* (Bone resetting / Surgical correction of malunited fracture), *Kombukattal* (Bone setting by supporting / *Seelikattumurai*), *Thokkanam* (Physical manipulation), *Podithimirthal* (Powder massage), *Vedhu* (Steam inhalation / Steam exposure therapy), *Pottanam* (Medicated pouch), *Aruvai* (Surgical procedures), *Kaaram* (Caustic	1	12	12	6	15

	ablation), *Keeral* (Incision), *Peechu* (Enema / Douche) and analyse their therapeutic applications shelf life of external medicine, classification of siddha external therapies, topical application, nasal application, ophthalmic application, bloodletting, bone setting, physical therapy, heat therapy, other than 32 therapies *Thalam* (Poultice), *Kuliyalneer* (Medicated bath), *Thuvalai* (Paste massage), *Ennai ozhukku* (Oil pouring), *Tharai* (Oil dripping), *Ennai kattal* (Oil pooling) **1.2 *Thokkanam* (Physical manipulation)** Description, types, methods of *thokkanam,* clinical conditions,therantharu-poem, room specifications, processing materials, duration, suitable/unsuitable conditions **1.3 *Vedhu maruthuvam* (Steam therapy)** Description, types, manpower, room specifications, processing materials, leaves/raw drugs used, procedure, clinical conditions **1.4 *Pugai maruthuvam* (Medicated fumigation)** Description, types, suitable/unsuitable conditions, procedure, processing materials, clinical conditions **1.5 *Kattu* (Compress / Bandages)** Description, types, suitable/unsuitable conditions, procedure, processing materials, clinical conditions **1.6 *Patru* (Semi - solid poultice)** Description, types, procedure, processing materials, clinical conditions **1.7 *Ottradam* (Fomentation)** Description, types, leaves / raw drugs used, procedure, suitable/unsuitable conditions, processing materials, clinical conditions **1.8 *Poochu* (Liquid poultice / Anointing)** Description, types, procedure, processing materials, clinical conditions **1.9 *Podithimirthal* (Powder massage/ Massage with herbal grains and paste)** Description, types, manpower, suitable/unsuitable conditions, procedure, processing materials, clinical conditions					
2	**PURAMARUTHUVAM-2 (EXTERNAL THERAPY)** Traditional siddha medicine uses knowledge, skills, and practices based on theories and beliefs to maintain health. According to their route of application, siddha medicines could be categorized into two classes: Internal medicine and external medicine. This *puramaruthuvam*-II topic mainly	1	08	7	3	10

	deals with nasal, ophthalmic, and bone applications in external medicine. **2.1 *Kalikkam- Anjanam* (Liquid ophthalmic applications)** Description, types, drugs used, manpower, procedure, processing materials, clinical conditions **2.2 *Nasikaparanam* (Powder nasal application)** Description, manpower, procedure, suitable / unsuitable conditions, processing materials, clinical conditions, **2.3 *Nasiyam* (Liquid nasal application)** Description, procedure, suitable / unsuitable conditions, processing materials, clinical conditions **2.4 *Murichal* (Bone resetting / Surgical correction of malunited fracture)** Description, procedure, processing materials, suitable / unsuitable conditions, clinical conditions **2.5 *Kombu kattal* (Bone setting by supporting / Splint / *Seelikattumurai*)** Description, types, procedure, traditional processing materials, manpower, suitable / unsuitable conditions, clinical conditions **2.6 *Peechu* (Enema / Douche)** Description, types, apparatus used, procedure, suitable / unsuitable conditions, processing materials, clinical conditions **2.7 *Oothal* (Medicated aerosol)** Description, routes of blowing, apparatus used, manpower, procedure, suitable / unsuitable conditions, processing materials, clinical conditions.					
3	**MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY** *Varmam therapy* management in neurodegenerative disorders is essential for alleviating pain, enhancing nerve function, and promoting healing. This topic underscores the prevalence of diseases linked to neuron degeneration, outlines their clinical presentations, and details the effective *varmam* procedures employed to manage these specific conditions. **3.1 *Saganavatham* (Cervical spondylosis)** Definition, causes, signs and symptoms, varmam therapy for management **3.2 *Thandagavatham* (Lumbar spondylosis)** Definition, causes, signs and symptoms, varmam therapy for management	1	10	5	5	6

	3.3 Erbs palsy (*Arugu kai Narambu pinnal Seyalilzhappu*) Definition, causes, signs and symptoms, varmam therapy for management **3.4 Foot drop (*Patha Veezhchi*)** Definition, causes, signs, and symptoms, varmam therapy for management **3.5 Cauda equina syndrome (*Kuthiraival vagai seyalilzhappu*)** Definition, causes, signs and symptoms, varmam therapy for management					
4	**INTRODUCTION AND CLASSIFICATION OF VARMAM** *Varmam* is a non-invasive therapeutic procedure in the Siddha system of medicine, primarily utilized for treating orthopedic and neuromuscular diseases. *Varmam* can be classified in several ways, traumatic, channels, *aatharam*, humoral classification, five elements, numerical, and regional. This discussion focuses specifically on the traumatic classification, which includes *paduvarmam* (12) and *thoduvarmam* (96), totaling 108 types of varmam **4.1 Introduction and classification of *varmam*** Definition, synonyms, types, and *varmam* classification based on 1.Anatomical location, 2.Signs and symptoms, 3.Injury, 4.*Aatharam* 5.Three humours 6.Five elements 7.Numerical classification 8.*Naadi* *Vaasi / saram*, *origin of varmam, ethics in varmam* teaching, Importance of *varmam*, difference between *adangal* and *varmam* ***4.2 Basics of varmam*** Aetiology of *varmam* with poem reference, basic philosophies related to the formation of *varmam points* varmam physiology, *varma kaayathalangal* (varma trauma site), varmam and other traditional systems of medicine, *pulse diagnosis* in varmam, important *varmam centers* (bladder, brain, heart), main *paduvarmam centers* **4.3 Measurements in *varmam*** a.*Varma maathirai / irai* (Force and depth of pressure) b.Measurements in varmam application (*Viralalavu* - finger breadth)	2	22	23	6	4

c. Manipulating techniques in varmam- *Thadaval, pinnal, amarthal, thattal, thoduthal*
d. Stimulating methods-objects / body parts,
e. Thread measurement techniques in varmam (*Nool alavai*)
f. *Avathi* (Time limit)

4.4 Diet / *dietetics of varmam*

Intake of food items and duration, *elagu pathiyam* and *kadum pathiyam*, bathing process

4.5 Properties used in *varmam therapy*

Room specifications, list of equipment

4.6 *Paduvarmam* (12)

Location, signs and symptoms, necessary manipulating techniques along with diet & medical management of

1) Thilartha Varmam2)Natchathira Varmam 3) Sevikuttri Varmam 4) Pidari Varmam 5) Urakka Kaalam
6) Thummi Kaalam7) Ner Varmam / Koombu Varmam 8) Adappa Varmam 9) Urumi Kaalam / Pandri Varmam 10) Periya Athisurikki Kaalam 11) Siriya Athisurikki Varmam 12) Kallidai Kaalam

4.7 *Thoduvarmam* (96)

Location, signs and symptoms, and necessary manipulating techniques of the following varmam points.

Varma points located in head & neck (22)
1) Pootellu varmam 2) Mun Chuvadi varmam 3) Nettri Kaalam 4) Pin Chuvadi varmam 5) Porichal varmam 6) Puruva Kaalam 7) Kanna Kaalam 8) Kumbidum Kaalam 9) Bala varmam 10) Chuliyadi varmam 11) Moorthi Kaalam / Laada varmam / Laada Maiyam 12) Aayama Kaalam 13) Nadi varmam / Naasi Varmam 14) Chenni Varmam 15) Poigai Kaalam 16) Kurunthkuttri Kaalam 17) Alavattukona Chenni Varmam18) Vettu Varmam 19) Kokki Varmam 20) Manthira Kaalam 21) Kannu varmam 22) Arugu Kaalam

Varma Points Located In Trunk : (37)
23) Malar varmam 24) Vilangu varmam 25) Kulir varmam 26) Arangu varmam 27) Maattraan Kaalam 28) Thivalai varmam 29) Kaareeral varmam 30) Velleeral Varmam 31) Kombu Varmam 32) Nenchadaippan Varmam 33) Munnvillu Varmam 34) Mundellu Varmam 35) Kutri Varmam 36)Urumi Varmam 37) Kakattai Kaalam 38) Chippi Varmam 39) Changuthiri Kaalam 40) Vaayu Kaalam 41) Manthira Kaalam 42) Chiriyaathichuriki Varmam 43) Iruppu Varmam

	44) Pinvillu Varmam 45) Andakkaalam 46) Kaccha Varmam 47) Thandu Varmam 48) Thandinadi Varmam 49) Pandri Varmam 50) Ada Varmam 51) Mothira Kaalam 52) Vaanthi Kaalam 53) Valamburi Kaalam 54) Chorutheenda Kaalam 55) Naabi Varmam 56) Hanuman Varmam 57) Pushti Kaalam 58) Chuli Varmam 59) Kurunthukuthi Kaalam. Varma Points Located In The Extremities: (37) *60) Dhakshana Kaalam 61) Kavali varmam 62) Peruviralmayya varmam 63) Manikattu varmam 64) Kannu varmam 65) Muzhankai varmam 66) Muttu varmam 67)Thuthikai varmam 68) Kocchu varmam 69) Chulukku varmam(Kai) 70) Puja varmam71) Mozhi varmam 72) Aani varmam 73) Pathakkala varmam 74) Chulukku varmam(Kaal) 75) Kochu varmam 76) Aaama Kaalam 77) Thundu varmam 78) Chirattai varmam 79) Muttu varmam 80) Channi varmam 81) Naai Thalai varmam 82) Visha varmam 83) Uppu Kuttri varmam 84) Kaal Kannu varmam85) Kuthikaal varmam 86) Nadai varmam 87) Kulachu varmam 88) Mudichu varmam 89) Boomi Kaalam 90) Naduviral Chulukku varmam 91) Kaal Kavali 92) Peruviral Mayya varmam 93) Adakka varmam 94) Konachanni varmam 95) Komberi Kaalam 96) Paathachakkaram.*					
5	**VARMAM THERAPEUTICS FOR ODIVU/ MURIVU AND VARMA MARUNTHUKAL** *Varmam* points are the vital areas where the life energy, known as *pranan*, is concentrated. *Varmam therapy*, when combined with internal and external medications, is highly effective for both emergency and therapeutic situations, particularly for conditions like *odivu murivu*. This therapy is especially beneficial for pain management, stress reduction, improving circulation, enhancing flexibility, and promoting overall well-being. **5.1 *Varmam odivu / murivu* (Varmam therapeutic applications in pathological conditions)** Oil for bone fracture management, joint pain relieving oil, joint tightening oil, nerve strengthening oil, *poochu, thuvalai, ottradam, kizhi, thaarai, pasai.* **5.2 *Varma marunthugal (Varmam* therapeutics)** **5.2.1 Therapeutic properties and specific applications** of plants and raw drugs in	2	07	4	5	4

	varmam medicine list of leaves, raw drugs, medicines used **5.2.2 *Varmam* formulations for *varmam* conditions**. Decoction for *varma pidippu*, medicine for *moola vaayu* / diarrhea, medicine for rectal hemorrhage, medicine for *mega noi*, medicine for dysuria, medicine for fall from palm tree. **5.2.3 Internal medicines** *Oil, kanji, powder, kavalam, kirtham, adai, ilagam, rasayanam,vaatru, nei* **5.2.4 Supportive therapy** *Puramaruthuvam* *Oil, powder, thalam, poochu, tharai, kizhi/ pottanam, pasai, kulineer, nasiyam* *Varma thokkanam* *Thadaval* (Massage), A*zhuthal* (Pressing), *Ezhuthal* (Traction) **5.2.5 Preparation of *varmam medicines*** A.*Krisathu kiyalam, china thirumeni thylam, theethylam, varmani kuligai*,medicine for cough, pachilai for constipation, B.*Varmam* medicine 1. *Aalampaal ennai* 2. Decoction for fever 3. Medicine for treating epistaxis, constipation, burning micturition and hematuria.					
6	**VARMA ILAKKUMURAI (VARMAM MANIPULATION AND MASSAGE TECHNIQUES)** *Varmam therapy* is an exceptional drugless, non-invasive healing method that targets specific points where vital energy accumulates. This effective therapy is simple and time-efficient, offering remarkable, long-lasting results when practiced regularly. Rooted in the traditional siddha system healing, *varmam therapy* has skillfully developed siddhars to enhance physical and cognitive well-being by applying pressure and manipulation to designated *varma* points on the body. This topic mainly focusing therapeutic applications in specific clinical conditions. **6.1 *Varma ilakkumurai (Varmam* manipulating techniques)** *kai saarntha varma ilakkumurai, kaal saarntha varma ilakkumurai, thalai - kazhuthu varma ilakkumurai, kazhuthu - muthugu varma ilakkumurai.*	2	11	5	7	34

	6.2 *Varma thadaval (Varmam* massage techniques) *Sarvaanga thadaval* **6.3 *Varmam* application in specific clinical conditions** Musculoskeletal disorders *(Thasai kootu noigal*), neuromuscular disorders, respiratory illness, gynaecological, paediatric conditions, gastrointestinal tract disorders (GIT), ear nose and throat (ENT) diseases, eye diseases, **6.4 Precautionary steps** Nonsuitable conditions patient survival criteria-alive or not, identification of *pranic flow, (Vaali oli, Veeman oli, Meitheendakaalam, Ullamkaal, Peruviral),* complications of any illness, adverse effects after therapy, **6.5 Mechanism of *varmam*** Physiology of pain (Gate control theory), signalling pathway / Neurotransmitters, importance of *varmam* in religious aspect **6.6 *Adangal*** Definition, types and location of A*dangal* (9 types,13 types) *Therapeutic adangal* *Amarthadangal, agatharai adangal, puratharai adangal, panchathattu adangal, pulimuthu adangal, nagakan adangal*					
7	**DISORDERS OF CENTRAL NERVOUS SYSTEM** This comprehensive caption delves into the intricate and multifaceted aspects of central nervous system disorders, including cerebrovascular disorders, movement disorders, motor neuron disorders, and brain tumours, highlighting the importance of understanding these critical health challenges. **7.1.Cerebrovascular disorders** **7.1.1 Classification of cerebrovascular disease** **7.1.2 Hemiplegia *(Pakkavatham)*** Definition, aetiology, pathophysiology, risk factors, clinical presentation, differential diagnosis, investigations, siddha aspect of treatment, management, prevention **7.2. Motor system disorders** **7.2.1. Quadriplegia *(Astatantira vatham)*** Definition, aetiology, sites of lesions, clinical features, investigations, treatment, management **7.2.2 Paraplegia *(Aruna vatham)*** Definition, aetiology, sites of lesions, clinical	3	30	24	13	32

	features investigations, treatment, management **7.3 Poliomyelitis *(Ilampillai vatham)*** Definition, causes, pathophysiology, clinical manife stations, diagnosis, conservative treatment, preventi on **7.4. Motor neuron disorders** Definition, causes, classification, clinical presentation, investigations, treatment **7.5. Movement disorders** Parkinson's disease *(Nadukku vatham / Panikkampa vatham)* Definition, causes, clinical features, pathophysiology, staging of parkinson's disease, hoehn and yahr stage, differential diagnosis, siddha aspect of treatment **7.6. Disorder of balancing** **7.6.1.Types of ataxia** **7.6.2. Cerebellar ataxia** Definition, causes, clinical features, investigations, management **7.7. Neuropathies** Peripheral neuropathy *(Vatha karsanam)* Definition, pathophysiology, types, symptomatology of peripheral nerve disease, diagnosis and management **7.8. Myopathy** Definition, classification, Muscular dystrophy - Duchenne's muscular dystrophy Definition, aetiology, pathogenesis, clinical features, treatment, management **7.9. Cranial nerve disorders** Causes, disorders, clinical manifestation, and examination of olfactory nerve, optic nerve, oculomotor nerve,trochlear nerve, trigeminal nerve, abducent nerve, facial nerve, vestibulocochlear nerve, glossopharyngeal nerve, vagus nerve, accessory nerve, hypoglossal nerve **7.10 Central nervous system tumours** Classification and grading of nervous system tumours, aetiopathogenesis of brain tumour. Pathophysiology, clinical features, investigations, conservative treatment **7.11. Alzheimer's disease** Definition, aetiology, pathogenesis, clinical features, investigations, management					
Total Marks		**100**	**80**	**45**	**105**

Paper 2 (Varmam,Puramaruthuvam and Sirappumaruthuvam)						
Sr. No	**A2 List of Topics**	**B2 Term**	**C2 Marks**	**D2 Lecture hours**	**E2 Non-Lecture hours Theory**	**F2 Non-Lecture hours Practical**
8	**KAYAKALPAM (JUVENILIZATION THERAPY) AND MUPPU** *Kayakarpam* is a unique branch of the Siddha system focused on rejuvenation and longevity. It detoxifies the body, restores vitality, and reverses aging effects through herbal treatments, dietary practices, and regular yoga exercises. This topic covers rejuvenation methods, classifications of *kayakarpam*, benefits, and regimens, and provides an overview of the basic concepts, uses, and types of *Muppu.* ***Kayakarpam*** **(Juvenilization Therapy)** Definition, description, regimen, uses, *kayakalpa* medicine - classification, general *Karpam,* special *karpam* **8.1 *Mooligai Karpam* – (Herbal Origin)** **8.1.1 *Pothukarpam*** *Injithaen, nelmanei, ponnanganni, vembu, katraazhai, manathakkali, vila, vaatkorai kizhangu, amukkinan kizhangu, kodivasalai, perungaalan, urulai kizhangu, kalyana Poosani, kaiyan, kaliparrattai* **8.1.2. *Sirappu Karpam*** *Erukku, azhinjil, seedheviyar sengazhuneer, keezhanelli samoolam, surai, kanjavirai, karchoor, kadukkai, naanal, seeragam, aalampaal, puliyaarai, notchi, vallaikodi, mookirattai, kuppaimeni, thoodhuvalai, serankottai, panaiver, thetran, nelli, oridhazh thamarai, elam,thulasi, vilvam, kittikizhangu, koraikizhangu, sirukeerai, nannari, uthamani, aal, ayilpattai, elumitcham pazham,thaamarai magaranthapodi, brammathandu magaranthapodi, malattuku karpam, sukkilathambanam,panja karpam* **8.2. *Thathu Karpam* (Mineral Origin)** *Ayasambeera karpam, ayabringaraja karpam, poornachandhroodhayam* **8.3.*Jeeva Karpam* (Animal origin)** *Pachchai pasumpal, kaaichina paal, indhirakoba*	1	12	9	2	7

	poochi **8.4. *Muppu*** Definition, philosophies, classification, description,and uses of m*uppu*					
9	**ATTANGA YOGAM** This topic explores the principles of *Attangayogam*, the eight-limbed path to spiritual enlightenment, step-by-step methods for changing lifestyles, *Pranayama* and *Yoga* principles and description. ***Attangayogam*** *Iyamam* (purity of thoughts / Temperance), *Niyamam* (Purity of action), *Asanam* (Yogic posture), *Pranayamam* (Yogic breathing), *Prathiyakaram* (Withdrawal of senses), *Thaaranai* (Focused thoughts), *Thiyanam* (Meditation), *Samadhi* (Eternal bliss) **9.1 *Pranayamam* (Yogic breathing)** Definition, Philosophy, Method, Regimen, Uses **9.2 *Yogam*** Definition, Principles of *yoga* practice, Types, *Yoga* postures, Explanation, Philosophy and Uses	1	8	6	8	15
10	**GERIATRICS** Geriatrics is a medical specialty that focuses on the health care of the elderly. It aims to address common ailments, systemic illnesses, management, and palliative care. **10.1 Introduction** The postulated mechanism for aging, physiological effects of aging, signs, and symptoms of age-related physiological changes and their consequences and diseases in the elderly, characteristics of diseases in old age, principles and management of geriatric diseases. **10.2 General illness of old age** **10.2.1. Urinary incontinence** Definition, causes, clinical presentation, management. **10.2.2. Postural hypotension** Causes of postural hypotension. **10.2.3. Falls and collapse** Mechanism, risk factors, management. **10.2.4. Delirium** Definition, clinical presentation, clinical assessment, management. **10.3 Systemic illness** **10.3.1** Factors, causes, pathophysiology, signs and	1	10	9	4	10

	symptoms, differential diagnosis, investigations and management of chronic cardiac failure, hypertension, chronic mitral regurgitation, chronic obstructive pulmonary diseases, migrane, inflammatory myopathy (myositis). **10.3.2** Definition, causes, pathogenesis, clinical features and management of spondyloarthropathy and osteomalacia. **10.3.3** Risk Factors, clinical presentation, pathology, diagnosis, stages, and treatment of prostate cancer in the elderly, list the principles of breast cancer management. **10.3.4** Definition, risk factors, pathophysiology, clinical testing, clinical evaluation, diagnosis, and treatment of constipation and fecal incontinence in old age. **10.3.5** Sleep and circadian rhythm disturbances in older adults and changes in sleep architecture during the age of non-rapid and rapid eye movement sleep. **10.4 Nutrition** Nutritional deficiency in old age and its management. **10.5 Care and preventive geriatrics** Care of patients with chronic illness and terminal illnesses, health education for preventing diseases, and promoting health in old age.					
11	**INTRODUCTION TO ORTHOPAEDICS** This topic emphasizes the description and terminology related to orthopedics, congenital deformities, developmental disorders, infectious conditions, and metabolic diseases of bones. **11. Introduction to orthopaedics and congenital deformities** **11.1 Definition and common terminologies in orthopaedics** Congenital deformities definition, aetiology, clinical features of congenital talipes equinovarus, winging of scapula, sprengel shoulder. **11.2 Developmental disorders of bone** Definition, aetiology and clinical features of osteogenesis imperfecta and neurofibromatosis. **11.3 Infections of the bones and joints** **11.3.1 Osteomyelitis and its classification** Definition, aetiology, pathology, clinical features, differential diagnosis, investigations, treatment, complications	2	13	12	4	12

	11.3.2 Tuberculosis of the spine, hip joint, and knee joint Definition, sites of lesions, stages, deformities, pathology, clinical features, physical findings, investigations, radiography, differential diagnosis, management. **11.4 Metabolic, endocrine, and miscellaneous bone disease** Definition, aetiology, pathology, clinical features, classification, investigations, radiography, differential diagnosis and treatment of rickets ,scurvy, osteomalacia, osteoporosis, paget disease and acromegaly.					
12	**DISEASES OF THE BONES AND JOINTS** Diseases of the bones and joints are significant health concerns that impact the musculoskeletal system's structure and functionality. Understanding these conditions is crucial, as they encompass common joint diseases and their various types, autoimmune disorders that affect bones, and neoplasms. Understanding and addressing these issues is imperative for improving health outcomes and ensuring proper prevention and treatment strategies. **12. Diseases of the bones and joints** **12.1 Infective arthritis (pyogenic arthritis / septic arthriti**s) Definition, aetiology, pathology, clinical features, radiological features, investigations of gonococcal arthritis, syphilitic arthritis, rheumatic arthritis. **12.2 Rheumatic disease** Definition, aetiology, pathology, clinical features, orthopedic deformities, investigations, radiological features, differential diagnosis, management, and siddha aspect of treatment of rheumatoid arthritis, ankylosing spondylitis and monosodium urate arthropathy (gout). **12.3 Degenerative disorders** **12.3.1 Osteoarthritis** Definition, contributing factors, groups, pathology, clinical features, radiological features, differential diagnosis, siddha aspect of treatment. **12.3.2. Osteoarthritis knee and hip joint** Osteoarthritis knee: Definition, types, pathology, clinical features including criteria, classification, investigations, radiological grading, differential diagnosis, conservative treatment.	2	11	9	4	14

	Osteoarthritis hip: Aetiology, types, clinical features, radiological features, conservative management. **12.4. Epiphyseal osteochondritis** **12.5 Bone neoplasia** **12.5.1 Tumours of bone** Definition, classification, and diagnosis of bone tumours. **12.5.2 Osteochondroma** Definition, sites of involvement, pathogenesis, clinical features, complications, radiological findings. **12.5.3 Osteoblastoma** Definition, clinical features, radiological features, histological features, treatment. **12.5.4 Osteosarcoma** Definition, pathology, classification, clinical features, radiological features, laboratory findings. **12.5.5 Giant cell tumour** Definition, common sites, pathology, clinical features, radiological features, differential diagnosis. **12.5.6 Ewing sarcoma** Definition, pathology, clinical features, radiological features. **12.5.7. Bone metastasis.** Sites of metastasis, mode of spread, clinical features, radiological features and laboratory findings.					
13	**REGIONAL CONDITIONS OF BONES AND JOINTS DISEASES** This topic decisively focuses on diseases of the extremities, the various types of fractures and their management, regional traumatic conditions, and injuries to the vertebrae, skull, and soft tissues. **13.1 Regional conditions of Bones and Joints diseases in the Upper limb and lower limb** **13.1.1 Periarthritis shoulder(Kumbavatham)** Definition, causes, pathology, clinical features, clinical stages (Reeves), investigations, management, siddha aspect of treatment. **13.1.2 Tennis elbow** Definition, aetiology, clinical features, clinical tests, investigations, management, treatment. **13.1.3 Cubitus valgus** Definition, causes, clinical features, radiological features, conservative treatment. **13.1.4 Carpel tunnel syndrome**	2	16	11	10	16

Causes, clinical stages, clinical tests, clinical examinations, investigations.

3.1.5 Dupuytren's contracture

Definition, causes, pathogenesis, clinical features, investigations.

13.1.6 Coxa vara

Definition, classification, clinical features, radiography.

13.1.7 Genu valgum

Definition, types, clinical features, associate deformities of genu valgum, radiography, treatment.

13.1.8 Flat foot

Definition, associated deformities, types, clinical features, radiological features, treatment.

13.1.9 Calcaneal spur

Definition, causes, clinical features, radiograph, treatment.

13.2 Vertebral column

13.2.1 Scoliosis

Definition, types, causes, clinical features, investigations.

13.2.2 Kyphosis

Definition, types, causes, clinical features, investigations.

13.2.3 Intervertebral disc prolapse

Definition, anatomical factors, clinical features, radiological features, treatment.

13.3 General principles of fractures and dislocations

13.3.1 Fracture

Definition, types, classification, complications of fracture (non-union, avascular necrosis, malunion), radiological findings.

13.3.2 Indications for surgical Treatment

External and open reduction internal fixation.

13.3.3 Fracture of childhood

13.3.4 Splints and reduction procedure

13.3.5 Plaster of paris (POP) and modern techniques

Chemical formula, POP types, various forms, stages of plastering, complications of POP.

13.3.6 Traction

Uses, methods

13.4 Regional traumatology

13.4.1. Dislocation of shoulder joint

Classification, pathology, clinical features, radiological features, treatment.

	13.4.2 Dislocation of temporomandibular joint Pathology, clinical features, radiological features, treatment. **13.4.3 Colle's Fracture** Definition, displacements, mechanism of injury, clinical features, radiological features, treatment, complications. **13.5 Injuries to vertebrae, skull, and it's complication.** **13.5.1 Cervical spine injuries** Causes, mechanism of injury,allen'sclassification, c linical features, examinations, investigations,treatm ent, indications. **13.5.2 Thoracic and lumbosacral spine injuries** Mechanism of injury, mcatea's classification-3 column, clinical features, investigations, management. **13.5.3 Skull fracture** Mechanism of injury, types, signs and symptoms, diagnosis, complications **13.6 Soft tissue injuries including sports injuries.** Strain, sprain - definition **13.6.1 Injuries to ligament** A) Ankle joint- medial and lateral collateral ligament injury Mechanism of injury, clinical features, radiographic features, treatment B) Knee joint- Medial and lateral Collateral ligament injury Mechanism of injury, types, clinical features, clinical tests, investigations, treatment Anterior cruciate ligament injury Mechanism of injury, clinical features, clinical examinations, investigations, treatment Posterior cruciate ligament injury Aetiology, clinical features, clinical examinations, investigations, treatment **13.6.2. Injuries to tendon** Biceps brachii, supraspinatus, quadriceps femoris, achilles tendon Causes, clinical features, clinical tests, investigations, treatment, complications **13.6.3 Injuries to Semilunar Cartilage** Medial & lateral Menisci injury Mechanisms, clinical features, clinical tests, investigations, differential diagnosis, and treatment					
14	**PSYCHIATRY DISORDERS** Impairment of personal functioning, and disordered	3	30	24	13	31

behavioral and mental patterns are termed psychiatric disorders which occur due to biopsychosocial illness. Siddha psychiatry is based on the mind *(Manam),* thought *(Buddhi),* mood (A*hangaram),* and physical behavior (S*iddham)* this subject mainly deals with siddha and the modern perspective of psychiatric problems like mania (V*eri noi), serukku noi* (Psychosomatic illness), *paithiyam noi* (Mental disorder), *unmatham* (Psychosis), *manathalarch*i (Depression), *manapei* (Hallucination) , *manamayakkam* (Delusion), *kirigai* varieties (Schizophrenia / Catatonic withdrawal / Excitement, mania).

14.1 Introduction- Psychiatric disorder

Definition, classification, and aetiology of psychiatric disorders.

14.2 Mental Status Examination

Identification: Personal details.

Chief complaints: Main symptoms.

History of present Illness: Current issues, onset, progression, triggers/relief factors.

Past history: Previous medical conditions, treatment history, and trauma

Family history: Mental illness in the family.

Personal history: lifestyle, habits, and premorbid personality

Social and marital status: Relationship and social support

Developmental history

Puberty, menstrual / Obstetric history.

Pre-natal and natal history.

History of delayed milestones.

Physical examination: General health assessment.

Mental Status Examination: Evaluation of cognitive and emotional state.

14.3 Investigations in psychiatry

Biological investigation, medical screening, brain imaging, psychological test, scales.

14.4 Delusion (*Manamayakkam)* / Hallucinations (*Manapei)*

Definition, types, causes, and treatments of delusion and hallucination.

14.5 Anxiety / depression / Deliberate Self-Harm and Suicidal Ideation

Definition, causes, symptoms, types, diagnosis and treatment for anxiety, depression, and deliberate self- harm definition, behaviour pattern, and warning signs of suicidal ideation.

14.6 Schizophrenia
Definition, types, positive symptoms, negative symptoms, pathogenesis, complications, management, treatment
14.7 Mood disorders
Definition- mood / affect,classification, aetiology, diagnosis,and treatment
14.8 Neurotic, stress-related, and somatoform disorders
Specific (Isolated) phobias, panic attack, OCD-obsessive compulsive disorder, conversion disorder, adjustment disorder,somatoform disorders:definition, types, conversion disorder, hypochondriasis, somatization disorder, body dysmorphic disorder, pain disorder
14.9 Disorders of Adult personality and behaviour
Definition, classification, treatment
14.10 *Paithiyam noi* - 18 (Mental disorders)
Definition, types,treatment of paithiyam noi *aavesa paithiyam, abikasa paithiyam, mavuna paithiyam, suronithapaithiyam, vihaarapaithiyam, thaaga paithiyam, azhal paithiyam, murka paithiyam, naduku paithiyam, visha paithiyam, pralaaba paithiyam, pitha paithiyam, aankaara paithiyam, gnana paithiyam, kaivisha, paithiyam, kama paithiyam, vishathagapaithiyam, siddha paithiyam*
14.11 *Kirigainoi*
Definition, aetiology, types, *kirigaikalin gunankal* (clinical features), maruthuvam, *kirigai sigichai* (common treatments), 18 *kiriigaikku kulambu, muzhukku thylam*
14.12 *Unmathamnoi* and *Brammainoi*
Definition, types, and maruthuvam of *unmathamnoi* and *brammainoi*
14.13 *Mathanoi* and *Mathathiyamnoi*
Definition, premonitory symptoms, types, clinical features, and treatment of *mathanoi* and *mathathiyamnoi*
14.14 *Soothikavatham*
Definition, aetiology, clinical features, and maruthuvam of *soothikavatham*
14.15 *Moorchai* and *Apasmaram –Mayakkam*
Definition, aetiology, premonitory symptom, types and maruthuvam of *moorchai* and *apasmaram –mayakkam*
14.16 Seizure disorders

	14.16.1 *Valippunoi* Definition, aetiology, premonitory symptoms, types, common signs and symptoms, *kutraverupadu* (siddha pathogenesis), *nadi nilai* (pulse conditions), *maruthuvam* **14.16.2 *Kakkaivalippu noi*** Definition, types and aetiology, clinical features, management, treatment					
Total Marks			**100**	**80**	**45**	**105**

Table 3 : Learning objectives of Course

Paper 1 (Varmam,Puramaruthuvam and Sirappumaruthuvam)										
A3 Course outcome	**B3 Learning Objective (At the end of the session, the students should be able to)**	**C3 Domain/sub**	**D3 MK / DK / NK**	**E3 Level**	**F3 T-L method**	**G3 Assessment**	**H3 Assessment Type**	**I3 Term**	**J3 Integration**	**K3 Type**
Topic 1 PURA MARUTHUVAM -I (EXTERNAL THERAPY) (LH :12 NLHT: 6 NLHP: 15)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO1, CO3	Define *puramaruthuvam* and explain its relevance in *siddha* medicine. Discuss the ethical guidelines typically followed when treating patients using *puramaruthuvam* techniques.Describe the types of *puramaruthuvam-kattu* (Bandage), *patru* (Poultice), *poochu* (Liquid poultice / Anointing), *kalimbu* (Ointment), *seelai* (Medicated gauze), *varthi* (Medicated wick), *pasai* (Medicated cream), *kali* (Medicated paste), *podi* (Dusting powder), *neer* (Medicated liquid), *nasiyam* (Liquid nasal application), *nasikaparanam* (Powder nasal application), *suttigai* (Cautery), *ottradam* (Fomentation), *pugai* (Fumigation), *salaagai* (Probe application), *oothal* (Medicated blowing), *mai* (Collyrium), *kalikkam- anjanam* (Liquid ophthalmic applications), *urinchal* (Suction), *attai vidal* (Leech), *kuruthi vangal* (Blood letting), *murichal*, (Bone resetting/surgical correction of malunited fracture), *kombu kattal*, (Bone setting by supporting splint/*seeli kattumurai*)), *thokkanam* (Physical manipulation), *podi thimirthal* (Powder massage), *vedhu* (Steam inhalation/steam exposure therapy), *pottanam* (Medicated pouch), *aruvai* (Surgical procedures), *kaaram* (Caustic ablation), *keeral* (Incision), *peechu* (Enema / Douche) and analyze their therapeutic applications.	CK	MK	K	L&PPT ,D	VV-Viva	F&S		-	LH

CO1, CO3	Explain the factors influencing the shelf life of external medicines. Illustrate the classification of siddha external therapies, including topical, nasal, ophthalmic, bloodletting, bone setting, physical therapy, and heat therapy. Explain additional siddha therapies beyond the traditional 32, including *thalam* (Poultice), *kuliyalneer* (Medicated bath), *thuvala*i (Paste massage), *ennai ozhukku* (Oil pouring)-*tharai* (Oil dripping), and *ennai kattal* (Oil pooling).	CC	DK	K	L_VC,L &PPT ,D	QZ ,COM, VV-Viva	F&S		-	LH
CO1, CO3	Define the term *thokkanam* and describe its various types, outlining the different techniques used and their specific health benefits. Describe the clinical conditions for which *thokkanam* therapy is indicated,recall the *theraiyar tharu* poem and list the various uses of *thokkanam* therapy.	CK	MK	K	L&PPT	CL-PR,P-REC,S-LAQ, VV-Viva	F&S		-	LH
CO1, CO3	Describe the procedures in *thokkanam* therapy, detailing the steps, techniques, and applications used during the treatment, along with the intended therapeutic outcomes for patients.	CC	MK	K	D-BED, L&PPT	DOPS,SP,DOPS	F&S		-	NLHT1.1
CO1, CO3	Describe the specifications for the room used for *thokkanam* therapy. Describe the duration of a typical *thokkanam* session, including guidance on the frequency of treatments and total session time. Describe the conditions under which *thokkanam* therapy is suitable and unsuitable.	CK	NK	K	FV,D,L &PPT	DOAP,P-MOD,VV-Viva	F		-	LH
CO1, CO3	Define steam therapy and describe its various types, the methods used, and its specific health benefits. Describe the roles and qualifications of the person involved in administering steam therapy, the specifications for the treatment room, and the types of leaves or raw drugs used in the procedure. Describe the various clinical conditions for which steam therapy is indicated.	CK	MK	K	FV,D,L &PPT	P-VIVA,DOPS,CHK, DOPS,VV-Viva	F&S		-	LH
CO1,	Explain the procedure for *vedhu maruthuvam* (steam therapy),	CC	MK	K	D,L&G	DOPS,SP,D	F&S		-	NLHT1.2

CO3	detailing the steps involved in its administration, and outline the benefits, including its effects on respiratory health, skincare, relaxation, and detoxification.				D,SIM, L	OPS				
CO1, CO3	Explain the different types of fumigation and their applications. Explain the conditions under which fumigation is appropriate, as well as the scenarios where it may be contraindicated. Describe the materials and equipment required for fumigation.	CC	MK	K	D,L&PP T	CHK,VV-Viva	F&S		-	LH
CO1, CO3	Demonstrate the step-by-step procedure for conducting fumigation, detailing the specific techniques and precautions involved.	PSY-GUD	NK	SH	SIM,D, L&PPT	DOPS,SP,DOPS	F		-	NLHT1.3
CO1, CO3	Describe *kattu* therapy, the techniques used, and its applications. Include a discussion of its therapeutic benefits and specific clinical conditions. Describe the conditions in which *kattu therapy* is indicated and the conditions in which it is contraindicated.	CC	MK	K	L&PPT	DOPS,VV-Viva,CHK, DOPS	F&S		-	LH
CO1, CO3	Describe the materials and tools required for *kattu* therapy, including any herbal formulations, application devices, and safety equipment.	PSY-GUD	DK	SH	L&PPT ,D	CHK,VV-Viva	F		-	LH
CO1, CO3	Describe the various types of *patru* (semi-solid poultice). Describe the materials and ingredients required and the step-by-step procedure for preparing. Describe how *patru* is applied in specific clinical conditions and its therapeutic benefits.	CC	MK	K	L&GD, L&PPT ,D	VV-Viva,DOPS,DOPS, CHK	F&S		-	LH
CO1, CO3	Demonstrate the step-by-step procedure for administering *kattu* therapy, including techniques and safety precautions to be followed	PSY-GUD	DK	SH	D,L&GD	VV-Viva,DOPS,DOPS	F		-	NLHT1.4
CO1, CO3	Define *ottradam* and its types, and explain its various applications and therapeutic benefits. Describe the suitable and unsuitable conditions for *ottradam therapy.* Describe the materials and	CC	MK	K	L&PPT ,D	DOPS,VV-Viva,CHK, DOPS	F&S		-	LH

	equipment required for the *ottradam* procedure, including types of leaves, raw drugs, and other necessary tools. Explain the therapeutic benefits and the expected outcomes of this treatment.									
CO1, CO3	Demonstrate the step-by-step process for administering the *ottradam* therapy, including techniques, timing, and any necessary safety precautions.	PSY-GUD	MK	SH	L&GD, D	VV-Viva,DOPS,DOPS	F&S		-	NLHT1.5
CO1, CO3	Describe *poochu* therapy and its various types, outlining the methods of application and the specific therapeutic benefits. Describe the procedure for administering *poochu* therapy and the materials and ingredients required.	CC	MK	K	D,L&GD,L&PPT	DOPS,DOPS,CHK,VV-Viva	F&S		-	LH
CO1, CO3	Describe *podithimirthal*, its significance, and the various types. Describe the materials and ingredients required for *podithimirthal* therapy and the qualifications of the personnel involved. Describe how *podithimirthal* therapy is applied in specific clinical conditions, its therapeutic benefits, and the suitable and unsuitable conditions of *podithimirthal* therapy.	CK	MK	K	L&PPT	CHK,VV-Viva	F&S		-	LH
CO1, CO3	Demonstrate the step-by-step procedure for performing *podithimirthal* therapy, detailing the specific techniques and safety precautions to be followed during the application.	PSY-GUD	MK	SH	L&GD, D	VV-Viva,DOPS,DOPS	F&S		-	NLHT1.6
CO1, CO3	Demonstrate the various steps in *thokkanam muraigal* as per *theran tharu* references and explain the procedure with proper hands-on training.	PSY-GUD	MK	SH	SIM,CBL,D-BED,KL	P-EXAM,DOPS,DOPS, Log book	F&S		-	NLHP1.1
CO1, CO3	Demonstrate *mallathuthal* (Slump long sitting) step for infertility patients in *thokkanam muraigal* as per *theran tharu* references and explain the procedure with proper hands-on training.	PSY-GUD	MK	SH	CBL,SIM,KL	CBA,P-EXAM,Log book	F&S		-	NLHP1.2
CO1, CO3	Demonstrate the procedure of *ottradam* therapy with proper processing materials for various clinical conditions.	PSY-GUD	MK	SH	SIM,KL,CBL	DOPS,DOPS,P-	F&S		-	NLHP1.3

						EXAM,Log book				
CO1, CO3	Demonstrate the procedure of steam therapy (V*edhu*) with proper processing materials for various clinical conditions	PSY-GUD	MK	SH	CBL,KL,SIM	DOPS,P-EXAM,Log book,DOPS	F&S		-	NLHP1.4

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 1.1	Procedures of *Thokkanam* (Physical manipulation)	The teacher demonstrates *thokkanam* therapy through a lecture using powerpoint and explains the importance of patient assessment, positioning, and the selection of medicated oils, elaborating on the nine core techniques—tapping, tightening, grasping, twisting, tying, pressing, pulling (or traction), supination, and shaking—while ensuring the appropriate duration and patient comfort. Post-therapy care, hydration, and follow-up recommendations are also emphasized in OPD/IPD settings. Steps for performing *thokkanam* therapy **1. Preparation** Environment: prepare a calm, clean, warm space conducive to relaxation. Ensure privacy and comfort for the patient. Materials required: medicated oil (sufficient quantity) apron for the practitioner. Stove, burner, matchstick, or lighter for heating the oil. Stirrer (spoon) and vessel for oil preparation. Medicated table (made of *etti o*r similar materials) measuring 7 ft. (l) x 3 ft. (w) x 2.5 ft. (h) Preferred woods: *etti* (strychnos nux-vomica), *thekku, ayyini, or kadambu,* with *etti* being the most suitable option. Patient assessment-assess the patient's condition, identifying affected areas and underlying imbalanced *kuttram* (*doshas*). Obtain informed consent and explain the therapy process. Oil preparation: select medicated oils suitable for the patient's condition and specific therapeutic needs. **2. Positioning the patient**

Ensure the patient is positioned comfortably based on the area to be treated:
Lying on the back or stomach: for full-body treatments.
Sitting upright: for head, neck, and shoulder manipulation.
Side-lying position: for specific joint or spinal manipulations. Five stages of positioning:
Standing: rarely used for head, chest, or trunk treatments.
Walking: not commonly followed currently.
Sitting: head, vertex, chest, lower back, or palm.
Prone: for soles, chest, or abdomen.
Lateral position: not commonly practiced currently.

3. Application of *thokkanam* techniques

The therapy involves nine main techniques:
Thattal: Tapping
Irukkal: Tightening
*Pidithal: G*rasping
Murukkal: Twisting
Kaikattal: Tying
Azhuthal: Pressing
Izhuthal: Pulling or traction
*Mallaathuthal: S*upination or stretching
*Asaithal: S*haking or jerking

4. Duration of therapy

Each technique is applied for a specific duration within a session lasting 30–60 minutes, with 5-minute intervals if necessary.
The timing of therapy may vary based on the patient's age, gender, and environment. Ideal therapy periods are morning (6:00 am–11:00 am) and evening (4:00 pm–8:00 pm).

5. Post-therapy care

Rest: advise 10–15 minutes of rest to allow the body to adjust.
Hydration: To support detoxification, recommend warm water or medicated decoctions. Based on the severity of the patient's condition, suggest follow-up sessions.

6. Intended therapeutic outcomes

Relief from pain and inflammation.
Enhanced mobility and flexibility.

		Improved circulation and detoxification. Stress reduction and overall relaxation. **7. Safety precautions** Avoid therapy on open wounds, fractures, severe inflammation, infectious conditions, cellulitis, fever, pregnancy, or surgical sites. Patients with varicose veins, HIV, or hepatitis b. Ensure-monitoring of patient comfort and adjusting pressure as needed. Students will perform each step of the *thokkanam* techniques on simulated patients, emphasizing key procedures using the direct observation of procedural skills (Dops) methodology.
NLHT 1.2	Procedure for *Vedhu Maruthuvam* (Steam therapy)	The teacher will demonstrate an understanding of indications, relevant techniques, and knowledge about the procedure for *vedhu* therapy through a lecture with group discussion, including the preparation of the patient and materials used. The session will cover obtaining consent, performing techniques, analyzing indicated and contraindicated conditions, administering post-care therapy, and implementing safety precautions. Steps for Performing *vedhu maruthuvam* (Steam Therapy) **1. Preparation of Material** Use a steam bath chamber(lying/sitting type)steam generator, vaporizer, or a simple pot of boiling water, Add medicated leaves, Raw drugs, oils, or decoctions based on the patient's condition. Ensure the steam source is placed on a stable surface in a safe and comfortable area. Verify that the environment is calm and free from drafts. Arrange Medicine trolly, BP apparatus, and Stethoscope. **2. Preparation of the Patient** Recommend loose, breathable clothing. Alternatively, cover the patient lightly with a towel for modesty and comfort. Seat the patient comfortably, slightly leaning forward. Ensure the steam source is positioned below or in front of the patient, maintaining a safe distance. For concentrated inhalation, cover the patient's head and the steam source with a towel, forming a tent-like enclosure. **3. Administration of Steam Therapy** Guide the patient to close their eyes and breathe deeply while inhaling the steam for 10–15 minutes. Maintain a safe distance (6–12 inches) between the patient and the steam source to avoid burns or

		discomfort. Observe for any signs of discomfort, dizziness, or overheating. **4. Indications / Contraindication** **Indications: Respiratory condi**tions such as sinusitis, asthma, bronchitis, Anorectal diseases, Musculoskeletal discomfort or stiffness, Skin detoxification and relaxation. Contraindications: Avoid cases of pregnancy, very young children, and elderly patients with frailty. Not advisable for patients with complicated health conditions (e.g., cardiovascular issues). Steam therapy should not follow vigorous exercise until the body returns to its normal temperature. **5. Post-therapy care/Safety Precautions-** Patients did not exceed 20 minutes in a steam session. Monitor the patient throughout the procedure for any adverse reactions. Students will demonstrate their ability to perform *Vedhu Maruthuvam* on simulated patients by demonstrating competence in preparation, administration, patient management, and safety adherence using the DOPS methodology.
NLHT 1.3	Procedure for conducting *Pugai Maruthuvam* (Fumigation)	The teacher provides an overview of key points of *pugai maruthuvam* with the help of a lecture using PowerPoint and explains the importance of patient assessment, positioning, and the conduction of therapy on simulated patients in OPD/IPD settings, Steps for performing *pugai maruthuvam* (Fumigation therapy) **1. Preparation of materials** Selection of ingredients: select herbs or substances based on the therapeutic goal. Common options include medicinal leaves, powders, and substances like peacock feathers, cumin seeds, horns, nails, *agasthiyar kuzhambu, kousigar kuzhambu, a*nd charcoal. Mercurial or arsenic compounds for specific indications. Preparation of the fumigation mixture: dry and grind the herbs or materials into fine powder or small pieces. Mix the ingredients in the required proportions to achieve the desired therapeutic effect. Fumigation equipment: use a *pugai/*fumigation chamber(whole body-sitting/lying), clay pot, footstep stool, medicine trolly, metal vessel, or fumigation stand for burning or heating the materials. Ensure that the equipment is clean and safe to handle. Mention about ancient equipment —*sukkan(Citrullus colocynthis) peengan kuzhal*—and their uses. **2. Preparation of the patient or environment**

		Environment: Choose a clean, well-ventilated space for therapy. Positioning: For personal fumigation, seat the patient comfortably near the fumigation source. Expose the affected area for localized treatment while keeping the rest of the body covered. Protective measures: Cover sensitive areas like the eyes with a cloth or goggles if the smoke is intense. **3. Conducting the fumigation** Ignition- Carefully ignite the fumigation materials using a matchstick or flame. Allow the smoke to form evenly. Application: Use for either environmental fumigation or localized therapy. Inhalation techniques: Nasal or eye diseases: Smoke is inhaled through the nostrils. Oral cavity or dental ailments: Smoke is taken by the mouth without lung inhalation. Duration: perform fumigation for 10–15 minutes or as prescribed. Replenish the materials if needed during the session. Monitoring: Observe the patient for any signs of discomfort or adverse reactions. Adjust the smoke intensity and duration as required. **4. Post-therapy care advice** **5. Safety precautions**-Avoid overexposure, fire safety, proper ventilation, and quality of materials. For inorganic substances (e.g., mercurial or arsenic compounds), fumigation should not be performed on an empty stomach. Patients should consume rice with milk or buttermilk before the session. Avoid curd rice during such treatments. **6. Indications**-Sinusitis, bronchitis, allergies, ear diseases, dental carries and asthma, hoarseness of voice, nonhealing ulcers, fistula, anorectal diseases, poisonous bites, stings, and skin diseases, hysteria **7. Contraindications:** Fumigation is not recommended for infants or newborns, pregnant or lactating women, individuals under the influence of alcohol, patients with head injuries, lockjaw, or extreme dryness. Students will perform *pugai* maruthuvam, ensuring proper preparation, correct administration, patient safety, and adherence to contraindications in simulated settings. Additionally, they will ensure that the proper duration and follow-up recommendations are emphasized through the direct observation of procedural skills (Dops) methodology.

NLHT 1.4	Procedure of *Kattu (C*ompresss)	The teacher will demonstrate an understanding of the indications, relevant techniques, and procedural knowledge for *kattu*-bandages through a lecture with group discussion, including the preparation of the patient and materials used, the indicated and contraindicated conditions, the administration of post-care therapy, and the implementation of safety precautions. The procedural Steps are as follows- **1. Preparation** Preparation of the medicated leaves/oils for the patient: the therapy area is prepared with clean, warm surroundings, and the patient is positioned comfortably on a wooden plank or a massage table. Materials and equipment: *Thokkanam* table-7 ft. (l) x 3 ft. (w) x 2.5 ft. (h) / wooden chair (procedure stool/table) Footstep stool Apron Cotton/gauze roll- small/medium/large Others – (vessels, heating apparatus, lighter, gas stove, scissors, enamel tray) The dose of medicated powder/oil depends upon age, sex, the strength of the patient, and the state of thodangal or diseases. Medicated oil - 50 ml(sufficient quantity) Medicated leaves – each bunch Commonly used medicines and drugs: Medicated oil for application *(kayathirumeni thailam)* Medicated herbs (*notchi, nuna, amanakku, erukku, mukkirattai)* Preparation: When compress is applied with a poultice of plants, it is better to use fresh plants and poultice just at the time of application. The plants can be stored in refrigeration for 3 days after collection. The bandage should be a clean, sterile cotton cloth of a dimension relevant to the area where the compress is to be applied. The bamboo splint should be of correct length and breadth with blunt ends so that it does not hurt adjoining parts and cause pain. Manpower: physician – 1, masseur – 1 **2. Procedure** Initially, the affected parts should be analyzed through physical observation to determine whether the injury is severe or superficial. Then, the medicated leaves are fried with oil (sq) on the heating

		apparatus, which is placed in a vessel for a suitable time. The fried leaves are then placed over the affected part with a cotton pad and wrapped with a gauze roll for 7-8 rolls over the site with sufficient limitation of movements. The patient is then asked to rest for 2 hours (as needed). The wrapping is then removed, and the area is washed with hot water. Finally, the patient is advised to take rest. This process is repeated for 7 days, once per day. *Valaiyam vaithu kattal* techniques are also followed in knee joint problems. **3. Safety measures**: choose the right bandage, apply firmly but not too tight, check circulation, avoid metal clips, cover the dressing, and assess the skin. Students watch the demonstration and practice under supervision using the direct observation of procedural skills (Dops) methodology. They ensure that the bandage is applied correctly and safely while monitoring circulation. With guidance, feedback, and a viva component, they refine their skills and build confidence in performing siddha bandaging techniques.
NLHT 1.5	The procedure of *Ottradam* therapy (Fomentation)	The teacher will demonstrate an understanding of the indications, relevant techniques, and procedural knowledge for *ottradam* therapy through a lecture with group discussion, including the preparation of the patient and materials used. The session will cover obtaining consent, analyzing indicated and contraindicated conditions, applying the procedure, and advising post-care therapy in OPD/IPD settings. Procedure for *ottradam* therapy is as follows **1. Preparation of materials-selection of herbs or ingredients** based on the patient's condition, select appropriate herbs/materials. Materials needed-procedure table, footstep stool, procedure stool, cloth to make a bundle, scissors, enamel tray, gas stove, frying pan, spatula or spoon, medicine trolley, materials used for *ottradam* like husk, sand, etc. Common leaves used-cababa leaves *(vizhuth*i),piper betle (*vetrilai*),calotropis gigantea (*erukku),*plumbago zeylanica (*chitramoolam*),cassia auriculata *(aavarai*),gynandropicgyandra *(thaivelai,*)vitex negundo (*notchi).* Common oil used- *Kayathirumenithailam, kayarajangathailam, pindathylam, vathkesarithailam, chitramuttithailam,*

mookoottuthailam
Other materials-salt, garlic, lemon, coconut
Preparation of poultices or compresses:
Heat, roast, or boil the chosen herbs as required.
Wrap the prepared herbs in a clean cotton cloth to form a pouch (*kizhi).*
Secure the pouch to retain warmth, ensuring it is not too hot to handle.
2. Preparation of the patient
Environment: create a warm, calm, and hygienic space for the therapy.
Positioning: position the patient comfortably on a massage table or mat, exposing only the treatment area.
3. Application of heat
Reheat intermittently using a hot pan, oil, or steamer to maintain effective warmth. Test the poultice temperature on your palm to avoid burns.
4. Application technique
Method: gently press the warm poultice onto the affected area, use rhythmic, circular motions for joints and linear strokes along muscles. Reapply heat as necessary.
Specific sites for *ottradam*:
Head: vertex, around and below the ear, occipital region.
Thorax: neck to the umbilicus, ribcage, lumbar to the sacral region.
Upper/lower limbs: joints (avoiding overheating).
Specific herbs and conditions:
Lemon *ottral:* swelling, trauma.
Mustard *ottral:* fractures.
Kukil ottral: pain, muscle injury.
Kurunthotti ottral: contusions.
Timing: 15–30 minutes per session, depending on the condition.
5. Post-therapy care
6. Safety precautions-Avoid certain conditions infections, open wounds, severe skin sensitivity, and ensure the poultice is not excessively hot. Continuously observe patient comfort and stop if discomfort occurs using fresh herbs and clean clothes. Maintain a sterile environment.
Students watched the demonstration and practiced under supervision, using the direct observation of procedural skills (dops) methodology while ensuring proper preparation, correct application, patient

		safety, and adherence to contraindications, and asked questions to assess their understanding.
NLHT 1.6	Procedure for performing *Podithimirthal - Podithuval* (Powder massage)	The teacher will demonstrate an understanding of the indications, relevant techniques, and procedural knowledge of *podithimirthal* therapy through a lecture with a group discussion. This session will include the preparation of the patient, the materials used, obtaining consent, performing techniques, analyzing indicated and contraindicated conditions, administering post-care therapy, and implementing safety adherence. A.step-by-step procedure for *podithimirthal* therapy **1. Preparation** Preparation of herbal powder: medicated powders are finely ground and sieved for uniform application. Common herbal powders include *kollu podi* (horse gram powder), *thiripala choornam* Preparation of the therapy area and patient: Clean, warm, and comfortable surroundings. Position the patient on a *thokkanam* table: 7 ft. (l) x 3 ft. (w) x 2.5 ft. (h). Ensure the patient is covered appropriately, exposing only the treatment areas. Materials needed:Disposable mask and cap for the therapist. Apron for hygiene, towel for post-therapy cleaning, hot water for bathing (in vessels heated on a gas stove or heating apparatus). **2. Massage process** Directional strokes: circular strokes on joints. Linear strokes along muscles and limbs for energy flow and detoxification Procedure sequence: Right leg: from lower to upper part, 10 strokes. Left leg: same pattern as the right leg. Right arm: from lower to upper part, 10 strokes. Left arm: same as the right arm. Chest region: midline to outward region, 10 strokes. Back (trunk): same technique as chest region. **3. Therapy duration**

		Therapy begins with 5-10 repetitions per body part and increases incrementally (e.g., 10, 11, 12 strokes) up to the 21st day. Each session lasts 45 minutes to 1 hour. **4. Post-therapy care** Cleaning and bathing: the patient's body is wiped with a towel, coconut oil is applied within 5 minutes of bathing to reduce irritation or heat. Aftercare recommendations: rest for 30 minutes post-therapy. Avoid cold exposure, consume diuretic products or cooling agents if heat develops, follow a light, easily digestible diet to support detoxification. **5. Safety precautions** Patient safety: avoid application on sensitive, broken, or irritated skin. Monitor patient response during therapy, adjusting pressure as needed. Therapist safety: wear disposable masks to avoid nasal irritation or ulcers. Use a disposable cap to maintain hygiene and reduce exposure to powder. Consume buttermilk or cooling food (e.g., buttermilk rice) to counteract heat generated during therapy. Students see the demonstration and practice under supervision, ensuring adequate preparation, application, patient safety, and adherence to contraindications. Using the direct observation of procedural skills (Dops) methodology, they are then provided questions to gauge their theoretical understanding and practical abilities.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 1.1	Application of Siddha *thokkanam muraigal* (Physical manipulation techniques)	The teacher will conduct case-based learning for *thokkanam* muraigal with simulated patients, review the case details, identify key symptoms, and determine the appropriate *siddha* examination methods, preparation, procedure execution, post-therapy care, and guidance with potential treatment criteria. **Hour 1: Patient selection and initial assessment** Patient selection (15 minutes)-identify a suitable patient based on the purpose of the clinical application. Ensure the patient meets the criteria for undergoing *thokkanam* procedures. Patient analysis (45 minutes) Complaints: document the patient's current symptoms. History: Understand past illnesses and medical background.

		Vitals: measure and record temperature, pulse, blood pressure, and respiration, heart rate. **Hour 2: Preparation** Preparation of materials and environment (60 minutes) Arrange all necessary materials, including oils, herbal pastes, towels, and other aids for thokkanam. Assign roles to the available manpower to assist with the procedure. Clean, ventilated, and appropriately lit. Proper room temperature and accessibility for the procedure. Confirm suitability and identify any contraindications for thokkanam treatment. **Hour 3: Application of *thokkanam*** Apply *thokkanam* techniques (60 minutes) Perform various *thokkanam* techniques based on the patient's condition: *Thatta*l (tapping), *irukkal* (tightening), *pidithal (*grasping), *kaikattal (*tying), *azhuthal* (pressing), *murukkal* (twisting), *izhuthal* (pulling), *mallaathuthal (*supination or stretching), *asaithal (s*haking or jerking) Practice all the steps and apply them to a specific pathological condition. **Hour 4: Assessment and feedback** Post-procedure assessment (40 minutes)-reassess the patient's vitals and overall condition after the therapy. Feedback and conclusion (20 minutes)discuss observations and outcomes with the patient. Guide follow-up care or lifestyle adjustments. Students can perform the therapy under supervision and are also encouraged to use the direct observation of procedural skills (Dops) methodology. This prepares them for practical-oriented studies and ensures they maintain proper logbooks for future documentation. Two groups of people are divided, with one group engaging in the performance for two hours while the other group observes. In the next two hours, the roles are reversed, and the second group performs while the first group watches. The total duration of the activity is 4 hours.
NLHP 1.2	Application of *Siddha thokkanam muraigal*	The teacher will conduct case-based learning for *siddha thokkanam muraigal* (physical manipulation

	(Physical manipulation techniques) in infertility condition	techniques)-infertility condition with simulated patients, review the case details, identify key symptoms, and determine the appropriate *siddha* examination methods, preparation, procedure execution, post-therapy care, and guidance with potential treatment criteria. **Hour 1: patient selection and preparation** 1. Select the patient for application (10 minutes) Identify a patient suitable for *mallathuthal* procedures. Ensure the patient has no contraindications (e.g., severe spinal conditions or cardiovascular issues). 2. Analyze patient history and vital signs (20 minutes) History: past illnesses and medical background. Complaints: current issues or symptoms. Vitals: record temperature, pulse, blood pressure, and respiration rate, heart rate. 3. Prepare materials and room setup (30 minutes) Floor mats or cushions for comfort and safety during poses.Towels and support materials, if needed. Ensure manpower availability for assistance or guidance. Clean and ventilated room **Hour 2: *mallathuthal p*rocedure and assessment** **4. Perform *mallathuthal* (40 minutes)** Execute each of the four stages of *mallathuthal* systematically: *mallathuthal* (slump. Long sitting) step for infertility patients. 1. *Mandalam* (wheel pose): bend the spine into a full circular arc, ensuring proper form and balance. 2. *Mavalai villaga* (bridge pose): create a semi-circular arc by lifting the torso and keeping the shoulders grounded. 3. *Sevi alavaaga* (fish pose): bend the spine gently at ear level, ensuring neck support. 4. *Udal valaivaaga* (camel pose): bend the spine in alignment with the body, Maintaining stability. Ensure correct posture, alignment, and breathing during each stage. Practice all the steps and apply them to a specific pathological condition (e.g., infertility, obesity, or *kabam* disorders). 5. Assess the patient post-procedure (20 minutes)-reassess vitals and note immediate effects, Such as improved flexibility or relief from discomfort. Students can perform the therapy under supervision and are also encouraged to use the direct observation of procedural skills (Dops) methodology. This prepares them for practice-oriented studies and ensures they maintain proper logbooks for future documentation. Two groups of people are divided, with one group engaging in the performance for 1 hour while the

		other group observes. In the next 1 hour, the roles are reversed, and the second group performs while the first group watches. The total duration of the activity is 2 hours.
NLHP 1.3	Application of *ottradam* (Fomentation)	The teacher will conduct case-based learning for *ottradam* with simulated patients, review the case details, identify key symptoms, and determine the appropriate *siddha* examination methods, preparation, procedure execution, post-therapy care, and guidance with potential treatment criteria. **Hour 1: Patient selection and initial assessment(20 minutes)** Identify a suitable patient based on the indication for *ottradam* (e.g., pain relief, swelling, muscle stiffness). Verify the patient's eligibility by screening for contraindications (e.g., open wounds, skin infections, or hypersensitivity to heat) Analyse patient history and vitals (40 minutes) patient complaints: document symptoms and discomfort areas. past illnesses: note any chronic or recurrent conditions. Vitals: record temperature, pulse, blood pressure, and respiration for baseline assessment. **Hour 2: Preparation** Arrange materials and room setup (60 minutes): Processing materials: herbal poultices, hot compress, medicated oils, or steam-based tools Support materials: clean towels, gloves, and protective layers. Ensure manpower availability to assist in the procedure. Room: clean, ventilated, and warm environment. **Hours 3 & 4: Application of *ottradam*** Apply the *ottradam* procedure (120 minutes): Warm the herbal poultices or compress them to a safe, tolerable temperature. Apply gently to the affected area, ensuring even coverage. Use rhythmic pressing or tapping techniques, if needed, based on the condition. Alternate between application and short rests to avoid overheating or discomfort. Monitor the patient throughout the procedure: check for signs of discomfort or adverse reactions. Adjust the temperature or pressure as required. **Hour 5: Assessment and conclusion**

		post-procedure assessment (40 minutes)-measure vital signs again to identify any physiological changes. Note visible improvements (e.g., reduced swelling, enhanced mobility, or pain relief). Provide care and guidance (20 minutes)-suggest any additional treatments, lifestyle modifications, or rest periods. Students can perform the therapy under supervision and are also encouraged to use the direct observation of procedural skills (Dops) methodology. This prepares them for practice-oriented studies and ensures they maintain proper logbooks for future documentation. Five groups of students are divided, with one group engaging in the performance for one hour while the other groups observe. In the next hour, the roles are reversed, and the second, third, and fourth groups perform one by one, just like the first group. The total duration of the activity is 5 hours.
NLHP 1.4	Application of *Vedhu* Maruthuvam (Steam therapy)	The teacher will conduct case-based learning for *vedhu maruthuvam* with simulated patients, review the case details, identify key symptoms, and determine the appropriate *Siddha* examination methods, preparation, procedure execution, post-therapy care, and guidance with potential treatment criteria. **Hour 1: Patient selection and initial assessment(40 minutes)** Select the patient for the application -identify a patient based on the indications for *vedhu maruthuvam* (e.g., detoxification, pain relief, or treating specific ailments). Analyze the history of patients-(40 **minutes**) Patient complaints: document symptoms or discomfort. Past illnesses: understand chronic or recurrent conditions. Vitals: record baseline measurements, including temperature, pulse, respiration, and blood pressure, heart rate. **Hour 2: Preparation of therapy (40 minutes)** Collection of medicines, room arrangements, and patient preparation **Hour 3: Application of *vedhu maruthuvam* (60 minutes)** Prepare the patient by explaining the process and ensuring their comfort. Apply steam or medicated vapor to the appropriate body areas. Monitor the temperature to ensure it is tolerable and safe.

		Adjust the exposure time based on the patient's condition and tolerance. **Hour 4: Post-procedure assessment and care** Assess the patient post-therapy (30 minutes) reassess vital signs and monitor the patient for immediate effects. Relaxation or any visible physical changes. Provide care and guidance (30 minutes)-advise rest and hydration to aid recovery. Provide recommendations for diet or additional therapies if required. Students can perform the therapy under supervision and are also encouraged to use the direct observation of procedural skills (Dops) methodology. This prepares them for practice-oriented studies and ensures they maintain proper logbooks for future documentation. Two groups of people are divided, with one group engaging in the performance for two hours while the other group observes. In the next two hours, the roles are reversed, and the second group performs while the first group watches. The total duration of the activity is 4 hours.

Topic 2 PURAMARUTHUVAM-2 (EXTERNAL THERAPY) (LH :7 NLHT: 3 NLHP: 10)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO3	Describe the *kalikkam* procedure detailing the specific techniques involved and any safety precautions that should be taken during the application. Describe the materials and ingredients, manpower required for the *kalikkam* procedure. Describe how *kalikkam* is applied in specific clinical conditions, its therapeutic benefits, and suitable, and unsuitable conditions.	CK	MK	K	D,L&PPT	CHK,DOPS,DOPS,VV-Viva	F&S		-	LH
CO3	Describe the *nasikaparanam* procedure, the materials used, and the health benefits. Explain the roles and qualifications of the personnel involved and the materials and ingredients required. Explain the suitable and unsuitable conditions for *the naasikabaranam* procedure.	CK	DK	K	D,L&PPT	DOPS,DOPS,VV-Viva	F		-	LH
CO1,	Demonstrate the procedure of *peechu* therapy with proper	PSY-	MK	SH	CBL,D,	Log book,P	F&S		-	NLHP2.1

CO3	processing materials for various clinical conditions	GUD			SIM	-EXAM,DOPS,DOPS				
CO3	Describe the *nasiyam* procedure, including the materials and ingredients required, as well as the techniques for application. Explain the suitable and unsuitable conditions for the procedure. Explain how *nasiyam* is applied in clinical conditions and its health benefits.	CC	MK	K	L&PPT,D	DOPS,DOPS,CHK,VV-Viva	F&S		-	LH
CO3	Describe the *murichal* procedure, including the materials used and the techniques for application. Explain the suitable and unsuitable conditions for the procedure. Explain how *murichal* is applied in specific clinical conditions and its therapeutic benefits.	CC	MK	K	L&PPT,D	CHK,VV-Viva	F&S		-	LH
CO3	Demonstrate the procedure for performing *murichal*, the specific techniques involved, and any safety precautions that should be observed during the application.	PSY-GUD	MK	SH	D,L&GD	VV-Viva,DOPS, C-VC,DOPS	F&S		-	NLHT2.1
CO3	Describe the *kombu kattal* procedure and its types.	CK	DK	K	L&PPT	VV-Viva	F		-	LH
CO3	Demonstrate the suitable/unsuitable conditions, manpower, procedure, processing materials, and application in clinical conditions.	PSY-GUD	DK	SH	L&GD,D,L_VC	CL-PR,VV-Viva	F		-	NLHT2.2
CO3	Describe the *peechu* procedure, its types, and the application technique. Explain the ingredients, tools, and equipment required, as well as the suitable and unsuitable conditions for performing the *peechu* procedure. Explain how *peechu* is applied in clinical conditions, discussing its therapeutic benefits.	CK	MK	K	L&PPT,D	CHK,VV-Viva	F&S		-	LH
CO3	Demonstrate the step-by-step procedure for performing the *Peechu therapy*, detailing the specific techniques involved and any safety precautions that should be observed during the application.	PSY-GUD	MK	SH	D,L&GD	DOPS,VV-Viva,DOPS	S		-	NLHT2.3

CO3	Describe the *oothal* procedure, the routes of blowing, the apparatus used, suitable/unsuitable conditions, the procedure of processing materials, and application in clinical conditions.	CK	NK	K	L&PPT	DOPS,VV-Viva,DOPS	F		-	LH
CO1, CO3	Demonstrate the procedure of *nasiyam* therapy with proper processing materials for various clinical conditions.	PSY-GUD	MK	SH	SIM,CBL	Log book,DOPS,DOPS, P-EXAM	F&S		-	NLHP2.2
CO1, CO3	Demonstrate the procedure of *patti kattal (B*andaging) techniques with proper processing materials for various clinical conditions	PSY-GUD	DK	SH	SIM,KL	DOPS,DOPS,Log book ,P-EXAM	F		-	NLHP2.3
CO1, CO3	Demonstrate the procedure of *seelikaatumuraigal* with proper processing materials for *puya enbupin thandu paguthu murivugal* (Fracture of the shaft of the humerus), *keelalavu vilagal* (Dislocation of the jaw)	PSY-GUD	NK	SH	KL,SIM	Log book,P-EXAM,DOPS,DOPS	F		-	NLHP2.4

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 2.1	Procedure for *Murichal* (Bone resetting / Surgical correction of malunited fracture)	The teacher aids students in visualizing *murichal* therapy through clinical video cases. By observing video scenarios, the teacher will demonstrate an understanding of the indications, relevant techniques, and procedural knowledge of therapy through a lecture and group discussion. **1. *Murichal* therapy procedure demonstration:** *Murichal* techniques include the use of splints, bandages, herbal applications, and pain management techniques. Therapeutic outcomes: emphasis is placed on bone realignment, pain relief, and functional restoration. Types- resetting the dislocated joints, rebreaking, and resetting the malunited. Safety precautions- ensure minimal harm during the procedure. **A. Analysis of suitable vs unsuitable conditions:** Suitable: malunion fractures, chronic pain due to improper bone healing, deformities. Unsuitable: fresh fractures, open fractures, severe soft tissue damage, neurovascular complications. **B. Manpower required:**

		Qualified *siddha* practitioners and support teams (including assistants and clinical staff) are essential for the successful administration of the therapy. **C. Materials used in *murichal* therapy:** *Seeli/*splints/braces: made from bamboo, palm stems, or wood. Splints(herbals)- *aleo vera, kariabolam,ulunthu,* egg white *Kanaikal/ambu*: heated mud pot pieces, cotton cloth for wrapping. *Thottil* (sling): small and large arm slings designed for different handling needs. Oils and sterile instruments: used in conjunction with the therapy for healing and care. **D. Step-by-step procedure:** First aid management: address immediate needs such as pain relief and initial immobilization. Closed reduction: manipulation *(Kaieetham seithal)* to reset bones, followed by splinting for immobilization *(Asaiya kattidal*) with the medicated oil application of *vasaennai / murivuvennai* as a *tharai* (Oil dripping) procedure. Open reduction: if needed, re-breaking and repositioning the bone, ensuring proper alignment and fixation. Indication- *konal enbugal(* malunited),*koodaa enbugal*(non union) Contraindication-coronary heart disease.osteomyelitis,parathyriodism, surgical places. **E.post-treatment care:** followed by medicated applications, rest, and rehabilitation. Monitoring and patient comfort are essential during recovery. **F.safety precautions**: proper technique must be followed to prevent complications like infection, improper bone healing, and additional fractures. Students can develop clinical management skills and practice articulating their care plans in response to various *murichal* techniques by viewing clinical case videos using dops methods and refining their skills to improve assessment questions.
NLHT 2.2	Procedures of *Kombu Kattal* (Bone setting by supporting / Splint / *Seeli kattumurai)*	The teacher will explain *kombukattal* therapy through a lecture and group discussion, precisely using instructional video clips to demonstrate how to perform *kombukattal* therapy. **A. Introduction**

Definition and context-*kombu kattal (seeli kattumurai)* is a traditional *siddha* method used for bone stabilization, leveraging splints and supports to aid in the natural healing of fractures and dislocations.
Purpose: to minimize movement, promote alignment, and facilitate recovery.
Historical significance: rooted in *Siddha* medicine*(theraiyar tharu)*, emphasizing natural materials and holistic care.
Indications and contraindications
Suitable conditions: fractures (simple/closed), dislocations, sprains, strains, and post-trauma rehabilitation.
Unsuitable conditions: open fractures, severe soft tissue damage, infections, sepsis, and osteomyelitis.
Qualified practitioner: a trained *Siddha* physician or therapist for proper assessment and treatment.Supportive staff: to assist with immobilization, material preparation, and patient monitoring.
B. Main points: procedure for *kombu kattal* therapy
Patient assessment and preparation-
Assess injury severity and type through visual inspection and patient history.
Advise the patient to remain still; ensure preliminary immobilization.
Bone realignment (reduction)-Gently restore bone or joint to its original position. Precision is key to avoiding further complications.Use *Siddha* remedies like herbal oils, hot compresses, or mild anesthesia for pain.
Preparation of splints and supports
Materials: bamboo plates or *pirambu*(rattan), coconut stems, cloth, palm stem.
Medicated herbs/medicated drugs- pyllanthus reticulata, aleo vera, acacia arabica, calx of a conch shell, albizzia amara.white yolk of egg.
Specific tools:
*Cheeli (*splints): wooden or bamboo splints of varied sizes.
Achchu (brace): used for upper limb /lower limb and vertebral stabilization.
Thottil (sling): collar or arm slings for mobility. (long, short arm sling)
Pandhu (pad): cotton-based pads for cushioning.
Application of splints *(seeli kattumurai)*
Placing: align the splint securely along the injured site.
Securing: use bandages, slings, or braces to maintain immobilization without excessive pressure.
Monitoring and post-care
Observe for 24-48 hours to ensure stability and address complications like swelling.

		Regular follow-up, wound care, and gradual rehabilitation exercises. Retain the *kombu kattal* on the site for a period of 3 0r 7 0r 21 days. **C. Conclusion** – clinical applications, safety precautions, and therapeutic outcomes Students observe the demonstration and practice under supervision, analyzing the topics through class presentations, which cover preparation, correct application, patient safety, adherence to contraindications, and post-care therapy.
NLHT 2.3	Procedure for *Peechu* therapy	The teacher will demonstrate an understanding of the indications, relevant techniques, and procedural knowledge of *peechu* therapy through a lecture and group discussion, including patient preparation and material selection. The session will cover obtaining consent, analyzing indications and contraindications, administering post-care therapy, and implementing safety precautions. **Step-by-step procedure for *peechu* (Enema / Douche) therapy** **1. Preparation of materials** Selection of medicinal preparations: the type of enema depends on the patient's condition and *mukkutram.* Enema equipment: Ensure the kit is clean, sterile, and functioning properly before use. Apparatus includes: Cylindrical flask connected with rubber tubes and an anal knob. Animal bladder or polythene bag with nozzle (gold, silver, copper). Enema bulb or a specialized enema kit (usually made of rubber or silicone). Approximate capacity o*f peechu* apparatus: 1.5 liters. Additional requirements: nozzle – 1 unit, lavatory facilities, towel, hot water for bathing, vessel, and heating apparatus; procedure table, footstep stool, enema stand, bp apparatus, stethoscope, rubber sheet, and medicine trolley. Preparation of medicinal decoction or oil: Boil selected herbs in water, strain the mixture, and warm it to a tolerable temperature. Examples of medicated oils:

Thokkanam: vatha kesari thylam or notchithylam (50ml).
Peechu: castor oil (100ml), milk (200ml), honey (300ml).
Anal cleaning decoction: t*ripala choornam decoction (30ml) or padigara neer (10ml).*

2. Patient preparation

Evaluate the patient's condition, focusing on *vatha* disorders.
Ensure there are no contraindications (e.g., rectal infections or acute inflammation).
Common positions include lateral positions (lying on the left side) with knees bent. Knee-chest position for deeper penetration in chronic conditions.

3. Administration of the *peechu* therapy

3.1. Preparation of the enema equipment:
Fill the enema bulb or kit with the prepared medicinal liquid.
Ensure the nozzle is free from blockages and test the liquid flow on a clean surface.
3.2. Positioning and insertion:
Perform the *thokkanam* procedure on the head, lower abdominal area, and back using *vatha kesari thylam* (50ml) for 20 minutes with mild pressure (1/4 *mathirai*). Steps include *thadaval* (rubbing) and *pidithal* (grasping).
Clean the anal area with *triphala choornam* decoction (30ml) or *padigara neer (*10ml).
Apply castor oil inside the anal orifice as a soothing agent.
Insert the apparatus and administer the liquid slowly. Position the apparatus at a specific height to ensure a smooth flow. After administration, ask the patient to lie supine with raised legs and waist until the urge to excrete occurs.
3.3. Monitoring the administration:
Administer the liquid slowly for proper absorption.
Monitor the patient's response and ensure they are comfortable.
Retain the liquid for 10–20 minutes, depending on the patient's condition.

4. Post-therapy care

Ensure the patient has evacuated the content fully.
Maintain proper hydration and advise rest.
Schedule follow-up appointments until full recovery.
Students watch the demonstration and practice under supervision using the direct observation of procedural skills (Dops) methodology, while ensuring proper preparation, correct administration, patient safety, and adherence to contraindications.

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 2.1	Application of *Peechu maruthuvam (* Enema / Douche)	The teacher will conduct case-based learning for *peechu maruthuvam* therapy with simulated patients, review the case details, identify key symptoms, and determine the appropriate *siddha* examination methods, preparation, procedure execution, post-therapy care, and guidance with potential treatment criteria. **1. Patient selection (10 minutes)**-medical history and condition.current health status and therapy indications. Exclusion of contraindications (e.g., pregnancy, dehydration). **2. Patient assessment (15 minutes)** Analyse history and complaints: document symptoms, duration, and triggers. Review past illnesses and treatments. *Siddha* examination- *Kanmentriyam, gnanenthriyam, urithathukal, udalthathukal* *Envagai thervu* *Naadi* (pulse), *niram* (complexion), *mozhi* (voice), *vizhi* (eyes), *malam* (stool), *moothiram* (urine), *sparisam* (skin texture), and *naa* (tongue). Vitals monitoring: Record blood pressure, heart rate, respiratory rate, and temperature, pulse rate. 3. Preparation and setup (15 minutes) Materials: medicated oils, decoctions, sterile enema apparatus, gloves, castor oil, and spirit. Room: private, ventilated, with adjustable examination tables. Confirm the patient is fasting and has avoided non-vegetarian or spicy foods. Provide a brief overview of the procedure to ensure comfort and cooperation. **4. Pre-therapy procedure (15 minutes)** Apply gentle *thadaval* (mild -massage) to the head, lower abdomen, and back of the trunk. Instruct the patient to undress and assume the left lateral position. Clean the anal region using spirit.

		5. Procedure execution (30 minutes) Mix the prescribed formulation in a container. Stir thoroughly, heat to a lukewarm temperature, and pour into the enema apparatus. Apply castor oil to the anal opening and the apparatus knob using sterile gloves. Gradually insert the enema device into the rectum while maintaining the device at an appropriate height. Ensure the liquid flows slowly through the rectum into the lower gastrointestinal system.After administration, advise the patient to lie in the supine position with legs elevated to raise the waist. Fecal content is evacuated depending on the patient's condition. **6. Post-therapy care (15 minutes)**-encourage the patient to remain relaxed for 10-30 minutes until bowel movement occurs. **7. Evaluation and monitoring (10 minutes)** **8. Post-therapy guidance (10 minutes)** prescribe necessary follow-up medications and dietary recommendations. Advise on hydration and a light, easily digestible diet for the next 24 hours. Students can perform the therapy under supervision and are also encouraged to use the direct observation of procedural skills (dops) methodology. This prepares them for practical-oriented studies and ensures they maintain proper logbooks for future documentation. The total duration of the activity is 2 hours.
NLHP 2.2	Application Of n*asiyam* (Liquid nasal application)	The teacher will conduct case-based learning for *nasiyam* (liquid nasal application) with simulated patients, review the case details, identify key symptoms, and determine the appropriate *siddha* examination methods, preparation, procedure execution, post-therapy care, and guidance with potential treatment criteria. **Hour 1: patient selection, assessment, and preparation** Select the patient for the application (10 minutes)-identify the patient based on suitability for the *nasiyam* maruthuvam procedure. Analyze patient history and conduct siddha examination (30 minutes): History: past illnesses, current complaints, and medical history.

		Vitals: record vital signs (temperature, pulse, blood pressure, respiratory rate, heart rate). *Siddha* examination-*uyirthathukkal,udalthathukkal, gnanendriyam,kanmendriyam, envagaithervu,neikuri* Prepare materials and setup (20 minutes) Arrange appropriate materials (medicated oils, crushed leaf juices, etc.) Prepare the room: ensure it is clean and well-ventilated, and set up the *nasiyam* applicator, procedure table or stool, footstep stool, and medicine trolley. Verify suitable and unsuitable conditions for the procedure. **Hour 2: procedure and post-treatment assessment** Perform *nasiyam* maruthuvam procedure (30 minutes)- administer the treatment using medicated oil or crushed leaf juices based on the patient's condition. Evaluate patient pre and post-therapy (20 minutes) - reassess vital signs to evaluate the immediate effects of the procedure. Compare pre and post-therapy observations to document any changes. Conclude with medication and advice (10 minutes) Students perform the therapy under supervision and are encouraged to use the direct observation of procedural skills (Dops) methodology. This prepares them for practical examinations and ensures they maintain accurate logbooks for future documentation. The total duration of the activity is 2 hours.
NLHP 2.3	Application of *patti kattal* (Bandaging)	The teacher explains and demonstrates *kattu* bandages in simulated scenarios of bandage techniques, showing how to prepare the patient, select materials, and apply the bandage safely. Post-care procedures and essential precautions are also covered, with kinesthetic learning integrated into the session. **Hour 1: patient selection and initial analysis** Select the appropriate patient (15 minutes)-screen and select the patient based on the application's purpose and suitability for the procedure. Analyze patient history (20 minutes): History: past illnesses, current complaints, and medical background. Vitals: assess vital signs (temperature, pulse, respiration, heart rate, blood pressure).

		Siddha examination (25 minutes):*Kanmenthiriyam* and *vidayangal, Uyir thathuka*l, *Udal thathukal, Envagai thervu,Neerkuri/neikuri* **Hour 2: preparation and consent** Preparation (30 minutes): Processing materials: proper bandaging cloths, medications, etc. Manpower: assistants to support the procedure. Room specification: clean, well-ventilated, suitable lighting, appropriate temperature. Confirm diagnosis and inform patient (15 minutes) Finalize the diagnosis and ensure chosen materials and medications are appropriate. Explain the treatment protocol to the patient and obtain verbal consent. Special bandaging technique (15 minutes) - *valaiyam vaithu kattal* **Hour 3: procedure and follow-up** Apply *kattumurai* procedure (40 minutes)-proper measures., precise tying techniques, setting dates for tying and removal. Observation and documentation (20 minutes)-document findings and explain follow-up care for the 7 days. Students watch the demonstration and practice under supervision. They ensure the bandage is applied correctly and safely while checking circulation. With guidance and feedback, they improve their skills and confidence in performing Siddha bandaging techniques. Three groups of students are divided, with one group engaging in the performance for one hour while the other groups observe. In the next hour, the roles are reversed, and the second and third groups perform one by one, just like the first group. The total duration of the activity is 3 hours.
NLHP 2.4	Application of *Kombu Kattal* (Bone setting by splinting / *seeli kattumurai)*	The teacher will explain the application of *kombu kattal* (Bone setting by splinting / *Seeli kattumurai)* in the simulated environment and the application module using kinesthetic learning. **Hour 1: patient selection and initial assessment** Patient selection (15 minutes): confirm patient suitability for the procedure through initial screening. Comprehensive analysis (45 minutes): review patient history, complaints, past illnesses, and vitals.

		Perform *Siddha* examination orderly-*kanmentriyam, gnanenthriyam urithathukal, udalthathukal envagai thervu, neerkuri/neikuri.* **Hour 2: preparation and application of splinting *(kombu kattal)*** Preparation (30 minutes): arrange materials (bamboo/wooden sticks, cloth, supports, etc.).prepare the room (clean, ventilated, proper lighting, appropriate temperature). Ensure availability of manpower and verify conditions (suitable and unsuitable). Application of *kombu kattal* (30 minutes): Utilize traditional methods (supportive frame).*aapu (*adjustments).*thottil* (cradle-like support).*kanaikal* (alignment).*seeli* (securing mechanism). Examples- A.*puya enbupin thandu paguthu murivugal* (fracture of the shaft of the humerus)-manipulation techniques should be performed to realign the dislocated part. After proper realignment, eight splints wrapped in cotton cloth should be placed over the injured area and secured with gauze and a cotton roll. B.*alavenbu murivu (fracture of the mandible) – seeli kattu murai* For a mandible fracture, the dislocated bone should then be manually realigned. Before performing this procedure, bamboo sticks wrapped tightly in cotton cloth should be prepared for *seeli kattu murai.* **Hour 3: post-procedure assessment and management** Assessment and follow-up (30 minutes): reassess the patient post-procedure using clinical methods. Confirm alignment, functionality, and patient comfort. Document observations and outcomes. Advising and planning (30 minutes): provide detailed guidance for further management (e.g., lifestyle modifications, medication, follow-ups). Address patient or caregiver concerns. Students can perform the therapy under supervision and also emphasized using the direct observation of procedural skills (Dops) methodology and prepare them for practical-oriented studies and maintain proper log books for future documentation. Three groups of students are divided, with one group engaging in the performance for one hour while the other groups observe. In the next hour, the roles are reversed, and the second and third groups perform one by one, just like the first group. The total duration of the activity is 3 hours.

Topic 3 MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY (LH :5 NLHT: 5 NLHP: 6)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO4, CO5	Define *saganavatham* (Cervical spondylosis)	CK	MK	K	L&PPT	P-REC	F&S		-	LH
CO4, CO5	Describe the causes, signs and symptoms of *saganavatham* (Cervical spondylosis). Demonstrate the varmam therapy techniques, for the effective management of *saganavatham* (Cervical Spondylosis).	PSY-GUD	MK	SH	DIS,CBL,L&GD,REC	P-RP,DOPS,OSCE,DOPS,CBA	F&S		H-MM	NLHT3.1
CO1, CO4	Demonstrate *varmam* therapy for the management of *saganavatham* (cervical spondylosis).	PSY-GUD	MK	SH	D-BED, CBL,KL	P-EXAM	F&S		-	NLHP3.1
CO4, CO5	Demonstrate *varmam* therapy for the management of *thandagavatham* (Lumbar spondylosis).	PSY-GUD	MK	SH	CBL,KL,D-BED	P-EXAM	F&S		-	NLHP3.2
CO4, CO5	Define *thandagavatham* (Lumbar spondylosis).	CK	MK	K	L&PPT	P-REC	F&S		-	LH
CO4, CO5	Describe the causes, signs and symptoms. of *thandagavatham* (Lumbar spondylosis). Demonstrate the varmam therapy techniques, for the effective management of *thandagavatham* (Lumbar spondylosis).	PSY-GUD	MK	SH	CBL,L&GD,DIS	SP,DOPS,OSCE,DOPS, CBA	F&S		H-MM	NLHT3.2
CO1, CO4, CO5	Define *arugu kai narambu pinnal seyalilzhappu* (Erb's palsy).	CK	NK	K	L&PPT	P-REC	F&S		-	LH
CO4, CO5	Describe the causes, signs and symptoms of *arugu kai narambu pinnal seyalilzhappu* (Erb's palsy). Demonstrate the varmam therapy techniques, for the effective management of a*rugu kai*	PSY-GUD	DK	SH	L&GD, PBL,DIS	OSCE,DOPS,CBA,SP, DOPS	F&S		-	NLHT3.3

	narambu pinnal seyalilzhappu (Erb's palsy).									
CO4, CO5	Define *patha veezhchi* (Foot drop).	CK	DK	K	L&PPT	P-REC	F&S		-	LH
CO4, CO5	Describe the causes, signs, and symptoms of *patha veezhchi* (Foot drop). Demonstrate the varmam therapy techniques, for the effective management of *patha veezhchi* (Foot drop).	PSY-GUD	MK	SH	CBL,L&GD,DIS	OSCE,CBA,SP,DOPS, DOPS	F&S		-	NLHT3.4
CO4, CO5	Define *kuthiraival vagai seyalilzhappu* (Cauda equina syndrome).	CK	DK	K	L&PPT	P-REC	F&S		-	LH
CO4, CO5	Describe the causes, signs, and symptoms of *Kuthiraival vagai seyalilzhappu* (Cauda equina syndrome). Demonstrate the *varmam* therapy techniques, for the effective management of *kuthiraival vagai seyalilzhappu* (Cauda equina syndrome).	PSY-GUD	MK	SH	L&GD, CBL	DOPS,SP,CBA,DOPS, OSCE	F&S		-	NLHT3.5
CO4, CO5	Demonstrate *varmam* therapy for the *management* of *patha veezhchi* (Foot drop).	PSY-GUD	DK	SH	CBL,D-BED,KL	P-EXAM	F&S		-	NLHP3.3

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 3.1	*Varmam therapy* for the management of *Saganavatham* (Cervical Spondylosis).	The teacher will explain *varma* therapy for the management of saganavatham (Cervical spondylosis) by using lectures and group discussion / case based learning. **1. Introduction to *varmam* therapy** discuss the relevance of *varmam* therapy in managing musculoskeletal disorders, especially saganavatham (cervical spondylosis) **2. Case study presentation** present a detailed case study of a patient suffering from *saganavatham* (cervical spondylosis), **3. Group discussion** divide students into small groups to discuss the case each group should identify the key issues and propose how *varmam* therapy could be beneficial.

		4. Demonstration of *varmam* points demonstrate the specific *varmam* points that are used in the management of *saganavatham* (cervical spondylosis). Show how to locate these points on an anatomical model or volunteer. Explain the method of stimulation and expected outcomes. ***5. Role play*** students take turns role-playing as the practitioner and patient. They will practice locating and stimulating the relevant *varmam* points based on the case study. **6. Worksheet completion** each student completes a worksheet detailing: the *varmam* points were used. The technique for stimulation. Expected physiological effects and outcomes. **7. Group presentations** each group presents their findings and approach to managing the case using *varmam* therapy. **8. Assessment criteria** knowledge application: understanding the theoretical aspects of *varmam* therapy. Practical skills: accuracy in identifying *varmam* points and correct application of therapy. Critical thinking: ability to analyze the case and propose an appropriate treatment plan. Communication: clarity and effectiveness in presenting their approach. Students are evaluated for proficiency in applying *varmam* therapy techniques by practical roleplay/ dops/ simulated patient / OSCE / case-based assessment for managing symptoms associated with *saganavatham* (Cervical spondylosis). The total duration of the activity is 2 hours.
NLHT 3.2	*Varmam* therapy for the management of *Thandagavatham* (Lumbar Spondylosis).	The teacher will explain *varma* therapy for the management of *thandagavatham* (lumbar spondylosis) by using lectures and group discussion/case-based learning. **1. Introduction to *varmam* therapy** Discuss the relevance of *varmam* therapy in managing musculoskeletal disorders, especially *thandagavatham* (Lumbar spondylosis). **2. Case study presentation**

		Present a detailed case study of a patient suffering from *thandagavatham* (lumbar spondylosis). **3. Group discussion** Divide students into small groups to discuss the case. Each group should identify the key issues and propose how *varmam* therapy could be beneficial. **4. Demonstration of *varmam* points** Demonstrate the specific *varmam* points that are used in the management of *thandagavatham* (Lumbar spondylosis). Show how to locate these points on an anatomical model or volunteer. Explain the method of stimulation and expected outcomes. **5.Roleplay** students take turns role-playing as the practitioner and patient. They will practice locating and stimulating the relevant *varmam* points based on the case study. Worksheet completion each student completes a worksheet detailing: The *varmam* points were used. The technique for stimulation. Expected physiological effects and outcomes. Group presentations Each group presents their findings and approach to managing the case using *varmam* therapy. **Assessment criteria**: Knowledge application: understanding the theoretical aspects of *varmam* therapy. Practical skills: accuracy in identifying *varmam* points and correct application of therapy. Critical thinking: the ability to analyze the case and propose an appropriate treatment plan. Communication: clarity and effectiveness in presenting their approach. Students are evaluated for proficiency in applying *varmam* therapy techniques by dops/ simulated patient/ OSCE/case-based assessment for managing symptoms associated with *thandagavatham* (Lumbar spondylosis).
NLHT 3.3	Varmam therapy for the management of *Arugu kai Narambu pinnal Seyalilzhappu* (Erb's palsy).	The teacher will explain *varma* therapy for the management of *arugu kai narambu pinnal seyalilzhappu* (Erb's palsy). By using lecture and group discussion / case based learning. Briefly explain the definition, causes, and clinical features of *arugu kai narambu pinnal seyalilzhappu*

		(Erb's palsy) as a type of brachial plexus injury. List and describe specific *varmam* points related to the brachial plexus. Explain how stimulating *varmam* points may help to restore nerve function. Elucidate the techniques used to stimulate *varmam* points, including a short video or animated sequence if possible. Outline a step-by-step protocol for applying *varmam* therapy in *arugu kai narambu pinnal seyalilzhappu* (Erb's palsy). The potential benefits, such as improved mobility and reduced pain. Discuss any limitations or contraindications. Dops assessment criteria for students **1. Preparation and communication** explain the procedure clearly to the patient. Ensures patient comfort and consent **2. Technical proficiency** accurately identifies and locates relevant *varmam* points. Applies appropriate pressure and techniques with proper hand positioning. **3. Clinical judgment** demonstrates understanding of *arugu kai narambu pinnal seyalilzhappu* (erb's palsy) and modifies therapy accordingly. Adapts techniques based on patient response and feedback. **4. Professionalism** communicates effectively with empathy and respect. Maintains patient dignity and confidentiality. **5. Post-therapy care** monitors and assesses patient reaction to the therapy. Provide aftercare advice and document the session accurately. Students are evaluated for proficiency in applying *varmam* therapy techniques by dops/ simulated patient / OSCE/case-based assessment for managing symptoms associated with *arugu kai narambu pinnal seyalilzhappu* (Erb's palsy).
NLHT 3.4	*Varmam* therapy for the management of *Patha*	The teacher will explain *varmam* therapy techniques, for the effective management of *patha veezhchi*

	Veezhchi (Foot Drop).	(Foot drop) by using lecture and group discussion / case based learning. Materials needed: Anatomical model or diagrams illustrating *varmam* points Comfortable therapy table or mat. Gloves and hand sanitizer. Written consent form (for real patients). Feedback and evaluation form. Procedure: Introduction: Explain *patha veezhchi* (Foot drop), its symptoms, and the role of *varmam* therapy in its management. **1.preparation** Demonstrate proper hygiene practices, ensure patient comfort, explain the procedure to the patient, and obtain informed consent. **2. Identification of *varmam* points** Identify and describe the *varmam* points relevant to *patha veezhchi* (Foot drop) (e.g., points around the lower back, sacrum, and lower limbs). Explain the location and significance of each point. Use anatomical references or models. **3. Application of *varmam* techniques** Demonstrate the techniques used to stimulate the identified *varmam* points (E.g., gentle pressure, circular motions, rhythmic tapping). Use appropriate pressure and techniques. Maintain communication with the patient to ensure comfort. Monitor for any adverse reactions. **4. Post-procedure care** Provide aftercare instructions, including rest, hydration, and follow-up. **5. Feedback and reflection** Provide constructive feedback based on observation. Encourage student reflection on their performance. Assessment criteria: Knowledge of *patha veezhchi* (Foot drop) and *varmam* therapy. Identification and stimulation of appropriate *varmam* points.

		Patient communication and care. Hygiene and procedural preparation. Professionalism and adherence to safety protocols. students are evaluated proficiency in applying *varmam* therapy techniques by dops/ simulated patient/ OSCE / case based assessment for managing symptoms associated with *patha veezhchi* (Foot drop).
NLHT 3.5	*Varma* therapy for the management of *kuthiraival Vagai seyalilzhappu* (Cauda equina syndrome)	The teacher will explain varma therapy for the management of *kuthiraival vagai seyalilzhappu* (Cauda equina syndrome) by using lecture and group discussion / case based learning. Materials needed: Anatomical models or diagrams illustrating *varmam* points. Comfortable therapy table or mat. Gloves and hand sanitizer. Written consent form (For real patients). Feedback and evaluation form. Procedure: Introduction: Explain *kuthiraival vagai seyalilzhappu* (Cauda equina syndrome), its symptoms, and the role *of varmam therapy* in its management. **1. Preparation** demonstrate proper hygiene practices, ensure patient comfort, explain the procedure to the patient, and obtain informed consent. **2. Identification of *varmam* points** identify and describe the *varmam* points relevant to *kuthiraival vagai seyalilzhappu* (cauda equina syndrome) (e.g., points around the lower back, sacrum, and lower limbs). Explain the location and significance of each point. Use anatomical references or models. **3. Application of *varmam* techniques** demonstrate the techniques used to stimulate the identified *varmam* points (e.g., gentle pressure, circular motions, rhythmic tapping. Use appropriate pressure and techniques. maintain communication with the patient to ensure comfort.

		Monitor for any adverse reaction **4. Post-procedure care** -provide aftercare instructions, including rest, hydration, and follow-up **5.Feedback and reflection**-provide constructive feedback based on observation. Encourage student reflection on their performance assessment criteria: Knowledge of *kuthiraival vagai seyalilzhappu* (Cauda equina syndrome) and varmam therapy. Identification and stimulation of appropriate *varmam* points. Patient communication and care. Hygiene and procedural preparation. Professionalism and adherence to safety protocols. students are evaluated for proficiency in applying varmam therapy techniques by dops/ simulated patient / OSCE/ case-based assessment for managing symptoms associated with *kuthiraival vagai seyalilzhappu* (Cauda equina syndrome)
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 3.1	Application of *Varmam* therapy for the management of *Saganavatham* (Cervical Spondylosis).	The teacher will explain *varma* therapy for the management of *saganavatham* (cervical spondylosis) by using lectures and group discussion / case based learning. **1. Introduction to *varmam* therapy** discuss the relevance of *varmam* therapy in managing musculoskeletal disorders, especially *saganavatham* (cervical spondylosis). **2. Case study presentation** present a detailed case study of a patient suffering from *saganavatham* (cervical spondylosis), **3. Group discussion** divide students into small groups to discuss the case each group should identify the key issues and propose how *varmam* therapy could be beneficial. **4. Demonstration of *varmam* points** demonstrate the specific *varmam* points that are used in the management of *saganavatham* (cervical

		spondylosis). Show how to locate these points on an anatomical model or volunteer. Explain the method of stimulation and expected outcomes. **5. Role play** students take turns role-playing as the practitioner and patient. They will practice locating and stimulating the relevant *varmam* points based on the case study. **6. Worksheet completion** each student completes a worksheet detailing: the *varmam* points were used. The technique for stimulation. Expected physiological effects and outcomes. **7. Group presentations** each group presents their findings and approach to managing the case using *varmam* therapy. **8. Assessment criteria** knowledge application: understanding the theoretical aspects of *varmam* therapy. Practical skills: accuracy in identifying *varmam* points and correct application of therapy. Critical thinking: ability to analyze the case and propose an appropriate treatment plan. Communication: clarity and effectiveness in presenting their approach. Students are evaluated for proficiency in applying *varmam* therapy techniques by practical roleplay/ dops/ simulated patient/ osce/case-based assessment for managing symptoms associated with *saganavatham* (cervical spondylosis). The total duration of the activity is 2 hours.
NLHP 3.2	Application of *varma* therapy for management of *thandagavatham* (Lumbar Spondylosis).	The teacher will conduct case-based learning / Demonstration on the Bedside for Varmam therapy for the management of *Thandagavatham* (Lumbar Spondylosis). Analyse the *varmanaadi, saraootam, kanmenthirium and its vidayangal, uyir thathukal, udal thathukal, and envagai thervu* of the patient. After confirming the diagnosis, and choosing the needed *varmam* points, specific to the patient, inform them about the treatment protocol by getting verbal consent from them. Apply *varma ilakkumurai* techniques with proper maathirai/irai measurement. Practical Exam Assessment Structure: 1. Introduction (15 minutes)

		Students provide a brief overview of *Thandagavatham* (Lumbar Spondylosis) and *varmam* therapy. Explain the causes and symptoms of *Thandagavatham* (Lumbar Spondylosis). 2. Case Study Analysis (20 minutes) Assess the student's ability to analyse a case and suggest a treatment plan. Present a case study of a patient with *Thandagavatham* (Lumbar Spondylosis). Students identify key issues and propose a *Varmam* therapy-based management plan. 3. Practical Demonstration (45 minutes) Evaluate the students' practical application of *Varmam* therapy techniques. Demonstration of locating and stimulating key *Varmam* points related to *Thandagavatham* (Lumbar Spondylosis). Students perform therapy under supervision, focusing on accuracy and technique. Use of any tools or supportive methods in therapy (e.g., massage techniques, exercises). 4. Oral Examination (20 minutes) Examine the students' understanding of the theoretical and practical aspects of the therapy. Q&A session covering: Anatomical knowledge relevant to *Thandagavatham* (Lumbar Spondylosis) Mechanism of action of *Varmam* therapy. Patient care and safety during therapy. 5. Feedback and Discussion (20 minutes) Review of each student's performcance. Students can perform the therapy under supervision and are also encouraged to use the practical exam methodology. This prepares them for practice-oriented studies and ensures they maintain proper logbooks for future documentation. The Total duration of the activity is 2 hours.
NLHP 3.3	*Varmam* therapy for the management of *Patha Veezhchi* (Foot Drop).	The teacher will conduct case-based learning / demonstration on bedside varmam therapy for the management of *patha veezhchi* (Foot drop), analyse the *varmanaadi, saraootam, kanmenthirium and its vidayangal, uyir thathukal, udal thathukal, and envagai thervu* of the patient. Once the diagnosis is confirmed and appropriate varma points are identified for the patient, communicate the treatment protocol clearly and obtain their verbal consent. Apply *varma ilakkumurai* techniques using precise

		maathirai / irai measurements. Practical exam assessment structure: **1. Introduction (15 minutes)** Students provide a brief overview of Footdrop and varmam therapy. Explain the causes and symptoms of Foot drop. Describe the principles of *varmam therapy* and its relevance in treating Foot drop. **2. Case study analysis (20 minutes**) Assess the student's ability to analyse a case and suggest a treatment plan. Present a case study of a patient with Foot drop. Students identify key issues and propose a *varmam therapy*-based management plan. **3. Practical demonstration (45 minutes)** Evaluate the students' practical application of *varmam therapy* techniques. Demonstration of locating and stimulating key *varmam* points related to Footdrop. Students perform therapy under supervision, focusing on accuracy and technique. Use of any tools or supportive methods in therapy (E.g., massage techniques, exercises). **4. Oral examination (20 minutes)** Examine the students' understanding of the theoretical and practical aspects of the therapy. Q&a session covering: Anatomical knowledge is relevant to footdrop. Mechanism of action of *varmam* therapy. Patient care and safety during therapy. **5. Feedback and discussion (20 minutes)** Review of each student's performance. Students can perform the therapy under supervision and are also encouraged to use the practical exam methodology. This prepares them for practice-oriented studies and ensures they maintain proper logbooks for future documentation. The total duration of the activity is 2 hours.

Topic 4 INTRODUCTION AND CLASSIFICATION OF VARMAM (LH :23 NLHT: 6 NLHP: 4)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3

CO4	Define *varmam* and its types. Explain the classification of *varmam* based on anatomy, signs and symptoms, injury, *aatharam*, three humors, five elements, numerical, and *naadi*. Define the term *vaasi or saram*, and discuss how *vaasi* relates to the control and balance of vital energies within the body .	CK	MK	K	L&PPT	CL-PR,M-CHT,VV-Viva	F&S		-	LH
CO1, CO4	Describe the origin of *varmam*, its historical roots, and its development within the Siddha tradition. Additionally, explain the ethical considerations involved in teaching *Varmam*, emphasizing the responsibility of practitioners to ensure safe and effective practices, respect for patients, and the importance of preserving traditional knowledge.	CC	MK	K	L&PPT	CL-PR,VV-Viva	F&S		-	LH
CO4	Describe the importance of *varmam* and its unique features. Discuss how *varmam* techniques are significant for their ability to target specific pressure points, promoting healing, pain relief, and overall well-being. Emphasize the integration of *varmam* with other therapeutic modalities.	CC	DK	K	L&PPT	M-CHT,VV-Viva,CL-PR	F&S		-	LH
CO4	Differentiate between the terms *adangal and varmam*. Elaborate *varmam maruthuva muraiga*l - *adangal, amarthal* (varma pressure method), *pinnal (varma* plaiting method), *ilakkumurai* (varma relieving method), *thadava*l (varma massage method), *thattumurai* (varma tapping techniques) and *savatu murai* (varmam stamping method)	CC	MK	K	L&PPT ,PL	VV-Viva	F&S		-	LH
CO4	Explain the etiology of *varmam* and its principles. Discuss how *varmam* therapy addresses imbalances in the body's energy systems and physiological functions. Recall relevant poem that highlights the traditional wisdom and philosophical underpinnings of *varmam.*	CC	MK	K	L&PPT	COM,P-REC,VV-Viva,PA	F&S		-	LH

CO4	Compare the basic philosophies related to the formation of *varmam* points, focusing on *varma physiology*. Compare *varmam* with other systems of medicine by examining their philosophies, methodologies, treatment approaches, and therapeutic goals.	CC	DK	K	L&PPT	PA,M-MOD,VV-Viva,COM	F&S		-	LH
CO4	Explain the concept of *varma kaayathalangal (varma* trauma site*),* which refers to the specific sites of trauma associated with *varmam* therapy.	CK	DK	K	L&PPT	VV-Viva,COM,PA,M-MOD	F		-	LH
CO4	Describe the pulse diagnosis in *a varmam* patient. Explain the important *varmam* centers *idhayam (h*eart), *neerpai* (bladder), *and korthagam* (cerebrum). Explain the primary *padu varmam* centers. Describe the specific locations on the body where these *varmam* points are situated and their roles in influencing overall health and well-being.	CC	NK	K	L&GD	M-MOD,PA,VV-Viva	F		V-NN1	LH
CO4	Demonstrate *varma maathirai / irai* -manual pressure (force and depth of pressure). Discuss about measurements in *varmam* application (*viral alavu* -finger breadth). Demonstrate the manipulating techniques in varmam (*thadaval, pinnal, amarthal, thattal, thoduthal*). Demonstrate the stimulating methods - objects/body parts. Thread measurement techniques in varmam *(nool alavai).* Evaluate *avathi* (time limit) .	PSY-GUD	MK	SH	L&GD, SDL,L_VC,KL	DOPS,DOPS,QZ ,SP,PA	F&S		-	NLHT4.1
CO4	Recognise the food items and duration associated with the dietary practices in *varmam* therapy.	CK	MK	K	L_VC,L&PPT	QZ ,VV-Viva	F&S		-	LH
CO4	Explain diet management in *varmam.* Differentiate between *elagupathiyam* and *kadumpathiyam.* Explain their characteristics, applications, and therapeutic significance.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO4	Explain the bathing process during *varmam* therapy.	CK	DK	K	L&GD, L	VV-Viva	F&S		-	LH

CO4	Describe the room specification and list the equipment used in *the varmam* application, highlighting their significance and roles in the therapeutic process.	CK	DK	K	FV,L_VC,L&GD	CHK,M-CHT,M-MOD	F		-	NLHT4.2
CO4	Explain in detail the location, signs and symptoms, *avathi* (time limit), diet, and management for the following *varma points.* • *Thilartha Varmam* • *Natchathira Varmam* • *Sevikuttri Varmam* • *Pidari Varmam*	CC	MK	K	D,L&PPT	M-POS,VV-Viva,DOPS,DOPS	F&S		-	LH
CO4	Explain in detail the location, signs and symptoms, *avathi* (time limit), diet, and management for the following *varma points.* • *Urakka Kaalam* • *Thummi Kaalam* • *NerVarmam/Kombu Varmam* • *Adappa Varmam*	CAP	MK	K	D,L&PPT	M-POS,DOPS,DOPS,VV-Viva	F&S		-	LH
CO4	Explain in detail the location, signs and symptoms, *avathi* (time limit), diet, and management for the following *varma points.* • 1*) Pootellu varma* • *2) Mun Chuvadi varma* • *3) Nettri kaalam* • *4) Pin Chuvadi varma* • *5) Porichal varma* • *6) Puruva kaalam*	CAP	MK	K	L&PPT,D	VV-Viva,M-POS,DOPS,DOPS	F&S		-	LH

	• *7) Kannakaalam* • *8) Kumbidum kaalam* • *9) Bala varma* • *10)Chuliyadi varma*									
CO4	Explain in detail the location, signs, symptoms, *avathi* (time limit), diet, and management for the following *varma points.* • *11) Moorthi kaalam/Laada varma/Laada Mayam* • *12) Aayama kaalam* • *.13)Nadi varmam/Naasi varmam* • *14)Chenni varmam* • *15)Poigai kaalam* • *16)Kurunth Kuttri kaalam* • *17)Alavattukona Chenni varmam* • *18)Vettu varmam* • *19)Kokki varmam* • *20)Manthira kaalam* • *21)Kannu varmam* • *22)Arugu kaalam*	CC	MK	K	L&PPT ,D	VV-Viva,M -POS,DOP S,DOPS	F&S		-	LH
CO4	Explain in detail the location, signs and symptoms, *avathi* (time limit), diet, and management for the following *varmampoints.* • *23) Malar varmam* • *24) Vilangu varmam* • *25) Kulir varmam* • *26) Arangu varmam* • *27) Maattraan kaalam*	CC	NK	K	L&PPT ,D	DOPS,M-P OS,VV- Viva,DOPS	F		-	LH

	• *28) Thivalai varmam* • *29) Kaareeral varmam* • *30) Velleeral varmam* • *31) Kombu varmam* • *32) Nenchadaippan varmam* • *33)Munnvillu varmam*									
CO4	Explain in detail the location, signs and symptoms, *avathi* (time limit), diet, and management for the following *varma points.* • 34) *Mundellu varmam* • *35) Kutri varmam* • *36) Urumi varmam* • *37) Kakattai kaalam* • *38) Chippi varmam* • *39) Changuthiri kaalam* • *40) Vaayu kaalam* • *41) Manthira kaalam* • *42) Chiriya Athichuriki varmam* • *43) Iruppu varmam*	CC	MK	SH	D,L_VC	CL-PR,M-CHT	S		-	LH
CO4	Explain the location, signs and symptoms, manipulation techniques, appropriate levels, duration and frequency of pressure, directional techniques, and movement patterns required for effectively stimulating each *varmam* point.*Pootellu varmam, mun chuvadi varmam, nettri kaalam, pin chuvadi varmam, porichal varmam, puruva kaalam, kannakaalam, kumbidum kaalam, bala varmam, chuliyadi varmam, moorthi kaalam/laada varmam/laada mayam, aayama kaalam, nadi varmam/naasi varmam, chenni*	CC	MK	SH	L_VC,D	M-CHT,CL-PR	S		-	NLHT4.3

	varmam, poigai kaalam, kurunth kuttri kaalam, alavattukona chenni varmam, vettu varmam, kokki varmam, manthira kaalam, kannu varmam, arugu kaalam. Extremities *varmam:* *Mozhi varmam, aani varmam, pathakkala varmam, chulukku varmam , (kaal)kochu varmam, aaama kaalam, thundu varmam, chirattai varmam, muttu varmam, channi varmam, naai thalai varmam, uppu kuttri varmam, kaal kannu varmam, kuthikaal varmam, nadai varmam, kulachu varmam, mudichu varmam, boomi kaalam, naduviral chulukku varmam, kaal kavali, peruviral mayya varmam, adakka varmam, konachanni, komberi kaalam, paathachakkaram.*									
CO4	Explain the location, signs and symptoms, manipulation techniques, appropriate levels, duration and frequency of pressure, directional techniques, and movement patterns required for effectively stimulating each *varmam* point. • 1) *Thilartha varmam* • *2) Natchathira varmam* • *3) Sevikuttri varmam* • *4) Pidari varmam* • *5)Urakka kaalam* • *6) Thummi kaalam*	CC	MK	SH	L_VC,D	DOPS,M-POS,DOPS, VV-Viva	F&S		-	NLHT4.4
CO4	Demonstrate plotting of selected points in mannequins.	PSY-GUD	MK	SH	SIM,KL	DOPS,P-EXAM,Log book,DOPS	F&S		-	NLHP4.1
CO4	Explain in detail the location, signs and symptoms, *avathi* (time limit), diet, and management for the following *varmam points.*	CC	MK	K	D,L&PPT	DOPS,VV-Viva,DOPS	F&S		-	LH

	• *44) Pinvillu varmam* • *45) Andakkaalam* • *46) Kaccha varmam* • *47) Thandu varmam* • *48) Thandinadi varmam* • *49) Pandri varmam* • *50) Ada varmam* • *51) Mothira kaalam* • *52) Vaanthi kaalam* • *53) Valamburi kaalam* • *54) Chorutheenda kaalam* • *55) Naabi varmam* • *56) Hanuman varmam* • *57) Pushti kaalam* • *58) Chuli varmam* • *59) Kurunthukuthi kaalam.*					,M-POS				
CO4	Explain in detail the location, signs and symptoms, *avathi* (time limit), diet, and management for the following *varma points.* • *60) Dhakshana kaalam* • *61) Kavali varmam* • *62) Peruviral Mayya varmam* • *63) Manikattu varmam* • *64) Kannu varmam* • *65) Muzhankai varmam* • *66) Muttu varmam* • *67)Thuthikai varmam* • *68) Kocchu varmam* • *69) Chulukku varmam (kai)*	CC	MK	K	D,L&PPT	DOPS,M-POS,VV-Viva,DOPS	F&S		-	LH

	• *70)Puja varmam*									
CO4	Explain in detail the location, signs and symptoms, *avathi* (time limit), diet, and management for the following *Varma points.* • *71) Mozhi Varmam* • *72) Aani Varmam* • *73) Pathakkala Varmam* • *74) Chulukku Varmam(Kaal)* • *75) Kochu Varmam* • *76) Aaama Kaalam* • *77) Thundu Varmam* • *78) Chirattai Varmam* • *79) Muttu Varmam* • *80) Channi Varmam*	CC	MK	K	D,L&PPT	DOPS,VV-Viva,DOPS,M-POS	F&S		-	LH
CO4	Explain the location, signs and symptoms, manipulation techniques, appropriate levels, duration and frequency of pressure, directional techniques, and movement patterns required for effectively stimulating each *varmam* point.-*Vilangu varmam, kulir varmam, arangu varmam, maattraan kaalam, thivalai varmam, kaareeral varmam, velleeral varmam, kombu varmam, nenchadaippan varmam, munnvillu varmam, mundellu varmam, kutri varmam, urumi varmam, kakattai kaalam, chippi varmam, changu thiri kaalam, vaayu kaalam, manthira kaalam, athichuriki varmam, iruppu varmam, pinvillu varmam, andakkaalam, kaccha varmam, thandu varmam, thandinadi varmam , pandri varmam, ada varmam, mothira kaalam, vaanthi kaalam, valamburi kaalam, chorutheenda kaalam, naabi varmam, hanuman varmam,*	CAP	NK	K	D,L&PPT	DOPS,VV-Viva,M-POS,DOPS	F		-	NLHT4.5

	pushti kaalam, chuli varmam, kurunthukuthi kaalam.									
CO4	Explain in detail the location, signs and symptoms, *avathi* (time limit), diet, and management for the following *Varma points.* • *81) Naai Thalai Varmam* • *82) Visha Varmam* • *83) Uppu Kuttri Varmam* • *84) Kaal Kannu Varmam* • *85) Kuthikaal Varmam* • *86) Nadai Varmam* • *87) Kulachu Varmam* • *88) Mudichu Varmam* • *89) Boomi Kaalam* • *90) Naduviral Chulukku Varmam*	CC	MK	K	L&PPT,D	M-MOD,DOPS,VV-Viva,DOPS	F&S		-	LH
CO4	Explain in detail the location, signs and symptoms, *avathi* (time limit), diet, and management for the following *Varma points.* • *91) Kaal Kavali* • *92) Peruviral Mayya Varmam* • *93) Adakka Varmam* • *94) Konachanni* • *95) Komberi Kaalam* • *96) Paathachakkaram.*	CC	MK	K	L&PPT	VV-Viva,M-CHT,DOPS,DOPS	F&S		-	LH
CO4	Explain in detail the location, signs and symptoms, *avathi* (time limit), diet, and management for the following *varma points.*	CC	MK	K	L&PPT	M-CHT,VV-Viva,DOPS,DOPS	F&S		-	LH

	• *9) Urumi kaalam/Pandri varmam* • *10) Periya Athisurikki kaalam* • *11)Seriya Athisurikki varmam* • *12) Kalladai kaalam*									
CO4	Explain the location, signs and symptoms, manipulation techniques, appropriate levels, duration and frequency of pressure, directional techniques, and movement patterns required for effectively stimulating each *varmam* point.*Ner varmam/kombu varmam, Adappa varmam, Urumi kaalam/pandri varmam, Periya athisurikki kaalam, Siriya athisurikki varmam, Kalladai kaalam*	CAP	MK	SH	L&PPT ,D	DOPS,DOPS,M-POS,VV-Viva	F&S		-	NLHT4.6

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 4.1	Measurements and manipulating techniques in *varmam* application	The teacher provides an overview of key points in the *varmam* measurement and application module using simulated patients, a lecture with video clips, and a self-directed learning methodology. Observing video scenarios, students are guided to practice the stimulation techniques for each varmam point in OPD/IPD settings. **A. Demonstration of pressure levels by traditional techniques** Simulated patient demonstration: pressure levels *(Mathirai / Irai)*: 1/4, 1/2, 3/4, 1. Or Mannequin demonstration: the same pressure levels are illustrated using standardized mannequins. **B. *Viral alavu (F*inger breadth) discussion** Measurement and location of specific *varmam* points: *1/4 mathirai (Edu): 3 viral alavu (1/4 jaan)* *1/2 mathirai (Emam): 6 viral alavu (1/2 jaan)* *3/4 mathirai (Kaalam): 9 viral alavu (3/4 jaan)* *1 mathirai (varmam): 12 viral alavu (1 jaan)* Examples: Ner varmam: 2 finger breadths below the sternum.A*dappa kaalam*: 4 finger breadths above the 11th floating ribs.

		C. Preparation and demonstration of manipulation methods Preparation: patient setup, room arrangement, and safety protocols. Manipulation techniques: *Thadaval:* Gentle rubbing with the palm (e.g., chest/trunk).-*agatharai, puratharai thadaval* *Pinnal:* Hip with manipulation techniques. *Amarthal: T*apping over the vertex.-*(Amarthadangal)* *Thattal:* Tapping over the chest/trunk. (T*hattadangal)* *Thoduthal: S*timulation of specific pressure points. **D. Stimulating methods** Techniques: Pressing, circular motion, or arc-like pressure. Measurement tools: Mathirai for pressure levels. Finger breadth, thread, paddy length, *angulam, muzham, jaan,* etc., for distances. Stimulating objects:seeds: Sesamum, paddy, *ulunthu, kundrimani (abrus precatorius),* tamarind seed, cottonseed. **E. Thread measurement techniques in *varmam(Nool alavai)***- (Silk, turmeric soaked cotton thread) E.g., Analyzing the head *varmam—Thilartha varmam:* this point is located half a fingerbreadth (½ fb) below or in between the two eyebrows. Begin from *thilartha varmam (32 viral alavu),* measuring from front to back using a thread. The thread is folded into two parts, and the measurement extends along the sides of the forehead to the temporal areas. Using this method, fb (*16 viral alavu* from both the right and left) enables easy analysis of *seerunkolli varmam.* **F. Discussion of time limits in *varmam* injuries and points** Types of *varmam* injuries and duration: 1. Fatal injuries (e.g., *thilartha varmam: 3 3/4 naazhigai* ~ 1.5 hours). 2. Manipulation deadlines (e.g., *pidari varmam:* within 24 *naazhigai* ~ 9 hours 36 minutes). 3. Rest periods to avoid touch (e.g., *pin villu varmam* complications). Classification by curability: curable vs. Incurable based on avathi (time limits). Students are asked to evaluate peer performances, which encourages reflection on the application of *varmam* and procedural skills in *varmam* measurement and application, refining their skills to answer the viva component.

NLHT 4.2	Room Specification of *varmam* application.	The teacher will use a lecture with group discussion to precisely explain the room specification and list of equipment used in the *varmam* application, as well as instructional videos to demonstrate how to set up the therapy room. **1. Design a model representing a treatment room with proper ventilation** A washroom, a floor mat for patient comfort, and open space setups for emergency scenarios. Ensure the models highlight the importance of cleanliness and accessibility. **2. Table types** Create miniatures or detailed sketches of tables traditionally used in varmam therapy, such as: *Etti* (strychnos nux-vomica). *Ayyini (*artocarpus hirsutus). Teak wood. Include dimensions for a *varmam thokkanam* table: Length: 6½ - 7 adi (approximately 198 – 213 cm). Width: 2 - 3 adi (approximately 61 – 91 cm). Height: 2 - 2½ adi (approximately 61 – 76 cm). **3. Seating arrangement-incorporate models of chairs or stools that facilitate proper posture for the therapist during treatment.** **4. Posture-lying and sitting postures used in *varmam* therapy. The significance of patient orientation (facing east or north).** **5. Equipment/properties used** Showcase the tools and techniques used in therapy, including fingers or specific body parts. Tools like sticks or specialized instruments. Highlight their traditional and therapeutic relevance. **6. Medicine** Prepare charts or diagrams differentiating: Internal medicines (consumables). External medicines (oils, pastes, or powders). **7. Duration and frequency** Specify the recommended duration of *varmam* applications in your models: Treatment time frame in hours or minutes. Frequency of sessions for optimal outcomes. **8. Pressure levels**

		Create interactive models or visual aids to demonstrate: Pressure levels (Maathirai): 1, 3/4, 1/2, 1/4.The significance of controlled pressure in therapy. **9. Common criteria for physician** -ensuring an empty stomach with at least a 4-hour gap after a heavy meal. Advising patients to avoid hard physical activity before and after therapy. Ensuring the patient feels refreshed post-treatment, avoiding exhaustion or sweating. Students are asked to create models, charts, and checklists for the *varmam* application presentations room.
NLHT 4.3	*Varmam* points around the head, neck, and *Varmam* points in the extremities.	The teacher will explain the *varmam* point around the head and neck / extremities application accurately through lecture with video clips, and use instructional films to show how to control the points. **A. Class presentation components:**Introduction: define *thodu varmam*, provide an overview of the manipulation techniques, pressure application, duration, frequency, and directional techniques related to each varmam point Body: Manipulation techniques: explain the methods used to stimulate each *varmam* point. This should include touch (pressing, tapping, massaging), finger placement, and specific movements for each point. Pressure application: detail the appropriate level of pressure for effective stimulation. Discuss variations in pressure for different points and conditions. Duration and frequency: specify the time duration for stimulation and the recommended frequency of sessions for each point. Directional techniques: demonstrate the correct directional movements (e.g., clockwise, counterclockwise, or specific angled motions) required for proper stimulation. Conclusion:Summarize the key points about varmam manipulation and its therapeutic effects. References:Cite books, journals, or research studies related to *varmam* therapy and techniques. Appendices:

		Include diagrams of *varmam* points. Provide extra details about the pressure application and directional techniques (with images or charts). Attach any supporting materials like video links or extra notes on advanced techniques. **B. Chart of labeled *varmam* points:** Students will prepare a labeled chart for the following *varmam* points to help with their presentation and demonstrations: Core *varmam* points: *Pootellu varmam, mun chuvadi varmam, nettri kaalam, pin chuvadi varmam, porichal varmam, puruva kaalam, kannakaalam, kumbidum kaalam, bala varmam, chuliyadi varmam, moorthi kaalam/laada varmam/laada mayam, aayama kaalam, nadi varmam/naasi varmam, chenni varmam, poigai kaalam, kurunth kuttri kaalam, alavattukona chenni varmam, vettu varmam, kokki varmam, manthira kaalam, kannu varmam, arugu kaalam.* Extremities *varmam:* *Mozhi varmam, aani varmam, pathakkala varmam, chulukku varmam , (kaal)kochu varmam, aaama kaalam, thundu varmam, chirattai varmam, muttu varmam, channi varmam, naai thalai varmam, uppu kuttri varmam, kaal kannu varmam, kuthikaal varmam, nadai varmam, kulachu varmam, mudichu varmam, boomi kaalam, naduviral chulukku varmam, kaal kavali, peruviral mayya varmam, adakka varmam, konachanni, komberi kaalam, paathachakkaram.* Students are asked to create charts and class presentation components as follows: introduction, manipulation techniques, pressure application, duration, and frequency. Directional techniques, citations, and appendices.
NLHT 4.4	*Paduvarmam* - manipulation techniques	The teacher will demonstrate the *varmam* point around the head and neck / extremities application accurately through lecture with video clips, and use instructional films to show how to control the points. **A. Demonstration of necessary manipulation techniques for effectively stimulating *varmam* points** *Thilartha varmam, natchathira varmam, sevikuttri varmam, pidari varmam, urakka kaalam, thummi*

		kaalam **B. Student activity:** Instruct students to create posters that illustrate the key *varmam* points. Each poster should include: Point name: clearly label the *varmam* point. Location: indicate the anatomical location of the body. Manipulation technique: describe the technique(s) to use on that specific point. Pressure application: illustrate or describe the level of pressure required (mild, moderate, deep). Duration: indicate how long the point should be stimulated. Frequency: state the recommended frequency of stimulation. Illustrations: draw the point on a body diagram to show its exact location. Tips for effective stimulation: add any specific advice for stimulating each *varmam* point. Students are asked to create posters on the application of *padu varmam* using the Dops method. With guidance, feedback, and a viva component, they refine their skills and build confidence in performing the techniques.
NLHT 4.5	Manipulation techniques for stimulating *varmam* points of trunk	The teacher provides an overview of key points of trunk *varmam* manipulation techniques using a powerpoint lecture and demonstration and explains the importance of patient assessment, positioning, and the conduction of therapy on simulated patients in opd/ipd settings. **A.Location of *varmam* points:** Identify and describe the anatomical locations of specific *varmam* points relevant to treatment. Understand how to locate these points accurately on the body. Manipulation techniques: Learn the necessary manipulation techniques for effectively stimulating each *varmam* point. This includes: Pressure application: understanding the appropriate levels of pressure (light, moderate, deep) required for different conditions. Duration and frequency: knowing how long to apply pressure and how often to perform the manipulations for optimal therapeutic outcomes. Directional techniques: identifying the correct direction and movement patterns to stimulate each

		varmam point effectively. *Vilangu varmam, kulir varmam, arangu varmam, maattraan kaalam, thivalai varmam, kaareeral varmam, velleeral varmam, kombu varmam, nenchadaippan varmam, munnvillu varmam, mundellu varmam, kutri varmam, urumi varmam, kakattai kaalam, chippi varmam, changu thiri kaalam, vaayu kaalam, manthira kaalam, athichuriki varmam, iruppu varmam, pinvillu varmam, andakkaalam, kaccha varmam, thandu varmam, thandinadi varmam , pandri varmam, ada varmam, mothira kaalam, vaanthi kaalam, valamburi kaalam, chorutheenda kaalam, naabi varmam, hanuman varmam, pushti kaalam, chuli varmam, kurunthukuthi kaalam.* **B. Procedural skills in *varmam* measurement and application** Understand indications and techniques. Position and prepare the patient. Apply varmam techniques with precise duration and safety precautions. Target intended therapeutic outcomes. Students are asked to demonstrate basic manipulation skills for trunk *varmam*, such as pressure application, duration, and frequency. Also, instruct them to create posters on the varmam topics and provide answers for the viva components.
NLHT 4.6	*Paduvarmam (*7-12) - manipulation techniques	The teacher will show the key manipulation techniques necessary for properly stimulating each paduvarmam (7-12) *varmam* point, emphasizing the correct pressure, duration, and frequency through a lecture with powerpoint and demonstration. *Ner varmam/kombu varmam, Adappa varmam, Urumi kaalam/pandri varmam, Periya athisurikki kaalam, Siriya athisurikki varmam, Kalladai kaalam* Students will watch the demonstration and practice under supervision while ensuring proper preparation, correct application, patient safety, and adherence to contraindications by using the Dops methodology. The teacher will guide the students in designing posters focused on specific varmam points, refining their skills to answer the viva questions.

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 4.1	Plotting of *Varmam* points in mannequins	The teacher will demonstrate how to plot *varmam* points in mannequins using kinesthetic learning and simulation methodologies. **Hour 1: introduction to *varmam* point-** Identification of *varmam points* on the mannequin (30 minutes) Begin with a brief overview of *varmam* therapy and its significance. Systematically identify major *varmam* points on the mannequin. Use anatomical references to ensure accurate identification. Basic explanation of locations (30 minutes) Specify its position in the body (e.g., joints, nerves, muscles). Highlight its accessibility and practical application in therapy. **Hour 2: detailed explanation of types** Types of varmam points (60 minutes) Categorize and explain the types of varmam points, such as: *Padu varmam* (superficial points). *Thodu varmam* (touch-based points). *Thattu varmam* (object-based on points) *Noku varmam* (focus-based points). *Ull varmam* (pregnancy-based points). Provide examples of each type and demonstrate their identification on the mannequin. **Hour 3: numerical value of varmam points** Numerical value explanation (60 minutes) Discuss the numerical value of *varmam* points:(single or double *varmam).*total number of points (e.g., 108 primary points, 12 padu *varmam* points). Explain the significance of specific numerical groupings in *siddha* medicine. Highlight commonly used *varmam points* for therapeutic purposes. **Hour 4: consolidation and practical review** Interactive review and practice (60 minutes) Encourage hands-on practice for identifying *varmam points* on the mannequin. Reinforce understanding by asking participants to explain: locations, types, and numerical values.

		Students can execute the therapy under supervision, and they are urged to apply the direct observation of procedural skills (Dops) methodology, which assures the maintenance of correct logbooks for subsequent documentation. Two groups of students are formed, with one group engaging in the performance for two hours while the other group observes. In the next two hours, the roles are reversed, and the second group performs, just like the first group. The total duration of the activity is 4 hours.

Topic 5 VARMAM THERAPEUTICS FOR ODIVU/ MURIVU AND VARMA MARUNTHUKAL (LH :4 NLHT: 5 NLHP: 4)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO4	Describe *varma* medicine, especially for *odivu / murivu* with examples-oil for bone fracture management (E*nbu murivuku ennai)*, joint smoothening oil *(Mootu asaivuku ennai*), joint tightening oil (M*uttu irukki palakka ennai)*, nerve strengthening oil *(Narambu vanmaiku ennai), poochu* (Liquid poultice), *thuvalai* (Paste massage), *ottradam* (Fomentation), *kizhi vaithal* (Medicated pouch), *thaarai (O*il dripping), *pasai* (Medicated paste), *kalikkam* (Liquid ophthalmic applications).	CC	MK	KH	L_VC,L &PPT , FC,PL,F V	CL-PR,VV-Viva	F&S		-	NLHT5.1
CO1, CO4	Identify and describe the various leaves and raw drugs used in *varmam* therapy, focusing on their therapeutic properties and specific applications in treatment and highlighting their characteristics, identification, and sourcing methods.	CC	DK	K	L&PPT ,D-M,D G,D	QZ ,VV-Viva	F		-	LH
CO1, CO4	Explain the preparation, ingredients, and applications of decoctions used in *varma* therapy, specifically for managing *varma pidippu* (Muscle stiffness or sprain), *moola*	CC	MK	KH	PER,L& PPT ,TBL	VV-Viva,T-OBT	F&S		-	LH

	Vaayu (Diarrhea), rectal hemorrhage, *mega noi*, dysuria, a fall from a palm tree.									
CO1, CO4	List the internal medicines commonly used in *varmam* applications, including oil, *kanji, powder, kavalam, kirtham, adai, ilagam, rasayanam, vaatru, and nei.* Explain *about* preparation methods for each type of internal medicine utilized in *varmam* therapy. Identify the appropriate dosage and specific therapeutic applications of internal medicines used in *varmam* treatments.	CK	MK	KH	L&PPT ,TBL	VV-Viva,T-OBT	F&S		-	NLHT5.2
CO1, CO4	Describe the principles, uses, and applications of *varmam* medicine, specifically for managing *odivu* and *murivu* with relevant examples- *vasaennai, thirumeni thylam, adi, vithanam, raththakattu, narambupidippuku ottradam, varma pidippuku poochu marunthu, vithanamthuku poochu.*	CC	MK	K	TBL,L &PPT	VV-Viva,CL-PR	F&S		-	LH
CO1, CO4	Demonstrate the specific techniques and preparation methods of *varmam* medicines.	PSY-GUD	DK	K	DIS,DL	VV-Viva,P-PS	F		V-GMM	NLHT5.3
CO1, CO4, CO6	Perform a clinical examination of a patient with depression *(manathalarchi*), incorporating the assessment of *varmanaadi and saraottam.* Demonstrate the application of *varmailakkumura*i techniques, ensuring proper measurement and application of *maathirai/irai.*	PSY-GUD	MK	SH	KL,SIM	P-VIVA,Log book,DOPS ,DOPS	F&S		-	NLHP5.1
CO1, CO4, CO6, CO7	Conduct a clinical examination of a patient with mental restlessness, assessing *varmanaadi and saraottam* effectively. Apply *varmailakkumurai* techniques with accurate measurement of *maathirai/irai* to treat the condition.	PSY-GUD	DK	SH	KL,SIM	P-VIVA,Log book	F		-	NLHP5.2
CO4	Demonstrate the preparation and application techniques for	PSY-	MK	K	D	DOPS,DOP	F&S		-	NLHT5.4

	external medicines used in *puramaruthuvam* therapy, including oil, powder, t*halam, poochu, tharai, kizhi / pottanam, pasai, kulineer, and nasiyam*. Ensure accurate dosage and effective therapeutic application. Perform the *varma thokkanam* techniques, including *thadaval, azhuthal, and ezhuthal*, using the correct methods and ensuring the proper application for therapeutic outcomes	GUD				S,VV-Viva				
CO4	Explain the preparation, ingredients, and applications of decoctions used in *varma* therapy,– aalampaal ennai, the decoction is prescribed for fever arising after *varmam* injuries, *varma* medicine is effective for treating burning micturition and hematuria, *varma* medicine for epistaxis (Nosebleeds), *varma chooranam* used for alleviating constipation, *varma nei* preparation.	CC	NK	K	L&PPT	VV-Viva,CL-PR	F		-	LH
CO4	Explain the preparation, ingredients, procedure, and therapeutic application of *krisathu kiyalam, kaya thirumeni thylam, theethylam, and varmani kuligai.* Outline the preparation, ingredients, and application of medicines used for treating cough. Explain the formulation, preparation method, and use of *pachilai* for treating constipation and decoction used for *varma pidippu.*	CC	MK	KH	TBL,L&PPT	T-OBT,VV-Viva	F&S		-	NLHT5.5

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 5.1	Varma medicine used for *odivu /murivu* condition	The teacher will explain the *varma* medicine used for *odivu /murivu* condition through lecture with powerpoint and flipped classroom. **Pre-class activities** (self-learning phase)-read study material -texts on *varmam* points and its medication, prepare questions – identify doubts and areas needing clarification. In-class activities session – clarify doubts and discuss real-life applications. Group discussion – case discussion and *varmam medicine* application, peer teaching – small groups explain concepts to each

other to reinforce learning.
Post-class activities-self-practice & case documentation – apply learned techniques and note observations in the varmam medicine prescription.
Specific examples of medicines used in *varma odivu and murivu* treatments.
Oil for bone fracture management (*enbu murivuku ennai)*
Joint smoothening oil (*mootu asaivuku ennai)*
Joint tightening oil *(muttu irukki palakka ennai)*
Nerve strengthening oil *(narambuvanmaiku ennai)*
External therapies
Poochu (smearing)- refers to a traditional external application technique often used in *Siddha* medicine.
Adapothiyan poochu: used for trauma-related conditions.
Aliya poochu: specifically used for koombuvarmam
Thuvalai – liquid application
Thuvalai is a method that involves the application of a paste, liquid, or oil infused with medicinal ingredients, as a coating over the body or affected parts. Herbal leaves, roots, or bark.fruits or their dermis parts.fermented liquids or cruel water. Medicated oils, butter, or drug formulations
Nimbaathi thuvalai: weakness or fatigue in the body *(sugakedugal).*
*Nilavaagai thuvala*i-orthopedic or neurological disorders.
Ottradam (fomentation) refers to the therapeutic application of hot or cold packs or substances on the body.
Paruthivithai ottral -for nerve weakness.
Kalarchi ottral-to reduces swelling (edema).
Notchi ottral- for relief from cough and cold
The *kizhi (ottradam / pottanam)*-medicated pouch technique that involves the application of medicated pouch *(kizhi)* to the body.
1. Thattukizhi (vellai parakkal kizhi)
2. Mamisha kizhi (dhasamamisa kizhi)
Thaarai therapy-oil dripping-warm medicated oils are poured continuously onto the forehead from a specific height for a designated period, flowing through the scalp and into the hair.
Ozhugu dharai (flowing stream): helps calm the mind and the nervous system
Thuli dharai / sottudharai :benefits: used for vatha-related diseases, headaches, and degenerative

		conditions. Duration: half a second per flow. *Ootru / koorudharai:* medicinal oil is poured over the body for general therapeutic benefits. *2. Pasai* (medicated cream))-often used in dermatological / *varmam* conditions where the herbs' effects remain active on the surface for extended durations *Odivu kattu pasai: puliyankottai (*tamarind seeds*), kaarkolarusi (*Psoralea corylifolia), *ulunthu (*black gram*)* in equal quantities. gingelly oil (sesame oil) and 1 hen egg.-for *varmam* injuries (pressure point) injuries. *Odivu kattu pasai*-coconut water, egg white, and gingelly oil. Usage: also for *varmam* injuries. *Kuliyal* (medicated bath) Thokkanam: a whole-body massage with oil or self-administered oil massage. Preferred water: warm water is advised for bathing post-*thokkanam* to enhance therapeutic effects. Students will prepare the content and present a class presentation and viva voce discussion in the classrooms on the topic of *varma odivu/murivu marunthu.* The conclusion serves to consolidate the student's understanding of *varmam* medicine, emphasizing its significance and encouraging future exploration.
NLHT 5.2	Internal medicines utilized in *varmam* application	The teacher will explain the *varmam* internal medicine uses through a lecture with powerpoint and team-based learning. Students are encouraged to recollect their knowledge of *varmam* medicine preparation and their ability to analyse, evaluate, and synthesize knowledge about internal medicines in *varmam* applications, focusing on preparation methods, dosage, and uses, through an open-book theory test and by refining questions and providing answers. **A. Steps to approach an open-book test preparation:** 1. Understand exam expectations: identify plants and raw drugs used in preparing *varmam* medicines. 2. Review topic objectives: explain preparation methods and highlight ingredient identification and sourcing. 3. Prepare study notes: focus on formulations like *ennai* (Oil), *kanji* (Porridge), *chooranam* (Powder), *kavalam* (Oro-dispersible films), *kirtham* (Clarified butter), *adai* (Pancake), *ilagam* (Electuary), *rasayanam* (Dainties), *vaatru,* and *nei* (Medicated ghee). 4. Practice applications: study how these medicines are applied in various *varmam* treatments. 5. Build a system: understand their medicinal properties and their role in enhancing therapeutic

		efficacy.
NLHT 5.3	Preparation of *varmam* medicine	The *varmam* internal medicine preparation methodology will be elucidated by the teacher through a laboratory discussion and preparation. Students will engage in practical problem-solving assessments while preparing *varmam* medicines and honing their abilities to enhance assessment questions. **Laboratory Component**-This component evaluates students' skills in problem-solving, logic, creativity, and analytical thinking during *Varmam* medicine preparation. 1. Preparation Process: Prepare *Varmam* medicines in the *Gunapaadam (Marunthiyal and Marunthakkaviyal)* laboratory. 2. Herb Selection: Choose and justify herbs/raw drugs based on their therapeutic properties. 3. Material Procurement: Gather and ensure the quality of materials for preparation. 4. Preparation Techniques: Demonstrate preparation methods, emphasize correct dosages, and address challenges with innovative solutions. Discuss independent applications of learned techniques. Share ideas for refining and modernizing preparation methods for future healthcare applications.
NLHT 5.4	Preparation of *Varmam Marunthugal*- External Medicines	The teacher explains and demonstrates the preparation for external medicines and application techniques used in varmam puramaruthuvam therapy, **1. Understanding of the procedure**: demonstrates knowledge of indications, techniques, and the step-by-step procedure for varma thokkanam. **2. Steps involved**: preparation of materials. Obtaining informed consent. Execution of techniques. Analysis of indicated and contraindicated conditions. Post-care therapy. Adherence to safety precautions. 1. Discussion topics: external medicines and therapies used in varmam applications, including preparation methods, dosage, and applications. 2. Key components covered: * *Ennai* (Oil): medicinal oils for application. * *Poochu* (Liquid application): direct application of therapeutic liquids.

		* *Thuvalai* (Anointing or paste massage): application of paste or liquid for massage. * *Ottradam* (Fomentation): use of hot or cold packs or substances at appropriate temperatures. * *Kizhi / pottanam* (Medicated bundle/pouch): application of medicated bundles or pouches. * *Thaarai* (Oil dripping): a specific method of external therapy. **Pasai* (Embrocation application): application of ointments or liniments. * *kuliyal* (Medicated bath): therapeutic bathing with medicated solutions. * *Nasiyam* (Nasal drops): application of medicated nasal drops. * *Thalam* (Poultice): application of poultices for healing purposes. Students can perform the therapy under supervision and also emphasized using the direct observation of procedural skills (Dops) methodology. And prepare them for practical-oriented studies.
NLHT 5.5	Preparation of *Varmam* medicines	The teacher will explain the *varma* internal medicine uses through a lecture with powerpoint and team-based learning. Students are encouraged to recollect their knowledge of *varmam* medicine preparation and their ability to analyze, evaluate, and synthesize knowledge about internal medicines in *varmam* applications, focusing on preparation methods, dosage, and uses, through an open-book theory test and by refining questions and providing answers. **Steps to approach an open-book test preparation:** 1. Understand exam expectations: identify plants and raw drugs used in preparing *varmam* medicines. 2. Review topic objectives: explain preparation methods and highlight ingredient identification and sourcing. 3. Prepare study notes: focus on formulations like *Krisathu kiyalam, china thirumeni thylam,theethylam,varmani kuligai, medicine for cough,pachilai for constipation, decoction for Varma pidippu* 4. Practice applications: study how these medicines are applied in various *varmam* treatments. 5. Build a system: understand their medicinal properties and their role in enhancing therapeutic efficacy.

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 5.1	Varmam Applications in Psychiatry Disorder-Depression (manathalarchi)	The teacher will demonstrate clinical examination to elicit signs and symptoms in simulated patients, rule out the entire history, perform a physical examination, confirm the diagnosis of the condition, and demonstrate the use of *varmailakkumurai* techniques, ensuring proper measurement using kinesthetic learning and simulation. **Hour 1: Patient selection and preparation (10 minutes)** identify a suitable patient for *varma* therapy based on specific complaints Analyse patient history and vitals (30 minutes): Patient complaints: document the symptoms and affected areas. History: note past illnesses, injuries, and medical treatments. Vitals:*Naadi/Saraottam* Prepare materials and environment (20 minutes) Any tools or aids required for applying *varma* therapy. Clean towels, oils (if necessary), and disinfectants. Ensure adequate manpower is available for assistance. Clean and ventilated environment, comfortable seating, or lying arrangements for the patient. Verify suitable and unsuitable conditions for *varma* therapy (e.g., avoid overly sensitive areas or unfit patients). **Hour 2: Procedure and assessment** Apply *varma* points with precision (40 minutes) Identify the required *varma* points based on the patient's complaints. Apply precise pressure *(maathirai/irai)* with defined intensity and duration. Varmam points - *kondaikolli varmam, sirukolli, pidari, suruthi, pinkuthi, kampoori, sadapir, kaikavuli, viruthi varmam* Monitor the patient's response throughout the procedure. Use rhythmic and consistent techniques as needed for therapeutic effect. Provide medication (10 minutes)-administer internal or external medication if necessary: explain their purpose and usage to the patient. Post-therapy assessment (10 minutes)-reassess the patient for any adverse effects or immediate improvements, check vital signs, especially *naadi, and saraottam*

		Students can perform the therapy under supervision and also emphasized using the direct observation of procedural skills (Dops) methodology. And prepare them for practical-oriented studies. And maintain proper log books for future documentation. Students are divided into two groups, with one group engaging in the performance for 1 hour while the other group observes. In the next 1 hour, the roles are reversed, and the second group performs while the first group watches. The total duration of the activity is 2 hours.
NLHP 5.2	Varmam application in psychiatric disorder-Mental Restlessness	The teacher will demonstrate clinical examination to elicit signs and symptoms in simulated patients, rule out the entire history, perform a physical examination, confirm the diagnosis of the condition, and demonstrate the use of *varmailakummurai* techniques, ensuring proper measurement using kinesthetic learning and simulation. **Hour 1: Patient selection and preparation** Select the patient for the application (10 minutes)-choose a patient whose condition is suitable for *varmam* therapy (e.g., musculoskeletal pain, joint stiffness, or neurological issues) Analyze history and vitals (30 minutes)- history of patient / *naadi* / *saraottam* Arrange materials and setup (20 minutes) Disinfectants and protective items (if needed). Comfortable arrangement for patient positioning (seated or lying down). **Hour 2: Application and assessment** Apply *varma* points with precision (40 minutes) Locate and activate the relevant *varma* points based on the patient's condition. Use precise pressure techniques (*maathirai*/*irai*) to ensure therapeutic effects. *Varmam* points- *nadu moorthi varmam,thilartham,nadu nema,patchi nema,netrri pala, ner,thuthikai, mani bandha varmam.* Provide internal/external medication (10 minutes)-medicated decoctions, oils, or medicated packs. Post-therapy assessment and follow-up (10 minutes)-recheck vital signs, including *naadi* and saraottam. Observe for symptom relief or any discomfort caused during therapy. Document findings and provide follow-up care instructions. Students can perform the therapy under supervision and also emphasized using the direct observation

		of procedural skills (Dops) methodology. And prepare them for practical-oriented studies. And maintain proper log books for future documentation. Students are divided into two groups, with one group engaging in the performance for 1 hour while the other group observes. In the next 1 hour, the roles are reversed, and the second group performs while the first group watches. The total duration of the activity is 2 hours.

Topic 6 VARMA ILAKKUMURAI (VARMAM MANIPULATION AND MASSAGE TECHNIQUES) (LH :5 NLHT: 7 NLHP: 34)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO1, CO4	Demonstrate the *varma ilakkumurai for thalai to kazhuthu (head to neck), kazhuthu- muthugu/maarbu (neck to chest/trunk) varmam* illnesses.	PSY-GUD	MK	KH	DIS,D,L_VC	DOPS,DOPS,PA	F&S		-	NLHT6.1
CO1, CO4	Demonstrate the *varmam ilakkumurai in kaal saarntha varmam, kai saarntha varmam* illness	PSY-GUD	NK	KH	L_VC,DIS	DOPS,DOPS,PA	F		-	NLHT6.2
CO1, CO4	Demonstrate the methods of *Sarvaanga Thadaval* (whole body treatment)	PSY-GUD	MK	KH	DIS,L&PPT	DOPS,DOPS,PA	F		-	NLHT6.3
CO1, CO4	Discuss the specific *varmam* points, manipulation techniques, and anatomical locations used to address pediatric conditions, providing relevant examples.Explain the *varmam* points, manipulation methods, and their locations for managing gastrointestinal disorders conditions, with appropriate examples.	CC	NK	SH	L_VC,L&PPT	M-POS,P-PRF,PA	F		-	LH
CO1, CO4	Demonstrate the identification and application of *varmam* points, including manipulation techniques and their locations, to address musculoskeletal disorders *(thasai kootu noigal),* providing relevant examples. Perform the manipulation techniques for *varmam* points used in neuromuscular disorders, accurately	PSY-GUD	MK	SH	L_VC,L&PPT	P-PRF,M-POS,PA	F&S		-	NLHT6.4

	identifying their locations and applying the correct methods, supported by relevant examples.									
CO1, CO4	Discuss the identification and application of *varmam* points, including manipulation techniques and their locations, to address ear, nose, and throat (ENT) diseases and eye diseases, providing relevant examples.	CC	MK	SH	L_VC,L &PPT	M-POS,P-PRF,PA	F&S		-	LH
CO1, CO4	Demonstrate the identification and application of *varmam* points to address respiratory illness, and gynaecological conditions providing relevant examples	PSY-GUD	DK	SH	L_VC,L &PPT	M-POS,PA, P-PRF	F		-	NLHT6.5
CO1, CO4	Discuss the nonsuitable conditions, patient survival criteria, methods for determining if a patient is alive, and the identification of *pranic* flow, including *vaali oli, veeman oli, meitheenda kaalam, ullamkaal, and peruviral,* complications of any illness, adverse effects after therapy,	CC	MK	K	L&PPT	QZ ,VV-Viva	F&S		-	LH
CO1, CO4	Discuss the physiology of pain (gate control theory). Explain about the importance of varmam in religious aspect and its mechanism	CC	DK	K	L_VC,L &PPT	VV-Viva,M-MOD	F		-	LH
CO1, CO4	Illustrate the physiology of signaling pathways and neurotransmitters.	CC	DK	K	L_VC	M-MOD,VV-Viva	F		-	NLHT6.6
CO1, CO4	Discuss the types and locations of adangal, focusing on the 9th and 13th ways of classification.	CK	MK	K	D-M,L_VC,L	VV-Viva,DOPS,DOPS	F&S		-	LH
CO1, CO4	Illustrate the therapeutic applications of *adangal* by providing relevant examples for the following areas *Amarthadangal, agatharai, puratharai adangal, panchathattu*	CAN	MK	KH	D-M,L &PPT	DOPS,DOPS,VV-Viva	F&S		-	NLHT6.7

	adangal, pulimuthu adangal, nagakan adangal									
CO4, CO5	Perform the assessment of *varmanaadi and saraootam* in a facial palsy patient, demonstrating the initial preparation for evaluation. Explain the application of *varmailakkumurai* techniques, ensuring the use of appropriate *maathirai/irai* measurements during the procedure.	PSY-GUD	MK	SH	KL,D-BED,CBL	P-EXAM,CBA,Log book	F&S		-	NLHP6.1
CO1, CO4	Perform the assessment of *varmanaadi and saraootam* in a hemiplegia patient, demonstrating the initial preparation for evaluation. Explain the application of varmailakkumurai techniques, ensuring the use of appropriate *maathirai / irai* measurements during the procedure	PSY-GUD	MK	SH	KL,D-BED,CBL	Log book,CBA,P-EXAM	F&S		-	NLHP6.2
CO1, CO4, CO5	Perform the assessment of *varmanaadi and saraootam* in epilepsy patients, demonstrating the initial preparation for evaluation. Explain the application of *varmailakummurai* techniques, ensuring the use of appropriate *maathirai / irai* measurements during the procedure.	PSY-GUD	MK	SH	CBL,KL,D-BED	P-EXAM	F&S		-	NLHP6.3
CO1, CO4	Perform the assessment of *varmanaadi and saraootam* in shock patients, demonstrating the initial preparation for evaluation. Explain the application of *varmailakummurai* techniques, ensuring the use of appropriate *maathirai / irai* measurements during the procedure	PSY-GUD	MK	SH	D-BED, KL,CBL	P-VIVA,Log book	F&S		-	NLHP6.4
CO4	Examination of fever patient with the assessment of *varmanaadi, saraootam, apply varma ilakummurai* techniques with proper *maathirai/ira*i measurements	PSY-GUD	MK	SH	CBL,SIM	DOPS,Log book,P-VIVA,DOPS, CBA	F&S		-	NLHP6.5
CO4, CO7	Perform the assessment of *varmanaadi and saraootam* in epistaxis patients, demonstrating the initial preparation for evaluation. Explain the application	PSY-GUD	DK	SH	SIM,CBL	DOPS,DOPS,CBA,P-VIVA,Log	F		-	NLHP6.6

	of *varmailakummurai* techniques, ensuring the use of appropriate *maathirai/irai* measurements during the procedure.					book				
CO4, CO7	Perform the assessment of v*armanaadi and saraootam* in wrist joint pain patients, demonstrating the initial preparation for evaluation. Explain the application of *varma ilakkumurai* techniques, ensuring the use of appropriate *maathirai/irai* measurements during the procedure	PSY-GUD	MK	SH	CBL,SIM	CBA,Log book,P-VIVA	F&S		-	NLHP6.7
CO1, CO4	Perform the assessment of *varmanaadi and saraootam* in sciatica patients, demonstrating the initial preparation for evaluation.Explain the application of *varma ilakkumurai t*echniques, ensuring the use of appropriate *maathirai / irai* measurements during the procedure	PSY-GUD	MK	SH	CBL,SIM	Log book,P-EXAM,DOPS,DOPS	F&S		-	NLHP6.8
CO4, CO5	Perform the assessment of *varmanaadi and saraootam* in a knee joint pain patient, demonstrating the initial preparation for evaluation. Explain the application of *varmailakummurai t*echniques, ensuring the use of appropriate *maathirai/irai* measurements during the procedure.	PSY-GUD	DK	SH	SIM,CBL	P-EXAM	F		-	NLHP6.9
CO1, CO4	Perform the assessment of *varmanaadi and saraootam* in a migraine patient, demonstrating the initial preparation for evaluation. Explain the application of *varmailakkumurai* techniques, ensuring the use of appropriate *maathirai / irai* measurements during the procedure.	PSY-GUD	MK	SH	KL,SIM	P-PRF	F&S		-	NLHP6.10
CO1, CO4	Demonstrate the application of important *Adangal* points in the Head region.	PSY-GUD	MK	SH	SIM,KL	Log book,DOPS,P-EXAM,DOPS	F&S		-	NLHP6.11
CO1, CO4	Demonstrate the application of important *Adangal* points in the chest and abdomen.	PSY-GUD	MK	SH	SIM,KL	DOPS,P-EXAM,Log book,DOPS	F&S		-	NLHP6.12

CO1, CO4	Demonstrate the application of important *Adangal with thadavumuraigal* (adangal with massage methods) in the upper limb region	PSY-GUD	MK	SH	SIM,KL	DOPS,DOPS,P-EXAM,Log book	F&S		-	NLHP6.13
CO1, CO4	Demonstrate the application of important a*dangal* in the lower limb region.	PSY-GUD	NK	SH	KL,SIM	DOPS,DOPS,Log book ,P-EXAM	F		-	NLHP6.14
CO1, CO4	Demonstrate the application of important *varma thadavumurai nootpungal*	PSY-GUD	MK	SH	SIM,KL	DOPS,DOPS,Log book ,P-EXAM	F&S		-	NLHP6.15

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 6.1	Varma ilakkumurai for thalai to kazhuthu(head to neck),kazhuthu- muthugu/maarbu(neck to chest/trunk) varmam illness	The teacher provides an overview of key points in the *varma ilakkumurai* for *thalai* to *kazhuthu* (neck head), *kazhuthu* to *muthugu* / *maarbu* (neck to chest/trunk), *varmam*-related illnesses, and the application module using a lecture with video clips and a discussion methodology. Through the observation of video scenarios, students are guided in practicing manipulation methods for each varmam point in OPD / IPD settings. 1. Understanding of the procedure: Demonstrates knowledge of indications, techniques, and the step-by-step procedure for varma therapy 2. Steps involved: Preparation of materials. Obtaining informed consent. Execution of techniques.post-care therapy. General preparation for *varmam* techniques Patient preparation- ensure the patient is mentally and physically ready. Explain the procedure to gain patient cooperation and reduce anxiety. Arrangement- Set up a clean, comfortable, and quiet environment. Position the patient appropriately (sitting, or lying down) based on the procedure. Patient assessment examines the neck and trunk surrounding regions for abnormalities. Teaching for students-repeat the procedure with a clear explanation of techniques for practice and

		learning. Thalai to *kazhuthu*(head - neck) varmam techniques (*ilakkumurai*) Stage-wise procedure: Stage 1- position the patient in a sitting posture. Stage 2- pull the hair at the vertex upward gently to stimulate circulation. Stage 3perform *agatharai thadaval* (massage from neck to umbilicus) and *puratharai thadaval* (neck to sacrum massage). Gently lift the body and relax. Stage 4-lift the lower mandible with care. Stage 5-lift and shake the occiput region gently. Stage 6-blow *chukku* (dried ginger) powder near the ear. Insert the middle fingers into the ears and shake gently. Stage 7-shake both legs simultaneously. Stage 8-tie both hands around the chest to stabilize the patient. Stage 9-support the patient with the physician's leg near the *sanguthiri varmam* (sacrum) and twist the body gently. Stage 10 -press the *sanguthiri varmam* using fingers, elbows, or knees. Neck to *moolatharam*((neck to chest/trunk))varmam techniques Stage-wise procedure: Stage 1-position the patient securely at the physician's left side (near the dorsal foot). Stage 2 use the physician's right foot or knee to support the patient while addressing the 4th cervical space. Stage 3- apply pressure using a paddy (or similar soft tools) on the arms. Stage 4-press paddy on the frontal folds (forehead). Stage 5- apply gentle pressure on the mastoid process (behind the ear). Stage 6-press both sides of the temporal region. Stage 7-press along the occiput area, ensuring the patient recovers with their eyes open. Stage 8 for chills, place the physician's warm palm over the affected region to restore warmth. Stage 9-in cases of tremors, position the patient on their left side and gently twist or press the temporal region. Stage 10- turn the patient to both sides and apply twisting and pressing techniques under the armpits. Lift and adjust the mandible towards the right and left region. Students are asked to evaluate peer performances, which encourages reflection on the application of

		varmam and procedural skills in *varmam* manipulation and application.
NLHT 6.2	The *varmam ilakkumurai* in *kaal saarntha varmam, kai saarntha varmam* illness	The teacher provides an overview of key points in the *varma ilakkumurai* for *kaal saarntha varmam, kai saarntha varmam* (upper limb, lower limb) related *varmam*-illnesses, and the application module using a lecture with video clips and a discussion methodology. Through the observation of video scenarios, students are guided in practicing manipulation methods for each *varmam* point in OPD/IPD settings. 1. Understanding of the procedure: Demonstrates knowledge of indications, techniques, and the step-by-step procedure for *varma* therapy 2. Steps involved: Preparation of materials, obtaining informed consent, execution of techniques, and post-care therapy. General preparation for *varmam* techniques Patient preparation-ensure the patient is mentally and physically ready Arrangement-organize required materials (e.g., massage oils) and position the patient appropriately (sitting, lying down, or on the physician's lap) based on the procedure. Patient assessment- Carefully examine the *kai, kaal* (upper limb, lower limb) surrounding regions for abnormalities. ***Kaal saarntha varmam* (lower limb varmam illness)** 1. Preparation of the patient- ensure the patient is calm and comfortable. 2. Procedure steps A. Gently press with the fingers, moving from the hip down to the toes, and ensure coverage of both the back and front of the legs. B. Gently shake the legs in all four directions. C. Hold the ankle region firmly and twist it in both clockwise and counterclockwise directions. D. Gently manipulate (unsheath) the ankle region and press it with the fingers. E. Gently shake the ankle region again. F. Slowly fold and bend the knees. G. Gently stretch the legs by dragging them. H. Finally, carefully lift the patient Repeat the procedure for students to observe and practice under supervision. ***Kai saarntha varmam***

		1. Preparation of the patient- Ensure the patient is relaxed and in a comfortable position. 2. Procedure steps A. Instruct the patient to keep their hands straight. B. Gently manipulate (unsheath) the hands from both the front and back. C. Apply the cupping technique to the upper limb region. D. Gently tap the upper limb region three times. E. Stretch the hands by alternating between folding and bending motions. F. Place the physician's hands on the patient's wrist, and gently massage from the lower part of the hand to the upper shoulder in both clockwise and counterclockwise directions, repeating the motion three times. G. Hold the patient's wrist and gently twist it to the right and left. H. Ensure that both hands are relaxed, and confirm that the patient is also relaxed. Students are asked to evaluate peer performances, which encourages reflection on the application of varmam and procedural skills in *varmam* manipulation and application. Repeat the procedure for students to observe and practice under supervision.
NLHT 6.3	Methods of *Sarvaanga Thadaval*	The teacher provides an overview of key points in the methods of *sarvaanga thadaval* and the application module using a lecture with a powerpoint presentation and a discussion methodology. **1. Understanding of the procedure**: Demonstrates knowledge of indications, techniques, and the step-by-step procedure for *varmam* therapy **2. Steps involved:** Preparation of materials, obtaining informed consent., execution of techniques, post-care therapy. General preparation for varmam techniques Patient preparation-ensure the patient is mentally and physically ready. Organize required materials (e.g., massage oils) Set up a clean, comfortable, and quiet environment. Position the patient appropriately (sitting, lying down, or on the physician's lap) based on the procedure. Patient assessment-carefully examine the whole body regions for abnormalities. **3. Apply the suitable *varma thadaval* procedure**

		Start at *utchi varmam, thilartha varmam,* and *puruva natchathiram*. Press a finger in a circular pattern, touch *poigai sevikuttri,* and end at *alavaatu konasanni.* Perform penkuzhi and puyam using a criss-cross technique. For *pidari,* start at the sacrum and perform *puratharai thadaval* using the fingers move the hand upward along *koombu varmam.* Repeat the process with *koori adangal,* then move downward along *naavari* three times in a sliding motion. Press the *mun villu* and lift the *manipuragam.* For the hands, start at *pujam*, touch *kai chulluku* and *kathira narambu,* and then connect to *mootu.* End at *ullamkai vellai.* Tap *ullamkai vellai* three times. Ask the patient to sit. Start at *keeltharai* and move along *mootu chuluku, kathira narambu,* and *kaal mannai* at the end of *ullamkaal vellai*. Elevate the *boomikalam varmam*. Tap each sole three times. Students are asked to evaluate peer performances, encouraging reflection on the application of *varmam* and the development of procedural skills in *varmam* manipulation and application. The patient is assessed, and the procedure is repeated by the student under supervision.
NLHT 6.4	*Varmam* application in specific clinical conditions-musculoskeletal disorders*(thasai kootu noigal),* neuromuscular disorder.	The teacher provides an overview of key points in *varmam* application in specific clinical conditions—musculoskeletal disorders (*Thasai kootu noiga*l) and neuromuscular disorders—and related illnesses, as well as the application module. This is delivered through a lecture with video clips and powerpoint presentations, along with the hands-on practice of manipulation techniques for each *varmam* point in OPD/IPD settings. Students are asked to show the key manipulation techniques necessary for properly stimulating each *varmam* point, emphasizing the correct pressure, duration, and frequency through practical application. This encourages reflection on peer performance and the quality of work. Additionally, students should be guided in designing posters that focus on specific *varmam* points. General preparation for varmam techniques Patient preparation-ensure the patient is mentally and physically ready. Arrangement

		Organize required materials (e.g., massage oils) Set up a clean, comfortable, and quiet environment. Position the patient appropriately (sitting, lying down, or on the physician’s lap) based on the procedure. The patient assessment examines the body for any abnormalities. Practical performance methods evaluate a student's ability to apply their knowledge and skills to real-world situations. Steps- Step-1- Define the purpose and identify the learning outcome Discuss the *varmam* points, manipulation techniques, and their locations for addressing specific conditions, Step 2- Select the performance assessment Musculoskeletal disorder Neuromuscular disorder Step 3- Apply the suitable *varmam* manipulation techniques Step-4- Engage students and plan for performance Assess the patient and repeat by the student.
NLHT 6.5	Varmam application in specific clinical conditions- respiratory illness, and gynecological conditions	The teacher provides an overview of key points in *varmam* application in specific clinical conditions—respiratory illness, gynecological condition, and related illnesses, as well as the application module. This is delivered through a lecture with video clips and powerpoint presentations, along with hands-on practice of manipulation techniques for each varmam point in OPD/IPD settings Students are asked to show the key manipulation techniques necessary for properly stimulating each *varmam* point, emphasizing the correct pressure, duration, and frequency through practical application. This encourages reflection on peer performance and the quality of work. Additionally, students should be guided in designing posters that focus on specific *varmam* points." General preparation for *varmam* techniques Patient preparation-ensure the patient is mentally and physically ready. Organize required materials Set up a clean, comfortable, and quiet environment.

		Position the patient appropriately (sitting, lying down, or on the physician’s lap) based on the procedure. The patient assessment examines the body regions for abnormalities. Practical performance methods evaluate a student's ability to apply their knowledge and skills to real-world situations. Steps- **Step 1- define the purpose and identify the learning outcome** Discuss the *varmam* points, manipulation techniques, and their locations for addressing specific conditions, **Step 2- Select the performance assessment** Respiratory illness- *Iraippu irumal*(bronchial asthma)- *thivalai, ull putrru, athi, valai, mulai, udal surukki varmam, velleral poigai, mundellu varmam* *Varattu irumal(* dry cough*)-sumai, kathir, thivalai, ner, vilavadaippan varmam.* Gynecological condition- *Soothagavali* (dysmenorrhea)- *poigai, nadu moorthi thummbi, sadapira, nadu muthugu Vaayu, etellu munai vaayu, vellurumi, ani, kaal vellai varmam* *Vellai noi* (leucorrhoea)- *kondai kolli, nadu moorthi, unthi, periya athisurukki, siriya athi surukku, vaayu, moothira, ani, andhai varmam.* **Step 3- Apply the suitable varmam manipulation techniques** **Step 4- Engage students and plan for performance** Assess the patient and repeat by the student
NLHT 6.6	The physiology of signaling pathways and neurotransmitters.	The teacher will explain the physiology of signalling pathways and neurotransmitters accurately through a lecture with video clips and will use instructional films to demonstrate how they interrelate with Varmam points. Students are trained to interpret the questions and answers related to signalling pathways. Additionally, they are instructed to create a Model on the given topic, incorporating varmam applications. Making of Model- 1. Creating a signalling pathway chart with step by step guide

		2. Identify the key components 3. Outline the steps 4. Visual representation 5. Add annotations 6. Review and revise
NLHT 6.7	The Therapeutic applications of *Adangal*	The teacher provides an overview of key points in the therapeutic applications of *adangal* and the application module using a lecture with powerpoint presentations. Students are guided in practicing manipulation methods through demonstrations of models. **1. Understanding of the procedure**: Demonstrates knowledge of indications, techniques, and the step-by-step procedure for therapeutic applications of adangal **2. Steps involved-** Patient preparation-ensure the patient is mentally and physically ready. Arrangement, organize required materials (e.g., massage oils), and position the patient appropriately (sitting, lying down, or on the physician's lap) based on the procedure. Patient assessment- carefully examine the regions for any abnormalities **3. obtaining informed consent.** **4. Execution of techniques**.-*amarthadangal, agatharai, puratharai adangal, panchathattu adangal, pulimuthu adangal, nagakan adangal* 5. post-care therapy. Students will be able to stimulate each adangal point using manipulation techniques. The methodology will include the correct application of pressure, duration, frequency, and strategies by adhering to dops standards and demonstrating accountability for the viva elements.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 6.1	Varmam Application in Central Nervous	The teacher will conduct a case-based learning session on *mugavaatham* (facial palsy), reviewing the

	System-*Mugavaatham* (facial palsy)	case details, identifying key symptoms, and determining the appropriate *Siddha* examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment criteria through kinesthetic learning. **1. Patient selection (20 minutes)** Confirm patient identity and eligibility for therapy. Ensure therapy aligns with their current condition and needs. **2. Detailed patient analysis (20 minutes)** Assess the patient's current complaints and concerns. Note past illnesses, treatments, and lifestyle habits. Vital sign examination: *Naadi* (pulse analysis), *saraottam* **3. Preparation (60 minutes)** Materials and equipment. Manpower: Assign roles to support staff for assistance during the procedure. Room specifications: Ensure cleanliness, proper lighting, and a comfortable environment. **4. Identification and application** Locate appropriate *varma* points based on patient assessment. Apply precise pressure using proper *maathirai*/*irai* (pressure units). points- *sevikuttri, kampoori, kona varmam, sanguthiri, kai kavuli, kaal konasanni varmam* Patient monitoring: Observe patient responses and adjust techniques as necessary. **5. Medication administration (10 minutes)**- provide suitable internal/external medications if needed. **6. Post-therapy assessment (10 minutes)**- monitor the patient for any immediate adverse effects or discomfort. Provide aftercare instructions and schedule follow-up appointments if needed. Students will be able to perform the therapy under supervision. Additionally, emphasis will be placed on case-based assessments to prepare them for practical, application-oriented studies. They will also be required to maintain proper logbooks for future documentation. The total duration of the activity is 2 hours.
NLHP 6.2	Varmam Application in Central Nervous System-Hemiplegia *(Pakkavatham)*	The teacher will conduct a case-based learning session on hemiplegia(*pakkavatham*), reviewing the case details, identifying key symptoms, and determining the appropriate *siddha* examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment

		criteria through kinesthetic learning. **1. Patient selection (10 minutes)** Identify the patient eligible for therapy. Verify medical history and confirm therapy suitability. **2. Patient assessment (30 minutes)** History: Review complaints, past illnesses, and lifestyle factors. Vitals/*naadi* (pulse analysis)/*saraottam* **3. Preparation (20 minutes)** Manpower: Ensure sufficient and skilled support staff is available. Room specifications-maintain cleanliness, comfortable temperature, and ventilation. **4. *Varma* points application (40 minutes)** Identify *varma* points based on the patient's condition and therapy objectives. Apply pressure accurately: Maintain proper *maathirai*/*irai* (pressure levels). *Varmam* points- *kondaikolli, pidari, sevikuttri, thilartham, konam, kai kavuli, kaal komberi varmam,* continuously monitor patient responses to adjust pressure and techniques as necessary. **5. Medication administration (10 minutes)** Provide appropriate internal or external medications: If needed Offer guidance on dietary and lifestyle adjustments to complement the therapy. **6. Post-therapy assessment (10 minutes)** Assess the patient for any adverse reactions or discomfort post-therapy. Provide clear aftercare instructions and schedule follow-up appointments as needed. Students will be able to perform the therapy under supervision. Additionally, emphasis will be placed on case-based assessments to prepare them for practical, application-oriented studies. They will also be required to maintain proper logbooks for future documentation. The total duration of the activity is 2 hours.
NLHP 6.3	*Varmam a*pplication in central nervous system-*valippu noi (Epilepsy)*	The teacher will conduct a case-based learning session on *valippu noi* (Epilepsy) reviewing the case details, identifying key symptoms, and determining the appropriate *siddha* examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment criteria through kinesthetic learning.

		1. Patient selection (10 minutes) -identify the patient and confirm suitability for the therapy. Review the patient's medical history and current complaints. **2. Analysis of patient's vital signs (20 minutes)** -vitals, *naadi* (Pulse analysis), *saraottam* **3. Preparation (20 minutes**) -arrange sufficient manpower for assistance. Ensure cleanliness and hygiene. Optimize the environment (Appropriate temperature, ventilation, and lighting). **4. Application of *varma* points (60 minutes)** Identify and target appropriate *varma* points based on the condition. Apply proper pressure using *maathirai* / *irai* units with precision *Varmam* points- *kondai kolli, serumkolli, kaampoori, kai kavuli, viruthi, viguthi, kaal kavuli varmam.* **5. Medication administration (10 minutes)**-provide necessary internal/external medications during or after the procedure if needed, dietary or lifestyle guidance to support therapy outcomes. **6. Post-therapy assessment** -evaluate the patient for any adverse effects or complications. Document the therapy session, noting observations and patient feedback. Students will be able to perform the therapy under supervision. Additionally, emphasis will be placed on preparing them for practical application-oriented The total duration of the activity is 2 hours.
NLHP 6.4	Varmam Application in Medical Emergencies-Shock	The teacher will conduct a case-based learning session on shock, reviewing the case details, identifying key symptoms, and determining the appropriate *siddha* examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment criteria through kinesthetic learning. **1. Patient selection (5 minutes)** -identify the patient suitable for the therapy. Verify their medical history, current complaints, and readiness for the procedure. **2. Analyse patient's vital signs (10 minutes)** - *naadi* (Pulse analysis), *saraottam* **3. Preparation (10 minutes)** Gather the required materials and medications for the therapy. Ensure proper staffing for assistance. Prepare the room: Maintain cleanliness and comfortable room temperature. Verify equipment placement and working condition. Avoid unsuitable conditions such as noise or overcrowding.

		4. Application of *varma* points (30 minutes) Identify appropriate varma points based on the patient's condition. Apply pressure with precision, adhering to: Proper *maathirai*/*irai* (Pressure unit). Specified time limits per point. *Varmam* points- *poigai, kaampoori, kai kavuli, kai vellai, viruthu varmam* **5. Medication administration** -provide internal or external medication if required, and suggest dietary modifications if applicable. **6. Post-therapy assessment (5 minutes)** -monitor the patient for any adverse effects or discomfort. Plan follow-up sessions if necessary. Students will be able to perform the therapy under supervision. Additionally, emphasis will be placed on preparing them for practical, application-oriented studies. They will also be required to maintain proper logbooks for future documentation. The total duration of the activity is 1 hour.
NLHP 6.5	Varmam Application in Medical Emergencies- Fever	The teacher will conduct a case-based learning session on fever, reviewing the case details, identifying key symptoms, and determining the appropriate *siddha* examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment criteria through kinesthetic learning. **1. Patient selection (5 minutes)** Identify the patient and verify their details. Confirm the therapy requirement based on the patient's condition. **2. Initial assessment (10 minutes)** Complaints: Current symptoms and primary concerns. Past illness: Relevant medical history. Vitals: Focus on specific signs like *naadi* (Pulse analysis) and *saraottam* **3. Preparation (10 minutes)** Arrange required materials, medications, and equipment. Ensure manpower availability. Prepare the therapy room.

		4. Therapy application (30 minutes) *Varma* point application: Identify and apply pressure to suitable *varma* points. Maintain accurate pressure (M*aathirai* / *irai*) and adhere to time limits per point. *Varmam* points- *kondaikolli, porchai, endhi, athi, sadapira,kai kavuli,visabhandha, kuthiraimuga varmam* **5. Post-therapy assessment (5 minutes) -**monitor the patient for any immediate adverse effects. Provide advice on post-therapy care and follow-up. Students can execute the therapy under supervision, and they are urged to apply the direct observation of procedural skills (dops) methodology, which helps prepare for the practical viva and assures the maintenance of correct logbooks for subsequent documentation. The total duration of the activity is 1 hour.
NLHP 6.6	Varmam Application in Medical Emergencies- Epistaxis	The teacher will conduct a case-based learning session on epistaxis reviewing the case details, identifying key symptoms, and determining the appropriate *siddha* examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment criteria through kinesthetic learning. **Step 1: Patient selection (5 minutes)** Identify a patient suitable for varma therapy based on conditions like energy imbalance, musculoskeletal discomfort, or stiffness. **Step 2: History and assessment (10 minutes)** History: Record past illnesses, injuries, and treatments. Complaints: Note specific symptoms, pain, or discomfort. Vitals*/naadi/ saraottam* **Step 3: Preparation (10 minutes)** **Step 4: Application of varma points (25 minutes)** Identify suitable *varma* points: Select points based on the patient's complaints and assessment. Stimulation technique: Apply appropriate pressure (*maathirai/irai*) to each point. *Varmam* points- *kondaikolli , pidari, kannadi, sundikai, athi, kaanthari, kai kavuli varmam.* **Step 5: Post-therapy assessment and medication (10 minutes)** Medication: Administer internal or external herbal remedies if needed.

		Assessment: Recheck vitals, focusing on *naadi* and saraottam to observe therapy outcomes. Students will be able to perform the therapy under supervision. Additionally, emphasis will be placed on dops to prepare them for practical, application-oriented studies. They will also be required to maintain proper logbooks for future documentation. The total duration of the activity is 1 hour.
NLHP 6.7	Varmam Application in Locomotor Disorder (upper limb) -Wrist Joint Pain	The teacher will conduct a case-based learning session on -Wrist Joint Pain, reviewing the case details, identifying key symptoms, and determining the appropriate *Siddha* examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment criteria through kinesthetic learning. **Step 1: Patient Selection (5 Minutes)** **Step 2: History and Assessment (10 Minutes)** Record past illnesses, injuries, and treatments. Complaints: Note specific symptoms, pain, or discomfort. Vitals: *Naadi, Saraottam* **Step 3: Preparation (10 Minutes)** Room Setup: Ensure a clean, quiet, and ventilated environment. Manpower: Assign any necessary assistants. **Step 4: Application of *Varma* Points (25 Minutes)** Identify Suitable *Varma* Points: Select points based on the patient's complaints and assessment. Stimulation Technique: Apply appropriate pressure (*Maathirai*/*Irai*) to each point. *varmam points- Kai kavuli,Thuthikai,Manibhandam,Maniprai,Kai andhai varmam* **Step 5: Post-Therapy Assessment and Medication (10 Minutes)** Medication: Administer internal or external herbal remedies if needed. **Assessment:** Recheck vitals, focusing on *Naadi* and *Saraottam* to observe therapy outcomes. Documentation: Record the procedure, outcomes, and recommendations for follow-up care. Students will be able to perform the therapy under supervision. Additionally, emphasis will be placed on case-based assessments to prepare them for practical, application-oriented studies. They will also be required to maintain proper logbooks for future documentation.

		The Total duration of the activity is 1 hour.
NLHP 6.8	Varmam Application in Locomotor Disorder-sciatica	The teacher will conduct a case-based learning session on sciatica, reviewing the case details, identifying key symptoms, and determining the appropriate *Siddha* examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment criteria through kinesthetic learning. **1. Patient Selection (5 minutes)** Identify the patient and confirm therapy suitability. Briefly review their medical history and current complaints to ensure alignment with therapy goals. **2. Patient Analysis (10 minutes)** History Review: Quickly assess current complaints, past illnesses, and lifestyle factors. Vital Sign/*Naadi* (pulse analysis)/*Saraottam* **3. Preparation (10 minutes)** Materials and Equipment: Gather the required materials Manpower: Ensure adequate support staff availability. Room Setup: Prepare a clean, quiet, and comfortable therapy space with proper lighting and ventilation. **4. *Varma* Points Application (25 minutes)** Identify and target appropriate varma points relevant to the patient's condition. Apply pressure accurately using proper *maathirai/irai units.* *varmam points- Periya athisurukki,Pinsaruthi,nadu Muthugu vaayu ,Kaal vellai,Uppu kuttri,Viruthi, Kuthikaal ,Kaaal Komberi varmam* **5. Medication Administration (5 minutes)** Provide necessary medications If needed Offer brief dietary and lifestyle suggestions to enhance the therapy's benefits. **6. Post-Therapy Assessment (5 minutes)** Monitor the patient for any immediate adverse effects or discomfort. Provide aftercare instructions and, if necessary, schedule a follow-up session. Students will be able to perform the therapy under supervision. Additionally, emphasis will be placed on DOPS to prepare them for practical, application-oriented studies. They will also be required to maintain proper logbooks for future documentation.

		The Total duration of the activity is 1 hour.
NLHP 6.9	Varmam Application in Locomotor Disorder (Lower limb)-knee joint pain	The teacher will conduct a case-based learning session on knee joint pain, reviewing the case details, identifying key symptoms, and determining the appropriate *siddha* examination methods. This includes preparation, procedure execution, post-therapy care, and guidance on potential treatment criteria through kinesthetic learning. **1. Patient selection (5 minutes)** -select a suitable patient for the application based on complaints such as pain, energy imbalance, or stiffness. **2. Patient history and assessment (10 minutes)** History: Gather details about past illnesses, injuries, and treatments. Complaints: Identify the primary symptoms and affected areas. Vitals*/naadi/saraottam* **3. Preparation and setup (10 minutes)** Ensure the room is clean, quiet, and well-ventilated. Provide a comfortable setup for the patient, such as seating or lying positions. **4. Application of *varma* therapy (25 minutes)** Select and stimulate *varma* points: Identify suitable *varma* points based on the patient's condition. Apply precise pressure (*maathirai*/*irai*) for the appropriate duration. *Varmam* points- *kaal komberi ,kaal mootu,kaari varmam* Technique: Use controlled and rhythmic movements to stimulate points while ensuring patient comfort. **5. Post-therapy medication and assessment (10 minutes)** Administer internal or external herbal preparations as required. Evaluate *naadi* and *saraottam* for improvements in energy balance and circulation. Students will be able to perform the therapy with supervision. Additionally, prepare students for practical, application-based exams. The total duration of the activity is 1 hour.

NLHP 6.10	Adangal application for Tension headache / Migraine	The teacher will run an *adangal* application in simulation for tension headache/migraine, analyzing the case information, identifying significant symptoms, and determining the best *Siddha* examining procedures. This involves preparation, procedure execution, post-therapy care, and advice on potential treatment criteria via kinesthetic learning. **Hour 1: Patient selection and preparation** Select the patient for the application (10 minutes) - Identify a suitable patient based on symptoms like pain, stiffness, or imbalance. Analyse history and vitals (30 minutes): History: Record past illnesses, injuries, or treatments. Complaints: Identify specific areas of discomfort. Vitals/*naadi/saraottam* Prepare materials and room (20 minutes)-clean, quiet, and comfortable space. Ensure proper lighting and ventilation., assign manpower roles if assistance is required. **Hour 2: Therapy application and assessment** Apply adangal therapy (40 minutes) Identify and stimulate *adangal* points with appropriate pressure (*maathirai*/*irai*) and timing: *Adangal* points- *thilartha aangal, kan adangal, kundurimuthu adangal, mona adangal, panchanarambu adangal, pini narambu adangal* Assess the patient post-therapy (20 minutes)-reassess: *Naadi*, and *saraottam* Students will be able to perform the therapy with supervision. In addition, assessments will be used to prepare students for practical, application-oriented study. The total duration of the activity is 2 hours.
NLHP 6.11	Important *adangal* in the head region	The teacher will simulate an *adangal* application in the head region, analyze case data, identify relevant symptoms, and select the best *siddha* testing procedures. This includes preparation, procedure execution, post-therapy care, and guidance on prospective treatment criteria through kinesthetic learning. **Hour 1: patient selection and initial assessment** Select the patient for the application (10 minutes)-identify a patient suitable for adangal therapy based on conditions such as musculoskeletal pain, stiffness, or energy imbalance. Exclude patients with

		contraindications. Analyse history and vitals (50 minutes) History: review past illnesses, treatments, or injuries. complaints: identify and document symptoms, focusing on affected areas. vitals:*naadi,saraottam.* **Hour 2: Preparation** Arrange materials and setup (20 minutes)-protective covers for hygiene and patient comfort. Clean, well-lit, and ventilated environment. Comfortable seating or lying positions for the patient. Plan adangal points and techniques (40 minutes)-*amarthadangal, kanpuruva adangal, kothanda adangal. Pen kuzhi adangal, aasan adangal, sothanai adangal, nallirupu adangal, amirtha adangal, kuvattu adangal, sarvaanga adangal* Determine pressure intensity (*maathirai*/*irai*) and time limits for each point. Plan massage techniques (*thadavumurai*) such as pressing, sliding, stretching, and kneading. **Hour 3: Therapy application** Perform *adangal* therapy (60 minutes)-locate and stimulate the identified *adangal* points with precise pressure and duration, incorporate sliding, kneading, pressing, stretching, and rhythmic movements. **Hour 4: Post-therapy assessment and follow-up** Assess the patient after therapy (40 minutes)-reassess: *naadi, saraottam* Monitor for any adverse effects like discomfort, redness, or fatigue. Provide feedback and follow-up advice (20 minutes)-rest, hydration, or additional therapies as required. Students can execute the therapy under supervision, and they are urged to apply the direct observation of procedural skills (dops) methodology, which assures the maintenance of correct logbooks for subsequent documentation. Two groups of people are divided, with one group engaging in the performance for two hours while the other group observes. In the next two hours, the roles are reversed, and the second group performs while the first group watches. The total duration of the activity is 4 hours.
NLHP 6.12	Important *adangal* in chest-abdomen region	The teacher will simulate an *adangal* application in the head region, analyze case data, identify

relevant symptoms, and select the best *siddha* examining procedures. This includes preparation, procedure execution, post-therapy care, and guidance on prospective treatment criteria through kinesthetic learning.

Hour 1: patient selection and preliminary assessment

Select the patient for the application (10 minutes)-identify a suitable candidate based on indications for *adangal* therapy, such as joint pain, muscular tension, or energy imbalance, and rule out contraindications.

Analyse history and vitals (50 minutes):

History: review past illnesses, injuries, or treatments.

Complaints: identify specific areas of pain or stiffness.

Vitals:naadi,saraottam

Hour 2: Preparation

Arrange materials and setup (20 minutes)

Clean, quiet, and comfortable space with optimal temperature and ventilation. Arrange a proper setup for the patient to lie or sit comfortably during therapy.

Plan *adangal* points and techniques (40 minutes)

Agatharai-puratharai adangal, thattu adangalpayadangal, vaara adangal, kootu adangal, koora adangal, poova adangal, vaal vali adangal, sarvanga adangal

Determine the pressure intensity (*maathirai/irai*) and time limits for each point.

Plan massage techniques (*thadavumurai*) like pressing, sliding, kneading, and stretching.

Hour 3: Therapy application

Perform adangal therapy (60 minutes)-locate and stimulate the identified *adangal* points with appropriate pressure and timing. Integrate methods such as sliding, circling, pulling, and stretching.

Hour 4: post-therapy assessment and follow-up

Assess the patient after therapy (40 minutes)-reassess the patient's vitals: *naadi, saraottam.*

Provide feedback and follow-up advice (20 minutes)-rest, hydration, or additional therapies as needed.

Techniques used, patient response, and any follow-up actions. Students can execute the therapy under supervision, and they are urged to apply the direct observation of procedural skills (dops) methodology, which assures the maintenance of correct logbooks for subsequent documentation.

Two groups of people are divided, with one group engaging in the performance for two hours while the other group observes. In the next two hours, the roles are reversed, and the second group performs while the first group watches.

		The total duration of the activity is 4 hours.
NLHP 6.13	Important *adangal* in the upper limb region	The teacher will simulate an *adangal* application in the upper limb region, analyze case data, identify relevant symptoms, and select the best *Siddha* testing procedures. This includes preparation, procedure execution, post-therapy care, and guidance on prospective treatment criteria through kinesthetic learning. **Hour 1: patient selection and initial assessment** Select the patient for the application (10 minutes) Identify a suitable patient with conditions treatable by *adangal* therapy, such as musculoskeletal discomfort, energy imbalances, or stress. Screen for contraindications Analyse history and vitals (50 minutes): History: past illnesses, treatments, injuries, or chronic conditions. Patient complaints: identify pain points or mobility issues. *Vitals/naadi,saraottam* **Hour 2: Preparation** Arrange materials and setup (20 minutes)-collect required materials, prepare the room, and assign manpower roles if additional support is required. Plan *adangal* points and techniques (40 minutes) *Tharai - ull tharai adangal, kathirnarambu adangal, kavuli adangal, pulimuthu adangal, vellai adangal, nagakan adangal* Determine the sequence of therapy: Pressure intensity (*maathirai*/*irai*) and time limits for each point. Massage techniques (*thadavumurai*) such as pressing, sliding, stretching, and kneading. **Hour 3: execution of therapy** Apply *adangal* therapy (60 minutes)-locate and stimulate each adangal point with appropriate pressure and duration: integrate methods like sliding, pressing, twisting, and gliding to enhance therapeutic outcomes. **Hour 4: post-therapy assessment and follow-up** Assess the patient after therapy (40 minutes)-reassess: *naadi, saraottam*. Look for signs of relief or any adverse effects like discomfort, redness, or fatigue.

		Provide feedback and follow-up advice (20 minutes)-rest, hydration, and additional therapies if necessary Students can execute the therapy under supervision, and they are urged to apply the direct observation of procedural skills (dops) methodology, which assures the maintenance of correct logbooks for subsequent documentation. Two groups of people are divided, with one group engaging in the performance for two hours while the other group observes. In the next two hours, the roles are reversed, and the second group performs while the first group watches. The total duration of the activity is 4 hours.
NLHP 6.14	Important *adanga*l in lower limb region	The teacher will simulate an adangal application in the lower limb region, analyze case data, identify relevant symptoms, and select the best Siddha testing procedures. This includes preparation, procedure execution, post-therapy care, and guidance on prospective treatment criteria through kinesthetic learning. **Hour 1: Patient selection and assessment** Select the patient for the application (10 minutes) Identify a suitable patient based on the indications for *adangal* therapy, such as musculoskeletal pain, joint stiffness, or energy imbalances. Screen for contraindications Analyse history and vitals (50 minutes): History: Chronic conditions, past injuries, or treatments. Complaints: Document symptoms and identify affected areas. *Vitals/naadi /saraottam* **Hour 2: Preparation** Arrange materials and setup (30 minutes): Massage oils or herbal preparations for *thadavumurai* techniques. Towels, cushions, and protective coverings for the patient. Provide proper seating or lying arrangements for the patient. Plan *adangal* points and techniques (30 minutes) *Nagakan adangal, Manjaadi adangal, Parattu adangal, Padavadadangal, Mannai adangal* Plan the sequence of application:

		Pressure intensity (*maathirai/irai*) and time limits. Massage techniques such as pressing, sliding, kneading, and stretching (*thadavumurai* methods). **Hour 3: Application of therapy** Perform adangal therapy (60 minutes)-apply controlled and precise pressure tailored to the patient's condition. Monitor the intensity to avoid discomfort or overstimulation. Use techniques like sliding, grasping, kneading, stretching, and circling. Focus on the problem areas while maintaining even pressure and rhythm. **Hour 4: Post-therapy assessment and documentation** Assess the patient after therapy (40 minutes): Vital signs, including *naadi* and *saraottam*, for immediate changes. Provide feedback and follow-up advice (20 minutes)-rest, hydration, and any follow-up therapy needed. Students can execute the therapy under supervision, and they are urged to apply the direct observation of procedural skills (dops) methodology, which assures the maintenance of correct logbooks for subsequent documentation. Two groups of people are divided, with one group engaging in the performance for two hours while the other group observes. In the next two hours, the roles are reversed, and the second group performs while the first group watches. The total duration of the activity is 4 hours.
NLHP 6.15	*Varma Thadavu murai nootpungal* (Finger techniques)	The teacher will simulate an *adangal* application in *varma thadavu murai nootpungal*(finger techniques)analyze case data, identify relevant symptoms, and select the best *Siddha* examining procedures. This includes preparation, procedure execution, post-therapy care, and guidance on prospective treatment criteria through kinesthetic learning. **Hour 1: Patient selection and initial assessment** Select the patient for the application (10 minutes)-identify a patient based on indications for *thadvumurai* therapy, such as muscular tension, joint stiffness, or general wellness. And screen for contraindications Analyze history and vitals (50 minutes)history: Chronic illnesses, injuries, or prior treatments. Complaints: Identify pain, stiffness, or restricted movement., vitals: *Naadi,saraottam* **Hour 2: Preparation**

		Arrange materials and set (30 minutes)protective covers for the massage table or clean, quiet, and comfortable with proper lighting and ventilation. ensure the temperature is optimal for patient relaxation Plan techniques and target body parts (30 minutes): Common body parts involved: Thumbing, palming, writing, footing, and kneeling. Techniques: Pressing, lifting, sliding, grasping, stroking, beating, shaking, twisting, whirling, gliding, pulling, pushing, clinching, stretching, circling. **Hour 3: Application of *thadvumurai* techniques** Apply the selected techniques (60 minutes) Begin with gentle stroking and sliding to warm up the tissues. Gradually move to specific techniques like thumbing, pressing, or stretching. Adjust intensity based on patient feedback and tolerance. **Hour 4: Post-therapy assessment and feedback** Assess the patient after therapy (40 minutes)-reassess vital signs, particularly *naadi* and *saraottam*, for changes or improvements. Provide follow-up advice (20 minutes)-suggest aftercare measures, including hydration, rest, or additional therapies if needed students can execute the therapy under supervision, and they are urged to apply the direct observation of procedural skills (dops) methodology, which assures the maintenance of correct logbooks for subsequent documentation. Two groups of people are divided, with one group engaging in the performance for two hours while the other group observes. In the next two hours, the roles are reversed, and the second group performs while the first group watches. The total duration of the activity is 4 hours.

Topic 7 DISORDERS OF CENTRAL NERVOUS SYSTEM (LH :24 NLHT: 13 NLHP: 32)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5	Classify cerebrovascular disease and differentiate between thrombosis,haemorrhage and embolism.	CK	MK	K	L&GD	VV-Viva,QZ	F&S		-	LH

CO5	Define Hemiplegia *(Pakkavatham)* and describe its etiology and pathophysiology, risk factors, clinical presentation, and differential diagnosis and investigations of Hemiplegia.Discuss the siddha aspect of treatment, management strategies, and preventive measures for Hemiplegia.	CC	MK	KH	CBL	CBA,CL-PR	F&S		-	NLHT7.1
CO5	Define Quadriplegia (*Astatantira vatam)* and describe the aetiology, site of lesion, clinical features, investigation, treatment and management	CC	MK	KH	CBL,L &PPT	CBA,VV-Viva	F&S		-	LH
CO5	Define paraplegia (aruna Vatham) and describe its aetiology and common lesion sites. Explain the clinical features, investigations, and treatment approaches of paraplegia. Discuss Siddha-based and modern management strategies for paraplegia**.**	CC	MK	K	CBL,L &PPT	CBA,VV-Viva	F&S		-	LH
CO5	Describe the sites of lesion, clinical features, investigations, treatment, and management of Quadriplegia *(Astatantira vatham)* and Paraplegia *(Aruna vatham).*	CC	DK	KH	L&GD, L_VC,RP,CBL	CBA	F&S		-	NLHT7.2
CO5	Define poliomyelitis and describe its causes, pathophysiology, and clinical manifestations. Discuss the diagnostic methods, conservative treatments, and preventive measures of poliomyelitis.	CC	MK	K	CBL,L &PPT	VV-Viva,CBA	F&S		-	LH
CO5	Define motor neuron disease and discuss the causes, classification, clinical presentation, investigations, and treatment.	CC	MK	K	CBL,L &PPT	CBA,VV-Viva	F&S		-	LH
CO5	Define parkinson’s disease (nadukkuvatham) and explain its causes and pathophysiology. Discuss the clinical features, Hoehn and Yahr staging, and differential diagnosis of Parkinson’s disease. Explain the Siddha aspect of treatment.	CC	MK	K	CBL,L &PPT	CBA,VV-Viva	F&S		-	LH
CO5	Describe the definition, causes, clinical features, pathophysiology, staging of Parkinson's Disease (Hoehn and Yahr stage),	CC	NK	KH	CBL,L &GD	CBA	F&S		-	NLHT7.3

	differential diagnosis, and Siddha aspect of treatment of Parkinson’s disease *(Nadukkuvatham/Panikambavatham)*.									
CO5	Define ataxia and explain the types of ataxia. Define cerebellar ataxia and illustrate the causes, clinical features, investigations, and management.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Define peripheral neuropathy *(Vata karsanam).* Describe its types and pathophysiology. Explain the symptomatology of peripheral nerve diseases, diagnosis, and management of peripheral neuropathy.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Discuss the pathophysiology, Types, and symptomatology of peripheral nerve disease, diagnosis, and management of peripheral neuropathy*(Vata karsanam).*	CC	DK	KH	CBL,L_VC	CBA	F&S		-	NLHT7.4
CO5	Define myopathy and classify the types. Define and explain muscular dystrophy.	CK	NK	K	L	VV-Viva	F&S		-	LH
CO5	Define and Detail the etiology, pathogenesis, clinical features, treatment and management of Duchenne's muscular dystrophy(*Thasai vatham*).	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Demonstrate the examination of the vagus nerve (cranial nerve X)	PSY-GUD	MK	SH	D	P-PRF	F&S		-	NLHT7.5
CO5	List the causes of olfactory nerve lesions. Define anosmia,parosmia and discuss its clinical features and treatment.	CK	DK	K	L	VV-Viva	F&S		-	LH
CO5	Demonstrate the examination of the olfactory nerve and optic nerve.	PSY-GUD	MK	SH	D-BED	DOPS,DOPS	F&S		-	NLHT7.6
CO5	Explain the lesion of visual pathway of optic nerve and define Optic atrophy and describe the causes, types and treatment.	CC	DK	K	L	VV-Viva	F&S		-	LH

CO5	Define Optic neuritis and optic retrobulbar neuritis. Describe the causes, clinical features, and treatment of Optic neuritis.	CC	DK	K	L	VV-Viva	F&S		-	LH
CO5	Describe the causes and effects of the lesion and treatment of oculomotor, trochlear, and abducent nerve.	CC	MK	K	L	VV-Viva	F&S		-	LH
CO5	Demonstrate the examination of the oculomotor, trochlear, abducent Nerve.	PSY-GUD	MK	SH	D	DOPS,DOPS	F&S		-	NLHT7.7
CO5	Explain the Causes and effects of the lesion of trigeminal nerve . Define trigeminal neuralgia and describe the aetiology,clinical features,investigations and treatment.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Demonstrate the examination of the trigeminal nerve.	PSY-GUD	MK	SH	D	VV-Viva,DOPS,DOPS	F&S		-	NLHT7.8
CO5	Explain Facial paralysis.a)Upper motor neuron type of paralysis site, causes and effect.b)Lower motor neuron type of paralysis site, causes and effect.Define Bell’s palsy and describe the causes, clinical features, prognosis and treatment.	CC	MK	KH	L_VC,L&PPT	VV-Viva	F		-	LH
CO5	Demonstrate the examination of the facial nerve.	PSY-GUD	MK	SH	D-BED	DOPS,DOPS	F&S		V-UT	NLHT7.9
CO5	Discuss the Causes , Sites of lesion of vestibulocochlear nerve and State the Deafness and its types.	CK	MK	K	L	VV-Viva	F&S		-	LH
CO5	Define vestibular neuronitis and illustrate the clinical features, prognosis and treatment.	CC	NK	K	L	VV-Viva	F&S		-	LH
CO5	Describe the clinical features,types and treatment of the benign positional vertigo	CC	MK	K	L	VV-Viva	F&S		-	LH
CO5	Demonstrate the examination of vestibulocochlear nerve.	PSY-GUD	MK	SH	D-M	DOPS,DOPS	F&S		-	NLHT7.10

CO5	Describe the causes and effects of lesion of the glossopharyngeal nerve. Explain the clinical features and treatment of glossopharyngeal neuralgia.	CC	MK	KH	L	DOPS,DOPS,VV-Viva	F&S		-	LH
CO5	Demonstration of the examination of glossopharyngeal nerve.	PSY-GUD	MK	SH	D-BED	DOPS,DOPS	F&S		-	NLHT7.11
CO5	Describe the Causes of lesion and effect of lesion vagus nerve and Explain the Causes of lesion and effects of lesion,clinical features and treatment of Accessory nerve.	CC	MK	K	L	VV-Viva	F&S		-	LH
CO5	Demonstrate the examination of accessory nerve.	PSY-GUD	MK	SH	D	P-PRF	F&S		-	NLHT7.12
CO5	Explain the causes of lesion and effects of lesion, clinical features, and treatment of hypoglossal nerve.	CC	MK	K	L	VV-Viva	F&S		-	LH
CO5	Demonstrate the examination of hypoglossal nerve.	PSY-GUD	NK	SH	L_VC,D-BED	DOPS,DOPS	F&S		-	NLHT7.13
CO5	Classify and grade nervous system tumours, detailing their aetiopathogenesis, pathophysiology, clinical features, investigations and conservative treatment.	CC	DK	K	L&GD, L&PPT	VV-Viva	F&S		-	LH
CO5	Define and Describe the aetiology, pathogenesis,clinical features,investigations and management of Alzheimer's disease**.**	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO5, CO7	Demonstrate the hands-on training in the examination of higher intellectual functions.	PSY-GUD	MK	SH	D,D-BED,KL	P-EXAM,DOPS,Log book,DOPS, P-VIVA	F&S		-	NLHP7.1
CO5	Demonstrate the hands-on training in the examining of 12 Pairs of cranial nerves	PSY-GUD	MK	SH	D-BED, D,KL	Log book,P-EXAM,OSCE,DOPS,	F&S		-	NLHP7.2

						DOPS				
CO5	Demonstrate the Hands-on training in the examining of motor system by performingA. Bulk of MusclesB. Tone of MusclesfC.Power of Muscles	PSY-GUD	MK	SH	D-BED,L_VC,KL,D	DOPS,P-EXAM,CBA,DOPS,Log book	F&S		-	NLHP7.3
CO5	Demonstrate the Hands-on training in the examining of the Sensory System.	PSY-GUD	MK	SH	KL,L_VC,D-BED,D	Log book,DOPS,P-EXAM,DOPS	F&S		-	NLHP7.4
CO5	Demonstrate the hands-on training in the examining of A. superficial reflexes and B.Deep tendon reflexes.	PSY-GUD	MK	SH	D-BED,KL,L_VC,D	CBA,DOPS,P-EXAM,DOPS,Log book	F&S		-	NLHP7.5
CO5,CO7	Demonstrate the hands-on training to assess cerebellar dysfunction, focusing on posture, stance,and gait examination of the patient.	PSY-GUD	DK	SH	KL,D-BED,L_VC	DOPS,P-EXAM,DOPS,PA,Log book	F&S		-	NLHP7.6
CO5	Demonstrate the hands-on training in the examination of the involuntary movements.	PSY-GUD	DK	SH	KL,L_VC,CBL,D-BED	Log book,DOPS,DOPS,P-EXAM	F&S		-	NLHP7.7
CO5,CO7	Demonstrate the hands-on training of skull, spine, and spinal nerve examination.	PSY-GUD	NK	SH	D,D-BED,KL	OSCE,DOPS,CBA,Log book,DOPS	F&S		-	NLHP7.8
CO5,CO7	Demonstrate the hands-on training in the examining of the Autonomic nervous system.	PSY-GUD	MK	SH	D-BED,KL,L_VC	DOPS,OSCE,DOPS,CBA	F&S		-	NLHP7.9
CO5,CO7	Evaluate clinical case writing and case presentation of central nervous system diseases in the given patient .	CE	MK	KH	CD,D-BED,CB	P-CASE,CBA,OSCE	F&S		-	NLHP7.10

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Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 7.1	Hemiplegia*(Pakkavatham)*	The teacher will explain Hemiplegia (Pakkavatham) using a case-based learning: Hemiplegia (Pakkavatham) **Case-Based Learning:** Present a Case Presentation: Discussion Points: Identify risk factors. Diagnose based on clinical features and investigations. Formulate a treatment plan combining modern and Siddha approaches Teaching Notes: Engagement:Begin with a real-life case study to foster interest. Integration:Explain the pathophysiology and treatment process using animations or flowcharts. Discussion:Encourage participants to contribute ideas about combining modern and traditional approaches. The students will perform each step of the assessment activity through a case-based assessment of Hemiplegia. Structure: **1.Case Selection:** Choose a realistic and contextually relevant case of Hemiplegia. **2.Format:** Written case:Provide a narrative or problem-solving task. Interactive or simulation:Use a role-play or virtual patient scenario. **3.Components:** Case Introduction:Present patient demographics (age, gender, occupation) and chief complaint. History:Include detailed medical, family, and social history. Examination findings:Share relevant physical exam results (e.g., vitals, inspection findings). Investigations:Provide test results (e.g., lab values, imaging) in stages to simulate real-life decision-making.

		Management:Ask students to outline treatment plans or next steps.
NLHT 7.2	Quadriplegia *(Astatantira vatham)* and paraplegia. *(Aruna vatham)*	The teacher will explain Quadriplegia and Paraplegia by using a lecture with group discussion, lecture with video clips ,role playcase-based learning. Case 1: Quadriplegia Case details History Presentation Key teaching points Site of lesion Clinical features Investigations Treatment and management Case 2: Paraplegia Case details History Presentation Key teaching points Site of Lesion Clinical features Investigations Treatment and management Teaching methods **1.Interactive Case discussion** Present the case with gradual revelations (history ? examination ? investigations ? diagnosis). Ask participants to hypothesize at each step. Highlight the reasoning behind choosing specific investigations and treatments. **2.Role-Playing** Assign participants roles (e.g., neurologist, physiotherapist, patient) to simulate real-life scenarios in managing quadriplegia/paraplegia.

		3.Clinical videos Show videos or images of patients with different spinal cord injuries to illustrate key features. **4.Group activities** Divide the class into groups. Each group researches and presents different aspects of the topic, such as causes, rehabilitation, or surgical approaches. The students will perform each step of the assessment activity through a case-based assessment of Quadriplegia and Paraplegia (Aruna Vatham) Activity: Students will be divided into small groups or work individually to analyze a hypothetical patient case. They will address specific questions regarding the site of the lesion, clinical features, investigation findings, treatment, and management strategies. Tasks for Students **1.Site of Lesion:** Determine the site of the lesion based on clinical signs and symptoms. Identify whether it is likely a cervical spinal cord injury or other neurological disorder. **2.Clinical Features:** List key features observed in Quadriplegia and Paraplegia. Differentiate between upper motor neuron (UMN) and lower motor neuron (LMN) lesions. **3.Investigations:** Recommend appropriate diagnostic investigations (e.g., MRI, CT scan, X-rays, blood tests). Discuss expected findings in these tests for the given case. **4.Treatment Plan:** Propose an acute care management plan Outline long-term rehabilitation goals, including physical therapy, assistive devices, and psychological support. **5.Management Strategies:** Discuss strategies for managing secondary complications such as pressure ulcers, respiratory issues, and urinary infections. Suggest interventions to improve the patient’s quality of life. ,

NLHT 7.3	Parkinson's disease *(Nadukkuvatham* or *Panikambavatham)*	The teacher will explain Parkinson’s disease (Nadukkuvatham/Panikambavatham) by using Lecture and group discussion and case-based learning: Teaching methods: Group discussion:Engage teachers in a collaborative exploration of clinical scenarios. Case-based learning (CBL):Analyze and discuss real or hypothetical cases to reinforce knowledge Content outline: 1. Definition of Parkinson’s disease Modern medicine perspective Siddha perspective (Nadukkuvatham/Panikambavatham) 2.Causes of Parkinson’s Disease 3.Clinical Features 4.Pathophysiology 5.Staging (Hoehn and Yahr Scale) 6.Differential diagnosis 7.Siddha aspect of treatment. Students will perform each step of the assessment activity through a case-based assessment of Parkinson’s disease (PD) integrating the Siddha system of medicine: Case-based assessment activity: Case presentation Assessment components 1.Definition Students define Parkinson’s disease. 2.Causes Modern medicine: Siddha Perspective: 3.Clinical features Modern medicine: Motor symptoms and Non-motor symptoms Siddha medicine 4.Pathophysiology Modern medicine Siddha medicine 5.Staging (Hoehn and Yahr Staging)

		6.Differential diagnosis 7.Siddha aspects of treatment
NLHT 7.4	Peripheral neuropathy *(Vata karsanam)*	The teacher will explain peripheral neuropathy (Vata karsanam) by using a Lecture with video clips and case-based learning. Objectives: Discuss the pathophysiology of peripheral nerve disease. Explore the types and symptomatology of peripheral neuropathy. Teach approaches to diagnosis and management using clinical reasoning. **1.Pathophysiology** Teaching Method: Video Clips Video Content: Include animations or 3D-rendered videos explaining the structure and function of peripheral nerves, the role of Schwann cells, and mechanisms of nerve injury (e.g., demyelination, axonal degeneration). Key Points: Peripheral nerves consist of motor, sensory, and autonomic fibers. Pathology may involve demyelination (e.g., Guillain-Barré syndrome) or axonal degeneration (e.g., diabetic neuropathy). Inflammation, metabolic dysfunction, and toxins are common causes. **.2. Types and Symptomatology** Teaching Method: Case-Based Learning Video: Showcase real or simulated patients demonstrating symptoms like foot drop, sensory loss, or allodynia. **3. Diagnosis** Teaching Method: Case-based problem solving Present cases requiring diagnostic reasoning. Steps to emphasize: History: Identify patterns, progression, and risk factors (e.g., diabetes, alcohol use). Physical Exam: Show videos of clinical tests, including reflexes, strength, and sensation testing.

		Investigations: Discuss EMG, nerve conduction studies, blood tests, and imaging. **4. Management** Teaching Method: Interactive video clips Vdeo content: Real-world scenarios demonstrating patient counseling, medication use, and physiotherapy. Key management areas: Lifestyle modification Medications Physical therapy Patient education Students will perform each step of the assessment activity through a Case-based assessment activity on peripheral neuropathy. Instructions for Students 1.Read the case: Carefully analyze the case provided, noting key clinical details. 2.Answer the questions: Respond to the questions at the end of the case, demonstrating your understanding of the disease process, diagnosis, and treatment. 3.Group discussion (Optional): If working in groups, discuss your answers collaboratively and submit a consensus response. 4.Submission: Submit your responses within the allocated time. Case scenario: Peripheral neuropathy Patient profile: Clinical examination findings: Additional history Pathophysiology Classification Symptomatology Diagnosis Management plan Preventive measures

NLHT 7.5	The vagus nerve (Cranial Nerve X)	The teacher will explain the vagus nerve (cranial nerve X) by using a demonstration. **1.Preparation** Materials needed: A diagram or model of cranial nerves. A presentation with key points on vagus nerve anatomy, function, and examination techniques. A volunteer or standardized patient for demonstration. **2.Interactive introduction** Overview of the vagus nerve: Discuss its anatomical course and key functions (e.g., parasympathetic control, motor functions for the pharynx and larynx, and sensory roles). Highlight associated symptoms of vagus nerve dysfunction (e.g., hoarseness, swallowing difficulty, loss of gag reflex). **3.Live demonstration** Step-by-Step Examination: Observation:Inspect for voice quality (hoarseness), uvula position, and any asymmetry in the soft palate. Palate Elevation:Ask the patient to say "Ah." Observe the soft palate's movement and uvula deviation. Gag Reflex:Stimulate the posterior pharyngeal wall gently (if appropriate). Discuss safety precautions and alternative observations if not performed. Swallowing Assessment:Ask the patient to swallow and assess for difficulty. Cough Test:Assess the ability to produce a strong cough (an indirect measure of vocal cord function). **4. Hands-on practice** Divide participants into small groups and provide a chance to practice with each other or standardized patients under supervision. **5. Visualization and technology** Use videos or animations demonstrating vagus nerve examination. Show clinical examples of normal and abnormal findings. Students will perform each step of the assessment activity through practical performance on the vagus nerve: Pair students into groups of two or three. Each student takes turns being the examiner, the patient, and the observer. Use a checklist to ensure all steps are performed.

		Discuss findings, share observations, and review the steps.
NLHT 7.6	Olfactory nerve (Cranial nerve I) and optic nerve (Cranial nerve II)	The teacher will explain the olfactory nerve and optic nerve by using a demonstration bedside. **1.Examination of the olfactory nerve** Purpose:To assess the sense of smell and check for anosmia or any other olfactory dysfunction. Procedure: Ensure the room is well-lit and the patient is seated comfortably. Explain the procedure to the patient to obtain informed consent. Ensure that the patient is not congested or has any nasal obstruction (e.g., from a cold). Testing: Occlude one nostril: Ask the patient to close one nostril by pressing it with their finger. Ask the patient to close their eyes to eliminate visual cues. Present an aromatic substance: Use a distinct-smelling substance like coffee, vanilla, or cinnamon. Hold it about 2-3 cm from the patient’s open nostril. Ask the patient to sniff and identify the scent: If the patient cannot identify the scent, note this as a potential olfactory issue. Repeat for the other nostril: Occlude the first nostril and then repeat the same procedure for the other side. Interpretation: A normal result: The patient identifies the scent correctly in both nostrils. Abnormal findings could indicate anosmia (loss of smell) or partial smell loss, which could be caused by nasal or neurological issues. **2.Examination of the optic nerve** Purpose:To assess vision, visual fields, and the functioning of the optic nerve. Procedure: Ensure the patient is seated comfortably in a well-lit environment. Explain the procedure and ensure the patient is relaxed. The examiner should stand at eye level with the patient and be in a position to perform tests. Test for visual acuity: Use a snellen chart: Ask the patient to cover one eye with a patch or their hand (not pressing the eyelid).

		Ask the patient to read the smallest line they can see: Start from the top and move down until the patient can no longer read the line. Repeat for the other eye. Test for visual fields (Confrontation Test): Confrontation testing:Stand 2 feet away from the patient. Ask the patient to cover one eye while you cover the opposite one. Move your hands from the periphery of the patient's visual field towards the center (testing the four quadrants: superior, inferior, lateral, and medial). Ask the patient to state when they see your hand. Repeat for all four quadrants for both eyes. Fundoscopic (Ophthalmoscopic) Examination: Check for the optic disc: Using an ophthalmoscope, assess the optic disc for size, color, and any abnormalities. Assess for papilledema: Look for swelling of the optic disc, which can indicate raised intracranial pressure. Students will perform each step of the assessment activity through DOPS on the olfactory nerve (Cranial Nerve I) and the optic nerve (Cranial Nerve II) Preparation Materials Needed: For Olfactory Nerve:Familiar scents (e.g., coffee, vanilla, peppermint) in opaque containers. For Optic Nerve: Snellen chart, Ishihara plates (for colour vision), a pen torch, ophthalmoscope, and a visual field-testing tool (e.g., wiggling fingers or confrontation method). Steps: Olfactory nerve examination: Explain the procedure to the patient. Ensure both nostrils are clear (ask the patient if they have nasal congestion). Test each nostril separately: Ask the patient to close their eyes and occlude one nostril. Present a non-irritating scent under the open nostril and ask the patient to identify it. Optic nerve examination: Visual acuity: Test each eye separately using a Snellen chart at 6 meters (or near chart for close-up vision). Record the smallest line the patient can read. Colour vision:

		Use Ishihara plates to test for colour blindness. Visual fields: Perform a confrontation test by asking the patient to fixate on your nose while you test each quadrant. Pupillary reflexes: Assess direct and consensual light reflex using a pen torch. Fundoscopy: Use an ophthalmoscope to examine the optic disc, retina, and blood vessels. Practice by students Divide students into pairs (examiner and patient). Each student performs the steps under supervision, focusing on correct technique and patient communication.
NLHT 7.7	Oculomotor nerve (Cranial Nerve III),trochlear nerve (Cranial Nerve IV) and abducent nerve (Cranial Nerve VI)	The teacher will explain oculomotor (CN III), trochlear (CN IV), and abducent (CN VI) nerves by using demonstration. Introduction to nerves: Oculomotor nerve (CN III):Controls most of the eye's movements, including constriction of the pupil and maintaining eyelid elevation. Supplies muscles for eye movement (superior, inferior, and medial rectus, inferior oblique) and the levator palpebrae (for eyelid movement). Trochlear nerve (CN IV):Innervates the superior oblique muscle, which helps in downward and lateral movement of the eye. Abducent nerve (CN VI):Innervates the lateral rectus muscle, which controls lateral (outward) movement of the eye. Step-by-Step examination: **1.Inspection (General observation)** Start by having the patient sit comfortably. Inspect the patient's face for asymmetry, ptosis (drooping eyelid), or abnormal positioning of the eyes. Observe for any signs of strabismus or abnormal eye movements. **2.Pupil reactions (Oculomotor nerve)** Direct and consensual reaction: Shine a penlight into one eye and observe the pupil constriction (direct response).

Then, shine the light into the other eye to check the consensual response.
Repeat this for both eyes. The normal response is constriction of the illuminated pupil and constriction of the other eye (consensual).
Accommodation reflex:
Ask the patient to focus on a distant object and then slowly bring your finger towards their nose.
The pupils should constrict as they focus on the near object (accommodation reflex). This tests the oculomotor nerve function.

3.Eye movements (oculomotor, trochlear, and abducent Nerves)

Ask the patient to follow your finger or a pen in the six cardinal directions of gaze:
Upwards (tests superior rectus, oculomotor)
Downwards (tests inferior rectus and superior oblique, trochlear)
Medial (tests medial rectus, oculomotor)
Lateral (tests lateral rectus, abducent)
Up and laterally (tests inferior oblique, oculomotor)
Down and laterally (tests superior oblique, trochlear)
Observe for smooth, coordinated movement and absence of nystagmus (involuntary eye movements).

4.Convergence (Oculomotor nerve)

Ask the patient to focus on your finger as you slowly bring it towards their nose.
Both eyes should converge (move inward) smoothly toward the midline. This tests the oculomotor nerve.

5.Testing for Diplopia (Double vision)

If the patient complains of double vision, test the eye movements in all directions.
Look for misalignment or weakness in the eye muscles.
This can help assess if one of the nerves is impaired.
Special signs to look for:
Ptosis (Drooping eyelid):Associated with oculomotor nerve dysfunction.
Diplopia (Double vision):May indicate issues with the trochlear, oculomotor, or abducent nerve.
Strabismus:Deviation of the eye(s) from their normal alignment due to weakness in a muscle innervated by one of these cranial nerves.
Students will perform each step of the assessment activity through DOPS on the Oculomotor, Trochlear, and Abducent Nerve.
Steps of the activity:

		Introduction: Explain the purpose of the examination to the patient. Ensure the patient is comfortable and seated upright. Inspection: Observe the patient's eyes at rest. Look for ptosis, strabismus, or misalignment of the eyes. Assessment of pupil reaction (Oculomotor Nerve - CN III): Shine a penlight into each eye to check pupil reaction to light (direct and consensual response). Test for accommodation by asking the patient to focus on a near object and then on a distant one. Extraocular movements (CN III, IV, VI): Ask the patient to follow an object (e.g., a pen) with their eyes in an "H" or star-shaped pattern. Observe for smooth, coordinated movements and ensure the eyes move together. Oculomotor nerve (CN III): Tests upward, downward, and medial gaze. Trochlear nerve (CN IV): Tests downward and inward gaze. Abducent nerve (CN VI): Tests lateral gaze. Document Findings: Record any abnormalities such as nystagmus, double vision (diplopia), or limited eye movement.
NLHT 7.8	The trigeminal nerve (cranial nerve V)	The teacher will explain the trigeminal nerve (cranial nerve V) by using a demonstration. **1.Overview of the trigeminal nerve** Introduction: Begin by giving an overview of the trigeminal nerve's function and anatomy. Explain that it has sensory and motor functions. The sensory function involves sensation from the face, while the motor function controls the muscles of mastication. Structure:Show a diagram or 3D model to explain its three branches: Ophthalmic (V1) Maxillary (V2) Mandibular (V3) **2.Step-by-step teaching method** Step 1:Testing sensory function Demonstrate sensory testing: Ask the teacher to close their eyes. Use a cotton wisp to lightly touch the patient's forehead (V1), cheek (V2), and chin (V3).

		Demonstrate both light touch and pinprick sensation. Make sure to touch each area on both sides to compare sensation bilaterally. Verbal cue:"Tell me if you feel this sensation and if it feels the same on both sides." Teaching Tip:Emphasize the importance of comparing sensations on both sides of the face to detect any asymmetries. Step 2:Testing motor function (Muscles of mastication) Demonstrate the motor exam: Ask the teacher to clench their teeth. You can palpate the masseter and temporalis muscles to assess muscle strength and tone. Next, demonstrate the jaw movements by asking the teacher to open and close their mouth against resistance. You should place your fingers on the chin while applying gentle resistance to assess the function of the masseter and temporalis muscles. Verbal cue:"Please bite down as hard as you can and resist me while I press on your jaw." Teaching Tip:Highlight the importance of palpating both the masseter and temporalis to ensure that both muscles are functioning symmetrically. Step 3:Testing the corneal reflex (sensory and motor) Demonstrate the corneal reflex: Ask the teacher to look slightly away while you approach them with a cotton wisp (like for the sensory exam). Lightly touch the cotton wisp to the cornea of one eye. Demonstrate the appropriate response (blinking). Verbal cue: "Do you feel the cotton on your eye? The expected response is blinking." Teaching Tip:Emphasize the importance of performing this gently to avoid discomfort and irritation. 3. Practice and feedback After demonstrating, encourage the teachers to practice on each other or volunteers. Guide each of the steps. Give constructive feedback as they perform each part of the examination. 4. Discussion of pathology Teach Common Findings: Go over what abnormal findings might indicate (e.g., loss of sensation or weakness in the muscles of mastication, which may indicate trigeminal nerve pathology like trigeminal neuralgia or a lesion). Demonstrate how to document findings: Teach how to document findings in a clear, organized way in

		case of abnormalities. Students will perform each step of the assessment activity through DOPS (Directly Observed Procedural Skills) and viva voce on the trigeminal nerve.
NLHT 7.9	The facial nerve (a cranial nerve VII)	The teacher will explain facial nerves by using a demonstration at the bedside. **1.Introduction** Objective:Explain to the teachers that the purpose of the facial nerve examination is to assess the function of the 7th cranial nerve, which controls the muscles of facial expression, some taste sensations, and glandular secretions. Anatomy review: Briefly review the relevant anatomy: The facial nerve originates from the brainstem and passes through the internal acoustic meatus, facial canal, and out through the stylomastoid foramen. It has branches that innervate the muscles of facial expression, and some fibers contribute to taste sensation in the anterior two-thirds of the tongue and the parasympathetic innervation of lacrimal and salivary glands. **2.Demonstration of facial nerve examination** Start by explaining the tests one by one, showing teachers how each step is done and the rationale behind it. Step 1:Ask the patient to smile Demonstration:"Ask the patient to show their teeth and smile widely." What to look for:Symmetry of the smile. Asymmetry or a loss of movement on one side may indicate a problem with the facial nerve. Step 2:Ask the patient to raise both eyebrows Demonstration:"Ask the patient to raise both eyebrows as if surprised." What to look for:Symmetry of eyebrow movement. A failure to raise one eyebrow may indicate facial nerve palsy, especially if the forehead is not involved. Step 3:Ask the patient to close both eyes tightly Demonstration:"Ask the patient to squeeze their eyes shut tightly and resist you trying to open them." What to look for:Resistance to eye-opening. Weakness or inability to resist may indicate facial nerve damage. Step 4:Ask the patient to puff out both cheeks

Demonstration:"Ask the patient to puff their cheeks out as if blowing air into them."
What to look for:Symmetry in cheek puffing. Asymmetry may indicate weakness on one side.
Step 5:Assess taste sensation (if applicable)
Demonstration:"To assess the taste sensation, you can gently use a cotton swab soaked in a bitter substance (e.g., quinine) and apply it to the anterior part of the tongue on both sides."
What to look for:The patient should be able to differentiate tastes on both sides of the anterior two-thirds of the tongue.
Step 6:Test for any other signs of facial nerve dysfunction
Demonstration:"Look for any signs of facial asymmetry, including drooping of the eyelid, loss of nasolabial fold, or loss of facial tone."
What to look for:The patient may show a flat nasolabial fold, a lack of wrinkling on the forehead, or a smooth, less expressive side of the face.
3.Conclusion
Review:Summarize the key aspects of the facial nerve examination:
Symmetry of facial movements.
Involvement of the forehead muscles (for distinguishing between upper and lower motor neuron lesions).
Resistance to eye closure and cheek puffing.
Students will perform each step of the assessment activity through DOPS on Facial Nerve.
Assessment Steps
1.Introduction (Professionalism)
Greets the patient and introduces themselves.
Explain the procedure in clear, simple terms.
Gains informed consent and ensures patient comfort and privacy.
2.Preparation
Washes hands and follows appropriate infection control measures.
Assembles required tools if needed (e.g., pen torch).
3.Inspection
Observe the patient’s face at rest for asymmetry, drooping, or abnormal movements.
Identifies any obvious scars, swellings, or other relevant findings.
4.Motor function testing
Tests for motor function of the facial nerve:

		Forehead Wrinkle: Asks the patient to raise their eyebrows. Eye Closure: Asks the patient to close their eyes tightly and resists opening them. Smile: Asks the patient to smile, showing teeth. Puff Out Cheeks: Observe for air escape **5.Sensory function testing (if applicable)** Explains that sensory testing (e.g., taste sensation on the anterior two-thirds of the tongue) may not be routinely assessed but can be included if needed. **6.Special tests** Mentions/uses additional tests if relevant (e.g., corneal reflex if cranial nerve V involvement is suspected). **7.Findings and conclusion** Summarizes findings logically and clearly. Explain abnormalities (if any) in simple terms to the patient or assessor. **8.Professionalism and communication** Maintains a professional demeanour throughout the assessment. Respond effectively to patient queries or concerns.
NLHT 7.10	The vestibulocochlear nerve (a cranial nerve VIII)	The teacher will explain the vestibulocochlear nerve (Cranial Nerve VIII) by using a demonstration of the model. **1.Introduction to the Patient:** Explain the procedure: Inform the patient that you will check their hearing and balance. Patient position: Ensure the patient sits comfortably with their head positioned straight. **2.Assessing Hearing:** Weber test(Tuning fork test): Purpose:To check if hearing is equal in both ears. Procedure:strike a tuning fork (512 Hz) and place it on the patient's forehead or midline of the skull. Ask them to indicate which ear (if any) the sound is louder in. Interpretation:In a normal test, the sound should be heard equally in both ears. If the sound is louder in one ear, it could indicate either conductive or sensorineural hearing loss. Rinne test (Tuning fork test): Purpose:To compare air conduction versus bone conduction.

Procedure:Strike a tuning fork and place the base on the patient's mastoid bone (behind the ear). Ask the patient to indicate when the sound stops, and then place the tuning fork near the ear canal (to test air conduction).
Interpretation:Normal hearing should result in the sound being heard longer by air conduction than by bone conduction (AC > BC). If bone conduction is heard longer, this suggests conductive hearing loss.
Pure Tone Audiometry (if needed):
If there's a suspicion of hearing loss, this test is performed by an audiologist to measure the patient's hearing threshold at different frequencies.

3. Assessing balance:

Head impulse test (HIT):
Purpose:To assess the function of the vestibular system (which is part of the Vestibulocochlear nerve).
Procedure:Ask the patient to fix their gaze on a target, such as your nose. Rapidly rotate their head to one side (approximately 20-30 degrees) and then return to the center. Repeat on the other side.
Interpretation:A normal response is for the patient to maintain a fixed gaze. If there is a dysfunction in the vestibular system (e.g., vestibular neuritis), the patient may show a corrective eye movement known as a "catch-up saccade."
Romberg test:
Purose:To assess the patient’s balance when standing.
Procedure:Ask the patient to stand with their feet together, arms by their sides, and eyes closed. Observe for any swaying or loss of balance.
Interpretation:Normal: The patient can stand without significant swaying. Abnormal: Swaying or falling may indicate vestibular dysfunction or proprioceptive loss.
Dix-Hallpike Maneuver (if BPPV is suspected):
Purpose: To test for benign paroxysmal positional vertigo (BPPV).
Procedure: Have the patient sit on the examination table. Rotate their head 45 degrees to one side, then quickly lay them back with their head extended slightly backward.
Interpretation: A positive result is characterized by the sudden onset of vertigo and nystagmus, indicating BPPV.

4.Additional tests (if necessary):

Caloric Testing: This test is often performed in a lab setting using warm and cold water or air to stimulate the vestibular system. It’s useful to assess unilateral vestibular dysfunction.
Auditory Brainstem Response (ABR):This test is used when there is suspicion of a lesion along the

auditory pathway, including the Vestibulocochlear nerve.

5.Conclusion:

After the examination, summarize the findings with the patient and discuss the next steps, such as further diagnostic tests or referrals if abnormalities are detected.

Students will perform each step of the assessment activity through DOPS on the Vestibulocochlear nerve (CN VIII).

1.Preparation and Communication

Professionalism: Ensure the student introduces, obtains consent, and explains the purpose of the assessment.

Hygiene:Confirm handwashing or use of sanitizer before starting.

Assessment Points:

Did the student explain the procedure clearly?

Did they establish rapport and obtain informed consent?

2. Technique: Examination of the Vestibulocochlear nerve

The examination involves testing the auditory and vestibular functions. Observe the following steps:

A. Auditory function.

Hearing test

Whisper test

Weber’s test

Rinne’s test

Assessment points:

Did the student follow a logical sequence?

Was the tuning fork used correctly, and was the results interpreted accurately?

B. Vestibular function

Observation for nystagmus

Romberg test

Dix-Hallpike Test (if indicated): Assess for positional vertigo if the patient reports dizziness.

Assessment Points:

Was the student able to explain findings (e.g., nystagmus direction or postural instability)?

3.Interpretation and communication of findings

The student should summarize findings logically, linking abnormal results to possible pathologies.

Examples:

		Conductive hearing loss ? impacted wax or otosclerosis. Sensorineural hearing loss ? acoustic neuroma or noise exposure. Assessment Points: Did they identify normal vs abnormal findings? Could they explain the clinical significance of their observations?
NLHT 7.11	The glossopharyngeal nerve (Cranial nerve IX)	The teacher will explain the glossopharyngeal nerve (Cranial Nerve IX) by using demonstration bedside. **1.Introduction:** Start by providing a brief overview of the glossopharyngeal nerve, its function, and its clinical importance: Function:Sensory (taste to the posterior third of the tongue, sensation to the pharynx), motor (motor innervation to the stylopharyngeus muscle, involved in swallowing), and parasympathetic (innervates the parotid gland for saliva production). Clinical Relevance: Testing this nerve helps in diagnosing conditions like glossopharyngeal neuralgia, stroke, and other neurological issues. **2.Anatomy Overview:** Explain the anatomical course and functions of the glossopharyngeal nerve: **3.Teaching methodology:** A step-by-step approach works best for bedside teaching. **Step 1:Inspect the Patien**t Objective:Check for any signs of neurological damage, including asymmetry, drooping of the soft palate, or signs of weakness. Demonstrate how to inspect the patient's throat, looking for any obvious deformities. **Step 2:Ask the Patient to Open Their Mouth** Objective:Visualize the soft palate and uvula. Demonstrate how to instruct the patient to open their mouth and say "Ah." Look for the uvula's movement. In normal function, the uvula will rise symmetrically. If the glossopharyngeal nerve is affected, the uvula may deviate to the opposite side (toward the healthy side), as the vagus nerve is also involved in the movement of the soft palate.

		Step 3:Test Gag Reflex Objective:Evaluate both the glossopharyngeal and vagus nerves. Gently stimulate the back of the throat on each side (using a cotton-tipped swab). Teacher Tip:Remind students that a gag reflex is a polysynaptic reflex and involves both the glossopharyngeal nerve (afferent) and the vagus nerve (efferent). A lack of response on one side can suggest nerve damage. **Step 4:Assess Taste Sensation** Objective:Assess the sensory function of the glossopharyngeal nerve. The glossopharyngeal nerve is responsible for taste sensation on the posterior third of the tongue. You can use a bitter-tasting solution on a cotton swab and ask the patient to identify the taste on the back of the tongue. **Step 5:Check for Difficulty Swallowing** Objective:observe the patient's ability to swallow. Ask the patient if they have any difficulty swallowing . Students will perform each step of the assessment activity through DOPS on glossopharyngeal nerve . Steps for DOPS Assessment: Provide a patient or a trained simulated patient. Ensure necessary equipment is available (e.g., torch, tongue depressor). Arrange a quiet environment conducive to the examination.
NLHT 7.12	The accessory nerve (Cranial nerve XI)	The teacher will explain accessory nerves by using a demonstration. Step-by-Step demonstration: **1.Introduction:** Explain the function of the accessory nerve and why its examination is critical in diagnosing neurological impairments. Briefly introduce the two main muscle groups involved: SCM (for head rotation) and trapezius (for shoulder shrugging). **2.Inspect for asymmetry:** Begin by inspecting the patient's shoulders and neck for any visible asymmetry, atrophy, or muscle wasting.

Ask the patient to face forward and check for any signs of muscle weakness or abnormal positioning.

3.Test the sternocleidomastoid (SCM) Muscle:

Ask the patient to turn their head against resistance. For example, ask them to turn their head to the left while you apply gentle resistance to the left side of their chin. Then, do the same for the right side.

This tests the function of the SCM, which is responsible for head rotation. The inability to rotate the head against resistance suggests weakness in the SCM, likely due to accessory nerve damage.

4.Test the trapezius muscle:

Ask the patient to shrug both shoulders at the same time. Provide resistance by gently pushing down on the shoulders.

Alternatively, you can ask them to shrug one shoulder at a time while you apply resistance on the opposite side.

A lack of shoulder elevation or weakness while shrugging suggests a problem with the trapezius, which is innervated by the accessory nerve.

5.Clinical correlation:

Discuss possible conditions or injuries that may affect the accessory nerve, such as:

Trauma or surgery: damage to the nerve can result in weakness of the SCM or trapezius.

Jugular foramen syndrome: involving multiple cranial nerves, including the accessory nerve.

Visual Aids and Tools:

Use a diagram or model of the human head and neck to show the locations of the SCM and trapezius muscles.

Consider using video clips or real-time demonstrations on a volunteer to ensure the teachers have a clear visual understanding.

Students will perform each step of the assessment activity through practical performance on the accessory nerve.

Preparation:

Materials Required:

Patient or standardized participant

Quiet room with adequate lighting.

Student Briefing:

Explain that they will demonstrate the examination of the accessory nerve.

Assessment Steps:

1. Communication and consent

		Greet the patient and introduce yourself. Explain the purpose of the examination in simple terms. Obtain informed consent. Ensure patient comfort and positioning. **2. Knowledge of the accessory nerve** The student explains that the accessory nerve controls the sternocleidomastoid (SCM) and trapezius muscles. It is responsible for head rotation, shoulder elevation, and partial movement of the neck. **3. Inspection** Ask the patient to sit or stand upright. Inspect for muscle atrophy, asymmetry, or abnormal posture of the neck and shoulders. **4. Testing the sternocleidomastoid muscle** Instruction: Ask the patient to turn their head to one side while the student resists the movement with their hand (e.g., the patient turns their head to the left, and the resistance is applied on the left cheek). Observation: Evaluate strength and symmetry on both sides. Commentary: The student should describe the findings. **5. Testing the trapezius muscle** Instruction: Ask the patient to shrug their shoulders against resistance applied by the examiner. Observation: Assess for symmetry, strength, or inability to elevate shoulders. Commentary: The student describes the findings appropriately. **6. Integration and Interpretation** Summarize findings and discuss whether the accessory nerve is intact. Correlate abnormalities with possible clinical conditions. **7. Professionalism** Maintain a respectful and confident demeanor. Ensure proper infection control measures (e.g., hand hygiene).
NLHT 7.13	The hypoglossal nerve (Cranial Nerve XII)	The teacher will explain the hypoglossal nerve by using a lecture that includes video clips and bedside teaching methods for demonstrating the examination. **1.Introduction to the hypoglossal nerve (Cranial nerve XII)** Function:The hypoglossal nerve controls the muscles of the tongue, which are responsible for

movements like speaking, swallowing, and chewing.
Motor Function:It innervates the intrinsic and extrinsic muscles of the tongue except for the palatoglossus, which is innervated by the vagus nerve (Cranial Nerve X).
Clinical Relevance:Damage to the hypoglossal nerve may lead to weakness or atrophy of the tongue muscles, causing difficulty in speech, swallowing, or even asymmetry in the tongue.
2.Basic anatomy review (Video clip)
Show a short video demonstrating the path of the hypoglossal nerve from its origins in the medulla oblongata to its innervation of the tongue muscles.
Highlight the clinical implications of damage at different parts of the nerve's pathway.
Key points to cover:
Origin in the medulla
Course through the hypoglossal canal
Distribution to tongue muscles
3.Clinical examination of the hypoglossal nerve (Demonstration)
Preparation:Ensure a quiet, well-lit environment for optimal examination conditions.
Step 1:Inspection
Video Clip:Show a video demonstrating how to inspect the tongue at rest.
Look for signs of atrophy, fasciculations, or asymmetry.
Observe the overall appearance, noting any abnormal features such as uneven tongue size or tremors.
Bedside Teaching:Have students practice observing the tongue of a volunteer, focusing on detecting any obvious signs of hypoglossal nerve dysfunction.
Step 2:Protrusion of the Tongue
Demonstration:Ask the patient to stick out their tongue.
Normally, the tongue should protrude symmetrically in the midline.
Abnormal findings:
Unilateral hypoglossal nerve damage:The tongue will deviate toward the affected side (due to the unopposed action of the healthy side).
Bilateral hypoglossal nerve damage:The tongue will have reduced strength and may not protrude fully.
Video Clip:Show a video of both normal and abnormal tongue protrusions.
Bedside Teaching:Allow students to practice this technique on patients or each other.
Step 3:Lateral Movement
Demonstration:Ask the patient to move their tongue from side to side.

Normal movement should be smooth and equal on both sides.
Abnormal findings:Difficulty or asymmetry in movement can indicate nerve damage.
Video Clip:A video demonstrating normal and abnormal lateral tongue movements.
Bedside Teaching:Have students perform this examination on patients, focusing on the range and symmetry of tongue movements.
Step 4:Tongue Strength
Demonstration:Ask the patient to push their tongue against the inside of the cheek while you apply gentle resistance with your finger.
Both sides should show equal strength.
Abnormal findings:Weakness or asymmetry may indicate hypoglossal nerve dysfunction.
Video Clip:Demonstrate this test with a patient or model, showing how to assess strength symmetrically on both sides.
Bedside Teaching: Have students practice this examination with volunteers, observing and comparing the strength of the tongue.
4.Case scenarios (Interactive learning)
Present a few cases with different scenarios of hypoglossal nerve dysfunction (e.g., stroke, trauma, tumor) and ask the students to analyze the symptoms and the results of the examination.
Video Clips: Show simulated or real-life cases of patients with hypoglossal nerve dysfunction.
Discuss the expected findings and the importance of early diagnosis.
Students will perform each step of the assessment activity through The Direct Observation of Procedural Skills (DOPS) on the Hypoglossal nerve (cranial nerve XII).
DOPS Assessment: Hypoglossal Nerve Examination
Assessment Components
Preparation and Professionalism
Greeting and Explanation:
Introduce themselves to the patient.
Explains the purpose of the examination clearly and in layman's terms.
Obtains consent for the examination.
Infection Control:
Ensures proper hygiene (e.g., hand washing or sanitizing before and after the examination).
Comfort and Positioning:
Ensures the patient is seated comfortably in an appropriate position with good lighting.

		Clinical Technique Inspection of the Tongue (at rest and in motion): Observe the tongue at rest for atrophy, fasciculations, or asymmetry. Ask the patient to stick their tongue out and check for deviation (suggests weakness). Observe tongue movement for smoothness and range. Assessment of Strength and Function: Ask the patient to press their tongue against the inside of their cheek and palpate externally for strength. Checks articulation of lingual sounds (e.g., asking the patient to say "la-la-la" to assess coordination). Palpation (if necessary): Palpates the tongue to detect any induration or abnormalities. Communication During Examination Maintains clear communication throughout the procedure. Explain each step to the patient and ensure their comfort. Clinical Knowledge Demonstrates understanding of normal vs abnormal findings (e.g., unilateral deviation toward the affected side suggests a lower motor neuron lesion). Integrates findings with relevant differential diagnosis.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 7.1	Clinical examination of higher intellectual functions .	The teacher will explain higher intellectual functions by using kinesthetic learning, demonstrations, and bedside demonstration. **1.Prepare the patient for the clinical examination (10-15 minutes)** Introduction: Greet the patient, introduce yourself, and explain the purpose of the examination. Informed Consent:Ensure the patient understands the procedure and consents to it. Comfort and privacy:Provide a comfortable environment, ensure privacy, and ask if they need any accommodations. Positioning: Position the patient appropriately for the examination.

		2.Analyse the demographic data, complaints, and duration, and the history of the patient, with vitals orderly (30-40 minutes) Demographic data:Record name, age, gender, occupation, and other relevant details. Presenting complaints:Note the chief complaint and its duration. History: Medical history:Past illnesses, hospitalizations, surgeries. Family history:Any hereditary conditions. Social history:Lifestyle factors, habits, and occupational risks. Medication history:Current and past medications. Vitals: Measure blood pressure, heart rate, respiratory rate, temperature, and oxygen saturation. **3.Assess the examination of higher intellectual function (45-60 minutes)** Orientation:Assess awareness of time, place, and person. Memory:Test short-term and long-term memory. Attention and concentration:Use tasks like repeating sequences or performing simple calculations. Language:Evaluate fluency, comprehension, repetition, and naming. Abstract thinking:Assess with questions involving proverbs or similarities/differences. Judgment:Use situational questions to evaluate reasoning. The students will perform each step of the assessment activity through Direct observation of procedural skills (DOPS), practical exams, logbook assessments, practical viva, and case-based assessments. The total duration of the activity is 2 hours.
NLHP 7.2	Clinical examinations of 12 Pairs of cranial nerves.	The teacher will explain the 12 pairs of cranial nerves by using a combination of kinesthetic learning, bedside demonstration, and practical demonstrations. **1.Prepare the patient for the clinical examination (30 minutes)** Create a comfortable environment:Ensure the examination room is quiet, well-lit, and properly equipped. Establish rapport:Introduce yourself to the patient and explain the purpose of the examination. Obtain consent:Clearly explain the procedures and obtain informed consent. Ensure readiness:Verify that the patient is properly positioned, wearing appropriate clothing, and

understands the examination flow.

2.Analyze patient data in an orderly manner (1 hour 30 minutes)

Demographic data:Record age, gender, occupation, and any relevant personal details.

Chief complaints:Identify the main symptoms, duration, and progression.

Use open-ended questions for detailed insight.

History taking:

Medical history: Past illnesses, surgeries, or conditions.

Family history: Genetic predispositions or familial illnesses.

Lifestyle factors: Smoking, alcohol consumption, diet, exercise.

Current medications: Record all ongoing treatments.

Vital signs:

Measure temperature, blood pressure, pulse, respiratory rate, and oxygen saturation.

Document findings systematically.

3.Assess the clinical examination of 12 Pairs of cranial nerves (3 hours)

Conduct the examination systematically, evaluating each cranial nerve in sequence:

I.Olfactory nerve:

Test the sense of smell with familiar odours.

II.Optic nerve:

Check the visual acuity field of vision and perform a fundoscopic examination.

III,IV,VI.Oculomotor, trochlear, and abducens nerves:

Test eye movements, pupil size, light reflex, and accommodation.

V.Trigeminal nerve:

Assess facial sensation, corneal reflex, and mastication muscle strength.

VII.Facial nerve:

Evaluate facial expressions (smile, frown, close eyes tightly) and taste on the anterior tongue.

VIII.Vestibulocochlear nerve:

Perform hearing tests (tuning fork) and balance assessments.

IX,X.Glossopharyngeal and Vagus nerves:

Check the gag reflex, swallowing, and speech. Observe the uvula for symmetry during phonation.

XI.Accessory nerve:

Test shoulder shrug and head-turning strength against resistance.

XII.Hypoglossal nerve:

		Assess tongue movement, symmetry, and any signs of atrophy or fasciculations. The students will perform each step of the assessment activity through Direct observation of procedural skills (DOPS), practical exams, logbook documentation, and Objective structured clinical examinations (OSCE). The total duration of the activity is 5 hours.
NLHP 7.3	Clinical Examination of Motor System.	The teacher will explain the motor system by using lectures with video clips, kinesthetic learning, demonstrations, and bedside demonstrations. 1.Preparation phase (30 minutes) Objective: Prepare the patient for the clinical examination. Steps: Explain the procedure to the patient, ensuring they understand and consent. Confirm privacy and comfort, such as an appropriate gown and room temperature. Gather necessary tools and equipment (e.g., gloves, stethoscope, reflex hammer, measuring tape). 2.Data analysis phase (60 minutes) Objective: Collect and analyze patient information in an orderly manner. Steps: Demographic data:Age, gender, occupation, and other relevant identifiers. Chief Complaints:Document the primary complaints, focusing on duration and progression. History:Medical, surgical, and family history. Lifestyle factors (e.g., smoking, alcohol, activity level). Vitals: Record and assess temperature, blood pressure, heart rate, respiratory rate, and oxygen saturation. 3.Clinical examination of the motor system (2 hrs) Objective: Systematically examine the motor system. Steps: A.Bulk of muscles (30 minutes) Inspect and palpate muscles for symmetry, atrophy, or hypertrophy. Compare bilaterally. B.Tone of muscles (30 minutes) Perform passive movements to assess muscle tone (e.g., spasticity or rigidity).

		Evaluate the upper and lower limbs. C.Power of muscles (60 minutes) Use the medical research council (MRC) scale (0–5) to grade muscle strength. Test key muscle groups for both proximal and distal strength in all limbs. 4.Review and documentation phase (30 minutes) Objective:Summarize findings and document them. Steps: Ensure all observations are accurate and complete The students will perform each step of the assessment activity through Direct observation of procedural skills (DOPS), logbooks, practical exams, and case-based assessments. The total duration of the activity is 4 hours.
NLHP 7.4	Clinical Examination of the Sensory System.	The teacher will explain the sensory system through a combination of lectures with video clips, kinesthetic learning activities, bedside demonstrations, and practical demonstrations. **1.Prepare the patient for the clinical examination (15 minutes)** Greeting and introduction (2–3 minutes): Introduce yourself and explain the purpose of the examination. Ensure the patient is comfortable and consents to the process. Prepare the environment (5 minutes): Ensure a quiet and private space with appropriate lighting and equipment. Confirm all necessary tools (e.g., stethoscope, reflex hammer, sensory tools) are available. Position the patient (7 minutes): Position the patient in a way that facilitates the clinical examination. Provide a gown or drape for comfort and privacy. **2.Analyze the Patient's demographic data, complaints, duration, and history with vitals (30 minutes**) Demographic data collection (5 minutes): Record age, gender, occupation, and other relevant details. Discuss complaints and duration (10 minutes): Encourage the patient to describe their symptoms and note the duration and progression. Take a detailed patient history (10 minutes):

		Past medical history, family history, allergies, medications, lifestyle, and habits. Measure and record vitals (5 minutes): Temperature, pulse, blood pressure, respiratory rate, and oxygen saturation. **3.Assess the clinical examination of the sensory system (1 hour 15 minutes)** General inspection (10 minutes): Look for any obvious deformities, scars, or asymmetry. Sensory examination by area (45 minutes): Light touch: Use a cotton wisp on various dermatomes. Pain sensation: Test with a pinprick or sharp object. Temperature sensation: Use warm and cold objects. Vibration sense: Use a tuning fork on bony prominences. Proprioception: Test the patient's awareness of joint position. Deep tendon reflexes (20 minutes): Test reflexes like the patellar, achilles, and biceps. Documentation and patient feedback (15 minutes): Record all findings. Allow the patient to share any additional concerns. The students will perform each step of the assessment activity through DOPS (Direct observation of procedural skills), logbooks, and practical exams. The total duration of the activity is 2 hours.
NLHP 7.5	Clinical examination of superficial reflexes and Deep tendon reflexes.	The teacher will explain the reflexes by using a lectures with video clips, kinesthetic learning, bedside demonstrations, and demonstration. **Task 1: Prepare the patient for clinical examination (30 minutes)** 1.Environment preparation: Ensure the examination room is clean, well-lit, and organized. Check that all necessary tools (reflex hammer, stethoscope, etc.) are readily available.2.Patient preparation: Explain the procedure and its purpose to the patient to gain consent and cooperation. Ensure the patient is in a comfortable position and appropriately dressed for the examination. Verify the patient's identity and confirm their understanding of the process.

Task 2: Analyze demographic data, complaints, duration, and patient history with vitals (1.5 hours)

1.Demographic data:

Record the patient's name, age, sex, and other relevant details.

2.Presenting complaints:

Document the patient's main complaints in their own words.

Include the onset, duration, and factors that exacerbate or alleviate symptoms.

3.Past medical history:

Gather information on previous illnesses, surgeries, allergies, medications, and family history.

4.Vitals assessment:

Measure and record the patient's temperature, pulse, respiration rate, and blood pressure.

Note any abnormalities or trends requiring further investigation.

Task 3: Assess clinical examination of reflexes (2 hours)

1.Superficial reflexes:

Test key superficial reflexes (e.g., corneal, abdominal, plantar reflexes) and document findings.

Note symmetry, response strength, and any abnormalities.

2.Deep tendon reflexes:

Use a reflex hammer to evaluate reflexes at the biceps, triceps, brachioradialis, patellar, and achilles tendons.

Record reflex grading (0 to 4+) based on the observed responses:

0: Absent

1+: Hypoactive

2+: Normal

3+: Hyperactive without clonus

4+: Hyperactive with clonus

3.Clinical observations:

Look for signs of spasticity, rigidity, or other neuromuscular abnormalities.

Ensure a systematic approach to avoid missing critical findings.

4.Documentation:

Summarize findings clearly and concisely.

Highlight any deviations from normal that require further investigation.

Students can demonstrate hands-on training in the examination of:

		A. Superficial reflexes B. Deep Tendon reflexes The students will perform each step of the assessment activity through Direct observation of procedural skills (DOPS), logbook documentation, practical examinations, case-based assessments, and Objective Structured clinical examinations (OSCEs). The total duration of the activity is 4 hours.
NLHP 7.6	Clinical examination of cerebellar dysfunction and examination of posture, stance and gait.	The teacher will explain the cerebellar dysfunction, with a focus on evaluating posture, stance, and gait. This will be achieved through a combination of lectures with video clips, kinesthetic learning, and bedside demonstrations. **Preparation for clinical examination (10 minutes)** 1.Environment setup (5 minutes): Ensure the examination room is quiet and well-lit. Arrange necessary equipment (stethoscope, thermometer, sphygmomanometer, etc.). Prepare the patient by explaining the procedure and ensuring they are comfortable. 2.Patient preparation (5 minutes): Confirm the patient's identity. Obtain consent for the examination. Instruct the patient to wear appropriate clothing for easy access to areas to be examined. **Analysis of demographic data and patient history (30 minutes)** 1.Demographic data (5 minutes): Record the patient's age, gender, occupation, and other relevant details. 2.Chief complaints and duration (10 minutes): Document the primary complaints with an emphasis on onset, duration, and progression. Note any associated symptoms. 3.Detailed history (15 minutes): Medical history: Past illnesses, surgeries, allergies, and current medications. Family history: Relevant genetic conditions or family illnesses. Social history: Lifestyle factors like smoking, alcohol consumption, and physical activity. System review: Check for symptoms in other body systems. 4.Vitals (5 minutes):

		Measure and record temperature, blood pressure, pulse rate, respiratory rate, and oxygen saturation. **Clinical examination (Cerebellar dysfunction, posture, stance, and gait) (50 minutes)** 1.Cerebellar dysfunction examination (30 minutes): Coordination tests: finger-to-nose, heel-to-shin, and rapid alternating movements. Dysmetria: Observe for overshooting or undershooting during movement. Nystagmus: Examine for abnormal eye movements. Speech: Assess for scanning or slurred speech. Hypotonia: Test muscle tone for any abnormalities. Rebound phenomenon: Observe resistance and release response. 2.Posture, stance, and gait assessment (20 minutes): Posture: check for abnormal alignment or curvature. Stance: perform the romberg test to evaluate balance. Gait: Observe walking patterns, including heel, toe, and tandem walking. **Wrap-up and documentation (30 minutes)** 1.Summarize findings (15 minutes): Organize data systematically: subjective history, objective findings, and preliminary assessment. 2.Patient feedback and Instructions (5 minutes): Address any patient questions or concerns. Provide post-examination guidance or referrals if necessary. 3.Document and report (10 minutes): Prepare a concise report of the examination findings. The students will perform each step of the assessment activity through Direct observation of procedural skills (DOPS), logbook documentation, practical examinations, and peer assessment. The Total duration of the activity is 2 hours.
NLHP 7.7	Clinical examination of the involuntary movements.	The teacher will explain the examination of involuntary movements through a combination of instructional methods, including lectures with video clips, kinesthetic learning, bedside demonstrations, and case-based learning. **1.Prepare the Patient for the clinical examination (30 minutes)** Ensure Privacy and Comfort:Arrange a private and comfortable examination room. Obtain Consent:Explain the purpose and procedure of the clinical examination and get the patient's

		informed consent. Gather Required Equipment:Ensure all tools (stethoscope, blood pressure monitor, thermometer, etc.) are ready. Patient Preparation:Assist the patient in positioning themselves appropriately and address any concerns or discomfort. **2.Analyse patient data and history with vitals (1 hour)** Demographic data:Record the patient's age, gender, and relevant personal details. Chief complaints and duration:Document the primary complaints and their duration in the patient's words. History of present illness:Explore the symptoms, including onset, progression, and associated factors. Past medical and family history: Identify previous illnesses, surgeries, or family predispositions. Vitals:Measure and record temperature, pulse, blood pressure, respiratory rate, and oxygen saturation systematically. **3.Assess clinical examination of involuntary movements (1.5 hours)** Observation:Note the type, frequency, distribution, and pattern of involuntary movements (e.g., tremors, tics, dystonia). Palpation and testing:Check for muscle tone, strength, and reflexes if applicable. Neurological assessment:Evaluate coordination, posture, and gait to identify potential neurological issues. Correlate Findings:Connect observations with patient history to hypothesize possible conditions. The students will perform each step of the assessment activity through various assessment methods such as Direct Observation of Procedural Skills (DOPS), logbooks, and practical exams. The total duration of the activity is 3 hours.
NLHP 7.8	Clinical examination of skull, spine and nerve.	The teacher will explain the examination of the skull, spine, and spinal nerves by using various instructional methods like Kinesthetic learning, Bedside demonstration, demonstration . **Step 1:Preparing the patient for clinical examination (15 minutes)** Ensure privacy and comfort: Confirm the examination area is clean and well-lit. Provide a gown or drape for the patient if necessary. Verify patient identity:Cross-check the patient's name, age, and medical record with their

identification.
Explain the procedure:Inform the patient about the steps of the examination and gain verbal consent.
Position the patient appropriately:
Depending on the specific examination, ensure the patient is seated, standing, or lying down comfortably.
Step 2:Analyzing patient information (30 minutes)
Demographic data:Document age, gender, occupation, and relevant lifestyle factors.
Chief complaints and duration:
Note the main symptoms, their severity, and how long they have persisted.
Patient history:
Include medical, surgical, family, and social history.
Pay attention to prior treatments or medications.
Vital signs:
Record vitals in an orderly manner:
Temperature
Pulse rate
Respiratory rate
Blood pressure
Oxygen saturation
Step 3:Clinical examination (skull, spine, and nerve) (60 minutes)
Skull examination (20 minutes):
Inspect for asymmetry, scars, or deformities.
Palpate for tenderness, masses, or irregularities.
Check cranial nerves I–VI for function:
Olfactory (smell test)
Optic (visual acuity and fields)
Oculomotor, trochlear, abducens (eye movements and pupil response)
Spine examination (20 minutes):
Inspect posture and alignment. Palpate for tenderness along the spine.
Assess the range of motion in the cervical, thoracic, and lumbar regions.
Nerve Examination (20 minutes): Evaluate cranial nerves VII–XII for function:
Facial expression, hearing, tongue movement, and swallowing.

		Conduct reflex tests. Assess motor and sensory function in extremities. **Step 4: Final review and documentation (15 minutes)** Summarize findings. Discuss initial impressions with the patient if appropriate.Document all results for the patient record. The students will perform each step of the assessment activity through Direct observation of procedural skills (DOPS), Objective structured clinical examination (OSCE), case-based assessments, and documentation in a logbook. The total duration of the activity is 2 hours.
NLHP 7.9	Clinical examination of Autonomic nervous system.	The teacher will explain the autonomic nervous system by using lectures with video clips, kinesthetic learning, and bedside demonstrations. **1.Preparation for the clinical examination (10 minutes)** Ensure privacy and comfort for the patient. Guide the patient to the examination area. Explain the procedure to alleviate anxiety and obtain consent. Gather necessary tools and materials like Stethoscope, sphygmomanometer, thermometer, pulse oximeter, reflex hammer, etc. Position the patient appropriately for the examination. Hand hygiene and ensure proper personal protective equipment. **2.Analyze patient data (15 minutes)** Demographic data:Confirm the patient’s name, age, gender, and relevant personal details. Chief complaints and duration:Document primary complaints in the patient’s own words. Note the duration and progression of symptoms. History taking Medical history: Previous illnesses, surgeries, medications. Family history: Genetic or hereditary conditions. Social history: Lifestyle habits, occupation, and environment. Vital Signs:Temperature, pulse rate, respiratory rate, blood pressure, and oxygen saturation. Record findings systematically. **3.Assess the clinical examination of the Autonomic Nervous System (35 minutes)**

		Tests for sympathetic and parasympathetic Functions Heart rate variability:Observe changes with deep breathing or Valsalva maneuver. Blood pressure response:Assess for orthostatic hypotension by measuring BP lying down and standing. Sweating and skin response:Inspect the skin for abnormalities (dryness, clamminess). Reflex testing: Pupillary light reflex(reaction to light). Sudomotor function(sweat gland activity). Observation of Symptoms: Note any flushing, pallor, or other signs indicating autonomic dysfunction. Documentation: Systematically document all findings with descriptions. The students will perform each step of the assessment activity through DOPS, OSCE, and case-based assessments. The total duration of the activity is 1 hour.
NLHP 7.10	Clinical case writing and case presentation of central nervous system diseases.	The teacher will explain clinical case writing and case presentations related to Central Nervous System (CNS) diseases through a case-based learning approach. This will include case diagnosis, bedside demonstrations with patients, and hands-on discussions to enhance their understanding and clinical reasoning skills. **1.Prepare the patient for clinical examination (30 minutes)** Greet the patient and ensure their comfort. Obtain informed consent. Explain the examination process to alleviate anxiety. Gather preliminary details (e.g., name, age, occupation). **2.Analyze demographic data (30 minutes)** Record patient details: age, gender, occupation, lifestyle, and complaints. Document key aspects of complaints (onset, duration, severity, etc.). Take a brief medical and family history. Measure vital signs (e.g., temperature, pulse, blood pressure, respiratory rate). **3.Conduct general and systemic examination (1 hour)** General Examination:

		Observe general appearance, posture, and mental state. Assess skin, eyes, nails, and mucosa for abnormalities. Systemic Examination: Examine major systems: cardiovascular, respiratory, gastrointestinal, nervous, and musculoskeletal. Use Siddha diagnostic tools like Naadi (pulse), Neerkuri (urine examination), and Neikuri (oil drop analysis). **4.Evaluate clinical findings using siddha and modern concepts (1 hour)** Compare symptoms and signs with Siddha diagnostic categories (e.g., Vatha, Pitha, Kapha imbalances). Use modern medical concepts to identify pathophysiology. **5.Perform clinical investigations and interpret results (1 hour)** Request or review lab tests (e.g., blood, urine, imaging). Interpret results in the context of both Siddha and modern frameworks. **6.Determine and document the diagnosis (30 minutes)** Use differential diagnosis methods. Consolidate clinical features, investigation findings, and Siddha principles to arrive at a diagnosis. Document findings and reasoning. **7.Prescribe the line of treatment (30 minutes)** Formulate treatment based on Siddha guidelines, including: 1.Internal medicines 2.External therapies 3.Lifestyle modifications **8.Counsel the patient (30 minutes)** Explain the diagnosis and treatment plan. Provide follow-up care instructions, emphasizing the importance of adherence. Address patient questions and concerns. The students will perform each step of the assessment activity through practical case-taking, case-based assessments, and observed structured clinical examinations under supervision. This training prepares them for practical, application-based studies and ensures they maintain proper logbooks for future documentation. The Total duration of the activity is 7 hours.

Paper 2 (Varmam,Puramaruthuvam and Sirappumaruthuvam)										
A3 Course outcome	**B3 Learning Objective (At the end of the session, the students should be able to)**	**C3 Domain/sub**	**D3 MK / DK / NK**	**E3 Level**	**F3 T-L method**	**G3 Assessment**	**H3 Assessment Type**	**I3 Term**	**J3 Integration**	**K3 Type**
Topic 8 KAYAKALPAM (JUVENILIZATION THERAPY) AND MUPPU (LH :9 NLHT: 2 NLHP: 7)										
A3	**B3**	**C3**	**D3**	**E3**	**F3**	**G3**	**H3**	**I3**	**J3**	**K3**
CO2	*Mooligai Karpam* (Herbal origin)Describe the procedure, diet and benefits of *pothu karpam* such as *Injithaen karpam, Nelmanei karpam, Ponnanganni karpam, Vembu karpam, Katraazhai Karpam, Manathakkali karpam, Vilakarpam, Vaatkoraikizhangu karpam.*	CC	MK	K	L&PPT ,L_VC	P-REC	F&S		-	LH
CO2	Describe the procedure, diet and benefits of *Amukkinankizhangu Karpam, Kodivasalai karpam, Perungaalan karpam, Urulaikizhangu karpam, Kalyanapoosani karpam, Kaiyan karpam, Kaliparattai karpam.*	CC	MK	K	L&PPT ,L_VC	P-REC	F&S		-	LH
CO2	Describe the procedure, diet and benefits of e*rukku karpam, azhinjil karpam, seedheviyar sengazhuneer, keezhanelli samoolam, surai, kanjavirai karpam, karchoor karpam,* k*adukkai karpam, naanal karpam, seeragam karpam, aalampaal karpam, puliyaarai karpam, notchi karpam, vallaikodi karpam, mookiratai karpam, kuppaimeni karpam, thoodhuvalai karpam,* s*erankottai karpam, panaiver karpam, thetran karpam.*	CC	MK	K	D,L&PPT ,L_VC	P-REC,CL-PR	F&S		-	LH
CO2	Describe and quote the appropriate versus, procedure, diet and benefits of *Nellikarpam, Orithazhthamarai karpam, Elam karpam, Thulasi karpam, Vilva karpam, Kittikizhangu karpam, Koraikizhangu karpam, Sirukeerai karpam, Nannari karpam, Aal*	CC	MK	K	L&PPT ,L_VC	P-REC,CL-PR	F&S		-	LH

	karpam, Ayilpattai karpam, Elumitchapazha karpam Thamarai magaranthapodi karpam, Brammathandu magaranthapodi karpam, Malattuku karpam,Sukkilathambanam, Uttamani karpam, Panja karpam.									
CO2	Identify, collect and display the *karpa* plants.	CAP	NK	KH	TBL	INT,P-ID	F		-	NLHT8.1
CO2	Describe the procedure, diet, and benefits of *thathu karpam* such as *ayasambeera karpam, ayabringarajakarpam,* and pooranachandhroodhayam *karpam* with versus.	CK	MK	K	L,L&PPT	P-REC,QZ ,VV-Viva	F&S		-	LH
CO2	Describe the procedure diet and benefits of *pachchaipasumpal karpam, kaaichina pal karpam,* and *indhirakobapoochi karpam* with verses.	CK	NK	K	L&PPT	VV-Viva,QZ ,P-REC	F&S		-	LH
CO2	Define *Muppu* with its ideology.	CK	DK	K	L&PPT	VV-Viva,P-REC	F&S		-	LH
CO2	Explain the philosophy and classification of *Muppu* with its application.	CC	DK	KH	L&PPT	S-LAQ	F&S		-	LH
CO1, CO2, CO6, CO7	Assess the patient's condition and incorporate the suitable *kayakarpam* therapy.	PSY-GUD	MK	SH	CBL	CBA	S		-	NLHP8.1
CO1, CO2, CO6, CO7	Evaluate the long-term benefits of *kaya karpam* medicines in managing and preventing diseases by documenting the progress.	CE	DK	SH	CBL	CBA	S		-	NLHP8.2
CO2	Identification, collection and display of *karpa r*aw drugs	CAP	DK	KH	TBL	P-ID,P-POS,INT	F		-	NLHT8.2
CO2	Define *kayakarpam.* Describe the various regimens, benefits, and	CK	MK	K	L_VC,L	CL-PR,P-	F&S		-	LH

	classifications of *kayakarpam*.				&PPT	REC				

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 8.1	Identification, collection and display of *karpa* plants.	The teacher will explain the Identification, collection, and Display of karpa plants by using the Team-Based Learning (TBL) method. Students can be divided into groups, with 8-10 students per group. Allotted groups should collect the plants and display them in class. They can explain the identification details and using methods. To effectively identify, collect, and display *Karpa* plants, the process can be broken down into several key steps: Identification **1. Research:** Understand the specific characteristics of *Karpa* plants. This includes: **A) Botanical features**: Leaf shape, flower structure, colour, and fruiting bodies. **B) Habitat**: Natural environment, soil type, and climate preferences. **2. Field Guide**: Use botanical field guides or mobile apps to help identify *Karpa* plants in their natural habitat. **3. Expert Consultation**: Engage with botanists or local plant experts who can provide insights into identifying Karpa plants accurately. Collection **1. Permission**: Ensure you have the necessary permissions from local authorities or landowners to collect plants from the wild. **2. Tools**: Use appropriate tools such as gloves, shears, spades, and containers to collect plant samples carefully without damaging them or their environment. **3. Record Keeping**: Document each collection, noting the location, date, and environmental conditions. Use GPS for precise location data. **4. Ethical Practices**: Follow ethical guidelines to ensure sustainable collection. Avoid over-harvesting and ensure the plant population can regenerate. Display **1. Preparation:** Clean the plants gently to remove soil or debris. If the display is for educational purposes, consider preparing herbarium specimens by pressing and drying the plants. **2. Labelling**: Clearly label each specimen with its scientific name, common name, date of collection,

		location, and any other relevant information. **3. Display Setup**: Choose an appropriate display method: **A) Live Display**: Use pots with suitable soil and lighting to keep the plants alive. **B) Herbarium Display**: Mount pressed specimens on acid-free paper and frame them for display. **C) Digital Display**: Create a digital exhibit with high-resolution images and detailed descriptions for virtual audiences. **4. Educational Material**: Provide informational materials such as brochures, posters, or interactive displays that explain the significance, uses, and conservation status of Karpa plants. **5. Maintenance**: Regularly check the display to ensure plants remain healthy (For live displays) and that specimens not deteriorating (for herbarium displays). Assessment of Practical Identification and Interactions. **1. Observation**: Monitor students' ability to identify and document Karpa plants in the field. **2. Collaboration**: Evaluate how effectively students work together and engage in discussions during identification. **3. Engagement**: Assess the student's ability to interact with the audience during the display, ensuring they communicate clearly and confidently. Students are assessed by Practical poster / Practical Identification / Interaction for Identification, collection, and Display of *karpa* plants.
NLHT 8.2	Identification, collection, and display of *Karpa* Raw drugs.	The teacher will explain the identification, collection, and display of *karpa* raw drugs by using team-based learning (TBL) team-based learning (TBL) is an effective teaching-learning method that encourages collaborative learning, critical thinking, and practical application. Here's how tbl can be applied to the identification, collection, and display of *karpa* raw drugs in a structured format: **1. Pre-class preparation** Learning materials: Provide students with reading materials, videos, and resources on karpa plants, their medicinal properties, identification techniques, and the importance of ethical collection. Objectives: Clearly outline learning objectives, such as understanding the characteristics of *karpa* raw drugs, sustainable collection methods, and effective display techniques. **2. Readiness assurance** Individual test: Begin with a short quiz or assessment to ensure students have understood the pre-class

		materials. Team test: Students then retake the quiz in their teams, discussing answers to reach a consensus. This promotes collaboration and reinforces learning. **3. Application phase** Identification exercise: Field trip: Organize a field trip to a natural habitat or botanical garden where karpa plants grow. Hands-on identification: In teams, students use their knowledge to identify karpa plants. They can take notes, photographs, and make sketches. Expert consultation: Teams consult with a botanist or use reference materials to confirm their identifications Collection exercise: Ethical collection: Students collect samples under supervision, ensuring sustainable practices. They document the collection process, including location, date, and environmental conditions. Sample handling: Teams learn proper techniques for handling and preserving raw drug samples. Display preparation: Specimen preparation: Teams prepare their collected samples for display, which may include drying, pressing, or preserving them in appropriate mediums. Information synthesis: Each team creates informative labels and descriptions for their samples, highlighting the plant's medicinal uses and any cultural significance. Presentation and display: Interactive exhibit: Teams set up a display showcasing their *karpa* raw drugs. They explain the identification and collection process, the plant's uses, and its significance. Peer interaction: Teams present their displays to peers, faculty, and potentially the public, engaging in discussions and answering questions. Assessment **Knowledge assessment:** Evaluate students on their understanding of *karpa* plants and their medicinal properties. Skills assessment: Assess practical skills in plant identification, collection techniques, and the ability to create an informative display. **Team dynamics**: Evaluate team collaboration and individual contributions to the group's success. Students are assessed by practical poster / Practical identification / Interaction for identification, collection, and display of *karpa* raw drugs

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 8.1	Application of the suitable *kayakarpam* therapy.	The teacher will conduct case-based learning in the patient's condition and incorporate suitable *kayakarpam* therapy by documenting the progress 1.Examine the patient's vital signs and conduct a thorough inspection. 2.Analyse the *kanmenthirium* (Sensory functions) and their *vidayangal* (Actions), as well as the *uyir thathukal* (Life forces), *udal thathukal* (Body constituents), and *envagai thervu* (Eight diagnostic tools). 3. Once the diagnosis is confirmed, select the appropriate *kaya karpam* medicine tailored to the patient's condition. 4. Explain the treatment protocol in detail and obtain the patient's verbal consent. 5. Prepare the patient by recommending a suitable diet and daily regimen. 6. Provide clear instructions on the dosage, adjuvant, and duration of the prescribed *kaya karpam* medicine, and schedule regular follow-ups to monitor progress and make necessary adjustments. **Evaluation criteria** Clinical skills: Accuracy in assessing the patient's condition and diagnosing the dosha imbalance. Knowledge application: Appropriate selection and justification of *kayakarpam* therapies. Communication: Clarity and effectiveness in patient interaction and explanation of the treatment protocol. Critical thinking: Ability to tailor treatment plans based on the patient's unique condition. Documentation: Completeness and accuracy of case notes and treatment records. Students are able to use the case-based assessment methodology for practice-oriented studies and ensure they maintain proper logbooks for future documentation. The total duration of the activity is 4 hrs
NLHP 8.2	Application of long-term benefits of *kaya karpam* medicines in managing and preventing diseases	The teacher will conduct case-based learning in the long-term benefits of *kaya karpam* medicines in managing and preventing diseases by documenting the progress. Analyse the *kanmenthirium* (Sensory functions) and their *vidayangal* (Actions), as well as the *uyir thathuka*l (Life forces), *udal thathukal* (Body constituents), and *envagai thervu* (Eight diagnostic tools).

Once the diagnosis is confirmed, select the appropriate *kaya karpam* medicine tailored to the patient's condition.
Explain the treatment protocol in detail and obtain the patient's verbal consent.
Prepare the patient by recommending a suitable diet and daily regimen.
Provide clear instructions on the dosage, adjuvant, and duration of the prescribed *kaya karpam* medicine, and schedule regular follow-ups to monitor progress and make necessary adjustments.
Student activities and assessment
A. Critical analysis
Case analysis: Students analyse the documented case, focusing on the relationship between *kaya karpam* treatment and patient outcomes.
Discussion: Engage in group discussions to compare findings, discuss challenges, and propose alternative approaches.
B. Reflection and reporting
Reflective journals: Students maintain journals reflecting on their learning process, clinical observations, and the effectiveness of treatments.
Case reports: Write detailed case reports summarizing the treatment journey, outcomes, and long-term benefits of *kaya karpam* medicines.
C. Research component
Literature review: Students research scientific literature on *kaya karpam* medicines, exploring their pharmacological properties and clinical efficacy.
Evidence-based conclusions: Use research findings to support case analyses and propose evidence-based recommendation
Assessment criteria
A. Knowledge and understanding
Understanding of *kaya karpam*: Depth of knowledge about the composition, uses, and benefits of *kaya karpam* medicines.
Application of siddha principles: Ability to apply siddha diagnostic principles in analysing patient cases.
B. Analytical skills
Data interpretation: Competence in interpreting clinical data and identifying trends over time.
Critical thinking: Ability to assess the effectiveness of treatments and suggest improvements.
C. Communication skills

		Clarity: Proficiency in presenting findings clearly and coherently in both written and oral formats. Team collaboration: Effectiveness in working as part of a team during discussions and presentations. **D. Practical application** Real-world application: Demonstrate how theoretical knowledge is applied in clinical practice. Ethical considerations: Adherence to ethical guidelines in patient documentation and interactions. Students are able to use the case-based assessment methodology for practice-oriented studies and ensure they maintain proper logbooks for future documentation. The total duration of the activity is 3 hrs.

Topic 9 ATTANGA YOGAM (LH :6 NLHT: 8 NLHP: 15)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO2	*Attanga yogam*Define *Iyamam* (purity of thoughts/temperance) and *Niyamam* (purity of action). Explain the diverse virtues and liabilities of *Iyamam* and *Niyamam*.	CC	DK	K	L&GD, L&PPT	P-REC	F&S		-	LH
CO2	Define *Asanam* (Yogic posture), p*ranayamam* (Yogic breathing), *prathiyakaram* (Withdrawal of senses), *tharanai* (Focused thoughts), *thiyanam (M*editation), *and samadhi* (Eternal bliss).	CK	NK	K	L&PPT	VV-Viva	F&S		-	LH
CO2	*Pranayamam* (Yogic breathing)Explain *pranayamam.* Enumerate the philosophy of *pranayamam.* State the benefits and the regulations of *pranayamam.*	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO2	Demonstrate *Pranayamam*	PSY-GUD	MK	SH	L_VC,D	DOPS,DOPS,VV-Viva	F&S		-	NLHT9.1
CO2	Define *yogam*	CK	DK	K	L&PPT	VV-Viva	F&S		-	LH
CO2	Explain the types, principles, and philosophy of *yogam.*	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO2	Describe the advantages of *yogam* with factors influencing yoga practice.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH

CO2	Discuss and demonstrate various yoga postures.	CAP	MK	SH	L_VC	DOPS,DOPS,VV-Viva	F&S		-	NLHT9.2
CO1, CO2, CO6	Therapeutic applications of *yogam* on patients - Assess the complaints of the patient and confirm the diagnosis by *Siddha* and modern parameters	PSY-GUD	MK	SH	CBL	CBA	S		-	NLHP9.1
CO1, CO2, CO6	Educate the patients on safety of y*oga* practices for orthopaedic health.	PSY-GUD	MK	SH	CBL	P-RP,CBA	S		-	NLHP9.2
CO1, CO2, CO6	Develop patient-specific yoga modifications to accommodate physical limitations.	PSY-GUD	MK	SH	CBL	CBA	S		-	NLHP9.3
CO1, CO2, CO6	Demonstrate yoga to improve range of motion and flexibility.	PSY-GUD	NK	SH	CBL	CBA	S		-	NLHP9.4
CO1, CO2, CO6	Evaluate the long-term benefits of yoga in managing and preventing orthopaedic diseases by documenting the progress	PSY-GUD	MK	SH	CBL	CBA	S		-	NLHP9.5
CO1, CO2, CO6, CO7	Integrate breathing exercises (*Pranayamam*) to aid in pain management and stress reduction.	PSY-GUD	MK	SH	CBL	CBA	S		-	NLHP9.6
CO2	Demonstrate the procedure of *thiyanam* (Meditation).	PSY-GUD	DK	SH	D,L_VC	DOPS,VV-Viva,DOPS	F&S		-	NLHT9.3
CO2	Demonstrate various posture of *mudras.*	PSY-GUD	MK	SH	D,RP,L_VC	DOPS,VV-Viva,DOPS	F&S		-	NLHT9.4
CO2	Demonstrate *tharanai* (Focused thoughts).	PSY-	MK	SH	D,L_VC	VV-Viva,D	F&S		-	NLHT9.5

		GUD				OPS,DOPS				
CO2	Discuss and demonstrate various *yoga* postures with general health benefits.	CAP	MK	SH	D,L_VC	DOPS,DOPS,VV-Viva	F&S		-	NLHT9.6
CO2	Discuss and demonstrate Y*oga* postures in various disease conditions.	CAP	MK	SH	D,L_VC,RP	VV-Viva,DOPS,DOPS	F&S		-	NLHT9.7
CO2	Discuss the contraindication of various *yoga* postures.	CAP	MK	SH	L_VC,D	DOPS,DOPS,VV-Viva	F&S		-	NLHT9.8

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 9.1	Demonstration of *Pranayamam* steps	The teacher will explain and demonstrate the *pranayama* steps by using lectures with video clips. Objective: To assess students' ability to perform and understand the steps of *pranayama* correctly. Preparation: A) A quiet and comfortable space. B) Yoga mats for each student. C) A checklist for assessment. D)Timer or clock for time management. Steps of the DOPS Activity **1. Introduction** Explain the importance of *pranayama* in promoting physical and mental well-being. Outline the specific types of *pranayama* that will be assessed. **2.Demonstration** The instructor performs each type of *pranayama* while explaining the technique, breathing patterns, and posture. Emphasize key points such as breath control, rhythm, posture, and focus. **3. Student Practice** Students practice each type of *pranayama* under the instructor's supervision. Provide feedback and corrections as needed to ensure correct technique. **4. Assessment**

		Students are assessed individually on their ability to perform each type of *pranayama.* Use a checklist to evaluate the following criteria: A) Posture: Is the student sitting comfortably with a straight spine? B) Breathing Technique: Is the student following the correct breathing pattern (Inhalation, exhalation, retention)? C) Focus and Calmness: Is the student maintaining focus and calm throughout the practice? Consistency: Can the student maintain a consistent rhythm and flow? **5. Feedback** Provide immediate constructive feedback to each student. Highlight strengths and areas for improvement. Assessment Criteria: Understanding of the techniques. Ability to explain the process clearly. Awareness of the benefits and precautions.
NLHT 9.2	Demonstration of yoga postures with video clips.	The teacher should teach students various yoga postures (Asanas) by using the method of lecture with video clips, and discuss their benefits. Explain the purpose and benefits of incorporating yoga into daily life. **Demonstration** Instructor Demonstration: Provide a brief overview of the types of yoga postures (E.g., standing, seated, twisting, balancing, and relaxation poses) Emphasizing correct alignment and breathing. **DOPS Activity** Materials can be used: Yoga mat, foldable blanket, foam roller, exercise ball, wheel, wedge, bolster, belt or strap, resistance band, meditation cushion, antigravity wall rope, headstand bench. Format: Students are assessed individually or in small groups. Each student selects or is assigned a posture to demonstrate. **Assessment Criteria:**

		Understanding of the Posture: Ability to describe the posture, its benefits, and precautions. Execution: Correct alignment, breathing flow in and out of each posture. Adaptability: Ability to modify the posture based on individual flexibility and strength. **Review and Reflection** Conduct a group discussion on the experience. Encourage students to reflect on their challenges and progress. Discuss the importance of regular practice and mindfulness in yoga. Students are assessed by performing these postures correctly through the Demonstration of practical skills (DOPS) / VIVA.
NLHT 9.3	Demonstration of *Thiyanam* (Meditation).	The teacher should demonstrate to the students *Thiyanam* (Meditation) by using the method of lecture with the video clip. The DOPS (Direct Observation of Procedural Skills) assessment will focus on several key areas: **1. Preparation and Posture:** Correct sitting posture (Cross-legged or in a chair with feet flat) Spine alignment. Relaxed shoulders and hands placed appropriately (On knees or lap) **2. Breathing Technique:** Awareness of breathing pattern Slow, deep breaths. **3. Focus and Concentration:** Ability to maintain focus on a chosen object (Breath, mantra, visualization). Minimal distractions or fidgeting. Returning to focus when attention wanders. **4. Duration and Consistency:** Ability to sustain meditation for the required duration. Consistent practice during the session. **5. Ending the Session:** Gradual return to awareness Reflective feedback on the experience.

		Assessment Criteria Clarity of Instructions: Evaluate the student's ability to provide clear, calm, and concise guidance. Posture and Breathing Guidance: Assess the accuracy and effectiveness of instructions related to posture and breath control. Pacing and Timing: Consider the student's ability to pace the meditation session appropriately and adhere to the time limits. Environment Setting: Evaluate how well the student creates a conducive environment for *Thiyanam* (Meditation).
NLHT 9.4	Demonstration of various posture of *mudhras.*	The Teacher should create a lecture using powerpoint to demonstrate various postures of *mudras* can be an effective teaching method. Overview of their use in yoga and meditation. Benefits of practicing *mudras* (e.g., enhancing focus, improving health). Description and steps to perform. Encourage interaction by asking questions, and explaining the correct posture and common mistakes. How to integrate *mudras* into daily practice. Students are assessed by performing various postures of *Mudras* correctly through the Demonstration of practical skills (DOPS) / VIVA.
NLHT 9.5	Demonstration of *Tharanai* (Focused thoughts) .	The teacher should demonstrate to the students with *Tharanai* (Focused thoughts) by using the method of lecture with the video clip. For a student activity focused on *Tharanai* (Focused Thoughts) demonstration in a viva setting, the components can be structured as follows: **1. Introduction** Brief overview of *Tharanai* (Focused Thoughts). Explanation of how focused thinking improves problem-solving and critical analysis. **2. Preparation Phase** Prepare students for the viva demonstration. A topic or problem statement is given to the students.

		Guidelines on how to approach the problem using focused thought. Time for students to organize their thoughts and structure their responses. **3. Demonstration Phase** Conduct the viva to assess students' ability to maintain focused thoughts. Students present their thoughts on the given topic / Problem. Focus on clarity, relevance, and coherence in their responses. Emphasize the importance of staying on-topic and avoiding distractions. **4. Question and Answer Session** Components: The panel or instructor poses questions related to the topic. Students demonstrate their ability to think critically and maintain focused responses. Encourage elaboration while staying concise and relevant. **5. Conclusion** Recap of the main points discussed during the activity. Reinforce the importance of developing focused thinking skills for academic and professional success. Students are assessed by performing *Tharanai* (Focused thoughts) correctly through the Demonstration of practical skills (DOPS) / VIVA.
NLHT 9.6	Demonstration of various *yoga* postures with general health benefits.	The teacher should demonstrate to the student's various *yoga* postures with general health benefits by using the method of lecture with video clips and discussing their contraindications. **1. Visual Demonstration:** • Use a video or live demonstration to show each posture. • Encourage students to observe the alignment and breathing techniques. **2. Guided Practice:** • Lead students through each posture step-by-step. **3. Interactive Session:** • Pair students to observe and correct each other's postures under supervision. • Foster a supportive environment for feedback. **4. Question and Answer:** • Allow students to ask questions about the benefits and modifications of each pose. DOPS (Direct Observation of Procedural Skills) activity:

		• Preparation: Ensure students understand the importance of each yoga posture and the health benefits. • Observation: Students perform each posture under the supervision of the instructor. The instructor observes and assesses each student's posture, alignment, and breathing. • Feedback: Provide constructive feedback focusing on strengths and areas for improvement. • Documentation: Record observations and feedback on a standardized form. Students are assessed by performing these postures correctly through the Demonstration of practical skills (DOPS) / VIVA.
NLHT 9.7	Demonstration of y*oga* postures in various disease conditions.	The teacher should demonstrate to the students various *Yoga* postures in various disease conditions by using the method of lecture with video clips and discuss their contraindication. **1. Visual Demonstration:** Use a video or live demonstration to show each posture. Encourage students to observe the alignment and breathing techniques. **2. Guided Practice:** Lead students through each posture step-by-step. **3. Interactive Session:** Pair students to observe and correct each other's postures under supervision. Foster a supportive environment for feedback. **4. Question and Answer:** Allow students to ask questions about the benefits and modifications of each pose. **DOPS (Direct Observation of Procedural Skills) Activity**: **1. Preparation:** Ensure students understand the importance of each yoga posture in Various disease conditions. **2. Observation:** Students perform each posture under the supervision of the instructor. The instructor observes and assesses each student's posture, alignment, and breathing.

		3. Feedback: Provide constructive feedback focusing on strengths and areas for improvement. **4. Documentation:** Record observations and feedback on a standardized form. Students are assessed by performing these postures correctly through the Demonstration of practical skills (DOPS)/ VIVA.
NLHT 9.8	Discussion on the contraindication of various *yoga* postures.	The teacher should demonstrate to the students various *yoga* postures (*Asanas*) by using the method of lecture with video clips and discussing their contraindications. **1. Introduction** Explain the contraindications of various *yoga* postures. **2. Demonstration** Instructor Demonstration: Provide a brief overview of the types of *yoga* postures (e.g., standing, seated, twisting, balancing, and relaxation poses) Emphasizing correct alignment and breathing. **DOPS (Direct observation of procedural skills) Activity** **1. Format:** Students are assessed individually or in small groups. Each student selects or is assigned a posture to demonstrate. **2. Assessment Criteria:** Understanding of the Posture: Ability to describe the posture, its benefits, and precautions. Execution: Correct alignment, breathing flow in and out in each posture. Adaptability: Ability to modify the posture based on individual flexibility and strength. **3. Review and Reflection:** Conduct a group discussion on the experience. Encourage students to reflect on their challenges and progress. Discuss the importance of regular practice and mindfulness in *yoga* Students are assessed by performing these postures correctly through the Demonstration of practical skills (DOPS) / VIVA.

Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 9.1	Application of *Yogam*	The teacher will conduct case-based learning in Therapeutic applications of Yogam on patients by Confirming the Diagnosis by Siddha and Modern Parameters, Documenting the Progress. Examine the patient's vital signs and inspect their joints thoroughly. Assess the patient's *kanmenthirium* along with *vidayangal*, *uyir thathukal*, *udal thathukal*, and *envagai thervu* to ensure a comprehensive understanding of their condition. Upon confirming the diagnosis, select the appropriate yoga poses tailored to the patient's needs, and explain the treatment protocol clearly, obtaining their verbal consent before proceeding. Advise the patient to empty their bladder and bowel before starting the practice to avoid any discomfort during the session. Recommend that the patient wear loose-fitting, breathable clothing to facilitate a full range of motion and comfort during the exercises. Instruct the patient to perform a gentle warm-up to prepare their muscles and reduce the risk of injury before beginning the poses. Ensure the patient follows the asanas under the guidance of a healthcare professional to maintain proper form and safety. Encourage the patient to continue the training until they can perform the poses independently, fostering confidence and self-reliance in their practice. Therapeutic applications of yogam - Case-based assessment **1. Case Study Analysis (60 minutes)** Students must choose one case study and answer the following questions: Identify the Condition: Describe the medical or psychological condition presented in the case. Yoga Practices: Recommend specific yoga practices (asanas, pranayama, meditation) suitable for the condition. Therapeutic Benefits: Explain the potential therapeutic benefits of the recommended yoga practices. Precautions: Highlight any precautions or contraindications associated with the yoga practices for this particular case. Assessment Criteria: Understanding of the condition Appropriateness of yoga practices recommended

		Depth of explanation regarding therapeutic benefits Awareness of precautions **2. Practical Application (60 minutes)** To assess students' practical understanding and ability to demonstrate yoga practices suited for therapeutic purposes. Demonstrate 2-3 yoga poses (asanas) suitable for the case. Explain the significance of each pose during the demonstration. Show one breathing exercise (pranayama) and discuss its benefits **3.Reflective Discussion (60 minutes)** To evaluate students' reflective thinking and their ability to connect theoretical knowledge with practical applications. Students will participate in a group discussion moderated by the teacher. Engagement in discussion Quality of insights and reflection Ability to connect theory with practice Students can use the Case-Based Assessment methodology for practice-oriented studies and ensure they maintain proper logbooks for future documentation. The Total duration of the activity is 3 Hrs
NLHP 9.2	Education of the patients safty on yoga practice for orthopedic health	The teacher will conduct case-based learning to educate the patients on the safety of yoga practices for orthopaedic health by documenting the progress . Structure of the case-based assessment: **1.Introduction (15 minutes)** Brief overview of the importance of yoga in orthopedic health. **2.Case studies presentation (20 minutes)** Three different case studies will be presented, each highlighting a common orthopedic condition: **Case 1**: Patient with chronic lower back pain. **Case 2**: Patient recovering from knee replacement surgery. **Case 3**: Patient with osteoporosis. **3.Group discussion and analysis (30 minutes)** Students will be divided into small groups. Each group will be assigned one case to discuss:

		Identify the potential risks and benefits of yoga for the assigned patient. Discuss which yoga poses are safe and which should be avoided. Develop a brief, tailored yoga plan for the patient. **4.Role-playing scenarios (40 minutes)** Each group will present their case to the class in a role-playing format: One student will play the role of the healthcare provider. Another student will play the role of the patient. The provider will explain the yoga plan, address the patient's concerns, and provide safety tips. Feedback will be given by peers and the instructor on communication skills, accuracy of information, and patient engagement. **5.Wrap-up and reflection (15 minutes)** **Assessment criteria:** Understanding of orthopaedic conditions: Identifies appropriate and inappropriate yoga practices for each condition. **Communication skills:** Effectively explains the safety and benefits of yoga to patients. **Patient-cantered care:** Yoga plan to the individual patient's needs and limitations. Consider patient concerns and preferences. **Critical thinking and problem-solving:** Analyse the case studies thoroughly. Provides well-reasoned justifications for the recommended yoga practices. Students can use the case-based assessment methodology for practice-oriented studies and ensure they maintain proper logbooks for future documentation. The total duration of the activity is 2 hrs.
NLHP 9.3	Development of specific yoga modifications to patients.	The teacher will conduct case-based learning in the patient specific yoga modifications to accommodate physical limitations by documenting the progress. Examine the vital signs and inspect the joints of the patient. Analyse the *kanmenthirium* and its *vidayangal, uyir thathukal, udal thathukal, and envagai thervu* of the patient.

		After confirming the diagnosis and choosing the needed yoga poses specific to the patient, inform them about the treatment protocol by getting verbal consent from them. Ask the patient to empty the bladder and bowel before practice which will prevent discomfort. The patient is asked to opt for loose-fitting, breathable clothing that allows for a full range of motion. Before diving into the poses, the patient is asked to do a gentle warm-up to prepare muscles. The patient is asked to perform the asanas following the instructions from healthcare professionals. The training can be continued till the patient performs on his own. Students can use the case-based assessment methodology for practice-oriented studies and ensure they maintain proper logbooks for future documentation. The total duration of the activity is 2 hrs.
NLHP 9.4	Demonstration of Yoga to improve range of motion and flexibility.	The teacher will conduct case-based learning in yoga to improve range of motion and flexibility by documenting the progress. Examine the vital signs and inspect the joints of the patient. Analyse the *kanmenthirium* and its *vidayangal, uyir thathukal, udal thathukal, and envagaithervu* of the patient. After confirming the diagnosis and choosing the needed yoga poses specific to the patient, inform them about the treatment protocol by getting verbal consent from them. Ask the patient to empty the bladder and bowel before practice which will prevent discomfort. The patient is asked to opt for loose-fitting, breathable clothing that allows for a full range of motion. Before diving into the poses, the patient is asked to do a gentle warm-up to prepare muscles. The patient is asked to perform the asanas following the instructions from healthcare professionals. The training can be continued till the patient performs on his own. Students can use the case-based assessment methodology for practice-oriented studies and ensure they maintain proper logbooks for future documentation. The total duration of the activity is 2 hrs.
NLHP 9.5	Application of long-term benefits of yoga in managing and preventing orthopaedic diseases	The teacher will conduct case-based learning of the long-term benefits of Yoga in orthopaedic diseases by documenting the progress **1. Introduction (30 minutes)**

		Provide students with foundational knowledge about orthopedic diseases and the role of yoga in their management and prevention. **2. Case Study Distribution (15 minutes)** **3. Case Analysis and Documentation (1 hour)** Allow students to analyse their assigned cases and document the role of yoga in managing and preventing orthopedic diseases. **4. Presentation and Discussion (45 minutes)** Each student or pair presents their case findings and proposes a yoga regimen. Class discussion on the feasibility and effectiveness of the yoga interventions. **5. Summary and Reflection (30 minutes)** Summarize key takeaways about the role of yoga in orthopedic health. Reflect on the importance of documenting progress in long-term health management. Discuss the challenges and limitations of integrating yoga into treatment plans. Students can use the Case-Based Assessment methodology for practice-oriented studies and ensure they maintain proper logbooks for future documentation. The Total duration of the activity is 3 Hours
NLHP 9.6	Application of breathing exercises (*Pranayama*) to pain management and stress reduction.	The teacher will conduct case-based learning in Breathing Exercises (Pranayama) to aid in Pain Management and Stress Reduction by Documenting the Progress **1. Introduction (15 minutes)** Brief on the importance of Breathing Exercises (Pranayama) in pain management and stress reduction. **2. Case Study Presentation (45 minutes)** **3. Group Discussion and Analysis (30 minutes)** Break students into small groups Groups prepare a brief presentation on their findings **4. Presentation and Feedback (30 minutes)** Each group presents their analysis and proposed Breathing Exercises (Pranayama) **5. Practical Application (30 minutes)** Guided practice of selected Breathing Exercises (Pranayama) (E.g., diaphragmatic breathing, alternate nostril breathing, 4-7-8 breathing) Emphasis on the correct technique and potential benefits.

		6. Individual Assessment (30 minutes) Written or oral questions related to: The physiological effects of Breathing Exercises (Pranayama) The application of specific techniques for different conditions Short practical demonstration where students guide a peer through a breathing exercise Assessment Criteria: Understanding of case specifics and the ability to modify Breathing exercises accordingly. Group participation and contribution to the discussion. Clarity and accuracy of the presentation. Practical demonstration of breathing exercises. Students can use the Case-Based Assessment methodology for practice-oriented studies and ensure they maintain proper logbooks for future documentation. The Total duration of the activity is 3 Hours

Topic 10 GERIATRICS (LH :9 NLHT: 4 NLHP: 10)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5	Explain the postulated mechanism and the physiological effects of aging. State the signs and symptoms of age-related physiological changes and their consequences and diseases in the elderly.	CC	MK	KH	L,L&PPT ,L&GD	VV-Viva,CL-PR	F&S		-	LH
CO5	Describe the characteristics of diseases in old age and explain the principles and management of geriatric diseases..	CK	MK	KH	L&PPT ,L	T-OBT,M-CHT	F&S		-	LH
CO5	Describe the definition, causes, presentation and management of urinary incontinence. List the causes of postural hypotension and discuss the mechanisms, risk factors and management of falls and collapse	CK	NK	K	L&GD, L&PPT	VV-Viva,M-POS,COM ,CL-PR	F&S		H-MM	LH
CO5	Define delirium and describe the presentation, clinical assessment, and management.	CC	MK	K	L&PPT ,L&GD	VV-Viva	F&S		-	NLHT10.1
CO5	Describe the factors, causes, pathophysiology, signs and	CC	MK	K	L&PPT	T-CS,CL-	F&S		H-MM	LH

	symptoms, differential diagnosis and investigation of chronic cardiac failure. Define hypertension and extend the risk factors, pathogenesis, complication and diagnosis. Describe and analyse the causes, pathophysiology, signs and symptoms, and diagnosis of chronic mitral regurgitation.				,L_VC, L&GD, FC	PR				
CO5	Describe the definition, causes, pathophysiology, diagnosis, and care planning for chronic obstructive pulmonary diseases Define migraine and describe the causes, symptoms, and diagnosis. Elaborate on the definition, causes, clinical features, and investigation of polymyositis and dermatomyositis.	CAP	DK	KH	L&PPT ,TBL,L _VC,FC ,L&GD	CL-PR,T-C S,VV-Viva	F&S		H-MM, H-AM	LH
CO5	Explain the definition, causes, pathogenesis, clinical features and management of spondyloarthropathy.	CAP	MK	KH	CBL	T-CS,VV-Viva	F&S		-	NLHT10.2
CO5	Describe the definition, causes, clinical features, pathophysiology, diagnosis, and treatment of osteomalacia in the elderly. Explain the risk factors, clinical presentation, pathology, diagnosis, stages, and treatment of prostate cancer in the elderly, and list the principles of breast cancer management.	CK	MK	KH	L_VC,L &PPT ,L&GD	VV-Viva,P RN,T-CS	F&S		H-SMM	LH
CO5	Explain the definition, risk factors, pathophysiology, clinical history, clinical evaluation, diagnosis, and treatment of constipation and faecal incontinence in old age. Outline sleep and circadian rhythm disturbances in older adults and extend the changes in sleep architecture during the age of non-rapid and rapid eye movement sleep.	CK	MK	K	DIS,L& PPT ,L_VC	C-INT,VV-Viva,T-CS	F&S		V-UT,H-MM	LH
CO5	Explain the nutritional deficiency in old age and describe the methods of prevention of nutritional deficiency.	CK	MK	K	L&PPT ,L,DIS	QZ	F&S		-	LH
CO5	Explain the recommended intake of nutrients.	CAN	MK	K	L&GD	QZ	F&S		-	NLHT10.3

CO5	Discuss the care of chronically ill elderly patients and describe the care of elderly patients with terminal illnesses. Outline the health promotion and health education for the elderly.	CC	DK	K	L&GD	VV-Viva	F&S		-	LH
CO5	Explain the prevention of diseases and promoting health in old age	CAP	DK	K	L	VV-Viva	F&S		-	NLHT10.4
CO5, CO7	Observe the basic history taking and common complaints in geriatrics.	PSY-GUD	MK	K	DIS	QZ	F		-	NLHP10.1
CO5	Demonstrate by hands - on training of physical examination	PSY-GUD	MK	SH	D	P-EXAM	F&S		-	NLHP10.2
CO5	Demonstrate by hands-on training in neuropsychiatric examination	PSY-GUD	MK	SH	D-BED	P-EXAM	F&S		-	NLHP10.3
CO5	Demonstrate by hands-on training in functional examination.	PSY-GUD	MK	SH	D-BED	P-EXAM	F&S		-	NLHP10.4
CO5	Evaluate the gait in an older person	CE	DK	KH	CBL	P-EXAM	F&S		-	NLHP10.5
CO5	Perform the assessment of nutrition for an older person	PSY-GUD	MK	SH	CBL	P-EXAM	F&S		-	NLHP10.6
CO5	Assess the cognitive function in geriatric patients	PSY-GUD	DK	SH	D-BED	P-EXAM	F&S		-	NLHP10.7
CO5, CO7	Perform the assessment of urinary incontinence for an older person	PSY-GUD	NK	SH	D-BED	P-EXAM	F&S		-	NLHP10.8
CO5, CO7	Conduct field visits to take a survey of nutrition asessment of older people	PSY-GUD	MK	SH	FV	P-SUR	F		-	NLHP10.9

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

NLHT 10.1	Delirium	The teacher will explain delirium by using a lecture with a powerpoint presentation and group discussion. **A. Powerpoint presentation** Slide breakdown: 1.introduction Title: "Understanding delirium" Objectives for the session. 2.Definition 3.Epidemiology 4.Pathophysiology 5.Clinical presentation 6.Assessment Tools:Confusion assessment method (CAM), delirium rating scale, etc. Importance of collateral history and clinical observation. Key investigations (e.g., labs, imaging to rule out causes). 7.Management. 8.Prevention **B. Group discussion** 1.Divide participants: form small groups (4–5 participants each). 2.Discussion topics: Challenges in diagnosing delirium. Managing delirium in resource-limited settings. Ethical considerations: Consent and patient safety. Students will perform each step of the assessment activity through a viva on delirium. 1. Define delirium 2. Describe the clinical presentation 3. Clinical assessment History and physical examination: Acute changes in mental status. Identify underlying causes (E.g., infections, medications). Cognitive tests: Confusion assessment method (CAM).

		Mini-mental state examination (MMSE) or montreal cognitive assessment (MOCA). Laboratory and imaging: Blood tests: CBC, electrolytes, renal / liver function, infection markers. Imaging (E.g., ct / mri) if structural causes are suspected. 4. Management of delirium
NLHT 10.2	Spondyloarthropathy (SpA)	The teacher will explain spondyloarthropathy by using case-based learning. **1. Introduction** Begin by presenting a clinical case scenario that is representative of a patient with spondyloarthropathy. The case should include key features of the disease to provoke discussion and curiosity. **2. Definition:** Ask students to define spondyloarthropathy (Spa), a group of inflammatory joint diseases primarily affecting the spine and sacroiliac joints. Highlight that it includes: Ankylosing spondylitis Psoriatic arthritis Reactive arthritis Enteropathic arthritis Undifferentiated spondyloarthropathy **3. Causes and risk factors:** Guide students to explore the causes and risk factors associated with spa. **4. Pathogenesis:** Explain the immune mechanisms involved in spa, particularly the innate immune system **5. Clinical features** **6. Diagnosis:** Clinical history: Emphasize key aspects such as the duration of symptoms, family history, and risk factors (E.g., hla-b27 positivity). Physical examination: Focus on assessing spinal mobility, sacroiliac joint tenderness, and peripheral joint involvement. Imaging: Role of x-rays and MRI in identifying sacroiliitis and structural changes. Laboratory tests: Discuss the utility of hla-b27, inflammatory markers (E.g., esr, crp), and the absence

		of rheumatoid factor in spa. **7. Management** Students will perform each step of the assessment activity through theory case study on spondyloarthropathy. **Theory case study** 1.Case presentation Provide the students with a clinical case scenario. 2.Questions to answer: Students must address the following key points: Definition: What is spondyloarthropathy? Causes: Discuss genetic and environmental factors involved in the disease. Pathogenesis: Explain the immunological mechanisms, role of hla-b27, and inflammatory pathways. Clinical features: Elaborate on axial involvement, peripheral arthritis, enthesitis, extra-articular manifestations, and systemic features. Management: Non-pharmacological (Physiotherapy, exercise) and lifestyle interventions. 3.Expected format: Introduction and background Explanation of each aspect (Definition, causes, etc.) A summarized conclusion with a holistic view of the case. **Assessment criteria** Clarity and depth of explanation. Ability to connect theoretical knowledge to the clinical case. Critical thinking and problem-solving skills. Communication skills and confidence in answering questions.
NLHT 10.3	The recommended intake of nutrients	The teacher will explain the recommended intake of nutrients using lecture and group discussions: **Method**: Start with a brief lecture to introduce the key concepts of nutrient intake. Use visual aids like slides, charts, and infographics to display the recommended daily allowance (RDA) for essential nutrients such as proteins, fats, vitamins, and minerals. Divide the class into small groups and assign each group a different nutrient (E.g., one group discusses protein, another discusses vitamins, etc.). Ask them to explore how those nutrient impacts health,

		common food sources, and the consequences of an imbalance. **How to implement:** 1.Break down each nutrient and explain its role in the body, sources, and the consequences of both deficiency and excess. 2.Use charts to compare daily values for different age groups, genders, or special conditions (E.g., pregnancy, athletes). 3.Provide each group with materials such as articles, research, or guidelines for reference. 4.Have each group present their findings, encouraging questions and discussion among all groups to promote peer-to-peer learning. Students will perform each step of the assessment activity through quiz on recommended nutrient intake **Instructions:** 1.The quiz consists of multiple-choice, true / false, and short-answer questions. 2.Answer all questions based on your knowledge or notes provided during the study session. 3.This is a learning-based assessment, so ensure thoughtful responses. **Assessment strategy:** Mcqs & true/false: 1 Point each. Short answers: Upto 3 points each for completeness and accuracy. Reflection activity (Bonus): Write a short paragraph (4-5 sentences) about a recent change you've made in your diet to meet your nutrient needs.
NLHT 10.4	Prevention of diseases and promoting health in old age	The teacher will explain the prevention of diseases and promoting health in old age through lecture teaching method. Introduction: Understanding aging and health 1. Nutrition and diet 2. Physical activity 3. Preventive healthcare 4. Mental health and cognitive function 5. Chronic disease management

		6. Falls prevention 7. Sleep hygiene 8. Healthy habits Students will perform each step of the assessment activity through viva on prevention of diseases and promoting health in old age. Structure **1. General questions (Basic understanding)** Define aging and its impact on health. What are the most common health problems faced by the elderly? Explain the importance of preventive healthcare in old age. **2. Disease prevention (Focused questions)** What steps can be taken to prevent chronic diseases such as diabetes, hypertension, and arthritis in old age? How does vaccination benefit the elderly? Give examples of recommended vaccines. What role does nutrition play in disease prevention for older adults? **3. Scenario-based questions (Critical thinking)** **4. Open-ended questions (Exploratory discussion)**
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 10.1	Basics of history taking-common complaints in geriatrics	The teacher will guide students in performing and observing basic history-taking techniques and common complaints in geriatrics through discussion. **1. Prepare the patient for the clinical examination** Introduce yourself: Greet the patient and explain the purpose of the examination to ensure they feel comfortable. Ensure privacy: Make sure the examination room is private and that the patient's confidentiality is respected. Consent: Obtain verbal consent from the patient before proceeding with the examination. Positioning: Ask the patient to sit or lie in a comfortable position depending on the type of examination. Ensure they are adequately covered to maintain their dignity.

Prepare the necessary equipment: Gather tools for the examination (e.g., stethoscope, thermometer, blood pressure cuff, otoscope, gloves).

2. Take the history of the patient, complaints, and duration with vitals

Chief complaint: Ask the patient to describe in their own words why they are seeking medical help (e.g., pain, discomfort, concerns).

History of present illness:

Inquire about the nature of the symptoms (e.g., onset, duration, intensity, and frequency).

Ask about any aggravating or relieving factors.

Record associated symptoms (e.g., fever, nausea).

Past medical history:

Ask about any previous illnesses or surgeries.

Inquire about chronic conditions (e.g., diabetes, hypertension).

Medication history:

Record any current medications (Including doses and duration).

Ask about any allergies.

Family history:

Ask about any family history of chronic conditions (e.g., heart disease, cancer).

Social history:

Inquire about lifestyle factors such as smoking, alcohol consumption, diet, and exercise.

Vitals: Measure the following:

Temperature: Using a thermometer.

Blood pressure: Using a sphygmomanometer.

Heart rate: Palpate the pulse or use a stethoscope.

Respiratory rate: Observe the patient's breathing.

Oxygen saturation (Optional): Using a pulse oximeter.

Weight and height (Optional): For BMI calculation.

3. Assess the complete history

Review all details: Go through the patient's history in detail and ensure you haven't missed anything important.

Organize the history: Summarize the key aspects, including:

Chief complaint and its details.

Relevant past medical, surgical, and family history.

		Social and medication history. Document clearly: Ensure all history and findings are accurately documented in the patient's medical record. The students will be able to perform and observe basic history taking and identify common complaints in geriatrics through a quiz. The total duration of the activity is 1 hour.
NLHP 10.2	Physical examination	The teacher will guide students through hands-on training in physical examination techniques by demonstrating the procedures. **1. Prepare the patient for physical examination (10-15 minutes)** Create a comfortable environment: Ensure the examination room is well-lit, clean, and private to make the patient feel at ease. Introduce yourself: Greet the patient, explain your role, and explain the purpose of the examination. Confidentiality and consent: Obtain verbal consent for the examination, ensuring the patient understands that they can stop at any point. Patient positioning: Ensure the patient is dressed appropriately or offer a gown if needed. Guide them into a comfortable position for the examination (Usually sitting or lying down). **2. Analyse demographic data, complaints, and history (20-25 minutes)** Demographic data: Collect essential patient information such as: Age Gender Occupation Medical history Current medications and allergies Chief complaints: Ask the patient to describe the primary issue(s) they're facing, including: Symptoms (E.g., pain, shortness of breath, dizziness) Onset, duration, and severity of the symptoms History of present illness: Probe deeper into the complaint to understand the context, using questions like: When did the symptoms start? Have they gotten better or worse over time?

		What makes the symptoms better or worse? Past medical history: Any previous medical conditions or surgeries Family history of significant illnesses (Heart disease, cancer, diabetes) Immunizations and vaccinations Social history: Smoking, alcohol, and drug use Dietary habits and exercise routine Vitals: Check the following vital signs: Blood pressure Pulse rate Respiratory rate Temperature Oxygen saturation Height and weight **3. Assess the physical examination (20-25 minutes)** General observation: look for signs of distress, pallor, obesity, or unintentional weight loss. Head and neck: Examine the head, eyes, ears, nose, mouth, and throat. Cardiovascular system: Auscultate the heart, check pulses, and assess for any murmurs or abnormal sounds. Respiratory system: Inspect the chest, palpate for tenderness, and auscultate the lungs for abnormal sounds (Wheezing, crackles). Abdomen: Palpate for tenderness, listen for bowel sounds, and check for distention or any abnormal masses. Musculoskeletal system: Assess joint range of motion, strength, and any signs of swelling or deformity. Neurological system: Check reflexes, coordination, and sensory functions.skin: inspect for any abnormalities (Rashes, lesions, or discoloration). The students will be able to perform and demonstrate physical examination techniques through hands-on training, assessed via a practical exam. The total duration of the activity is 1 hour.

NLHP 10.3	Neuropsychiatric examination	The teacher will guide students through hands-on training in neuropsychiatric examination by demonstrating at the bedside. **1. Prepare the patient for neuropsychiatric examination (10-15 minutes)** Introduce yourself: Greet the patient, introduce yourself, and explain the purpose of the examination. Privacy and comfort: Ensure the patient feels comfortable and that the examination environment is private and free from distractions. Consent: Obtain verbal or written consent for the examination. Confidentiality: Assure the patient that their information will be kept confidential. Patient relaxation: Encourage the patient to relax and ensure they feel safe. This may include helping them get comfortable on the examination table or chair. Provide instructions: Explain the steps of the examination so the patient knows what to expect. **2. Analyse demographic data, complaints, duration, and history with vitals (20-25 minutes)** Demographic data: Age, gender, occupation, educational level, and cultural background. Previous medical and psychiatric history. Presenting complaints: Ask the patient about their main concerns (E.g., mood disturbances, cognitive issues, hallucinations). Encourage the patient to describe symptoms in their own words. Duration of complaints: determine when the symptoms began and if they have worsened or improved over time. Medical and psychiatric history: Personal history of mental illness or neurological conditions. Family history of mental illness. Any prior treatment, medications, or hospitalizations. Vital signs: Measure temperature, blood pressure, heart rate, respiratory rate, and oxygen saturation. These are important as physical illnesses can affect the Neuropsychiatric status. **3. Assess the neuropsychiatric examination (20-25 minutes)** 1.Mental status examination (MSE): Appearance: Note the patient’s general appearance (Hygiene, dress, and posture). Behavior: Observe the patient's interactions, level of engagement, and movement (E.g., restlessness, tremors).

		Speech: Evaluate the speech for rate, volume, fluency, and coherence. Mood and affect: Ask the patient how they feel and assess their emotional state. Thought content and process: Listen for signs of delusions, hallucinations, or disorganized thinking. Cognition: Orientation: Ask about the date, time, location, and identity. Attention and concentration: Perform tasks like asking the patient to recite numbers backward. Memory: Test short-term and long-term memory (E.g., ask about recent events or distant memories). Executive function: Ask the patient to perform tasks that involve planning and judgment (E.g., "what would you do if you found a wallet on the street?"). 2.Neurological examination: Assess cranial nerves, motor function, reflexes, sensory systems, and coordination. Check for signs of neurological conditions such as tremors, paralysis, or coordination issues. 3.Psychiatric assessment: Evaluate for signs of depression, anxiety, psychosis, or other psychiatric disorders. Use structured assessments. 4.Risk assessment: Assess for any suicidal ideation, self-harm, or risk to others. 5.Conclusion (5-10 minutes) 6.Summarize findings: Provide a summary of your findings to the patient. 7.Provide next steps: Discuss the next steps in care, which may include further tests, referrals, or treatment options. 8.Answer questions: Allow the patient to ask questions and address any concerns they might have. The students will be able to demonstrate proficiency in neuropsychiatric examination through hands-on training and assessment during a practical exam. The total duration of the activity is 1 hour.
NLHP 10.4	Functional examination	The teacher will guide students in performing and demonstrating functional examinations through hands-on training at the bedside. **1. Prepare the patient for functional examination (15 minutes)** **A. Introduction and explanation (5 minutes):** Greet the patient and introduce yourself.

Explain the purpose of the functional examination.
Assure the patient of their comfort and privacy.
B. Patient comfort and positioning (5 minutes):
Ensure the patient is in a relaxed state.
Position the patient appropriately depending on the examination (e.g., sitting, standing, or lying down).
Provide necessary support if the patient has mobility issues.
C. Consent and safety measures (5 minutes):
Obtain verbal consent from the patient to proceed.
Ensure all necessary safety measures are in place, such as an emergency protocol in case of discomfort or distress.
2. Analyse demographic data, complaints and duration, and the history of the patient, with vitals (20 minutes)
A. Review demographic data (5 minutes):
Name, age, gender, and contact details.
Current living situation, occupation, and lifestyle factors (e.g., sedentary or active).
B. Patient complaints and duration (10 minutes):
Discuss the primary complaint(s) that led to the examination.
Ask the patient to describe the nature of the complaint(s): Onset, intensity, frequency, and aggravating/relieving factors.
Establish how long the complaints have been present and the pattern of progression.
C. Medical history and vitals (5 minutes):
Gather relevant medical history, including any chronic conditions, previous surgeries, medications, or treatments.
Record vitals: Blood pressure, heart rate, respiratory rate, and temperature.
Note any significant family history of relevant conditions (e.g., musculoskeletal, neurological, cardiovascular).
3. Assess the functional examination (25 minutes)
A. Musculoskeletal assessment (10 minutes):
Evaluate the patient’s range of motion (ROM), strength, and joint stability.
Observe for any deformities, swelling, or abnormal movements.
Test for pain levels using standard assessment scales (e.g., vas, mcgill).
B. Neurological assessment (5 minutes):

		Check sensory function (Light touch, pinprick, temperature). Assess reflexes and motor strength. Perform coordination tests (e.g., finger-to-nose test, heel-to-shin). **C. Functional tests (5 minutes):** Conduct tasks like walking tests, balance assessments, or functional movement tests (e.g., sit-to-stand, squatting). Observe the patient's performance and identify any limitations or compensations. **D. Interpretation and discussion (5 minutes):** Summarize the findings of the functional examination. Discuss the results with the patient and explain the next steps (e.g., follow-up, therapy options, further tests). **Conclusion (5 minutes):** Provide a brief recap to the patient about their current condition and the findings. Answer any questions the patient may have. Schedule any necessary follow-up appointments or treatments. The students will be able to perform functional examinations through hands-on training during the practical exam. The total duration of the activity is 1 hour.
NLHP 10.5	Gait	The teacher will guide students in performing and evaluating the gait of an older person through case-based learning. **1. Observation of gait (10 minutes)** Definition and purpose: Briefly define gait as the pattern of movement or walking. The aim of observing gait is to identify any abnormalities or deviations from the normal walking pattern that could indicate underlying issues. Key indicators to look for: Posture: Head and trunk alignment Step length, width, and height Foot placement (E.g., toe-in, toe-out, or dragging) Arm swing Balance and coordination

Practical observation: Have the participant or subject walk and observe their gait, noting any irregularities.

2. Assess the gait in older persons (15 minutes)

Gait changes with aging: Discuss how aging impacts gait:

Decreased muscle strength

Joint stiffness (Especially in hips and knees)

Decreased balance and coordination

Slower walking speed

Risk factors for falls in older adults: Highlight the importance of gait assessment in older adults to prevent falls and maintain mobility.

Discussion: Engage participants in a discussion about common gait abnormalities seen in older adults (E.g., shuffling, widened base of support).

3. Analyze the phases of gait (10 minutes)

The two main phases:

Stance phase: When one foot is on the ground. It includes:

Initial contact

Loading response

Midstance

Terminal stance

Pre-swing

Swing phase: when one foot is off the ground. It includes:

Initial swing

Midswing

Terminal swing

Key points in gait cycle: Discuss what happens at each stage of the cycle and its significance in normal walking.

4. Discussion of parameters of gait (10 minutes)

Key parameters to measure:

Cadence: The number of steps per minute.

Step length: The distance between the heel strike of one foot and the heel strike of the other foot.

Stride length: The distance between two successive steps of the same foot.

Walking speed: Total distance travelled divided by time.

		Base of support: The distance between the feet. Step width: The lateral distance between the feet. Implications of gait parameters: Discuss how deviations in these parameters could indicate issues such as neurological disorders, orthopaedic conditions, or risk of falls. **5. Assessment tools for gait (15 minutes)** Tools to assess gait: Timed up and go (Tug) test: measures the time taken to rise from a chair, walk a short distance, return, and sit back down. This is useful for evaluating balance and mobility. Six-minute walk test (6MWT): Measures endurance and overall walking ability. Gait velocity: Measures walking speed as an indicator of health status. Berg balance scale (BBS): Assesses balance, which is closely related to gait. Gait rite system: A computerized system that measures various aspects of gait, such as step time and length. Wrap-up and Q&A (5 minutes) Review key points covered in the activity. Open the floor for any questions or clarifications on assessing and analyzing gait. Students will be able to perform and evaluate the gait of an older person through a practical exam. The total duration of the activity is 1 hour.
NLHP 10.6	Nutrition	The teacher will guide students in performing a nutrition assessment for an older adult through case-based learning. Plan for the 1-hour nutrition assessment **Step 1: Prepare the patient for the assessment (10 minutes)** Establish rapport: Greet the patient warmly, introduce yourself, and explain the purpose of the assessment. Ensure comfort: Confirm the patient is seated or positioned comfortably in a quiet, private space. Clarify consent: Obtain verbal or written consent to proceed with the assessment. Gather tools: Ensure any required tools or forms (e.g., scales, measuring tape, forms for data collection) are ready and accessible. **Step 2: Analyse demographic data, complaints, and history with vitals (15 minutes)** 1.Demographic data:

		Age, gender, occupation, lifestyle, and cultural background. 2.Chief complaints and duration: Document the patient's main concerns (e.g., weight changes, appetite loss) and the duration of symptoms. 3.Medical history: Note any past illnesses, surgeries, medications, or allergies. 4.Family history: Record any hereditary conditions. 5.Vitals assessment: Measure and document weight, height, bmi, blood pressure, heart rate, and any other relevant metrics. **Step 3: Perform the nutrition assessment (35 minutes)** 1.Dietary intake analysis: Use a 24-hour dietary recall or food frequency questionnaire to understand eating patterns. 2.Anthropometric measurements: Confirm measurements like weight, height, waist circumference, and bmi. 3.Biochemical data (If available): Review lab results for indicators like glucose, cholesterol, or vitamin levels. 4.Clinical assessment: Check for signs of nutrient deficiencies (e.g., skin, hair, nails, oral cavity). 5.Lifestyle factors: Assess activity levels, sleep patterns, and stress levels. 6.Evaluation: Summarize findings and identify potential areas for intervention. The students will be able to demonstrate their ability to assess the nutrition of an older person through a practical exam. The total duration of the activity is 1 hour.
NLHP 10.7	Cognitive function	The teacher will guide students in performing and assessing cognitive function in geriatric patients through bedside demonstrations. **1. Prepare the patient for the assessment (5 minutes)** Establish rapport: Greet the patient and create a comfortable environment.

		Explain the process: Briefly describe the purpose and steps of the assessment. Obtain consent: Ensure the patient is informed and agrees to proceed. Set the environment: Minimize distractions, ensure proper lighting, and arrange seating appropriately. **2. Analyze patient information (15 minutes)** Demographic data: Record age, gender, occupation, and other relevant details. Chief complaints & duration: Document the main concerns or symptoms and their timeline. Patient history: Collect details on: Past medical and surgical history Family history Social and lifestyle habits Current medications and allergies Vital signs: record vitals (e.g., temperature, pulse, blood pressure, respiratory rate, oxygen saturation). **3. Perform the cognitive function assessment (40 minutes)** Orientation: Assess awareness of time, place, and person. Memory: Test immediate, short-term, and long-term memory (e.g., recall tests). Attention and concentration: Evaluate with tasks like digit span or serial subtraction. Language skills: Test naming, repetition, comprehension, and fluency. Visuospatial abilities: Use tasks like drawing or copying geometric figures. Executive functions: Assess planning, problem-solving, and abstract thinking. The students will be able to assess the cognitive function of geriatric patients through a practical exam. The total duration of the activity is 1 hour.
NLHP 10.8	Urinary incontinence	The teacher will guide the students in performing the assessment of urinary incontinence in older adults through a bedside demonstration. Step 1: Prepare the patient for the assessment (10 minutes) **1.Introduce yourself** Greet the patient and introduce yourself. Explain the purpose and process of the assessment. **2.Ensure privacy and comfort** Choose a quiet and private space. Ensure the patient is in a comfortable position and appropriately dressed.

3.Obtain consent
Explain the importance of honest and complete information for accurate assessment.
Secure verbal or written consent for the assessment.
4.Address any immediate needs
Ask if the patient needs to use the restroom before starting.
Provide any necessary aids (e.g., water, tissues).
Step 2: Analyze demographic data, complaints, duration, and history with vitals (15 minutes)
1.Demographic information
Age, gender, occupation, and lifestyle habits.
2.Presenting complaints
Note the specific urinary incontinence concerns (e.g., leakage during coughing, urgency).
Ask about triggers, frequency, and severity of symptoms.
3.Duration of symptoms
Determine how long the patient has been experiencing the issues.
4.Medical and surgical history
Inquire about past illnesses, surgeries, childbirth history (For women), and medications.
Note any neurological, urological, or pelvic floor issues.
5.lifestyle and habits
Assess fluid intake, caffeine consumption, smoking, and physical activity.
6.vitals check
Measure blood pressure, heart rate, and other relevant vitals.
Step 3: Perform the urinary incontinence assessment (35 minutes)
1.Physical examination
Assess the abdomen for bladder distension or tenderness.
Perform a pelvic exam (If applicable) to evaluate muscle tone and prolapse.
2.Bladder diary review (If available)
Discuss patterns in voiding, leakage, and fluid intake based on the patient’s notes.
3.Specialized testing (If relevant and feasible)
Perform a stress test (Cough test) if indicated.
Check for post-void residual volume using a bladder scanner (If accessible).
4.Assess the impact on quality of life
Use standardized questionnaires (e.g., international consultation on incontinence questionnaire).

		Discuss the emotional, social, and physical impacts of incontinence. **5.Educate the patient** Briefly explain possible types of incontinence (e.g., stress, urge, overflow, functional). Provide reassurance about management options and next steps. Documentation and wrap-up (5 minutes) **1.Summarize findings** Briefly summarize key observations for the patient. **2.Plan next steps** Discuss the need for further tests or referrals, if necessary. Provide educational materials or preliminary advice (e.g., pelvic floor exercises). **3.Record documentation** Ensure all findings and patient feedback are documented in detail. The students will be able to effectively perform an assessment of urinary incontinence in an older adult during a practical exam. The total duration of the activity is 1 hour.
NLHP 10.9	Survey of nutrition assessment of older people with or without systemic illness in nearby locality of your college.	The teacher will guide students in conducting field visits to survey the nutrition assessment of older individuals. Activity plan: Nutrition assessment survey Objective: Conduct a nutrition assessment survey of older people in a nearby locality and submit findings. Preparation (20 minutes) **1.Create a nutrition assessment question template (10 minutes)** Prepare a concise template with clear and relevant questions, such as: age, gender, weight, height, and any chronic conditions. Dietary habits (Meals per day, types of food, frequency of certain foods). Access to and affordability of nutritious food. Any self-reported nutrition-related issues or concerns. Ensure questions are simple, easy to understand, and brief. **2.group and role allocation (10 minutes)** Divide students into groups or assign roles (If individual work is an option).

		Explain the survey process and distribute question templates to the students. Practical survey execution (90 minutes) Visit locality and conduct survey (70 minutes) **1.Obtain permission from local authority (5-10 minutes)** one group or team leader communicates with the local authority to explain the purpose of the survey and obtains permission. **2.Conduct the survey (60 minutes)** Students interview older people using the prepared question template. Ensure all interactions are respectful and brief to maximize the number of participants surveyed. **3.Data compilation and initial observations (10 minutes)** Gather all completed templates. Briefly discuss observations and key findings within the group. Wrap-up and reporting (10 minutes) Submit findings: Compile survey data into a brief report or summary document. Include the following: Number of participants. Key trends or issues identified. Any recommendations or notable observations. Hand over the report to the designated authority by the end of the second term. Key points for efficiency: Use pre-printed templates for faster data collection. Keep the survey team small and organized. Focus on collecting quality responses over quantity. The students will be able to conduct field visits and carry out a practical survey to assess the nutritional status of older individuals. The total duration of the activity is 2 hours.

Topic 11 INTRODUCTION TO ORTHOPAEDICS (LH :12 NLHT: 4 NLHP: 12)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5		CK	MK	K	L,L&G	QZ ,VV-	F&S		-	LH

	Define orthopaedics and list the common terminologies used in orthopaedics.				D	Viva,WP				
CO5	Define and discuss the aetiology and explain the clinical features of Congenital talipes equinovarus, Winging of scapula and Sprengel shoulder	CC	MK	K	L&PPT	QZ ,VV-Viva	F&S		-	LH
CO5	Define Osteogenesis imperfecta and explain the aetiology and clinical features of osteogenesis imperfecta.	CC	DK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Define and describe the aetiology and clinical features of Neurofibromatosis.	CC	NK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Define and explain the mode of spread, involvement of metaphysis, and classification of osteomyelitis.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Describe the aetiology, pathophysiology, clinical features, investigations, differential diagnosis, conservative treatment, and complications of Acute osteomyelitis**.**	CAP	DK	KH	CBL,X-Ray,L&PPT	CL-PR,CBA,PRN	F&S		-	NLHT11.1
CO5	Enlist the Cierny-mader classification of chronic osteomyelitis.	CC	MK	K	L	VV-Viva, WP,QZ	F&S		-	LH
CO5	Define Brodie’s abscess and explain its aetiology, clinical presentation and radiograph.	CC	MK	K	X-Ray, L&PPT	CBA	F&S		-	LH
CO5	Define Tuberculosis of the spine. and distinguish the sites of the lesion, pathology, clinical features, physical findings, investigation, radiographs, and differential diagnosis.	CC	MK	KH	X-Ray, L&GD, L&PPT	T-CS	F&S		-	NLHT11.2
CO5	Describe the definition, pathogenesis, clinical features, deformities, and stages, as well as the investigations of Tuberculosis of the hip joint.	CC	DK	KH	X-Ray, L&PPT	S-LAQ,COM	F&S		-	LH
CO5	Discuss the definition, pathology, clinical features, investigations,	CC	DK	KH	L&PPT	CBA	F&S		-	LH

	differential diagnosis, and conservative management of Tuberculosis of the knee joint.				,X-Ray					
CO5	Define and describe the aetiology, pathophysiology, clinical features, classification, investigation, radiological features and conservative treatment of Rickets.	CC	MK	KH	X-Ray, L&PPT	C-VC,CL-PR,QZ ,PUZ	F&S		-	NLHT11.3
CO5	Define and describe the aetiology, pathology, clinical features, investigation, radiograph, differential diagnosis, and complications of Scurvy and Osteomalacia.	CC	MK	K	L&PPT ,X-Ray	WP,VV-Viva,M-POS,PUZ	F&S		-	LH
CO5	Define osteoporosis and list the types, causes, risk factors, clinical features, investigations, conservative management of osteoporosis and prevention of osteoporotic fractures.	CC	NK	KH	L&PPT ,X-Ray, L_VC	CBA	F&S		-	NLHT11.4
CO5	Define and explain the aetiopathology, clinical features, radiological features, investigations and complications of Paget's disease.	CC	MK	KH	L&PPT	CBA,VV-Viva	F&S		-	LH
CO5	Describe the definition, causes, clinical features and investigations of Acromegaly.	CC	MK	K	L&PPT	VV-Viva,T-CS	F&S		-	LH
CO5, CO7	Observe the basic history taking and common complaints in orthopaedics cases.	PSY-GUD	DK	KH	CBL,D	CBA,P-EXAM,P-CASE	F		-	NLHP11.1
CO5, CO7	Demonstrate by hands-on training of General joint examination	PSY-GUD	MK	SH	D-BED, L_VC,CBL	CBA,P-EXAM,P-CASE	F&S		-	NLHP11.2
CO5, CO7	Evaluate the given patient for clinical case writing of orthopaedic disease.	CS	MK	SH	D-BED, CBL	P-EXAM,P-CASE,OSCE	F&S		-	NLHP11.3
CO5,	Perform field visits to traditional and modern orthopedic hospitals	PSY-	MK	KH	FV	TR,P-PRF	F&S		-	NLHP11.4

CO7	to handle various orthopedic conditions.	GUD									

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 11.1	Acute Osteomyelitis	The teacher will explain Acute osteomyelitis by using a lecture with Powerpoint presentation, case-based learning, and x-ray identification. **1. Powerpoint presentation** This provides an overview of the topic with visuals, diagrams, and structured content. Slide Structure: 1.Introduction Definition of acute osteomyelitis Importance of early diagnosis and management 2.Aetiology 3.Pathophysiology 4.Clinical features 5.Investigations 6.Differential diagnosis 7.Conservative treatment 8.Complications 9.Conclusion & key takeaways **2. Case-based learning (CBL)** A patient case helps students apply their knowledge practically. **3. X-ray identification (Radiology session)** Teach students to identify early vs late radiographic signs of osteomyelitis. The students will perform each step of the assessment activity through a presentation, class presentation and case-based assessment activity on Acute osteomyelitis
NLHT 11.2	Spinal tuberculosis (Pott's disease)	The teacher will explain tuberculosis of spine through lecture with Powerpoint presentations, lecture, group discussions and x-ray identification.

1. Lecture with powerpoint presentation
Slide Breakdown:
Slide1: Title
Title: "Tuberculosis of the Spine: definition, pathology, and diagnosis"
Brief Introduction: overview of the importance of understanding spinal tuberculosis.
Slide 2: Definition
Slide 3: Sites of lesion
Slide 4: Pathology
Slide 5: Clinical feature
Slide 6: Physical findings
Slide 7: Investigation
Slide 8: Radiographs.
Slide 9: Differential diagnosis.
2. Group discussion approach
Structure for Group discussion:
Group formation: Divide students into smaller groups (3-4 per group).
Discussion Topic 1: Clinical presentation
Ask the groups to discuss the typical clinical features and physical signs of spinal tuberculosis.
Encourage the group to reflect on how these features can overlap with other spinal conditions.
Discussion Topic 2: Diagnostic challenges
Challenge the groups to consider diagnostic difficulties and the importance of distinguishing tuberculosis from other spinal conditions (e.g., pyogenic infections, malignancies).
Encourage them to consider radiographic findings and how they help confirm the diagnosis.
Discussion Topic 3: Treatment approaches
Discuss the treatment options for spinal tuberculosis, emphasizing the importance of anti-tubercular therapy and the potential need for surgery.
Ask students to explore complications and management strategies for advanced disease, including neurological impairment and spinal deformities.
Conclusion of discussion:
Summarize the key takeaways from each group.
Emphasize the importance of early recognition and comprehensive management in improving patient outcomes.

		The students will perform each step of the assessment activity through a Theory case study on tuberculosis of the spine: **Assessment Outline** 1. Define and distinguish sites of lesion 2. Pathology 3. Clinical features 4. Physical findings 5. Investigations 6. Radiographs 7. Differential diagnosis
NLHT 11.3	Rickets	The teacher will explain rickets by using a lecture with PowerPoint presentation, x-ray identification. Slide 1: Title slide Slide 2: Introduction Brief overview of rickets as a disease affecting bone mineralization, typically in children. Significance of understanding rickets in paediatric healthcare. Slide 3: Aetiology Slide 4: Pathophysiology of Rickets Slide 5: Clinical features of Rickets Slide 6: Classification of Rickets Slide 7: Investigations for Rickets Slide 8: Radiological Features Slide 9: Conservative treatment of Rickets Slide 10: References The students will perform each step of the assessment activity through quiz, puzzles, class presentation, and clinical video cases on Rickets. Materials needed Slides for the class presentation. Clinical video cases Quiz handouts or online quiz platform.

NLHT 11.4	Osteoporosis	The teacher will explain osteoporosis by using a lecture with Powerpoint presentation, a lecture with video clips, and x-ray identification. Slide 1: Title slide Title: osteoporosis: overview, diagnosis, and management Subtitle: A Comprehensive guide on osteoporosis and fracture prevention Slide 2: Introduction Introduction to osteoporosis Briefly define osteoporosis: A condition characterized by weakened bones and an increased risk of fractures. Importance of understanding osteoporosis for early detection and effective management. Video Clip: A short animation or explanation of bone density loss. Slide 3: What is Osteoporosis? Definition Effect on bones Video clip Slide 4: Types of osteoporosis Slide 5: Causes of osteoporosis Slide 6: Risk factors for osteoporosis Slide 7: Clinical features of osteoporosis: Video Clip: Animation showing typical fractures associated with osteoporosis. Slide 8: Investigations for osteoporosis Slide 9: Conservative management of osteoporosis Slide 10: Prevention of osteoporotic fractures Students will perform each step of the assessment activity through a Case-based assessment of osteoporosis. Instructions for students: Read the provided case scenario carefully. Address the following questions based on the scenario and your knowledge. Include detailed explanations supported by evidence, where applicable. Tasks for students: 1.Define osteoporosis Write a brief definition of osteoporosis.

		Highlight its impact on bone health and fragility. 2. List the types of osteoporosis Identify the primary and secondary forms. Provide examples of conditions leading to secondary osteoporosis. 3. Identify causes and risk Factors Analyse the risk factors (e.g., age, lifestyle). List general causes of osteoporosis (both modifiable and non-modifiable). 4. Discuss the clinical features Identify symptoms and signs of osteoporosis. Explain potential complications. 5. Explain the investigations Discuss the importance of the DXA (Dual-energy X-ray Absorptiometry) scan and interpreting the T-score. List other diagnostic tests and biomarkers useful for osteoporosis evaluation. 6. Conservative management of osteoporosis Suggest non-pharmacological interventions Dietary recommendations. Exercise modifications. Lifestyle changes. 7. Prevention of Osteoporotic Fractures Discuss strategies to prevent fractures in at-risk individuals. Highlight fall prevention techniques.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 11.1	Basics of history taking and common complaints in orthopaedics.	The teacher will guide students in performing and observing basic history taking and common complaints in orthopaedic cases through case-based learning and demonstrations. **1. Preparation for History Taking** Time allocation: 30 minutes 1.Set Up the environment (10 minutes):

Ensure the room is quiet, private, and comfortable for the patient.
Have all necessary materials, such as a notepad, pen, and patient chart.
2.Introduce yourself (5 minutes):
Greet the patient warmly.
Explain the purpose of the history-taking session.
Obtain informed consent for the session, reassuring the patient about confidentiality.
3.Build rapport (15 minutes):
Begin with open-ended questions to make the patient comfortable.
Encourage the patient to speak freely without interruptions.
Maintain an empathetic and non-judgmental demeanour.

2. Analyze demographic data, complaints, duration, history, and vitals

Time allocation: 1 hour
1.Demographic data (10 minutes):
Confirm the patient's name, age, gender, occupation, and contact details.
Note relevant social, cultural, and lifestyle factors.
2.Chief complaints (15 minutes):
Document the patient's primary concerns in their own words.
Ask follow-up questions to clarify the nature, location, and severity of the complaints.
3.History of present illness (20 minutes):
Explore the timeline of the condition (onset, progression, duration).
Investigate associated symptoms and any triggering or relieving factors.
4.Vitals assessment (15 minutes):
Record vital signs: temperature, pulse, respiration rate, blood pressure, and oxygen saturation.
Note any abnormalities or patterns.

3. Assess the history and complaints in orthopaedics

Time allocation: 1.5 hours
1.Focused orthopaedic history (50 minutes):
Inquire about pain: location, quality (sharp, dull), intensity (scale of 1–10), and radiation.
Investigate functional limitations: difficulty in movement, reduced range of motion.
Check for a history of trauma, fractures, or surgeries related to the musculoskeletal system.
Ask about systemic symptoms: fever, weight loss, or night sweats.
2.Past medical and family history (20 minutes):

		Record previous illnesses, surgeries, or hospitalizations. Explore family history for hereditary orthopaedic conditions. 3.Lifestyle and social history (20 minutes): Discuss physical activity, occupational stress, or repetitive motions. Note habits such as smoking, alcohol use, or diet impacting bone health. Time for review and documentation Remaining time: 30 minutes Summarize the findings clearly and systematically. Review the patient's history for completeness and accuracy. Prepare a concise report for further evaluation or discussion. The students will be able to perform basic history taking and identify, common complaints in orthopaedic cases through practical exams, practical case-taking exercises, and case-based assessments. The total duration of the activity is 3 hours.
NLHP 11.2	General examination of the joints	The teacher will guide students through hands-on training in General Joint Examination, utilizing a combination of lectures, video clips, case-based learning, and bedside demonstrations to facilitate learning General joint examination . Steps: **Phase 1: Preparation (30 minutes)** Introduction (5 minutes): Greet the patient and establish rapport. Explain the procedure and purpose of the examination. Preparation (10 minutes): Ensure the patient is comfortably seated or lying in a well-lit, private area. Gather necessary materials: gloves, goniometer, stethoscope, notebook, and pen for notes. Basic checks (15 minutes):Verify the patient's identity. Obtain informed consent for the examination. Ensure proper attire for easy joint access. **Phase 2: Data collection and analysis (60 minutes)** Demographics and complaints (15 minutes):

		Record age, sex, occupation, and lifestyle. Note presenting complaints (e.g., pain, stiffness, swelling) and duration. History taking (20 minutes): Past medical history: prior injuries, surgeries, or conditions (e.g., arthritis). Family history: genetic predispositions to joint diseases. Current medications and any known allergies. Vitals and general examination (25 minutes): Check vitals: blood pressure, heart rate, respiratory rate, temperature. Observe general health indicators: skin condition, posture, and gait. Phase 3: General joint examination (90 minutes) Inspection (30 minutes): Observe for swelling, redness, deformities, or asymmetry. Assess joint alignment and muscle bulk. Palpation (20 minutes): Feel for tenderness, warmth, and crepitus in each joint. Examine skin temperature and localized swelling. Range of motion (20 minutes): Evaluate active and passive range of motion for major joints (shoulder, elbow, wrist, hip, knee, ankle). Use a goniometer if necessary for precise measurements. Special tests (20 minutes): Perform specific tests for stability, strength, and function of joints (e.g., drawer test, McMurray test). Phase 4: Conclusion (30 minutes) Summary and discussion (15 minutes): Summarize findings with the patient. Answer any questions or address concerns. Documentation (10 minutes): Record detailed observations and test results. Plan follow-up (5 minutes): Advise on the next steps, including referrals, imaging, or therapy if needed. The students will be able to demonstrate their skills in the General joint examination through hands-on training, practical exams, practical case-taking, and case-based assessments. The total duration of the activity is 3 hours.

NLHP 11.3	Clinical case writing and presentation of orthopaedic disease.	The teacher will guide students in evaluating a given patient for an orthopaedic Clinical case through case-based learning and bedside demonstrations. **Preparation for Clinical examination (10 minutes)** Ensure the patient is comfortable and briefed about the process. Gather necessary tools and documentation materials. **Analysis of demographics and history (20 minutes)** Record demographic data (age, gender, occupation, etc.). Discuss complaints, their duration, and detailed medical history. Note vital signs (pulse, blood pressure, temperature, respiratory rate). **General and systemic examination (30 minutes)** Conduct a general physical examination (e.g., appearance, hydration, consciousness). Perform a systemic examination covering all major systems (cardiovascular, respiratory, gastrointestinal, etc.). **Assessment using siddha and modern concepts (20 minutes)** Evaluate findings through the lens of siddha principles (e.g., *body constitution*, *pulse diagnosis*). Cross-reference with modern medical paradigms for correlation. **Clinical Investigation and interpretation (30 minutes)** Order relevant investigations (lab tests, imaging). Interpret findings in the context of clinical examination. **Diagnosis and documentation (20 minutes)** Use differential diagnosis to identify the most probable condition. Document findings comprehensively. **Treatment Plan (20 minutes)** Prescribe a treatment plan following Siddha guidelines. Consider modern treatments if applicable. **Patient counselling and follow-Up Plan (20 minutes)** Explain the diagnosis and treatment to the patient. Provide instructions for lifestyle changes, medications, and follow-up visits. The students will be able to perform and evaluate the clinical assessment of a patient presenting with orthopaedic disease through practical exams, case taking, and OSCE (objective structured clinical examination).

		The total duration of the activity is 3 hours.
NLHP 11.4	Field visit to orthopaedic traditional Hospital and modern Hospital.	The teacher will guide students in conducting field visits to both traditional and modern orthopaedic hospitals, where they will have the opportunity to observe and handle various orthopaedic conditions. Preparation (Before the Visit) Choose Hospitals: Select one nearby Siddha hospital and one modern hospital (orthopaedic specialists). Confirm that both facilities handle bone and joint diseases. Seek Permission: Contact the hospitals in advance to explain the purpose of the visit. Request permission to observe their methods, ensuring confidentiality where needed. Group Formation: Divide students into small groups for better engagement. Assign roles (e.g., note-taker, observer, and question facilitator). Visit Schedule: **Part 1: Traditional Hospital (1 Hour)** Introduction (10 minutes): Meet the practitioner and get an overview of their approach to orthopaedic care. Observation & Interaction (30 minutes): Observe treatments, techniques, or consultations. Ask questions about patient assessment and treatment outcomes. Documentation (20 minutes): Groups record detailed observations and responses. **Part 2: Modern Hospital (1 Hour)** Introduction (10 minutes): Meet the orthopaedic specialist and understand their approach. Observation & Interaction (30 minutes): Observe methods such as X-rays, surgical planning, or physiotherapy sessions. Discuss advancements like joint replacements or minimally invasive surgery. Documentation (20 minutes): Groups record observations, noting the differences from traditional methods. (Siddha) **Post-Visit Discussions & Assignment (1 Hour)**

		1.Group Discussion (30 minutes) Compare Siddha vs. modern approaches. Share observations, highlighting the pros and cons of each method. 2.Assignment Instructions (10 minutes) Each group drafts a report including: Overview of the traditional and modern hospital visits. Differences in patient assessment, treatment techniques, and outcomes. Suggestions or reflections on combining the strengths of both methods. 3.Wrap-Up (20 minutes) Submit individual/group reports for evaluation. The students will be able to perform field visits to both traditional and modern orthopaedic hospitals, gaining hands-on experience in handling various orthopaedic conditions. This learning is assessed through practical performance, with feedback provided via trainers' reports to track progress and outcomes. The total duration of the activity is 3 hours.

Topic 12 DISEASES OF THE BONES AND JOINTS (LH :9 NLHT: 4 NLHP: 14)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5	Define and describe the aetiology, pathology, clinical features, radiological features, and investigation of Gonococcal arthritis, Syphilitic arthritis, and Rheumatic arthritis.	CC	NK	K	L&PPT	S-LAQ	F&S		-	LH
CO5	Define and describe the aetiology, pathology, clinical features, orthopaedic deformities, investigation, radiological features, differential diagnosis, conservative management and siddha aspect of treatment of Rheumatoid arthritis.	CAP	MK	KH	X-Ray, L&GD, CBL	CBA,CL-PR	F&S		-	NLHT12.1
CO5	Define ankylosing spondylitis and explain its causes, pathology, clinical features, differential diagnosis, investigations, management and Siddha aspect of treatment.	CAP	MK	KH	L&PPT	CL-PR	F&S		-	LH

CO5	Define monosodium urate arthropathy (gout) and describe the sites, aetiopathology, clinical features, investigation, radiological findings, management and siddha aspect of treatment.	CAP	MK	KH	X-Ray, CBL,L &PPT	CL-PR	F&S		-	LH
CO5	Define Osteoarthritis and describe the contributing factors, groups, pathology, clinical features, radiological features, differential diagnosis and siddha aspect of treatment.	CAP	MK	KH	X-Ray, CD,CBL,L&PPT	CL-PR,T-CS,OSCE	F&S		-	NLHT12.2
CO5	Define Osteoarthritis of the knee and describe the types, pathology, and clinical features, including criteria, classification (American College of Rheumatology), investigation, kellegren and Lawrence radiological grading, differential diagnosis, and conservative management. Explain the aetiology, Types, clinical features, radiological features, and conservative management of Osteoarthritis of the hip joint.	CC	MK	K	L&PPT ,X-Ray	OSCE,VV-Viva,CBA	F&S		-	LH
CO5	Define osteochondritis and explain the classification of osteochondritis.	CK	DK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Define and describe the classification and diagnosis of tumours of bone. Define and describe the clinical features, radiological features, histological features and treatment of Osteoblastoma.	CK	DK	K	L&PPT ,L&GD	M-POS,VV-Viva	F&S		-	LH
CO5	Define osteochondroma and describe the site of involvement, pathogenesis, clinical features, complication and radiological findings.	CK	DK	KH	L&PPT ,TBL	VV-Viva	F&S		-	NLHT12.3
CO5	Describe the definition, pathology, classification, clinical features, radiological features and laboratory findings of Osteosarcoma	CK	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Define Giant cell tumour and describe the sites, pathology, clinical features, radiological feature and differential diagnosis.	CK	MK	K	L&PPT	VV-Viva	F&S		-	LH

CO5	Describe the definition, pathology, clinical features, and radiological features of Ewing sarcoma.	CK	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO5	Explain the sites, mode of spread, clinical features, radiological features, and laboratory findings of bone metastasis.	CC	MK	KH	TBL	M-CHT	F&S		-	NLHT12.4
CO5, CO7	Demonstration by hands-on training of hip joint examination.	PSY-GUD	DK	SH	CBL,D-BED,L_VC	P-EXAM,P-CASE,OSCE	F&S		-	NLHP12.1
CO5	Demonstration by hands-on training of knee joint examination.	PSY-GUD	MK	SH	D-BED, CBL	CBA,P-CASE,P-EXAM	F&S		-	NLHP12.2
CO5, CO7	Evaluate the given patient for clinical case writing and case presentation of orthopaedic disease.	CS	MK	SH	D-BED, CBL	OSCE,P-EXAM,P-CASE	F&S		-	NLHP12.3

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 12.1	Rheumatoid arthritis (RA)	The teacher will explain Rheumatoid Arthritis (RA) using a lecturer and group discussion and case-based learning (CBL) and x-ray identification. **1.Definition and description:** Lecturer presentation:Begin with a lecture that defines RA as a chronic, systemic autoimmune disease primarily affecting the joints, leading to inflammation, pain, and eventual joint destruction. Group discussion:Ask students to discuss the common symptoms they associate with joint disease and identify the possible systemic effects of RA. **2.Aetiology:** Lecturer presentation:Explain the multifactorial nature of RA, including genetic factors (e.g., HLA-DR4 allele), environmental triggers (e.g., infections, smoking), and immune system dysfunction. Case-based learning:Present a case of an individual with RA and ask the students to hypothesize possible triggers based on the patient’s history (e.g., smoking or genetic background).

3.Pathology:
Lecturer presentation:Describe the pathology of RA, focusing on the inflammation of the synovial membrane, pannus formation, and subsequent joint damage.
Group discussion: Prompt students to discuss how inflammation affects cartilage and bone. Ask how this might explain the joint deformities seen in RA.
4.Clinical features:
Lecturer presentation:Discuss the common symptoms, including symmetrical joint pain, swelling, morning stiffness, fatigue, and systemic involvement like rheumatoid nodules and vasculitis.
Group discussion:Divide students into small groups and ask them to list signs and symptoms of RA from a given case. Have them present their findings and discuss how these signs correlate with the disease process.
5.Orthopaedic deformities:
Lecturer presentation:Explain common deformities such as ulnar deviation, boutonnière deformity, and swan-neck deformity, due to joint destruction and tendon damage.
Case-basedlearning:Show radiological images of deformed hands and ask students to identify the deformities. Discuss how these deformities impact function and quality of life.
6.Investigations:
Lecturerpresentation:Outline the key investigations for RA,including:
Blood tests:Rheumatoid factor (RF), Anti-cyclic citrullinated peptide (Anti-CCP), ESR, and CRP.
Imaging:X-rays(for joint damage),ultrasound,MRI(for early detection of synovitis).
Group discussion:Provide students with clinical vignettes that require interpretation of lab results and imaging. Discuss the importance of early detection and monitoring disease progression.
7.Radiological features:
Lecturer presentation: Describe characteristic findings in X-rays and other imaging modalities, such as joint space narrowing, periarticular osteopenia, erosions, and soft tissue swelling.
Case-based learning: Present images of joints with different degrees of RA involvement and ask the group to assess and discuss the radiological features.
8.Differential diagnosis:
Lecturer presentation: Discuss conditions that can mimic RA, such as osteoarthritis, lupus, psoriatic arthritis, and gout.
Group discussion: Present cases of joint pain and inflammation and ask students to list differential diagnoses. Discuss how specific clinical, laboratory, and imaging findings help differentiate RA from

		these conditions. **9.Conservative management:** Lecturer presentation: Discuss non-pharmacological approaches such as: Physical therapy: Exercises to maintain joint function and prevent deformities. Occupational therapy: Adaptive strategies to minimize joint strain. Diet and lifestyle changes: Anti-inflammatory diets, smoking cessation. Group discussion: Discuss the role of patient education in managing RA. How can lifestyle changes contribute to disease management? **10.Siddha aspect of treatment** Students will perform each step of the assessment activity through a case-based assessment and class presentation on Rheumatoid Arthritis(RA).
NLHT 12.2	Osteoarthritis (OA)	The teacher will explain osteoarthritis by using lecture with Powerpoint presentation, case-based learning, x-ray identification and case diagnosis. Powerpoint presentation structure **Slide 1: Title slide** Title: Understanding osteoarthritis: pathophysiology, diagnosis, and treatment Subtitle: Case-based learning approach **Slide 2: Introduction to osteoarthritis (OA)** Definition Prevalence **Slide 3: Case study introduction** Case Patient Profile Symptoms Discussion: What do we suspect? (Introduce the topic of OA through a real-life case). **Slide 4: Contributing factors to osteoarthritis** **Slide 5: Groups affected by OA** **Slide 6: Pathology of osteoarthritis** **Slide 7: Clinical features** **Slide 8: Radiological features**

		Slide 9: Differential diagnosis Case-based learning activity: Ask students to diagnose the patient in the case study using these features. **Slide 10: Siddha medicine perspective on OA treatment** Siddha aspect: Based on the concept of the three humors (Vata, Pitta, Kapha) and the balance of elements in the body. Pathophysiology in siddha Treatment approaches: **Slide 11: Case discussion** **Slide 12: References** The students will perform each step of the assessment activity through osce, theory case study, class presentation on osteoarthritis. Class presentation plan 1. Introduction to osteoarthritis 2. Factors responsible for osteoarthritis 3. Groups affected 4. Pathology of osteoarthritis 5. Clinical features 6. Radiological features 7. Differential diagnosis 8. Siddha aspect of treatment Assessment activity: OSCE stations Station 1: Identify radiological features of OA from X-rays. Station 2: Perform a clinical examination of a simulated patient with OA (focus on joint palpation and range of motion). Station 3: Discuss the differential diagnosis of a patient with knee pain. Station 4: Suggest Siddha treatment approaches for managing OA symptoms. Station 5: Explain lifestyle modifications for a patient to prevent OA progression.
NLHT 12.3	Osteochondroma	The teacher will explain an osteochondroma using lecture with power point presentation and the team-based learning method.

		Slide 1: Title slide Title: Osteochondroma: pathogenesis, clinical Features, complications, and radiological findings Subtitle: Team-based learning (TBL) approach **Slide 2: Objectives** Define osteochondroma. Identify the site of involvement. Understand the pathogenesis of osteochondroma. Recognize clinical features and complications. Review radiological findings. Team activity: Apply knowledge in clinical scenarios. **Slide 3: Definition of osteochondroma** What is osteochondroma? **Slide 4: Sites of involvement** **Slide 5: Pathogenesis** **Slide 6: Clinical features** **Slide 7: Complications** **Slide 8: Radiological findings** **Slide 9: Team-based learning activity** Group discussion: Discuss symptoms, diagnosis, and management and consider complications like malignancy or nerve compression. Outcome: Osteochondroma diagnosis **Slide 10: Management** **Slide 11: References** The students will perform each step of the assessment activity through a viva voce on osteochondroma.
NLHT 12.4	Bone metastasis	The teacher will explain bone metastasis through Team-based learning (TBL) learning method. **1. Pre-class preparation** Assigned readings: Before the class, provide students with materials (articles, textbooks, or online resources) about bone metastasis. This could include basic information about the pathophysiology, clinical presentation, and diagnostic approaches. Study Questions: Provide some specific questions to guide their study

2. In-class activities

Phase 1: Individual readiness assurance test (iRAT)

Each student completes a short quiz individually based on the pre-class readings. The quiz could include questions such as:

Sites of Bone metastasis: What are the common cancers that metastasize to bones?

Mode of spread: How does cancer spread to bones?

Clinical features: What symptoms are commonly associated with bone metastasis?

Radiological features: What do X-rays, CT scans, and MRI scans reveal about bone metastasis?

Laboratory findings: Which blood tests and biomarkers are important in diagnosing bone metastasis?

Phase 2: Team readiness assurance test (tRAT)

After the individual test, students work in small groups to discuss the same set of questions. They compare answers and resolve any disagreements, using their knowledge and resources.

Encourage the groups to collaborate and come to a consensus. If there are discrepancies, provide explanations and clarifications.

Discuss common misconceptions about bone metastasis.

Phase 3: Application exercise

Provide case-based scenarios or clinical vignettes to the teams, where they need to apply their knowledge.

Each team will discuss the case, interpret the clinical, radiological, and laboratory findings, and present their diagnosis and management plan.

Phase 4: Instructor feedback and discussion

After the teams present their findings, the instructor provides feedback. This includes a review of correct and incorrect answers, clarification of important concepts, and answers to any remaining questions.

Review clinical features

Review radiological features

Discuss laboratory findings

Students will perform each step of the assessment activity through a making of charts on bone metastasis:

Instructions for students:

1.Group Work or individual task

Work individually or in small groups (as instructed).

		You will research and organize your findings into a detailed chart. **2.Chart categories:** Create a chart with the following headings: Common sites: Bones commonly affected by metastasis (e.g., spine, pelvis, ribs, etc.). Mode of spread: Mechanisms such as hematogenous, lymphatic, or direct invasion. Clinical features: Symptoms experienced by patients, e.g., bone pain, pathological fractures, or hypercalcemia. Radiological features: Imaging findings like osteolytic lesions, osteoblastic lesions, or mixed patterns. Laboratory findings: Key tests and results, such as elevated alkaline phosphatase, calcium levels, or tumour markers. **3.Sources:** Use textbooks, lecture notes, and reliable online resources for accurate information. **4.Design requirements:** The chart should be clear and visually organized (table, infographic, or flowchart format). Include concise and accurate points under each heading. Use colour coding or symbols to differentiate osteolytic and osteoblastic metastases if applicable. **5.Presentation**: Be prepared to present your chart to the class. Discuss one or two significant findings under each category during your presentation.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 12.1	Examination of hip joint	The teacher will guide students through a hands-on training session on hip joint examination. This will include lectures with video clips, case-based learning, and bedside demonstrations to ensure a comprehensive understanding of the procedure. **Step 1: Prepare the patient (Duration: 30 minutes)** Ensure the patient is comfortable and ready for the examination. Introduction and explanation (5 minutes): Greet the patient and introduce yourself. Explain the purpose of the examination and the steps involved.

Address any questions or concerns the patient may have.
Preparation (10 minutes):
Confirm the patient's identity and gather relevant consent.
Ask the patient to wear appropriate clothing for ease of access to the hip area.
Ensure a comfortable and private examination environment.
Positioning (15 minutes):
Position the patient appropriately (e.g., lying flat on an examination table or standing, depending on the assessment phase).
Ensure proper lighting for visibility.
Step 2: Analyse demographic data, complaints, and history (Duration: 45 minutes)
Objective: Gather and record relevant clinical data.
Demographic data (10 minutes):
Record age, gender, occupation, and other relevant information.
Note any factors such as lifestyle or sports activities that might impact the hip joint.
Chief complaints and duration (10 minutes):
Document the primary issues, such as pain, stiffness, or limited mobility.
Determine the duration, progression, and aggravating or relieving factors.
Patient history (15 minutes):
Obtain details of prior injuries, surgeries, or conditions affecting the hip or adjacent areas.
Review systemic conditions (e.g., arthritis, infections, or metabolic disorders).
Vital signs assessment (10 minutes):
Measure and record blood pressure, heart rate, respiratory rate, and temperature.
Step 3: Conduct the hip joint examination (Duration: 1 hour 30 minutes)
Objective: Perform a systematic examination of the hip joint.
Inspection (15 minutes):
Observe the hip for swelling, redness, asymmetry, or deformities.
Assess posture, gait, and alignment during movement.
Palpation (15 minutes):
Feel for tenderness, warmth, or swelling in the hip and surrounding areas.
Palpate bony landmarks such as the iliac crest, greater trochanter, and pubic symphysis.
Range of motion (ROM) assessment (20 minutes):
Evaluate active and passive movements (flexion, extension, abduction, adduction, and rotation).

		Compare ROM bilaterally for abnormalities. **Special tests (30 minutes):** Perform tests to identify specific conditions (e.g., Trendelenburg test for hip stability, FABER test for joint issues, or impingement tests for labral tears). Note any pain, limitations, or abnormal findings. **Wrap-Up and documentation (Duration: 15 minutes)** Summarize the findings with the patient. Document all observations, tests, and results systematically. Discuss the next steps, such as imaging or referral, if needed. The students will be able to demonstrate their proficiency in hip joint examination through hands-on training, which includes practical exams, practical case-taking, and objective structured clinical examinations (OSCEs)." The total duration of the activity is 3 hours
NLHP 12.2	Examination of knee joint.	The teacher will guide students through a hands-on training session on knee joint examination, utilizing case-based learning and bedside demonstrations. **1. Preparation of the patient (30 minutes)** Environment setup (10 minutes): Ensure a clean, well-lit, and quiet examination area. Arrange necessary equipment: examination table, gloves, measuring tape, goniometer, and any imaging or diagnostic tools. Patient preparation (20 minutes): Greet the patient and explain the procedure. Obtain consent for the examination. Ensure the patient is comfortably dressed in attire that allows easy access to the knee joint (e.g., shorts). Position the patient in a relaxed state, either seated or lying down, depending on the examination phase. **2. Collection and analysis of patient data (1 hour)** Demographic data (10 minutes): Record the patient's age, gender, occupation, and lifestyle factors.

		Chief complaints and duration (15 minutes): Document the main issue (e.g., pain, swelling, instability). Ask about the duration, progression, and any aggravating or relieving factors. Medical history (20 minutes): Inquire about past injuries, surgeries, or chronic conditions. Note any family history of joint disorders. Review current medications and allergies. Vital signs (15 minutes): Measure and record temperature, blood pressure, heart rate, respiratory rate, and oxygen saturation. Observe for systemic signs (e.g., fever, weight changes) that may influence the knee condition. **3.Knee joint examination (2 hours)** Inspection (30 minutes): Look for swelling, redness, deformity, or scars. Observe the alignment and symmetry of both knees. Palpation (20 minutes): Check for warmth, tenderness, or effusion. Palpate bony landmarks and soft tissues around the knee. Range of motion (ROM) assessment (20 minutes): Measure flexion, extension, and any restrictions using a goniometer. Compare findings with the unaffected knee. Stability and ligament testing (20 minutes): Perform specialized tests such as lachman’s test, anterior/posterior drawer test, and valgus/varus stress tests. Functional assessment (30 minutes): Evaluate gait and weight-bearing ability. Conduct specific functional tests (e.g., squat, single-leg balance). **4.Summarization and discussion (30 minutes)** Summarize findings and correlate them with the patient's history. Discuss possible diagnoses and recommend further investigations or treatment options. The students will be able to demonstrate proficiency in the knee joint examination through hands-on training. They will be assessed via practical exams, practical case-taking, and case-based assessments to ensure their understanding and skills.

		The total duration of the activity is 4 hours.
NLHP 12.3	Clinical case writing and case presentation of orthopaedic disease	The teacher will guide students in performing and evaluating a given patient for clinical case writing and case presentation of orthopaedic diseases through case-based learning and bedside demonstrations. **1. Prepare the patient for the clinical examination (30 minutes)** Create a comfortable environment, and ensure the room is quiet, well-lit, and free from distractions. Patient consent and privacy: Inform the patient about the process and ensure they are comfortable. Ask for their consent to perform the examination. Patient positioning: Make sure the patient is seated or lying down comfortably, based on the examination requirements. Collection of Initial Information: Briefly explain the clinical procedure, especially if any specific part of the exam involves discomfort or privacy concerns. **2. Analyse demographic data, Complaints, duration, history, and vitals (60 minutes)** Demographic data: Collect basic information such as age, gender, occupation, marital status, and medical history. Chief complaints: Record the main symptoms (e.g., pain, fatigue, dizziness) that brought the patient to the clinic. Duration and history of complaints: Ask about the onset, duration, progression, and intensity of the symptoms. Past medical history: Collect relevant past medical conditions, surgeries, allergies, medications, family history, and lifestyle factors. Vital signs: Measure and document vitals, including temperature, blood pressure, heart rate, respiratory rate, and oxygen saturation. **3. Perform the general and systemic examination of the patient (90 minutes)** General examination: Observe the overall appearance, hygiene, posture, and demeanour of the patient. Check for signs of distress, malnutrition, or any other obvious abnormalities. Systemic examination: Head and neck: Examine the head, eyes, ears, nose, throat, and neck. Cardiovascular: Auscultate the heart, check pulse, and assess peripheral circulation. Respiratory: Check lung sounds, chest expansion, and oxygen saturation. Abdominal: Palpate the abdomen and check for tenderness or enlargement.

Musculoskeletal: Assess joint range of motion, muscle strength, and reflexes.
Neurological: Assess sensation, coordination, and mental status.
Skin: Inspect for rashes, bruises, or lesions.
Lymphatic: Check for lymph node enlargement.

4. Assess the clinical examination in Siddha and modern concepts (60 minutes)

Modern medicine perspective: Analyze the findings based on clinical guidelines, symptoms, and signs that correlate with possible diseases.
Siddha medicine perspective:
Determine the body constitution (Vatha, Pitha, Kaba) and imbalance.
Assess the three humors (Vatham, Pitham, Kabam) and their impact on the condition.
Consider the seven elements and pulse diagnosis to align with Siddha treatment.
Integrate clinical features in relation to Siddha physiology and psychology.

5. Conduct the clinical investigation and interpretation (60 minutes)

Blood Tests: Haemoglobin, RBC count, white blood cell count, etc.
Urine Tests: For renal function and possible infection.
Imaging: X-ray, ultrasound, CT scans, etc., based on the nature of complaints.
Special Tests: Any additional tests related to the symptoms, such as ECG for chest pain or spirometry for breathing difficulties.
Interpretation: Review test results considering the clinical examination and compare with Siddha's diagnostic methods envagai thervu such as nadi (pulse), etc.

6. Decide and document the appropriate diagnosis (45 minutes)

Differential Diagnosis: List all possible diagnoses based on symptoms, examination, and investigations.
Confirmation of Diagnosis: Narrow down to the most likely diagnosis using a combination of modern clinical examination findings and Siddha diagnostic theories.
Documentation: Document all relevant findings, tests, and conclusions clearly and in detail. Mention any other conditions that may need further investigation or follow-up.

7. Prescribe the line of treatment based on Siddha guidelines (45 minutes)

Siddha treatment: Include herbal remedies, dietary changes, and lifestyle modifications in accordance with Siddha concepts.
Therapeutic Interventions: Suggest therapies like thokkanam (oil massage) varmam (pressure points) if applicable.

		Pharmaceuticals: Prescribe specific siddha medicines that correspond to the imbalance identified. **8. Counsel the patient for further follow-up based on the diagnosis (30 minutes)** Provide clear Instructions: Discuss the importance of the prescribed treatment, any potential side effects, and proper administration. Lifestyle recommendations: Advise the patient on dietary changes, physical activity, and stress management based on both siddha and modern approaches. Follow-up Plan: Set a follow-up date to monitor progress.and explain when the patient should return for a re-evaluation or to report new symptoms. The students will be able to perform a thorough evaluation of a given patient with an orthopaedic disease through practical exams, effective case taking, and objective structured clinical examinations (OSCE). The total duration of the activity is 7 hours.

Topic 13 REGIONAL CONDITIONS OF BONES AND JOINTS DISEASES (LH :11 NLHT: 10 NLHP: 16)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO5	Define periarthritis of the shoulder and describe its causes, pathology, clinical features, Reeves' stages, investigations, management and Siddha-based treatment.	CC	MK	KH	CBL,L &PPT	CL-PR,VV-Viva	F&S		-	NLHT13.1
CO5	Define and describe the aetiology, clinical features, clinical test, investigation, management, and treatment of Tennis elbow, Cubitus valgus, and Describe causes, clinical stages, clinical tests, investigations, and management of Carpel tunnel syndrome.	CC	NK	K	CBL,L &PPT ,L_VC	VV-Viva,CBA,T-CS	F&S		-	LH
CO5	Define and describe the causes, pathogenesis, clinical features and investigation of Dupuytren's contracture, and coxa vara. Define and classify the types, describe the clinical features, assessment of genu valgum deformity and radiography of Genu valgum.	CC	MK	K	L&PPT ,X-Ray	VV-Viva,T-OBT	F&S		-	LH
CO5	Define flat foot describe the associated deformities, types, clinical features, radiological features and treatment.	CC	DK	K	L&PPT ,X-Ray	CBA	F&S		-	LH

CO5	Define calcaneal spur and describe the causes, clinical features, radiograph and treatment.	CC	DK	KH	L&PPT ,CBL	CBA	F&S		-	NLHT13.2
CO5	Define and describe the types, causes, clinical features, and investigation of Scoliosis and Kyphosis.	CC	MK	K	X-Ray, L&PPT	VV-Viva,CBA	F&S		-	LH
CO5	Define and describe the anatomical factors, clinical features, radiological feature and treatment of intervertebral disc prolapse	CC	MK	KH	L&PPT ,X-Ray, CBL	T-CS	F&S		-	NLHT13.3
CO5	Define fracture, dislocation and subluxation and explain the types and classification of fracture and dislocations.	CK	MK	K	X-Ray, L&PPT ,L&GD	VV-Viva,M-CHT,QZ	F&S		V-NN2	LH
CO5	Explain the causes, clinical features, investigation, and treatment of following complications of fractures. Avascular necrosis Non- union Mal-union	CC	MK	KH	X-Ray, L&GD, L&PPT	VV-Viva	F&S		-	LH
CO5	Describe the fracture in childhood and differentiate the fractures in children and adults.	CC	MK	K	L	VV-Viva	F&S		-	LH
CO5	Define splint and describe the types of splints in the reduction procedure. Illustrate surgical treatment of fractures like external fixation and open reduction internal fixation.	CC	MK	KH	FC,L&GD,L&PPT	PRN,M-MOD	F&S		-	NLHT13.4
CO5	Describe the chemical formula, POP (Plaster of Paris) types, stages of plastering, and complications of Plaster of Paris.	CC	MK	KH	L&GD, TPW	PRN	F&S		-	NLHT13.5
CO5	Perform traction and describe the methods and its uses	PSY-GUD	NK	KH	L_VC,L&PPT	DOPS,DOPS	F&S		-	NLHT13.6
CO5	Describe the classification, pathology, clinical features, radiological features, and treatment of the shoulder joint	CC	MK	KH	X-Ray, CBL,L	P-EN	F&S		-	NLHT13.7

	dislocation.				&PPT					
CO5	Describe the pathology, clinical features, radiological features and treatment of Tempro mandibular joint dislocation. Define and describe the displacements, mechanism of injury, clinical features, radiological features, treatment, and complication of Colles fracture.	CC	MK	K	X-Ray, L&PPT	VV-Viva,T-CS	F&S		-	LH
CO5	Describe the causes, mechanism of injury, allen's classification, clinical features, examination, investigation, treatment and indication of cervical spine injuries and Illustrate the mechanism of injury, mcatea's classification- 3column, clinical features, investigation, and management of thoracic and lumbosacral spine injuries.	CC	DK	K	L&PPT	CL-PR	F&S		-	LH
CO5	Explain the mechanism of injury, types, signs and symptoms, diagnosis and complications of skull fracture.	CC	MK	KH	TBL,L &PPT ,L_VC	PRN	F&S		-	NLHT13.8
CO5	Define strain,sprain. and describe the mechanism of injury, clinical features, radiographic features and treatment of ankle joint medial collateral ligament injury and ankle joint lateral collateral ligament injury	CC	MK	K	L&GD, L_VC,L &PPT	VV-Viva,P-EN	F&S		-	LH
CO5	Describe the mechanism of injury, types, clinical features, clinical tests, investigation and treatment of knee joint medial and lateral collateral ligament injury and anterior cruciate ligament injury and posterior cruciate ligament injury.	CC	MK	K	L_VC,L &PPT	P-EN,VV-Viva	F&S		-	LH
CO5	Describe the causes, clinical features, clinical test, investigation, treatment and complications of Achilles tendon.	CC	DK	KH	L&GD, CBL	T-CS	F&S		-	NLHT13.9
CO5	Describe the mechanism, clinical features, clinical test, investigation, differential diagnosis and treatment of semilunar	CC	MK	K	L_VC,L &GD,T	P-EN,VV-Viva	F&S		-	NLHT13.10

	cartilage injuries andDescribe the clinical features, and treatment of muscle injury • Biceps brachii • The supraspinatus • Quadriceps femoris				BL,CBL					
CO5	Demonstrate by hands -on training of shoulder joint examination.	PSY-GUD	MK	SH	CBL,D-BED	P-EXAM,P-CASE,CBA	F&S		-	NLHP13.1
CO5	Demonstrate by hands-on training in the elbow joint examination.	PSY-GUD	NK	SH	CBL,D-BED	CBA,P-EXAM,P-CASE	F&S		-	NLHP13.2
CO5	Demonstrate by hands -on training of the wrist joint examination.	PSY-GUD	DK	SH	CBL,D-BED,L_VC	P-CASE,P-EXAM	F&S		-	NLHP13.3
CO5	Demonstrate by hands-on training of the ankle joint examination	PSY-GUD	DK	SH	CBL,D-BED	OSPE,OSCE,P-CASE,P-EXAM	F&S		-	NLHP13.4
CO5, CO7	Evaluate the given patient for clinical case writing and case presentation of orthopaedic diseases.	PSY-GUD	MK	SH	CBL,D-BED	CBA,P-EXAM,P-CASE	F&S		-	NLHP13.5
CO5, CO7	Perform documentation of single case study by individual students in bone and joint diseases.	PSY-GUD	MK	KH	CBL,D	CBA,P-CASE,Log book	F&S		-	NLHP13.6

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity

NLHT 13.1	Periarthritis of the shoulder.	The teacher will explain periarthritis of the shoulder, using a Powerpoint presentation and case-based learning. **Slide 1: Title slide** Title: Periarthritis of the shoulder Subtitle: Causes, Pathology, Clinical Features, Stages, Investigations, Management, and siddha-based treatment **Slide 2: Introduction to periarthritis of the shoulde**r Brief overview of what periarthritis of the shoulder is. Relevance and importance in clinical practice. **Slide 3: Case study: Initial presentation** Case scenario Discussion: Ask students what they suspect based on the presentation. Slide 4: Definition of periarthritis of the shoulder **Slide 5: Causes of periarthritis of the shoulder** **Slide 6: Pathology of periarthritis** **Slide 7: Clinical Features** **Slide 8: Reeves' stages of Frozen shoulder** **Slide 9: Investigations** **Slide 10: Management of periarthritis** **Slide 11: Siddha-based treatment** **Slide 12: Case study revisited** After discussing the theory, refer back to the initial case scenario. **Slide 13: References** Students will perform each step of the assessment activity through a Class presentation and Vivavoce on periarthritis of the shoulder.
NLHT 13.2	Calcaneal spur .	The teacher will explain about calcaneal spur using Powerpoint presentation and case-based learning. Powerpoint slide structure for lecture on calcaneal spur **Slide 1:Title slide** Title:Calcaneal Spur: definition, causes, clinical features, radiographic findings, and treatment

		Slide 2:Introduction to calcaneal spur Definition Prevalence **Slide 3:Case-based learning approach** Objective: Explore a real or hypothetical patient case to understand calcaneal spur through applied knowledge. Step 1:Present patient scenario. Step 2:Discuss the pathophysiology, diagnosis, and management based on the case. **Slide 4 Case scenario** Patient information: Age Gender Presenting complaint Examination Previous history **Slide 5:Causes of calcaneal spur** **Slide 6:Clinical features of calcaneal spur** **Slide 7:Radiographic features** **Slide 8:Diagnosis of calcaneal spur** Physical examination:Clinical assessment including palpation and range of motion. Imaging:X-rays or ultrasound to visualize the spur. Differential diagnosis: Rule out other causes of heel pain, such as Achilles tendinitis, stress fractures, and bursitis. **Slide 9:Treatment options** **Slide 10:Case resolution** Patient follow-up: The patient was advised to use orthotics and perform stretching exercises. X-ray confirmed the presence of a calcaneal spur. Follow-up after 4 weeks showed significant improvement in symptoms. The students will perform each step of the assessment activity through Case-based assessment on calcaneal spur.

NLHT 13.3	Intervertebral disc prolapse	The teacher will explain Intervertebral Disc Prolapse through a Powerpoint presentation., case-based learning, and X-ray identification. **Slide 1:Title slide** Title: Intervertebral disc prolapse Subtitle: Anatomy, clinical Features, radiological findings, and treatment **Slide 2:Introduction** Definition Prevalence Objective **Slide 3:Anatomy of the spine** Structure of Vertebrae Anatomy of Intervertebral disc **Slide 4:Mechanism of prolapse** **Slide 5:Clinical features of intervertebral disc prolapse** **Slide 6:Case-based learning**: Clinical case Patient history Symptoms Physical examination **Slide 7:Radiological features** X-ray: Used to rule out other conditions (fractures, degenerative changes). MRI (Magnetic Resonance Imaging): Gold standard for diagnosing intervertebral disc prolapse. Shows disc bulge, prolapse, and compression on nerve roots. CT scan: Useful when MRI is contraindicated and provides detailed bony anatomy. **Slide 8:Case-based learning and radiological interpretation** Patient History MRI Results. **Slide 9:Treatment Options for Intervertebral disc prolapse** Conservative management: **Slide 10:References** Students will perform each step of the assessment activity through a theory case study on intervertebral disc prolapse.

NLHT 13.4	splints in the reduction procedure.	The teacher will explain about splints and fracture surgical treatments using Powerpoint presentations, group discussions, and a flipped classroom. Topic: Splints and surgical treatment of fractures **Lecture (Powerpoint presentation)** Introduction to splints Definition Purpose of splints Types of splints Reduction procedure Closed reduction Open reduction **Group discussion** Engage students in a discussion about the different types of splints Real-life Cases:Present case studies (without using specific patient data) and ask groups to discuss which splint would be most effective and why. **Flipped classroom** Pre-class assignment: Assign students a reading or video explaining the surgical treatments of fractures: External Fixation, and Open Reduction Internal Fixation (ORIF). External fixation Open Reduction internal fixation Ask students to review these surgical methods and come prepared to discuss the benefits, risks, and when each procedure might be necessary. In-class application: Divide students into small groups. Assign each group one of the surgical techniques. Have them present a case study for that technique, explaining when it would be used, the procedure, and possible complications. Students will perform each step of the assessment activity through presentation and making of model on splint and surgical treatments of fractures.

		Presentation outline Title: Splints and surgical treatments for fractures **Slide 1:Title slide** Topic:Splints and surgical treatments for fractures Subtitle:Understanding Splints, types, and surgical reduction procedures **Slide 2:Introduction to splints** Definition Purpose **Slide 3:Types of splints** **Slide 4:Splints in the reduction procedure** **Slide 5:Surgical treatment of fractures** **Slide 6:External fixation** **Slide 7:Open reduction and Internal fixation (ORIF)** **Slide 8:Comparison of External fixation and ORIF** **Slide 9:References** **Model assessment activity:** Provide students with a model skeleton or anatomical diagrams: Have them apply a functional splint to a simulated limb. Design a simple diagram showing the placement of an external fixation device.
NLHT 13.5	Plaster of paris (POP)	The teacher will explain POP (Plaster of paris) incorporating methods through lecture group discussion and team project work. **1.Lecture with group discussion** Objective: Provide foundational knowledge while encouraging interaction and conceptual understanding. Approach: Introduction (Lecture): Begin with a brief explanation of Plaster of paris (POP), including its chemical formula (CaSO?·½H2O) and its derivation from gypsum. Cover the types of POP Explain the stages of plastering

			Highlight complications Group discussion: Divide the class into small groups. Provide each group with a topic (e.g., types of POP, complications, or practical applications). Allow them to discuss for 10–15 minutes and summarize their key points. Facilitate a discussion where each group shares their insights with the class, clarifying and expanding as needed. **2.Team project work** Objective:Enable hands-on learning and teamwork to deepen understanding through application. Approach: Assign teams:Form small teams (4–5 members each). Project themes: Assign each team a project such as:Creating a flowchart showing the chemical process of converting gypsum to POP. Making a visual representation of types of POP and their applications. Developing a step-by-step guide for the stages of plastering with annotated diagrams. Preparing a report or model demonstrating the complications of POP and suggesting solutions. **Presentation:** Teams will present their findings in the form of posters, slides, or models. Each team gets 5–10 minutes to showcase their work to the class. Students will perform each step of the assessment activity through Presentation on POP Activity structure **1.Preparation stage** Divide the class:Split students into small groups (3–5 members each). Assign topics: Group 1:Chemical Formula and Reaction of POP Group 2:Types of POP and their Uses Group 3:Stages of Plastering with POP Group 4:Complications in Using POP **2.Research and presentation creation** Each group will research their topic and prepare a 5–7-minute presentation. Encourage the use of: Visual aids(slides, posters, or diagrams).

		Real-life examples(construction, art, medical uses). Hands-on demonstrations(if feasible, such as setting POP with water). **3.Presentation delivery** Time Allotted:Each group presents their findings to the class. Encourage engagement with Q&A sessions after each presentation. Details to Cover in each topic Chemical formula and reaction Types of POP and their uses Stages of plastering with POP Complications in using POP
NLHT 13.6	Traction	The teacher will explain the traction using a Powerpoint presentation and video clips. Slide: **Slide 1:Introduction to Traction** Definition of Traction: Explanation of traction as a medical or mechanical process used to stretch muscles or relieve pressure from joints and bones. Importance of Traction: Discuss its relevance in physiotherapy, orthopaedics, and even in mechanical settings (like cranes or lifting equipment). **Slide 2:Types of Traction** **Slide 3:Methods of Traction** Step-by-step process: Preparation: Set up the patient (or equipment) for the correct positioning. Application: Different devices or manual techniques are applied based on the type. Monitoring: Regular assessment to avoid complications. Tools used: Weight systems, pulleys, or devices for mechanical traction. **Slide 4:Video clip 1-Demonstration of manual traction** Objective: Show the practical application of manual traction techniques in real time. Learning outcome: Viewers will understand the procedure and see how pressure is applied to relieve pain in certain conditions. **Slide 5:Video clip 2-Mechanical traction equipment in action**

Objective: Showcase mechanical traction devices and their uses in treating conditions like herniated discs or joint misalignment.
Learning outcome: Viewers will learn how these machines function, including the setup and adjustments necessary for effective treatment.
Slide 6:Uses of traction in clinical practice
Slide 7:Advantages and disadvantages of traction
Slide 8:Methods of teaching traction techniques
Hands-on training: Practical demonstrations in small groups.
Use of video clips: As seen earlier, video demonstrations provide visual learning.
Simulations: Using mannequins or virtual simulations to practice techniques.
Lectures: Delivering theoretical content with illustrative images, diagrams, and videos.
Slide 9:References
Students will perform each step of the assessment activity through Direct observation of procedural skills (DOPS) on traction.
Preparation
Materials needed:
Traction equipment(e.g., weights, pulleys, splints, or simulators).
A detailed case scenario(e.g., a patient with a femoral shaft fracture or cervical spine injury).
Assessment checklist for the observer.
A simulated or standardized patient(optional).
Steps for the activity
1. Orientation
Brief students on the activity and its purpose.
Explain that they will be assessed on both the technical performance and the ability to describe the methods and uses of traction.
2. Procedural skills assessment: Perform traction
The student demonstrates the application of traction based on a provided clinical scenario.
The observer uses a checklist to evaluate:
Preparation and sterilization (if applicable).
Correct technique and application.
Maintenance of patient safety and comfort.
Effective communication with the patient.

		3. Verbal Assessment: Describe the methods and uses of traction The student explains: Types of traction Indications Precautions Clinical applications
NLHT 13.7	Shoulder joint dislocation	The teacher will explain shoulder joint dislocation using a lecture with a Powerpoint presentation case-based learning. **Slide 1:Introduction to shoulder joint dislocation** Overview: Definition of shoulder joint dislocation, anatomical significance of the shoulder. Key Teaching learning method: Introduction through a clinical scenario. Use a patient case to start the discussion. **Slide 2:Classification of shoulder joint dislocation** **Slide 3:Pathology of shoulder joint dislocation** **Slide 4:Clinical features of shoulder dislocation** **Slide 5:Radiological features (X-ray Identification)** **Slide 6:Treatment of shoulder joint dislocation** **Slide 7:Complications and prognosis** Students will perform each step of the assessment activity through practical action on shoulder joint dislocation. Students will write a short answer covering the following aspects: Classification. Pathology Clinical features Radiological features Treatment Practical component: **Part A: Physical examination:** Students will be asked to demonstrate how they would examine a patient with a suspected shoulder dislocation.

		They should explain and perform the following: **Inspection:** Check for deformity, swelling, or asymmetry. **Palpation:** Check for tenderness around the shoulder joint, especially in the acromioclavicular joint and humeral head. **Range of motion testing:** Actively and passively check for any inability to move the arm and note abnormal positioning of the arm. **Neurological examination:** Check for any numbness or tingling in the arm that might indicate nerve involvement. **Vascular assessment:** Check pulses and capillary refill in the arm. Students will be evaluated based on how well they demonstrate these steps and explain their significance. **Part B: Radiological interpretation:** Present students with radiographs of a shoulder joint in the event of dislocation. Ask them to: Identify the type of dislocation (anterior/posterior). Point out any associated fractures or other abnormalities (e.g., Hill-Sachs deformity, Bankart lesion). Discuss the implications of these findings and how they affect treatment decisions. **Part C: Treatment demonstration:** In a simulated environment (using a mannequin or demonstration), ask students to demonstrate the reduction of a dislocated shoulder.
NLHT 13.8	Skull fracture	The teacher will explain skull fracture through Powerpoint slides, video clips, and team-based learning activities. **1. Introduction to Skull fractures** Powerpoint slide Title slide: "Skull fracture: Mechanism, types, symptoms, diagnosis, and complications" Objectives of the lecture (e.g., Understanding the mechanisms, identifying the types, recognizing signs and symptoms, knowing the diagnostic methods, and learning about complications) **2. Mechanism of injury** Powerpoint slide Definition of skull fracture Common mechanisms leading to skull fractures

Video clip
Show a brief video of various accident scenarios (car crash, fall, etc.) that result in skull fractures to help students visualize the trauma mechanisms.
Discussion prompt(Team-based learning):
In teams, discuss how different forces (e.g., impact from the side vs. direct blow) can lead to different types of fractures.
3. Types of skull fractures
Powerpoint slide
Types of skull fractures
Video clip
Show an animation of how each type of fracture appears on an X-ray or CT scan and highlight the key differences between them.
4. Signs and symptoms of skull fracture
Powerpoint slide
Team-based learning
Have teams discuss possible signs and symptoms based on case scenarios you provide. Each team should then present the symptoms they would look for in a patient with a skull fracture.
5. Diagnosis of skull fractures
Powerpoint slide
Diagnostic tools
Video clip
Show a CT scan video where skull fractures are identified and compare different imaging techniques.
6. Complications of Skull fractures
Powerpoint slide
Possible complications
Video clip
A video clip demonstrating how untreated skull fractures may lead to complications like bleeding or brain injury stressing the importance of early detection and intervention.
Students will perform each step of the assessment activity through a presentation on skull fractures.
1. Introduction
Define skull fractures.
Briefly discuss the importance of understanding head injuries in medical practice or everyday life.

		Use a visual aid (e.g., an anatomical model or diagram) to show the structure of the skull. **2. Explanation of key topics** A. Mechanism of injury B. Types of Skull fractures C. Signs and symptoms D. Diagnosis Imaging techniques: CT scan: Gold standard for identifying fractures and brain injuries. X-ray: Sometimes used for simpler assessments. E. Complications.
NLHT 13.9	The Achilles tendon	The teacher will explain the Achilles tendon using lecture and group discussions and case-based learning. 1.Introduction Overview of Achilles tendon: The Achilles tendon is the largest tendon in the human body, connecting the calf muscles (gastrocnemius and soleus) to the heel bone (calcaneus). Importance: Vital for walking, running, and jumping; injury to the Achilles tendon can significantly impact mobility. 2.Causes of Achilles tendon injury 3.Clinical features 4.Clinical tests 5.Investigations 6.Treatment 7.Complications 8.Case-based learning approach 9.Group discussion Students will perform each step of the assessment activity through theory case study on Achilles tendon. Instructions for Students Describe the likely causes: Based on the case study, identify possible aetiologies of the Achilles tendon problem.

		Overuse injury Poor footwear or training technique Sudden increase in physical activity Preexisting conditions like tendinopathy Identify clinical features: List the symptoms and signs that support your diagnosis. Suggest clinical tests: Thompson test: To rule out a tendon rupture. Observe gait and heel-raise test for functional assessment. Outline investigations: Imaging: Ultrasound or MRI to confirm tendinopathy or rupture. X-ray (to assess calcifications in chronic cases). Propose treatment options: Conservative management Discuss potential complications.
NLHT 13.10	Semilunar cartilage injuries and Muscle injury.	The teacher will explain a semilunar cartilage injuries and muscle injury through group discussion, videos, case-based learning (CBL), and team-based learning (TBL) method. **1.semilunar cartilage injuries** Mechanism of injury: Lecture:Provide an overview of the anatomy and biomechanics of the semilunar cartilage (meniscus), explaining how twisting motions, heavy lifting, or direct trauma can cause tears. Video clip:Show a video of a knee injury (e.g., football or basketball) to demonstrate how the injury happens in a real-world scenario. Clinical features: Group discussion:Discuss common symptoms such as pain, swelling, clicking sounds, locking, and restricted movement. Use a case study of a patient with these symptoms. Video:Demonstrate clinical examination techniques and how to assess for meniscal injuries. Clinical tests: Lecture with video:Teach about specific clinical tests such as the McMurray test, apley test, and

thessaly test, showing how they are performed and interpreted.
Investigations:
Lecture:Discuss the use of imaging like MRI and X-rays to diagnose meniscal tears.
Video:Present images of an MRI scan showing a meniscal tear and discuss the findings.
Differential diagnosis:
Case-based learning (CBL):Use a case scenario where the student must differentiate between a meniscal tear, ligamentous injury, and osteoarthritis. Discuss the key differences in clinical presentation.
Treatment:
Lecture:Explain both conservative (physical therapy, anti-inflammatory medications) and surgical options (meniscectomy, meniscal repair).
TBL:Assign teams to design treatment plans for different severity levels of meniscal injuries and discuss management strategies.
2.Muscle injuries:
Biceps brachii muscle injury:
Clinical features:
Lecture:Explain the common signs of biceps brachii injuries (pain, weakness, bruising, bulging of muscle).
Group discussion:Share examples of muscle strain and rupture and discuss mechanisms (e.g., lifting heavy objects).
Treatment:
Lecture:Discuss both non-surgical (rest, ice, compression) and surgical treatments for biceps brachii ruptures.
Video:Show rehabilitation exercises and explain the recovery process.
Supraspinatus muscle injury:
Clinical features:
Lecture:Describe the symptoms of a supraspinatus tear (pain with overhead movements, weakness, difficulty reaching behind the back).
Video:Demonstrate the "empty can test" to assess for supraspinatus tears.
Treatment:
Lecture:Discuss treatment options ranging from conservative management to surgical repair (rotator cuff repair).

		Group discussion:Discuss outcomes and when surgery is recommended based on tear size and age. Quadriceps femoris injury: Clinical features: Lecture:Outline the signs of quadriceps strain (pain, weakness in knee extension, swelling). Case-based learning:Use a case scenario to determine the severity of the injury and appropriate treatment (e.g., mild strain vs. complete rupture). Treatment: Lecture:Discuss rest, ice, compression, elevation (R.I.C.E), and physical therapy for mild strains. Surgical repair for severe ruptures. TBL:Have teams work on rehabilitation protocols, setting timelines for return to sport or daily activities. Integration of teaching methods: Lecture with video clips:Use engaging videos to demonstrate practical skills (e.g., examination). Group discussion:Encourage interaction and critical thinking by asking students to discuss and compare various cases of muscle and cartilage injuries. Case-based learning (CBL):Use real-life patient cases to engage students in decision-making about diagnosis and treatment. Team-based learning (TBL):Have students work in groups to design comprehensive treatment plans for different types of injuries, fostering collaboration and problem-solving. The students will perform each step of the assessment activity through practical enact and viva on semilunar cartilage injuries and muscle injury. Practical enactment activities Case-based simulation: Setup:Create case scenarios based on the given injuries. For example: Task:Students will role-play as clinicians and perform: Patient interview to gather history. Physical examination techniques: For semilunar cartilage: McMurray’s test, apley’s grind test. For muscle injuries: palpation, strength testing, and functional movement assessment. Propose initial investigations and management. Model or cadaver demonstrations: Setup: Use anatomical models or cadavers to demonstrate the relevant structures.

		Task: Students identify anatomical landmarks, explain the mechanism of injury, and describe the structures involved.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 13.1	Examination of shoulder joint.	The teacher will guide students in performing a shoulder joint examination through hands-on training, utilizing case-based learning and bedside demonstrations. **1.Preparation for Shoulder joint examination:** Ensure the patient is comfortable, informed, and in the appropriate setting for the examination. Explain the process to the patient: Inform the patient about the purpose of the shoulder examination (e.g., to assess range of motion, strength, tenderness, or any possible injury). Obtain consent for the examination. Emphasize confidentiality and that the patient can ask questions or request breaks during the procedure. Position the patient: The patient should be seated comfortably on an examination table or chair. Ensure that the room is well-lit and private. The patient should expose the shoulder for a full examination, ideally in a gown or loose-fitting clothes. Prepare equipment: Ensure you have the necessary tools (e.g., goniometer for measuring range of motion, gloves if required for hygiene). Ready the stethoscope, thermometer, and sphygmomanometer for vital sign checks. Have a pen and paper or tablet available for noting down findings. **2.Analyze demographic data, complaints, duration, and history:** Objective:Gather comprehensive information to guide the shoulder joint examination. Demographic data: Age, gender, and occupation:

Ask for the patient's age, gender, occupation, and lifestyle as this can give clues to the underlying issue (e.g., age-related degeneration, occupational injuries).
Medical history:
Any previous shoulder injuries, surgeries, or history of other joint diseases (like arthritis or rotator cuff issues) ?
Inquire about comorbidities (diabetes, hypertension, etc.) and any medications the patient is taking.
Presenting complaints:
Main complaint:Ask the patient to describe the primary complaint related to the shoulder.
Pain:Onset, intensity, location, type (sharp, dull, radiating), factors that exacerbate or relieve it (e.g., activity, rest).
Weakness:Does the patient feel a loss of strength in the shoulder ? Does it interfere with daily activities ?
Stiffness or limited movement: Any decrease in shoulder mobility ? (e.g., inability to raise arm fully).
Duration of symptoms:
How long have the symptoms been present ?
Acute vs. chronic issue (e.g., weeks / months).
Any recent trauma or injury to the shoulder region ?
Functional impact:
Ask how the condition affects the patient's ability to perform daily activities (e.g., lifting, reaching overhead, or carrying objects).
Does the pain interfere with sleep or other activities ?
3.Shoulder joint examination:
Objective:Perform a systematic, thorough examination to assess the shoulder joint's function and identify potential abnormalities.
Inspection:
Visual observation:
Look for asymmetry, deformity, swelling, or discoloration around the shoulder joint.
Observe for muscle wasting (atrophy) or any abnormal posture (e.g., shoulder shrugging, head tilting).
Palpation:
Assess the shoulder joints and surrounding areas:
Palpate for tenderness, warmth, or swelling.
Palpate anatomical landmarks such as the acromion, clavicle, scapula, and humeral head.

Palpate the rotator cuff tendons and biceps tendon in the bicipital groove.

Range of motion (ROM):

Active and passive movement:

Flexion, extension, abduction, adduction, internal and external rotation: Assess each movement while observing for pain, limitation, or abnormal motion.

Perform passive range of motion if the active range of motion is limited to assess for joint stiffness versus muscular issues.

Strength testing:

Manual muscle testing:

Assess the strength of the shoulder muscles using resistance in various directions:

Supraspinatus (elevation of arm against resistance).

Infraspinatus and teres Minor (external rotation).

Subscapularis (internal rotation).

Deltoid (abduction).

Grade strength on a scale of 0 to 5.

Special tests:

Rotator cuff tests:

Empty can test:Raise arms in a "thumb-down" position to test supraspinatus function.

Drop arm test:Assess for rotator cuff tears by asking the patient to lower their arm slowly.

Labral tests:

O’Brien's Test:To check for labral tears (pain with resisted flexion and internal rotation).

Impingement tests:

Neer test:Raise the patient's arm passively while maintaining internal rotation to assess for subacromial impingement.

Hawkins-Kennedy test:Flex the arm to 90 degrees and rotate it internally to check for impingement.

Assessment of stability:

Apprehension test:Check for shoulder instability by gently externally rotating the arm at 90 degrees abduction.

Neurological and vascular examination:

Assess the neurovascular status of the upper limb.

Check sensation in the shoulder, arm, and hand.

Palpate radial pulse and assess capillary refill.

		End of examination: Summarize findings:Document any positive or abnormal findings from the examination. Discuss findings with the patient: If needed, explain the next steps (e.g., imaging, referral to a specialist, physical therapy). The Students will be able to demonstrate their skills in performing a shoulder joint examination through hands-on training, practical exams, practical case-taking, and case-based assessments. The total duration of the activity is 2 hours.
NLHP 13.2	Examination of the elbow joint.	The teacher will guide students in performing a hands-on demonstration of the elbow joint examination through case-based learning and bedside demonstration. **1. Preparation for Elbow joint examination (20 minutes)** Introduction and explanation (5 minutes) Greet the patient warmly and introduce yourself. Explain the purpose of the examination and what will be involved. Assure the patient that the process will be non-invasive and that they can stop if they feel discomfort. Obtain consent from the patient to proceed with the examination. Positioning the patient (5 minutes) Ask the patient to sit in a comfortable chair or on the examination table with their elbow fully exposed. Ensure proper lighting to clearly see the elbow joint. The patient should be in a relaxed position, ideally with the forearm resting on the table or supported by a pillow to help relax the muscles. Preparation of materials (10 minutes) Gather all necessary tools: gloves, measuring tape (for any deformities), goniometer (to measure the range of motion), and any other tools for testing strength or pain. Ensure the environment is clean and comfortable, with a privacy curtain if needed. **2. Analysis of demographic data, complaints, duration, and history (40 minutes)** Patient demographics and vitals (10 minutes) Review the patient’s basic demographic information: age, gender, occupation, and previous medical history relevant to the elbow joint. Take and record vital signs, blood pressure, heart rate, and temperature to assess overall health and rule out systemic issues.

Complaint analysis (15 minutes)
Ask the patient about the nature of their complaint regarding the elbow. This can include:
Pain: Where is it located (lateral / medial, anterior / posterior) ? Is it sharp, dull, throbbing, etc.?
Swelling or bruising: When did it begin? Is it constant or intermittent?
Limited range of motion: What movements cause discomfort?
Weakness: Has the patient experienced a loss of strength in the arm?
Investigate the onset of symptoms: sudden or gradual?
Any history of trauma or injuries?
Duration and history (15 minutes)
How long have the symptoms been present?
Any relevant past history of elbow injuries, surgeries, or conditions? (e.g., tendonitis, fractures, arthritis)
Review previous treatments and outcomes (e.g., physiotherapy, medications, surgeries).
Any family history of joint disorders or autoimmune conditions?

3. Assessment of Elbow joint examination (60 minutes)

Visual inspection (15 minutes)

Check for asymmetry, swelling, redness, or bruising around the elbow joint.
Observe the skin condition: any cuts, scars, or rashes.
Assess for any deformities (e.g., deformity of the elbow, elbow carrying angle).

Palpation (15 minutes)

Gently palpate the elbow joint to assess for tenderness, swelling, or abnormalities. This includes:
Lateral epicondyle (for tennis elbow)
Medial epicondyle (for golfer’s elbow)
Olecranon process
Bony landmarks and soft tissue structures around the elbow
Assess for any warmth, tenderness, or abnormal masses that may indicate inflammation or other conditions.

Range of motion testing (10 minutes)

Assess both active and passive range of motion:
Flexion and extension
Supination and pronation
Measure using a goniometer to determine the degree of movement.

		Strength testing (10 minutes) Assess elbow flexion, extension, and forearm pronation/supination strength. Compare with the opposite limb for any asymmetry. Check for any muscle weakness or signs of nerve involvement. **Special tests (10 minutes)** Perform additional tests to assess for specific conditions: Valgus and varus stress test: For ligamentous instability (e.g., Ulnar collateral ligament injury or radial collateral ligament injury). Tinel's sign: For ulnar nerve irritation. Cozen’s test: For lateral epicondylitis (Tennis elbow). Golfer’s elbow test: For medial epicondylitis. Conclusion (5 minutes) Summarize findings: Discuss any recommendations or next steps (e.g., imaging, further tests, treatment options). Patient education: Educate the patient on any diagnosed conditions and preventive measures, such as rest, physical therapy, or lifestyle modifications. Advise on when to follow up or seek immediate care if the condition worsens. The students will be able to perform and demonstrate the elbow joint examination through hands-on training. This will be assessed via a practical exam, practical case-taking, and case-based assessment. The total duration of the activity is 2 hours.
NLHP 13.3	Examination of the wrist joint	The teacher will guide students in performing and demonstrating the wrist joint examination through hands-on training. This will include lectures with video clips, case-based learning, and bedside demonstrations. 1. Preparing the Patient for the Wrist joint examination (20 minutes) Explain the procedure: Explain to the patient what the wrist joint examination entails, ensuring they understand the process and purpose of the examination. Ensure comfort and privacy: Make sure the patient is seated in a comfortable position, and if necessary, provide draping for privacy. Positioning: The patient should be seated or lying in a relaxed position, with their forearm resting on a

flat surface and the wrist exposed.
Prepare equipment: Have the necessary tools ready, such as gloves, measuring devices, and any additional aids for assessment (e.g., goniometer for range of motion).
Consent: Ensure the patient consents to the examination.
Inspection: Look for signs of swelling, redness, bruising, or deformities in the wrist and hand.
2. Analyzing demographic data, complaints, history, and vitals (40 minutes)
Demographic data:
Age
Gender
Occupation (can be relevant for repetitive strain or work-related injuries)
Hand dominance (right or left)
Complaints and duration:
Pain: Ask about the onset, nature, intensity, and duration of pain. Does the pain occur at rest or with activity?
Swelling: Is there any swelling in the wrist or surrounding areas? Is it persistent or intermittent?
Stiffness: Does the patient experience stiffness in the wrist joint, especially in the morning or after rest?
Deformity: Any visible deformity or previous injuries to the wrist joint?
Loss of function: Difficulty with gripping, lifting, or performing activities of daily living?
Other Symptoms: Numbness, tingling, or weakness in the wrist, hand, or fingers.
Patient history:
Previous injuries: Any history of wrist fractures, sprains, or surgeries?
Medical conditions: Conditions like arthritis, gout, or diabetes that may affect the wrist.
Medication: Any current medications that might affect joint function (e.g., steroids, painkillers).
Family history: Any genetic conditions such as rheumatoid arthritis or other joint-related conditions.
Vitals:
Blood pressure: To rule out systemic issues that might affect healing or pain.
Pulse rate: Can help identify potential signs of infection or systemic inflammation.
Temperature: Check for fever or signs of infection.
Respiratory rate: To ensure overall well-being during the examination.

Oxygen saturation: Assess for any underlying systemic conditions.
3. Assessing the Wrist Joint Examination (1 hour)
Inspection:
General observation: Look for swelling, redness, warmth, bruising, deformities, or asymmetry in the wrist and hand.
Skin: Check for scars, rashes, or signs of trauma.
Palpation:
Palpate the wrist joint and surrounding areas for tenderness, swelling, or abnormal bumps.
Assess the anatomical landmarks:
Lunate bone
Scaphoid bone
Radius and ulna (distal ends)
Carpal bones
Check for crepitus or abnormal movements.
Range of motion:
Flexion and extension: Assess the ability to bend the wrist forward (flexion) and backward (extension).
Radial and ulnar deviation: Check the wrist's ability to move toward the thumb (radial) and the little finger (ulnar).
Rotation: Assess pronation and supination of the forearm.
Strength testing:
Grip strength: Ask the patient to squeeze a dynamometer or your hand and assess strength.
Wrist flexion / Extension strength: Ask the patient to resist your force while you apply pressure to their wrist in flexion and extension.
Special tests:
Finkelstein's test: Used to diagnose De Quervain's tenosynovitis. Ask the patient to make a fist with their thumb inside the fingers and ulnarly deviate the wrist. Pain over the radial styloid is positive.
Tinel's sign: Tap over the median nerve at the wrist (carpal tunnel) to check for tingling or shooting pain, which could indicate carpal tunnel syndrome.
Phalen's test: Invert the wrist and hold for about 60 seconds. Any numbness or tingling could indicate carpal tunnel syndrome.

		Neurovascular assessment: Sensation: Check for any loss of sensation or abnormal sensations in the hand and fingers. Capillary Refill: Press on the nail beds of the fingers and release to check if blood flow returns normally. Pulse: Check for radial and ulnar pulse to assess blood supply to the hand. Conclusion (5 minutes) Summarize findings: Provide a brief overview of the examination findings to the patient. Discuss any recommendations or next steps (e.g., imaging, further tests, treatment options). Patient education: Educate the patient on any diagnosed conditions and preventive measures, such as rest, physical therapy, or lifestyle modifications. Advise on when to follow up or seek immediate care if the condition worsens. The students will be able to perform and demonstrate wrist joint examination through hands-on training, assessed via practical exams and case-taking exercises. The total duration of the activity is 2 hours.
NLHP 13.4	Examination of the ankle joint	The teacher will guide students in performing and demonstrating the ankle joint examination through hands-on training, utilizing case-based learning and bedside demonstrations. **1. Preparing the Patient for Ankle joint examination:(15-20 minutes)** Before starting the ankle joint examination, it's important to make the patient feel comfortable and explain the procedure. Follow these steps: Introduction: Greet the patient, introduce yourself, and explain the purpose of the examination. Positioning: Have the patient lie down on an examination table or sit on a chair with the ankle in a neutral, relaxed position. If assessing the weight-bearing ability, ensure the patient can stand or walk comfortably. Privacy and Comfort: Ensure the patient is appropriately draped to expose only the ankle joint, maintaining their privacy and comfort.

Consent: Obtain verbal consent for the examination.
Instructions: Instruct the patient to let you know if they experience any pain or discomfort during the examination.

2. Analysis of demographic Data, Complaints, duration, and history (40-45 minutes):

Begin by gathering relevant patient data in an organized manner:
Demographic data:
Age: Determines susceptibility to conditions like arthritis or injury.
Gender: Women might be more susceptible to certain conditions like osteoporosis.
Occupation / Activity level: Can help identify work-related or sport-related injuries.
Medical history: Look for any past issues with the joints (e.g., arthritis, fractures, surgeries).
Chief complaints and duration:
Ask the patient to describe the primary reason for the visit (pain, swelling, instability, etc.).
Inquire about the duration of the symptoms (sudden or gradual onset ? Acute or chronic?).
History of present illness:
Onset: When did the symptoms start? Did it follow a specific event (e.g., trauma, fall, overuse)?
Location: Is the pain localized to a specific area (e.g., lateral or medial ankle)?
Character of Pain: sharp, dull, aching, or throbbing? Does it radiate or stay localized?
Intensity: Rate the pain on a scale of 1-10.
Aggravating / Relieving factors: Does walking, standing, or certain movements worsen the pain? Does rest or ice help?
Associated symptoms: Swelling, bruising, instability, weakness, or clicking sounds?
Functional limitations: Is there any difficulty walking, running, or performing daily activities?
Past medical and surgical history:
Any previous ankle injuries, fractures, or surgeries? Any history of arthritis or other systemic conditions like diabetes or gout?
Medications:
Ask about any current medications, especially pain medications, anti-inflammatory drugs, or treatments related to musculoskeletal health.
Vital signs:
Measure the following:
Blood pressure
Heart rate

Respiratory rate
Temperature
Oxygen saturation
Weight / Height (for BMI calculation)

3.Ankle joint examination:(60-75 minutes)

The ankle joint examination consists of inspection, palpation, range of motion assessment, and special tests.

Inspection:

Look for any visible signs of deformity, swelling, bruising, redness, or warmth.
Observe the alignment of the ankle joint and the surrounding structures.
Note any skin changes, scars, or abnormal gait patterns.

Palpation:

Gently palpate the bones and soft tissues around the ankle, including:
Medial malleolus
Lateral malleolus
Achilles tendon
Tibialis anterior tendon
Peroneal tendons
Anterior talofibular ligament
Calcaneus (heel)
Check for tenderness, warmth, or swelling at these sites.

Range of motion (ROM):

Assess both active and passive range of motion of the ankle joint.
Dorsiflexion (upward movement)
Plantarflexion (downward movement)
Inversion (turning the sole inward)
Eversion (turning the sole outward)
Measure the degrees of motion using a goniometer or other available tools.

Strength testing:

Assess the strength of the ankle by asking the patient to perform resisted movements, such as:
Plantarflexion
Dorsiflexion

		Inversion Eversion **Special tests:** Anterior Drawer test: For ligamentous instability (ATFL). Talar Tilt test:For calcaneofibular ligament (CFL) damage. Squeeze test: For syndesmotic injury (high ankle sprain). Thompson test: To rule out Achilles tendon rupture. **Neurovascular assessment:** Check for any neurological deficits or vascular abnormalities: Sensation: Test light touch, pain, and proprioception. Circulation: Check for pulses (posterior tibial and dorsalis pedis). Conclusion (30-45 minutes) Summarize findings: Provide a brief overview of the examination findings to the patient. Discuss any recommendations or next steps (e.g., imaging, further tests, treatment options). Documentation & follow-up discussion: Document findings and discuss potential diagnoses with the patient. Make recommendations for further investigations or treatments. The students will be able to demonstrate proficiency in ankle joint examination through hands-on training, practical exams, case-taking, OSCE (objective structured clinical examination), and OSPE (objective structured practical examination). The total duration of the activity is 2 hours.
NLHP 13.5	Clinical case writing and presentations of orthopaedic diseases	The teacher will guide students in performing evaluations of patients for clinical case writing and case presentations of orthopaedic diseases through case-based learning and bedside demonstrations. **1.Prepare the patient for clinical examination (15 minutes)** Consent and privacy: Ensure that the patient is informed about the examination, its purpose, and what is involved. Obtain their consent for the examination. Comfort: Provide a comfortable and quiet environment for the patient. Offer a gown or appropriate clothing to ensure modesty. Patient History Forms: If not already completed, ask the patient to fill out any relevant forms regarding personal, family, and medical history.

		2.Analyse the demographic Data, complaints, and duration, history, and vitals (30 minutes) Demographic data:Record the patient's age, gender, occupation, and lifestyle. Presenting complaints:Document the primary complaint(s) and any associated symptoms. Ask the patient to describe the symptoms in their own words. Duration:Record how long the symptoms have been present. History Gather a detailed medical history, including past illnesses, surgeries, allergies, medications, and family history of diseases. Use Siddha concepts like the body's dosha (Vata, Pitta, Kapha) imbalance to gain insights. Vitals:Measure blood pressure, pulse rate, respiratory rate, temperature, and oxygen saturation. **3.Perform the general and systemic examination of the patient (60 minutes)** General examination:Observe the patient’s appearance, nutritional status, posture, and any signs of distress. Check for signs of pallor, cyanosis, jaundice, or edema. Systemic examination:Head and neck: examine the eyes, ears, nose, throat, and lymph nodes. Cardiovascular system: Palpate and auscultate the heart for rhythm, murmurs, and abnormalities. Respiratory system: Inspect the chest, palpate for abnormalities, auscultate for breath sounds. Gastrointestinal system:Palpate the abdomen, auscultate bowel sounds, check for tenderness, masses, or organ enlargement. Musculoskeletal system:Check for joint deformities, pain, swelling, and range of motion. Nervous system:Test reflexes, sensory and motor function, coordination, and mental status. **4.Assess the clinical examination in siddha and modern concept (20 minutes)** Siddha diagnosis: Examine the patient’s body constitution, and dosha imbalances. Assess for any signs of excess or deficiency in the three doshas (Vata, Pitta, Kapha). Look at the tongue, pulse, and urine in Siddha medicine for additional clues. Modern diagnosis: Interpret findings based on conventional anatomical and physiological understanding. Consider differential diagnoses based on symptoms and physical exam. **5.Conduct clinical investigations and Interpretation (40 minutes)** Lab Tests:Order blood tests, urine tests, imaging studies (X-ray, ultrasound, etc.) as necessary based on the clinical presentation. Interpret Results:Analyze lab and imaging results in light of the patient’s symptoms. Compare findings with normal ranges to rule out or confirm specific conditions. **6.Decide and document the appropriate diagnosis (20 minutes)**

		Differential diagnosis:Based on the clinical examination and test results, consider a list of potential diagnoses. Confirm diagnosis:Narrow down the possibilities to the most likely diagnosis based on the clinical features and investigations. Document:Write a detailed diagnosis, clearly stating the final decision and rationale behind it. **7.Prescribe the line of treatment based on siddha treatment guidelines (20 minutes)** Siddha treatment:Tailor the treatment based on the patient's dosha imbalance and the nature of the disease. Modern treatment: Prescribe appropriate therapies, or surgical interventions based on the modern diagnosis. Include lifestyle and dietary recommendations. **8.Counsel the patient for further follow-up (15 minutes)** Explain the diagnosis: Provide the patient with an explanation of their condition, both in modern medical and siddha terms. Discuss treatment plan: Clarify how the prescribed treatments will work, the expected outcomes, and potential side effects. Follow-up: Provide a timeline for follow-up visits to monitor progress, adjust treatments if necessary, and ensure recovery. Lifestyle modifications: Advise on diet, exercise, stress management, and other lifestyle changes to support recovery and overall health. The students will be able to perform and evaluate clinical case writing and case presentations for orthopaedic diseases through practical exams, case-taking exercises, and case-based assessments. The total duration of the activity is 4 hours.
NLHP 13.6	Documentation of single case study by individual students.	The teacher will guide students in performing the documentation of a single case study on bone and joint diseases. This will be done through case-based learning and hands-on demonstration by individual students. **1.Case Selection:** Choose a relevant orthopaedic case: Ensure the case is aligned with the student's level and course content. This could involve bone fractures, joint disorders, sports injuries, congenital deformities, or other orthopaedic conditions. Provide Guidelines: Specify which aspects the students need to address, such as diagnosis, treatment

options, prognosis, and rehabilitation methods.

2.Activity breakdown (5 Hours):

Hour 1:Introduction and research

Students should spend the first hour reviewing literature, online resources, and textbooks related to their specific case.

Key questions to address:

What is the condition?

What are the symptoms and causes?

What treatments are available?

What is the recovery or rehabilitation process?

Hour 2:Case analysis

They should analyze the case in depth:

Develop a diagnosis based on symptoms and history.

Explore the pathophysiology of the condition.

Outline potential treatment strategies (non-surgical vs. surgical).

Hour 3:Treatment and management plan

Focus on treatment strategies and patient management:

Explore both immediate and long-term treatments.

Discuss multidisciplinary approaches.

Hour 4:Report preparation

Students will organize their findings into a structured report. They will:

Write the introduction (background of the condition).

Discuss case study specifics.

Detail diagnosis and treatment.

Conclude with recommendations.

Hour 5:Review and presentation

Students should review their report and prepare a short presentation, outlining the key aspects of the case. The presentation can be brief but focused on the most critical parts of their analysis.

3.Submission:

Ensure that the report is submitted at the beginning of the second term, and may include:

A written report (e.g., 2-3 pages).

References to literature and sources used.

		4.Evaluation criteria: Depth of analysis:How well did the student analyze the case, addressing all necessary components like diagnosis, treatment, and recovery? Quality of treatment plan: How realistic and evidence-based is the proposed treatment and management plan? Presentation:Clear communication of findings, structured presentation, and proper referencing. The students will be able to effectively perform documentation of a single case study related to bone and joint diseases. This will be achieved through practical case-taking, maintaining a logbook, and conducting a case-based assessment. The total duration of the activity is 4 hours.

Topic 14 PSYCHIATRY DISORDERS (LH :24 NLHT: 13 NLHP: 31)

A3	B3	C3	D3	E3	F3	G3	H3	I3	J3	K3
CO6	Define the term psychiatric disorder, and classification of psychiatric illness (Indian classification-psychosis: -neurosis: -special disorders). Describe the etiology of psychiatric disorders.	CK	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO6	Explain the mental status examination by covering the following topics: Identification: Personal details. Chief complaints: Main symptoms. History of present illness: Current issues, onset, progression, triggers/relief factors. Past history: Previous medical conditions, treatment history, and trauma Family history: Mental illness in the family. Personal history: Lifestyle, habits, premorbid personality Social and marital status: Relationship and social support Developmental history: Puberty, menstrual /obstetric history. Prenatal and Natal history. History of delayed milestones.	CC	DK	KH	L&PPT ,D-BED	P-CASE,Log book	F		-	LH

	Physical examination: General health assessment. Mini-mental scale examination of consciousness, orientation to time, place, and person, intelligence, memory, emotions, disturbance of speech, and handedness. Mental status examination General appearance and behavior, attitude towards examiner, comprehension, gait and posture, social manner, rapport, speech rate / Quantity, volume / Tone, mood and affect-euphoria-interest / Excitement, thought-streamline form content, anhedonia, perception, cognition, consciousness, orientation, attention, concentration, memory, intelligence, abstract thinking, insight, judgment									
CO6, CO7	Demonstrate the psychiatric examination by covering the following topics: Identification data, chief complaints, history of present illness, perpetuating or relieving factor, history, treatment history-present, and previous fracture, family history, personal history, childhood behavior during childhood, occupational history, puberty, menstrual /obstetric, pre-natal history, natal history, milestones, social and marital status. premorbid personality, physical examination.	PSY-GUD	MK	KH	D-BED	P-CASE,Log book	F&S		-	NLHT14.1
CO6	Explain the role of biological investigations, medical screening, brain imaging, psychological tests, and scales in the thorough evaluation of psychiatric conditions and their influence on treatment planning	CC	MK	K	PBL,LRI,L&PPT ,CBL	CBA,VV-Viva	F&S		-	LH
CO6	Describe the term delusion (Manamayakkam), its types, causes, and treatment. Define the term hallucination (Manapei) its varieties, causes, and treatment options.	CK	MK	K	DIS,L,L&PPT	VV-Viva	F&S		-	LH
CO6	Define the term 'depression,' its types, causes. symptoms, diagnosis, and treatment options.	CC	MK	K	L&PPT	VV-Viva,P-EN	F&S		-	LH

CO6	Define anxiety and its symptoms, types, causes, and treatment. Define the terms deliberate self-harm and suicidal ideation. Define behavior patterns and their warning signs	CK	MK	K	L&PPT	P-EN,VV-Viva	F&S		-	LH
CO6	Explain the term schizophrenia, its symptoms and pathogenesis, complications.	CC	MK	K	L&PPT	T-OBT,S-LAQ,VV-Viva,CL-PR	F&S		-	LH
CO6	Provide a detailed overview of the different types of schizophrenia, including paranoid schizophrenia, hebephrenic (Disorganized) schizophrenia, catatonic schizophrenia, undifferentiated schizophrenia, and residual schizophrenia. And its treatment methods.	CC	MK	K	L&PPT	S-LAQ,CL-PR,VV-Viva,T-OBT	F&S		-	NLHT14.2
CO6	Outline the management strategies for schizophrenia.	CC	DK	K	L&PPT	CL-PR,VV-Viva	F&S		-	NLHT14.3
CO6	Define the term 'mood and affect'. Classify the mood disorders and their etiology factors, and summarize the diagnosis and treatment for mood disorders.	CK	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO6	Define the terms specific (Isolated) phobias, panic attacks, ocd-obsessive compulsive disorder, conversion disorder, and adjustment disorder.	CK	MK	K	L&GD	VV-Viva	F&S		-	LH
CO6	Explain somatoform disorders and their types, conversion disorder, hypochondriasis, somatization disorder, body dysmorphic disorder, and pain disorder.	CK	DK	K	L&GD	VV-Viva	F		-	LH
CO6	Define the term adult personality disorders, classify the types of adult personality disorders,	CC	MK	K	L&GD	VV-Viva	F&S		-	LH
CO6	Describe the treatment for adult personality disorders.	CC	NK	K	L&GD	VV-Viva,CL-PR	F		-	NLHT14.4

CO6	Explain the term *paithiyam noi* and its varieties (1-9)-*aavesa paithiyam, abikasa paithiyam, mavuna paithiyam, suronitha paithiyam, vihara paithiyam, thaaga paithiyam, azhal paithiyam, murka paithiyam, naduku paithiyam*	CK	MK	K	L,L&PPT ,TBL	CL-PR	F&S		-	LH
CO6	Describe the varieties of *paithiyam noi* (10-18) *visha paithiyam, pralaaba paithiyam, pitha paithiyam, aankaara paithiyam, gnana paithiyam, kaivisha paithiyam, kama paithiyam, vishathaga paithiyam, Siddha paithiyam*	CC	NK	K	TBL,L &PPT	CL-PR	F		-	LH
CO6	Describe the treatment for *Paithiyam* Disease (Mental disorder)	CC	MK	K	L&GD	VV-Viva,CL-PR	F&S		-	NLHT14.5
CO6	Define the term kirigai noi and provide poem references.	CK	MK	K	L&PPT ,LS	VV-Viva,P-REC	F&S		-	LH
CO6	Classify the types of *kirigai noi -anal kirigai, pitha kirigai, etchil kirigai, vaatham kirigai, selathpanam kirigai, naadhavindu kirigai, bootha kirigai, jala kirigai, mohini kirigai, kalleri kirigai, kumbidum kirigai, munangal kirigai, alar kirigai, maruttu kirigai, moodu kirigai, valippu kirigai, neerkudi kirigai, and peipedi kirigai* and explain its etiology.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO6	Discuss the clinical features of *kirigai (Kirigaikalin gunankal*)	CK	MK	K	L&PPT ,RP	VV-Viva,CL-PR	F&S		-	NLHT14.6
CO6	Describe the common treatments for *kirigai,* including 18 *kirigaikku kulambu* and *muzhukku thylam.*	CC	MK	K	DIS,L	CL-PR,VV-Viva	F&S		-	NLHT14.7
CO6	Explain the term *unmatha noi* and its types.Define and tabulate	CK	MK	K	L&PPT	VV-	F&S		-	LH

	the types of *brammai noi*, discuss the *maruthuvam for brammai noi*					Viva,DEB				
CO6	Discuss the treatment for *unmatha noi* (Psychosis)	CC	DK	K	L&PPT	VV-Viva	F		-	NLHT14.8
CO6	Explain *matha noi,* the premonitory symptoms, clinical features, types, and treatment.	CC	MK	K	L&PPT	VV-Viva,DEB	F&S		-	LH
CO6	Define the term *mathathiyam* and explain the premonitory symptoms, types, clinical features, treatment, and incurable symptoms of *mathathiyam*.	CC	MK	K	L&PPT	DEB,VV-Viva	F&S		-	NLHT14.9
CO6	Explain *soothikavaatham,* its aetiology, and clinical features.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO6	Discuss the *maruthuvam f*or *soothikavaatham.*	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO6	Define the term *moorchai,* and explain the aetiology, clinical features, and its treatment.	CK	MK	K	L&GD	VV-Viva	F&S		-	LH
CO6	Define the term *mayakkam,* and explain the aetiology, clinical features, types, and premonitory symptoms of *mayakkam.*	CK	MK	K	L&GD	CL-PR,VV-Viva	F&S		-	LH
CO6	Discuss the *maruthuvam for mayakkam*	CC	MK	K	L	CL-PR	F&S		-	NLHT14.10
CO6	Define *valippu noi,* and explain its aetiology, premonitory symptoms, and clinical features.	CC	MK	K	L&PPT	VV-Viva	F&S		-	LH
CO6	Elaborate on the *kutra verupadu* and *naadi nilai* (Pulse conditions) of *valippu noi.*	CC	DK	K	L&PPT	VV-Viva	F		-	LH
CO6	Discuss the *maruthuvam* for *valippu noi*.	CC	MK	K	L&PPT	VV-Viva	F&S		-	NLHT14.11
CO6	Define *Kakkai valippu noi.*Tabulate the types and aetiology of *kakkai valipu noi.*	CK	MK	K	L&GD	VV-Viva	F&S		-	LH

CO6	Describe the clinical features, management, and treatment *of kakkai valippu.*	CC	MK	K	L&GD	VV-Viva	F&S		-	NLHT14.12
CO6, CO7	Access the siddha psychiatric case sheet format-demographic details, patient history, Siddha diagnostics tools, investigations, treatment, and management.	PSY-GUD	MK	SH	CBL,L&GD,D-BED	P-EXAM	F&S		-	NLHP14.1
CO6, CO7	Examine psychiatric patients using the Siddha psychiatric case format, which includes complaints and duration, history of present illness (HOPI), past illness, general examination, and vital signs.	PSY-GUD	MK	SH	D-BED, CBL,L&GD	P-EXAM	F&S		-	NLHP14.2
CO6, CO7	Conduct the mental status examination and siddha psychiatric assessment for the depression ***(****Manathalarchi*) case.	PSY-GUD	MK	SH	CBL,D-BED,L_VC	P-EXAM	F&S		-	NLHP14.3
CO6, CO7	Formulate the proper line of treatment for the post-traumatic stress disorder patient	PSY-GUD	DK	SH	L_VC,CBL,D-BED	P-EXAM	F&S		-	NLHP14.4
CO6, CO7	Examine post-traumatic stress disorder patients through mental status examination along with siddha examination.	PSY-GUD	MK	SH	D-BED, L_VC	P-EXAM	F&S		-	NLHP14.5
CO6, CO7	Conduct a thorough clinical examination of patients diagnosed with obsessive-compulsive disorder (OCD), focusing on their complaints, duration of symptoms, history of present illness (HOPI), past medical history, findings from the general examination, and vital signs.	PSY-GUD	MK	SH	D-BED, CBL	CBA,P-EXAM,Log book	F&S		-	NLHP14.6
CO6, CO7	Perform a comprehensive mental status examination (MSE) and Siddha psychiatric evaluation to assess patients diagnosed with Obsessive-Compulsive disorder (OCD).	PSY-GUD	MK	SH	L_VC,D-BED,CBL	P-EXAM	F&S		-	NLHP14.7
CO6	Formulate the appropriate treatment plan for a patient with depression *(Manathalarchi).*	CS	MK	SH	D-BED, CBL	P-EXAM,Log	F&S		-	NLHP14.8

						book				
CO6, CO7	Observe and identify the demographic details of the patient with depression.	CAN	MK	SH	L_VC,CBL,D-BED	CBA,P-EXAM	F&S		-	NLHP14.9
CO6, CO7	Examine a patient with anxiety using a mental status examination along with a Siddha assessment.	CAN	MK	SH	D-BED, L_VC,CBL	CBA,P-EXAM	F&S		-	NLHP14.10
CO6, CO7	Examine a patient with anxiety disorder including documentation of complaints and duration, history of the present illness, past medical history, general examination, and vital signs.	PSY-GUD	NK	SH	CBL,L_VC,D-BED	P-EXAM	F		-	NLHP14.11
CO6	Conduct the mental status examination and siddha psychiatric assessment for the adult personality disorder case.	PSY-GUD	MK	SH	L_VC,D-BED,CBL	P-EXAM	F&S		-	NLHP14.12
CO6	Observe and identify the demographic details and proper line of treatment of the adult personality disorder case.	PSY-GUD	MK	SH	CBL,L_VC,D-BED	P-EXAM	F&S		-	NLHP14.13
CO6	Invited seminar talks on psychology counselling	AFT-REC	DK	SH	DIS,L_VC,SY	P-EXAM	F		-	NLHP14.14
CO6	Field visits to government / Private psychiatric hospital	PSY-GUD	MK	SH	TBL,CBL	OSCE	F&S		-	NLHP14.15
CO6, CO7	Conduct a mental status examination and a siddha psychiatric assessment for patients with phobias.	PSY-GUD	MK	SH	D-BED, CBL	Log book,P-EXAM,CBA	F&S		-	NLHP14.16
CO6, CO7	Observe and identify the demographic details and the line of treatment in the case of a phobia patient.	PSY-GUD	MK	SH	D-BED, CBL	CBA,P-EXAM	F&S		-	NLHP14.17

CO6, CO7	Optimized management and Siddha treatment protocol for anxiety disorders	CS	NK	SH	D-BED, CBL	P-EXAM,Log book	F		-	NLHP14.18
CO6, CO7	Examine a case history and conduct a mental status evaluation for psychiatric disorders ▪ Consciousness ▪ Orientation to Time, Place, and Person ▪ Intelligence ▪ Memory ▪ Emotional Disturbance of Speech ▪ Handedness ▪ Mini-Mental Scale Examination ▪ General Appearance And Behaviour ▪ General Appearance ▪ Attitude Towards Examiner ▪ Comprehension ▪ Gait And Posture ▪ Social manner ▪ Rapport ▪ Speech-Rate /Quantity ▪ Volume/Tone ▪ Mood And Affect-Euphoria-Interest/Excitement ▪ Thought-Streamabel/Form Content ▪ Anhedonia ▪ Perception ▪ Cognition ▪ Consciousness ▪ Orientation ▪ Attention ▪ Concentration	CAP	DK	KH	D-BED	Log book,P-CASE	F&S		-	NLHT14.13

	▪ Memory ▪ Intelligence ▪ Abstract Thinking ▪ Insight ▪ Judgment										

Non Lecture Hour Theory

S.No	Name of Activity	Description of Theory Activity
NLHT 14.1	Demonstrate the Psychiatric examination	The teacher will demonstrate a clinical examination at the bedside to elicit identification data, chief complaints, history of present illness, history, treatment history, family history, premorbid personality, and physical examination findings. Method: Interview schedule for case history taking, Tool for case taking - pen, paper, tape recorder. Procedure: Identify a patient from the desired age group. Take a detailed case history by using the given tools, Remember that the patient has to be accompanied by another person who would be an informant for you and help in answering your questions. Findings: state the information obtained through the interview with the subject and the other informant(s) as well as that obtained through the observations. Use the format of the tools for the purpose. Analysis and Discussion: Write down the inference and analysis of the observations that have been made about the individual. Conclusion Record the above inferences that have been drawn based on this practical activity. Broadly, need to focus on the findings and the interpretations of the same. **Case-History taking** History-taking analysis of the following data should be asked- identification data, chief complaints, history of present illness, perpetuating or relieving factor, history, treatment history-present, and previous fracture, family history, personal history, childhood behavior during childhood, occupational history, puberty, menstrual /Obstetric, pre-natal history, natal history, milestones, social and marital status. premorbid personality, physical examination.

		This examination can provide valuable insights into a patient's mental state and help guide diagnosis and treatment. Students should submit a report summarizing their case analysis, using evidence-based practices to support their conclusions. **Log Book and Documentation** Highlight the importance of maintaining a logbook. Recording patient details and documenting parameters and outcomes.For Tracking progress and research purposes. Students will perform each step of the examination by taking case histories and will maintain a proper logbook for future documentation.
NLHT 14.2	Overview of the different types of schizophrenia and their treatment methods.	The teacher will provide a detailed overview of the different types of schizophrenia through a lecture with a PowerPoint presentation. **A.Class Presentation Components:** Introduction: Define Schizophrenia and emphasize its clinical importance. Body of the content: Positive symptoms, negative symptoms.Disorganized symptoms Types of Schizophrenia- overview of the different types of schizophrenia, including Paranoid Schizophrenia, Hebephrenic (Disorganized) Schizophrenia, Catatonic Schizophrenia, Undifferentiated Schizophrenia, and Residual Schizophrenia. Conclusion Summarize the key points about Schizophrenia and its Siddha comparison. Reflect on the importance of Siddha's diagnostic findings in psychiatric conditions. Emphasize the importance of early diagnosis and treatment to prevent chronicity. References:Journals or research studies related to Schizophrenia. **B.Theory:** open-book exams assess students' ability to analyze, evaluate, or synthesize knowledge about the clinical importance of schizophrenia, focusing on preparation methods, dosage, and uses of Siddha medicine. 1.Understand Exam Expectations: Identify plants and raw drugs used in preparing Psychiatry Medicines. 2.Review Topic Objectives: Explain preparation methods and highlight ingredient identification and sourcing. 3.Prepare Study Notes: Focus on formulations like Internal and External medicines

		4.Build a System: Understand their medicinal properties and their role in enhancing therapeutic efficacy. Students are trained to interpret the question-and-answer format for schizophrenia. Also, they are instructed to prepare and deliver class presentations and to prepare for an open-book theory test.
NLHT 14.3	Management strategies for Schizophrenia.	The teacher will provide a detailed overview of the management of schizophrenia through a lecture with a powerpoint presentation. **Class presentation components:** 1.Introduction: Define schizophrenia and its clinical features 2.Body of the content: Cognitive behavioral therapy (CBT) Supportive therapy Family therapy Community support services- 3.Conclusion: Early detection and intervention can improve outcomes and reduce the impact of symptoms. With professional and community support, many people can manage symptoms and regain stability. Therapyand psychosocial support can help people learn social skills, cope with stress, and identify early warning signs of relapse. Students are trained to interpret the question-and-answer format for the management of schizophrenia. Also, they are instructed to prepare and deliver class presentations.
NLHT 14.4	Treatment for adult personality disorders	The teacher will explain the Treatment for adult personality disorders by lecture with group discussion I-Class Presentation **A.Introduction**-Definition and Context **B.Main Points:** Types-Cluster A / Cluster B / Cluster C Management Treatment for adult personality disorders typically involves a combination of psychotherapy,

		medication (In some cases), and lifestyle changes. 1. Psychotherapy (Talk Therapy)-The primary treatment for personality disorders is psychotherapy Cognitive Behavioral Therapy (CBT), Dialectical Behavior Therapy (DBT, Schema Therapy Mentalization-Based Therapy (MBT)Transference-Focused Therapy (TFP), Group Therapy 2. Medication (If Needed)- modern-Antidepressants, Mood Stabilizers 3. Lifestyle and Self-Help Strategies Regular sleep, diet, and exercise. Meditation, deep breathing, and relaxation exercises. Setting boundaries and improving communication. Reducing impulsivity and emotional instability. Peer support can be beneficial. 4. Hospitalization or Intensive Programs **C.Conclusion**- Consider which personality disorder the person has, choose strategies accordingly to communicate, set consistent limits, maintain the usual management style, and schedule regular follow-up visits. Students are trained to interpret the question answer for adult personality disorders. Also, instruct them to take class presentations.
NLHT 14.5	Treatment for *Paithiyam* Diseases	The teacher will explain the treatment for *Paithiyam* disease through a lecture with a group discussion. **Class Presentation topic:** **I.Classical Texts**: *Siddha* Treatment Approaches The 18 types of *Paithiyam* diseases are mainly treated through: External Therapies – *Kulineer, Thalam, Poochu, Kudineer* Internal Medicines – *Pitaviyal, Nei, Girtham, Legium, Thylam, Kulambu* **II. Modern Treatment Approaches** Cognitive Behavioral Therapy (CBT) – Focuses on changing negative thought patterns and behaviors. Dialectical Behavior Therapy (DBT) – Combines CBT with mindfulness; often used for borderline personality disorder. Psychodynamic Therapy – Explores unconscious processes and past experiences that influence current behavior. Humanistic Therapy – Emphasizes personal growth and self-actualization, focusing on self-healing. **III. Lifestyle Modifications**

		Diet and Nutrition – Promotes a balanced diet to support overall mental health. Exercise – Incorporates regular physical activity to improve mood and reduce anxiety. Sleep Hygiene – Establishes healthy sleep patterns to enhance mental well-being. Mindfulness and Relaxation Techniques – Practices such as meditation, yoga, or deep breathing to reduce stress. Students will be trained to interpret and question answers related to the treatment of *Paithiyam* diseases.
NLHT 14.6	Clinical features of *kirigai (Kirigaikalin Gunankal)*	The teacher will explain the interpretation of psychiatric diseases—*kiriga*i—discussing their types and clinical features using lectures with powerpoint presentations and role-play methods. **A.Role-play methods for *kirigai* conditions** Patient-clinician simulation Example: One person acts as a patient with *jala kirigai*, displaying hallucinations and delusions, while another student performs a psychiatric interview. Case-based role-playing Example: A session on *peipidi*, where one person plays an annoying patient and another plays a family member struggling to manage their behavior. Emergency psychiatry role-play – *bootha kirigai* Example: Managing a violent or agitated patient in an emergency department. Ethical dilemma scenarios Example: A person plays a psychiatrist deciding whether to admit a suicidal patient against their will. **B.Class presentation** I.*Kirigai types* Types of *kirigai*: Dscussion on the 18 types of *kirigai.* Clinical features: A. Major symptoms b. Minor symptoms Ii. Classification of *kirigai* based on the three humors Conclusion: Students will learn the clinical features of different types of *kirigai* and develop the ability to differentiate between various psychiatric disorders, incorporating this knowledge into clinical practice.

		Students will be trained to interpret and answer questions related to the treatment of kirigai noi and prepare for class presentations.
NLHT 14.7	Common treatments for *Kirigai*, including 18 *Kirigaikku Kulambu* and *Muzhukku thylam.*	The teacher will explain the common treatments for *Kirigai*, including 18 *Kirigaikkum Kulambu* and *Muzhukku thylam*, through lectures and group discussions. **A.Class Presentation Components** Introduction: Define *Kirigai* and its significance in Siddha psychiatric treatment. Provide an overview of *Kirigai*, comparing it with modern psychiatric approaches. Body of the Content: Explanation of common treatment modalities for *Kirigai*. *Kirigai* 18 types – *Kulambu* preparation and *muzhukku thylam* preparation, Ingredients needed. Route of administration (Oral / External). Mechanism of action of the medicine (Comparison) Benefits of therapies (*Thuvalai, kudori Maruthuvam, thalam,* fumigation, nasal, ophthalmic, mandiram (Psychotherapy). Conclusion: Summarize the key points about *Kirigai* and its clinical importance. Emphasize the holistic approach and the benefits of proper external therapy treatments. References: Cite books, journals, or research studies related to modern psychiatry and its therapies. Students will be trained to interpret and answer questions about the treatment of *Kirigai Noi.* Additionally, they will be instructed to prepare and deliver class presentations.
NLHT 14.8	Treatment for *Unmatha Noi* (Psychosis)	The teacher will explain the treatment for *unmatha noi* (Psychosis) by lecture with a powerpoint presentation. Treatment methodology for *unmaatham* (Psychosis), **I.Pathophysiology of *unmaatham* -** Discuss how the increase in *azhal* affects *udalthaathukkal*, leading to abnormal mental behavior.

		II.treatment methodology A.Psychotherapy for *unmatha noi*-discuss the role of psychotherapy in managing *unmatha noi* (Mental disorder). B.Internal medicine A.Explain the use of internal medicines to normalize deranged humor B.Mothers milk / *Sengarumbinchaaru* - Administration of mother's milk or *sengarumbinchaaru* twice a day for 5-7 days as a treatment approach. C.decoction preparation-discuss the preparation and therapeutic use of decoction in *unmatham noi* D.Mineral preparations-explore the role of mineral preparations in the treatment of *unmaatham.* E.External medicine bath/nasiyam-detail the therapeutic benefits of the oil bath, nasiyam in managing symptoms. Students are trained to interpret the question answer for *unmaatham* (Psychosis)
NLHT 14.9	Treatment of *mathathiyam.*	The teacher will explain the treatment for *mathathiyam* through a lecture with a powerpoint presentation, covering premonitory symptoms, types, clinical features, treatment, and incurable symptoms of *mathathiyam*. Debates on *mathathiyam* topics may help students improve their knowledge and promote problem-solving and innovative thinking. Instructions: 1.The teacher / educator writes the debate topic – *Mathathiyam* on the board. 2.Divides the students randomly into two groups, one agreeing with the statement on the board, and the other group disagreeing with it. 3.The groups are given 10 minutes for quick discussion 4.The arguments should be offered consecutively by the opposite side. The teacher should monitor that the arguments are not being repeated and that there is engagement – that the students are responding to each other's. Content- Define the term *mathathiyam*, premonitory symptoms of *mathathiyam noi.*, tabulate the types of *mathathiyam*, state the incurable symptoms of *mathathiyam*, discuss the *maruthuvam* for *mathathiyam noi* Psychotherapy and treatment modalities

		I.Psychotherapy- Discuss the role and methods of psychotherapy in managing mental health disorders. **Ii. Medication** Internal medicine -Discuss the role of internal medicines in managing the psychiatric condition External medicine(*thuvalai)*-Explore the application of external medicines for mental health treatment. **Iii. Psychoeducation**-Provide education on mental health disorders for individuals and families to improve understanding and reduce stigma.
NLHT 14.10	*Maruthuvam for Mayakkam.*	The teacher will explain the treatment for *mayakkam* through a lecture. Class presentation contents- **1. Introduction:** Define *mayakkam* and its significance in siddha psychiatric treatment. **2. Body of the content** – Psychotherapy and treatment modalities Discuss the role and methods of psychotherapy in managing *mayakkam noi.* Discuss the role of internal medicines in managing psychiatric condition-*siddha* and modern approaches. First and foremost, syncope symptoms are treated to address the unconscious condition. This is followed by purgation and induced vomiting. Internal medicines such as *vilwaathi lehyam* and *vallarai nei* are administered. In cases of cardiac failure, medicines prepared from *pachai karpooram* and *kumkumapoo* are prescribed. Detoxifying medicines are prescribed as needed. *Nasiyam* techniques involve juice soaked with *thirikadugu, thiripala, poondu, pungam paruppu, and ettipazha sathai.* *Aakiraana nasiyam* is made from animal bile. *Kalikkam* and *pugai* are made from the feathers of *kottaan* or *valiyaan.* *Aalakaala vida thylam* is used for *mayakkam* treatment. **3. Conclusion:** Summarize the key points about *mayakkam* and its clinical importance. Emphasize the holistic approach and the benefits of proper external therapy for patients. Students will be trained to interpret and answer questions related to *mayakkam* additionally, they will be instructed to prepare and deliver class presentations.

NLHT 14.11	*Maruthuvam* for *Valippu Noi*	The teacher will explain the treatment for *maruthuvam* for *valippu noi* by lecture with a powerpoint presentation. Medications and lifestyle adjustments in *valippu noi* **I. Medications for mental health disorders** *Seeragapuga*i - Evaluate the therapeutic properties of fumigation *Agasthiyar kuzhambu pugai* - Administration method (3-5 paddy size). Purgatives-Role in managing mental health conditions. Other preparations *Parpam, chendooram, mezhugu, kuzhambu, ennai* Therapeutic effects and preparation methods. **Ii. External medicine and external application in mental health treatment.** **Iii. Lifestyle adjustments** Avoiding triggers (*valippu)*-Strategies to avoid triggers (lack of sleep, stress, specific substances). Maintaining a regular -Important consistent daily routine for mental well-being. Students are trained to interpret the question answer for *valippu noi*
NLHT 14.12	Management of *Kakai valippu*	The teacher will explain the Management and treatment of *Kakkai Valippu Noi* by lecture with Group discussion. **VIVA -** 1.Define the term *Kakai Valippu* 2.Illustrate the types of *Kakkai Valippu* *Valippu* (Seizures) *Arivukaedu* (Orientation problems) *Gunakaedu* (Character changes) *Aalumai maarupaadu* (Personal changes) 3.Describe the Post mortem finding in *Kakai Valippu* patient 4.Management of *kakkai valippu* 5.Explain treatment modalities for *kakkai* Syncope is treated first with purgation or peechu therapy to eliminate toxins. If there are orientation problems, a soporific drug is

		administered. A nervine tonic should be given to support the nervous system. Medicines containing *sringi* and *pachaikarpooram* are prescribed in cases of cardiac failure. *Brahmi nei* is given at a dosage of 8–15 ml. *Vallarai* is contraindicated in the treatment of epilepsy. Students are trained to interpret the question answer for *kakai valippu*
NLHT 14.13	History taking and mental status examination in the psychiatric disorders.	The teacher will demonstrate the history taking and mental status examination for psychiatric disorders. Method: Interview schedule for case history taking, tool for mental health status examination, pen, paper, tape recorder. **Procedure**: Identify a patient from the desired age group. Take a detailed case history and mental status examination (MSE) by using the given tools. Remember that the patient has to be accompanied by another person to help in answering the questions. Conclusion-record the above inferences that have been drawn based on this practical activity. **Tool -1 case-history -Mental status examination components** consciousness: Assess the level of awareness and alertness. Is the patient fully conscious, drowsy, or in a coma? Orientation to time, place, and person: Evaluate the patient's awareness of their current situation. Can they correctly identify the date, their location, and their identity? 1. Intelligence (practical application): Observe how the patient applies their intelligence in everyday tasks. Are they able to solve problems or handle daily activities appropriately? 2. Memory: Assess immediate, short-term, and long-term memory through tasks like recalling words or personal history. 3. Emotional disturbance of speech: Note any abnormalities in speech that may reflect emotional distress, such as tone or rhythm changes. 4. Handedness: Determine the patient's dominant hand, which can provide insight into neurological functioning. 5. Mini-mental state examination (MMSE): A brief screening tool to assess cognitive function, including orientation, attention, and memory. 6. General appearance and behavior:

A. General appearance: Note grooming, hygiene, attire, and overall presentation.
B. Attitude towards examiner: Observe the patient's engagement, cooperation, and receptiveness during the examination.
7. Comprehension: Evaluate the patient's understanding of instructions or questions.
8. Gait and posture: Assess physical movement and posture, which can reflect neurological or psychiatric conditions.
9. Social manner: Observe social interactions and appropriateness in communication.
10. Rapport: Gauge the connection and comfort level between the patient and examiner.
11. Speech:
A. Rate / Quantity: Observe how fast and how much the patient speaks.
B. Volume / Tone: Note the loudness and emotional quality of the speech.
12. Mood and affect:
A. Euphoria: Look for signs of elevated mood.
B. Interest / Excitement: Assess the patient's engagement in activities.
13. Thought:
Stream / Flow: Evaluate the organization and coherence of thoughts.
Form/ content: Analyze the content of thoughts for any delusions or obsessions.
14. Anhedonia: Assess the patient's ability to experience pleasure in activities they previously enjoyed.
15. Perception: Evaluate for any perceptual disturbances, such as hallucinations.
16. Cognition:
Consciousness: Confirm the state of alertness.
Orientation: Review orientation status again for consistency.
Attention: Assess the ability to focus on tasks.
Concentration: Evaluate sustained mental effort
memory: Confirm findings related to memory previously noted.
17.Intelligence: Further assess reasoning and problem-solving capabilities.
18. Abstract thinking: Test the ability to understand concepts beyond the concrete, such as interpreting proverbs.
19. Insight: Evaluate the patient’s awareness of their condition and its implications.
20. Judgment: Assess decision-making abilities and foresight regarding potential consequences of actions.
This examination can provide valuable insights into a patient's mental state and help guide diagnosis

		and treatment. Log book and documentation Highlight the importance of maintaining a logbook: Recording patient details. Documenting parameters and outcomes. For tracking progress and research purposes.
Non Lecture Hour Practical		
S.No	**Name of Practical**	**Description of Practical Activity**
NLHP 14.1	Siddha psychiatric case format-	Case-based learning – in groups, review the case details, determine the appropriate examination methods (demographic details, clinical examination, mental status examination, and *siddha* examination), and discuss the diagnosis and potential treatment options. **1.Demographic details-15 min** Name Age Gender Occupation Address Marital status Socioeconomic status Religion and culture **2.Patient history and clinical examination-** Chief complaints and duration History of present illness (HOPI) Past illness Family history Personal history General examination with vital signs Temperature Pulse

		Blood pressure Respiratory rate-other observations (Skin, pallor, etc.) **3.Mental status examination (MSE)- 20 min** Consciousness, orientation to time, place and person, intelligence, memory, emotional disturbance of speech, handedness Mini-mental scale examination- General appearance and behaviour-general appearance, attitude towards the examiner, comprehension, gait, posture, social manner, rapport, speech / Quantity, volume / One, mood, and affect-euphoria-interest / Excitement Thought stream form content, anhedonia, perception, cognition, consciousness, orientation, attention, concentration, memory, intelligence, abstract, thinking, insight, judgement. **4.*Siddha* examination-15 min** *Imporigal* *Kanmendriyam* *Uyirthathukkal:Vatham-azhal-iyyam* *Udal thathukkal* *Envagai thervu-naadi, sparisam,naa,niram,mozhi,vizhi,malam ,moothiram* *Neikuri-kabha neer /pitha neer /vatha neer* Environmental and seasonal influence: Assess any external factors influencing the patient's health. **5.Diagnosis -10 min** Combine findings from the clinical, mse, and *siddha* examinations. State the probable siddha diagnosis. **6.Line of *siddha* treatment-** Internal medicine: Specify *siddha* formulations (e.g., *chooranam, kudineer*). External medicine:Example: *Thailam* Dietary advice: Suggested foods and restrictions. **7.Therapy-** External therapy: *Thokkanam* (physical manipulation), *nasiyam*(nasal instillation), *thuvaalai, poochu*. *Karpam*: Use of rejuvenative herbs or formulations. *Yogam* and *pranayamam*: Specific *asanas* and breathing techniques suitable for the condition. Students watch the demonstration and apply it to the practical examination. The total duration of the activity is 1 hour.

NLHP 14.2	Siddha Psychiatric Case Format-Initial assessment	The teacher will demonstrate an understanding of case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, and *siddha* examination), and discuss the findings. **1.Initial assessment (15 minutes)** Name, age, gender, marital status, occupation, address, and date of consultation. **2.History of present illness (HOPI) (20 minutes)** Onset: When and how did the symptoms start? Duration: How long have the symptoms persisted? Progression: Improving, worsening, or fluctuating? Associated symptoms: Mood changes, sleep issues, appetite, and concentration. Precipitating factors: Stressful events, trauma, or changes in life circumstances. Aggravating or relieving factors: Lifestyle habits or environmental triggers. **3.Past illness and family history (15 minutes)** Review the history of medical or psychiatric conditions. Document family history of mental health or chronic illnesses. **4.General examination (25 minutes)** Appearance: Hygiene, posture, and body language. Behavior: Cooperative, restless, agitated, or withdrawn. Mood and affect: E.g., depressed, anxious, irritable. Speech: Clarity, tone, and pace. Thought process: Logical, coherent, or signs of disorganized thinking. Mukkutram assessment:*Vali*: Nervous function, dryness, joint pain.*azhal*: Heat-related signs, anger, digestion.*iyyam*: Lethargy, mucus, or excess sleep. **5.Vital signs (15 minutes)** Temperature, pulse rate, respiratory rate, blood pressure, weight, height (Cm) and calculate bmi **6.Psychological and mental status examination (MSE) (25 minutes)** Orientation: Awareness of time, place, and person. Memory: Assess short-term, long-term, and immediate recall. Attention / Concentration: Ability to focus on tasks. Insight: Awareness and understanding of the condition. Judgment: Ability to make sound decisions. **7.Summary and preliminary diagnosis (5 minutes)**

		Chief complaints and findings from hopi and examination. Formulate a preliminary diagnosis based on *siddha* and modern psychiatric principles. Students watched the demonstration and applied for the practical examination. The total duration of the activity is 2 hours.
NLHP 14.3	Mental status examination and siddha psychiatric assessment for the depression ***(****Manathalarchi***)** case	The teacher will demonstrate an understanding of case-based learning by lecture with video clips. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, and *siddha* examination), and discuss the findings. **1.Mental status examination (MSE)** Well-groomed or neglected? Posture: Slumped or erect? Facial expression: Sadness, tearfulness, or lack of expression? Speech -rate: Slow, normal, or pressured? Volume: Soft, normal, or loud? Tone: Monotonous, hesitant, or expressive? Mood and affect Thought process-coherence, content, suicidal ideation, delusions Perception-hallucinations,illusions Cognition-orientation, attention and concentration, memory Insight- awareness of their depressive state and understanding its impact. Judgment-ability to make decisions about daily activities, relationships, and treatment adherence. Environmental and seasonal influence: Assess any external factors influencing the patient's health **2.*Siddha* psychiatric examination -30 min** *Imporigal* *Kanmendriyam* *Uyirthathukkal: Vatham/pitham/kabam* *Udal thathukkal* *Mukkutram* assessment *Naadi* (Pulse) diagnosis *Envagai thervugal* (Eight diagnostic tools) *Naadi* (Pulse): Determine mukkutram imbalance. *Sparisam* (Touch): Assess skin texture, temperature, and moisture.

		Naa (Tongue): Observe coating or discoloration. *Niram* (Color): Skin tone changes (E.g., pale in depression). *Mozhi* (Speech): Fast and incoherent speech indicates vatha imbalance; slow or slurred speech indicates *kapha* dominance; rapid speech suggests *pitha* imbalance. *Vizhi* (Eyes): Dull, sunken, or lack of luster. *Malam* (Stool): Constipation or irregularity (*vatham*). *Moothiram* (Urine): Analyze for color, smell, and sedimentation to identify *thoda* disturbances. Case summary for depression A.Mental status examination: Sad mood, hopeless thoughts, psychomotor retardation, or suicidal ideation.cognitive deficits in concentration and memory. B.*Siddha* findings Students obseved the demonstration and applied for the practical examination. The total duration of the activity is 1 hour.
NLHP 14.4	Line of treatment for the patient in Post-traumatic stress disorder.	The teacher will demonstrate an understanding of case-based learning through a lecture with video clips in groups, students will review the case details, determine the appropriate examination methods (Demographic information, clinical examination, mental status examination, and Siddha examination), and discuss the findings. **1. Initial assessment(10 min)**-Conduct a detailed medical, psychological, and social history. Assess trauma exposure, symptom severity, comorbid conditions (E.g., depression, anxiety, substance use disorders), and functioning. **2. Psychoeducation(5 min)**--Educate the patient about PTSD, including its symptoms, triggers, and treatment options. Normalize the experience of symptoms as part of the body's response to trauma. Discuss the importance of treatment adherence and coping strategies. **3. Psychotherapy(5 min)**--Supportive therapies -stress inoculation training (SIT): Teaches coping and relaxation techniques.dialectical behavior therapy (DBT): Beneficial for patients with emotional dysregulation or comorbid personality disorders. **4. Medications(10 min)**--medicated herbs- creates calming and mind-soothening effect. Siddha formulation- internal / External medicine **5. External therapies(10 min)**--*thokkanam* (Oil massage).

		6. Yoga and meditation(10 min)--*asanas* (Postures): Forward bends, *balasanam* (Child's pose), and *shavasanam* (Corpse pose) to relax the body. *Pranayama* (Breathing techniques):(Alternate nostril breathing): Balances the mind and body.*bhramari* (Humming bee breath): Reduces anxiety and induces relaxation. Meditation: Practice mantra chanting or guided visualization using affirmations like *"Om namah shivayam"* To restore mental peace. **7. Dietary regulations(5 min)**--Warm, nourishing, and easily digestible foods. **8. Regular monitoring(5 min)**--Evaluate the patient's mental and physical health periodically. Students observed the demonstration applied for the practical examination The total duration of the activity is 1 hour.
NLHP 14.5	Examination of the post-traumatic stress disorder	The teacher will demonstrate an understanding of case-based learning through a lecture with video clips in groups; students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, and Siddha examination), and discuss the findings. **1. Prepare the patient for clinical examination (10 minutes)** Explain the process: Describe the steps of the examination (history taking, physical assessment, MES, and Siddha evaluation). **2. Analyse history, complaints, and vitals (20 minutes)** Chief complaints: Record primary symptoms: Flashbacks, nightmares, avoidance, hypervigilance, mood swings, or physical complaints like headaches or fatigue. Ask about triggers and situations that exacerbate symptoms. Onset and duration: Identify when symptoms began and their relation to a traumatic event. Explore the duration and whether symptoms have worsened or stabilized. Psychosocial history: Assess the impact of trauma on work, relationships, and daily functioning. Investigate prior history of mental illness or substance use. Medical history: Note past medical conditions and treatments, if any, and record any current medications or therapies. Measure vitals-heart rate, pulse rate, blood pressure, temperature **3. Mental status examination (MSE) (20 minutes)** Appearance and behavior: Observe posture, grooming, and restlessness (Hyper-vigilance). Look for

		signs of avoidance or withdrawal. Speech: Note tone, pace, and fluency. Hesitation or emotional pauses may indicate distress. Mood and affect: Record emotional state (Anxiety, irritability, or numbness). Thought process: Look for preoccupation with trauma or disorganized thinking. Perception: Assess for hallucinations, flashbacks, or dissociative episodes. Cognition: Evaluate memory, attention, and concentration. Note any confusion or difficulty focusing. Insight and judgment: determine awareness of the condition and its impact. **4. Siddha examination (20 minutes)** *Imporigal* *Kanmendriyam* *Uyirthathukkal: Vatham/Pitham/Kabam* *Udal Thathukkal* *Envagai thervu-naadi ,sparisam,naa,niram,mozhi,vizhi,malam,moothiram* . *Neikuri-kabha neer /pitha neer /vatha neer* *Naadi*-(pulse diagnosis): check for *vatham* imbalance (linked to anxiety and restlessness). Assess *pitham* (irritability or anger) and *kabam* (emotional detachment or numbness). Observation: Observe the patient's facial expressions, posture, and demeanor. Look for signs of stress, fatigue, or tension. Palpation: Assess for physical tension or tenderness, particularly in the head, neck, and shoulders. Lifestyle and environment analysis: Evaluate daily routines, sleep patterns, and dietary habits. Note any environmental or relational stressors. **5. Diagnosis (20 minutes)**-History and MSE findings: Likely indicate ptsd based on symptoms like flashbacks, avoidance, hypervigilance, and mood changes. **6. Siddha treatment plan (30 minutes)-** Internal treatments/external treatments-*Thokkanam* (Physical manipulation)-Apply gentle pressure to specific points to release tension. Meditation and *pranayama*: Encourage deep breathing exercises and guided meditation for emotional stability. Dietary advice Students observed the demonstration and applied for the practical examination. The total duration of the activity is 2 hours.

NLHP 14.6	Examination of obsessive-compulsive disorder (OCD)	Case-based learning – in groups, review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, and siddha examination) by demonstrating at the bedside, and discuss the diagnosis. **1. History taking (25 minutes)** **Chief complaints**-Recurrent, intrusive thoughts (Obsessions).repetitive behaviors or rituals (Compulsions).duration, frequency, and impact of symptoms on daily life. **History of present illness (HOPI)** Duration: When symptoms first started. Onset: Sudden or gradual. Nature of symptoms: Describe the obsessions (e.g., fear of contamination, harm), describe the compulsions (e.g., washing, checking, counting). Triggers: Situations or events that provoke obsessions or compulsions. Relief: Temporary or no relief after rituals. Functional impact: Effects on personal, social, occupational, or academic functioning. Insight: Awareness of the irrational or excessive nature of symptoms. **Past medical and psychiatric history** Previous diagnoses or treatments (E.g., psychiatric therapy, medications). Family history of OCD or other psychiatric illnesses. History of tics, anxiety, or depressive disorders. **Personal and social history** Birth and developmental milestones. Social relationships and family support. Occupation and stressors at work or school. History of substance use or abuse. Medication history-Current medications (including psychotropics). **2.General examination (5 minutes)** Appearance, behavior **3.vital signs (5 minutes)** Blood pressuré,heart rate,respiratory rate,temperature.pulse rate.look for signs of autonomic arousal (E.g., sweating, tremors), especially if anxiety is present. **4. Mental status examination (15 minutes)**

		Appearance and behavior-Evidence of ritualistic behaviors or visible distress. Speech-Normal or anxious tone, logical structure. Mood and affect-Anxious, tense, or distressed. Thought process-Obsessions: content, frequency, and intrusiveness of intrusive thoughts. Compulsions: Description of behaviors or rituals. Cognition-Attention, concentration, and memory (May be affected by anxiety). Insight and judgment-Level of insight into irrationality of symptoms, judgment in managing daily activities and responsibilities. **5. Structured diagnostic tools (Optional, 10 minutes)** Yale-brown obsessive-compulsive scale (Y-BOCS): Severity assessment. Students watch the demonstration apply it to the practical examination and maintain a logbook for future documentation. The total duration of the activity is 1 hour.
NLHP 14.7	Mental status examination (MSE) and Siddha psychiatric evaluation for Obsessive-Compulsive Disorder (OCD).	The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, and *Siddha* examination) by demonstrating at the bedside, and discuss the diagnosis. **1. Mental status examination (MSE) (30 minutes)** 1. Appearance and behavior-observation: assess grooming, hygiene, posture, and activity level. Are there repetitive movements or ritualistic behaviors? 2. Speech-quality: fluent or hesitant? Rate: normal, rapid, or slow?content: repetitive or intrusive speech patterns related to obsessions? 3. Mood and affect 4. Thought process and content 5. Perception-check for hallucinations or misinterpretations of stimuli. 6. Cognition-attention and concentration, memory, executive function 7. Insight and judgment 8. Risk assessment-assess for self-harm or suicidal ideation linked to distress over ocd symptoms. 9. Behavioral symptoms-ritualistic behaviors: record details of compulsive actions, their frequency, and trigger, mental agitation: levels of mental restlessness during the session.

		10. Emotional state-anxieties or fears: note if these dominate the patient's thoughts.dependency: reliance on rituals for emotional regulation. **2. *Siddha* psychiatric examination (30 minutes)** *Imporigal* *Kanmendriyam* *Uyirthathukkal: Vatham/pitham/kabam* *Udal thathukkal* *Envagai thervu- naadi, sparisam, naa, niram, mozhi, vizhi, malam, moothiram .* *Neikuri-kaba neer /pitha neer /vatha neer* Observation of *nad*i (pulse diagnosis)imbalance in *vatham*: Anxiety, restlessness, overthinking imbalance in *kabam*: rigidity, repetitive actions.imbalance in *Pitham*: Irritability and obsessive perfectionism. *Gunam-sattvam*: The patient's ability to remain calm and composed *rajo*: overactivity or restlessness linked to compulsions.*tamao*: lethargy or inability to resist compulsive behaviors. Diagnosis and classification-identify OCD as per *siddha* classifications of mental disorders. Students observed the demonstration and applied for the practical examination. The total duration of the activity is 1 hour.
NLHP 14.8	Treatment plan for depression (*Manathalarchi).*	The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate treatment plan for depression *(Manathalarchi)* by demonstrating at the bedside, and discuss the diagnosis. General principles of siddha treatment: Addressing the root cause and balancing the *mukkutram* **Internal medicines (Siddha formulations)(10 minutes)** "*Vamanathal pitham thazhum*"-To reduce *pitham* we need to induce vomiting and purgation by following medicines-*sanjeevi mathirai, venkakkirattan mathirai, agasthiyar kuzhambu, kowsigar kuzhambu, drakshadhy kudineer* *nei preparations:Thaneervittaan nei, vallarai nei, brahmi nei, chooranam-sadamaanjil chooranam, parpam: Peranda parpum, nandukkal parpam, legiyam:Amukkara legiyam* ***External therapies* (V*armam therapy*) (10 minutes)**: Activating specific *varmam* points (e.g., *thilartha kalam, adappa kalam)* to calm the mind and improve emotional balance. Sessions: 15–20 minutes daily or as required.

		Oil massage-medicated oils such as *arakku thailam, seeraga thailam, siru sandhanadhi thailam, thripala thailam* for relaxation and *vatha* pacification.frequency: 2–3 times per week. ***Yogam* (10 minutes)**--*savasanam* (Corpse pose) – for complete relaxation. *Vajrasanam* (Diamond pose) – improves digestion and calms the mind.*balasanam* (Child's pose) – for stress relief. *Pranayama* (Breathing exercises)(10 minutes) --alternate nostril breathing, *bhramari* (Bee breath), duration: 15–20 minutes daily. **Diet therapy (5 minutes**)--cold, stale, and heavy foods that aggravate *kabam and vatham* (e.g., refrigerated items, excess fried foods).excess spicy or oily foods that disturb *pitha*. **Meditation(*Dhyanam*) (10 minutes)**--Siddha-based spiritual practices focusing on inner peace. **Lifestyle modifications (5 minutes**)--Sleep hygiene, physical activity, stress management Students observed the demonstration and applied for the practical examination. The total duration of the activity is 1 hour.
NLHP 14.9	Collection of the demographic details and history taking of the patient with depression	The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination) by demonstrating at the bedside, and discuss the diagnosis. **1. Collection of demographic details (25 minutes)** Name: Full name of the patient. Age: Current age (To understand age-specific mental health trends). Gender: Male, female, or other (To assess gender-related influences). Occupation: Employment status, work environment, and job satisfaction. Marital status: Single, married, divorced, or widowed (To evaluate social support). Educational background: Level of education attained. Socioeconomic status: Income level, living conditions, and financial stability. Cultural / Religious background: To understand values or beliefs influencing mental health. **2. History taking related to depression (20 minutes)** Chief complaints: Ask about primary symptoms like sadness, hopelessness, or fatigue. Duration: How long have these symptoms persisted? Precipitating factors: Any recent life events (e.g., loss, trauma, or stress)? Lifestyle: Sleep patterns, appetite changes, and physical activity levels. Substance use: Alcohol, tobacco, or drug use that may contribute to symptoms.

		Support systems: Family, friends, or community networks are available for emotional support. **3. Observation (15 minutes)** Appearance: Hygiene, clothing, and posture.behavior: restlessness, tearfulness, or withdrawal.speech: tone, pace, and coherence. Mood: sadness, irritability, or emotional blunting. Students observed the demonstration and applied for the practical examination. The total duration of the activity is 1 hour.
NLHP 14.10	Mental status examination and siddha assessment for anxiety disorder.	The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, and siddha examination) by lecture with video clips, and discuss the diagnosis. **A.Mental status examination (MES)- 30 minutes** 1. Appearance and behavior -observe: Grooming, hygiene, posture, eye contact, and motor activity. Note signs of restlessness (E.g., fidgeting, pacing, nail-biting).behavior: Cooperative or guarded? 2. Speech -rate: Is speech rapid (Common in anxiety), volume: Loud or soft? Content: Look for expressions of worry, fear, or overthinking. 3. Mood and affect mood: Ask the patient how they feel (E.g., anxious, tense, overwhelmed).affect: Observe congruence with stated mood. Is it appropriate or restricted? 4. Thought process and content -thought process: Logical or scattered? Are there racing thoughts? Thought content: Identify fears, catastrophic thinking, or phobias. Assess for intrusive thoughts or disproportionate worry about daily activities. 5. Perception -Any signs of misinterpretation of normal stimuli or heightened sensitivity? Rule out hallucinations or derealization. 6. Cognition -Attention, memory, orientation 7. Insight and judgment -Insight: Does the patient understand the irrational nature of their fears?Judgment: Assess the ability to make logical decisions under stress. 8. Risk assessment about thoughts of self-harm, panic attacks, or avoidance behaviors. **B.siddha psychiatric examination (30 minutes)** *Imporigal* *Kanmendriyam* *Uyirthathukkal: Vatham/pitham/kabam* *Udal thathukkal*

		Envagai thervu-naadi ,sparisam,naa,niram,mozhi,vizhi,malam,moothiram *Neikuri-kabha neer /pitha neer /vatha neer* *Mukutrram*-vali: Commonly heightened in anxiety. Symptoms include nervousness, rapid breathing, and dryness, A*zha*l: This can contribute to irritability and frustration. *Iyyam*: May manifest as withdrawal or lack of energy. *Gunam-sattvam*: Evaluate the patient's resilience and coping mechanisms. *Rajo*: Predominant in anxiety, leading to hyperactivity and restlessness. *Tamao*: This may cause avoidance or denial of triggers.behavioral observation-identify triggers during the session. Discuss recent episodes of worry or panic. Observe body language, repetitive gestures, or avoidance patterns. Emotional assessment -Ask about fear, worry, or tension affecting daily activities. Check for signs of suppressed emotions or trauma. Students observe the demonstration and apply for the practical exam. The total duration of the activity is 1 hour.
NLHP 14.11	Examination of a patient with anxiety disorders	The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Such as demographic details and clinical examination), present their findings using video clips, and discuss the diagnosis. **1. Complaint and duration (10 minutes)**-Ask the patient to describe their main symptoms (e.g., excessive worry, restlessness, physical tension, or panic attacks). Record how long the symptoms have been present and their frequency / Intensity. **2. History of present illness (15 minutes)** when did the anxiety start? Was it sudden or gradual? Are the symptoms worsening, staying the same, or improving? Ask about specific triggers (e.g., stress at work, social situations, financial worries). Psychological: Excessive worry, difficulty concentrating, irritability. Physical: Palpitations, sweating, shortness of breath, muscle tension, headaches. **3. Past history (10 minutes)** Previous episodes of anxiety, history of physical illnesses, previous treatments, including medications, counseling, or alternative therapies. Family history-any family history of anxiety, depression, or other psychiatric conditions? Substance use-history of alcohol, caffeine, nicotine, or drug use that may influence anxiety symptoms.

		4. General examination (15 minutes) Assess grooming, hygiene, and posture. Note signs of restlessness or hypervigilance. Is the patient cooperative, guarded, or distracted? Observe any fidgeting or repetitive behaviors. Check for shallow or rapid breathing indicative of hyperventilation. **5. Vitals (10 minutes)** Pulse, blood pressure, respiratory rate, temperature, weight and BMI Students watched the demonstration and applied for the practical examination The total duration of the activity is 1 hour.
NLHP 14.12	Mental status examination and siddha psychiatric assessment for adult personality disorder	The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, and *Siddha* examination), lecture with video clips, and discuss the diagnosis. **Mental Status Examination (MES) - (60 minutes)** 1. Appearance and behavior (10 minutes) Grooming and hygiene: Neat, careless, or overly meticulous Posture: Rigid, relaxed, or tense Motor activity: Restlessness, hyperactivity, or lethargy. Cooperative or hostile?Presence of attention-seeking, manipulative, or dramatic behaviors. **2. Speech (5 minutes)** Rate: Pressured, slow, or normal Tone and volume: Dramatic, monotonous, or appropriate Content: Self-focused, vague, or tangential. **3. Mood and affect (10 minutes)** Mood: "How would you describe your mood today?" Affect: Congruent or incongruent with mood? Range: Restricted, flat, or exaggerated. **4. Thought process and content (15 minutes)** Thought process: Logical, disorganized, tangential, or circumstantial? Thought content-presence of paranoia, grandiosity, or unusual beliefs.

		5. Perception (5 minutes) Hallucinations or delusions: Rule out psychotic features. **6. Cognition (10 minutes)** Attention and concentration, memory, judgment, and executive function. **7. Insight and judgment (5 minutes)** Insight: Does the patient recognize how their behavior impacts themselves and others? Judgment: Ability to make sound decisions. ***Siddha* psychiatric assessment- (60 minutes)** 1. *Mukkutram* analysis (15 minutes) *vali imbalance*: Restlessness, impulsivity, or erratic behavior.*azhal* imbalance: Aggression, irritability, or perfectionism.*iyyam* imbalance: Rigidity, dependency, or withdrawal. 2. *Gunam* assessment (15 minutes)sattvam: Capacity for empathy, calmness, and understanding.rajo: Dominance of hyperactivity, ambition, or conflict-seeking.tamao: Traits like stubbornness, lack of insight, or avoidance. 3. *Nadi* (pulse) diagnosis (10 minutes) 4. Behavioral and emotional assessment (15 minutes) 5. *Siddha*-based personality classification (5 minutes) Students watched the demonstration and applied for the practical examination. The total duration of the activity is 2 hours.
NLHP 14.13	Line of treatment for adult personality disorder	The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, and treatment plan) by lecture with video clips, and discuss the diagnosis. **A. Observation and identification of demographic details-20 min** Name, age, gender, marital status, education level, occupation socioeconomic background-10 min Financial stability, living conditions, and, access to healthcare services. Lifestyle and habits-15 min- Substance use, diet and exercise Medical and psychiatric history-15 min

		Family history of mental illness or personality traits.previous psychiatric diagnoses or treatments. **B. Line of treatment** General approach to treatment -10 min Personality disorders are best managed through a combination of psychotherapy, pharmacotherapy, and lifestyle interventions. *Siddha* line of treatment-15 min Internal / external medicine- calm the mind and promote emotional balance. Diet and lifestyle changes:15 min *Yoga* and *meditation*: 10 min *Asanas* for grounding (E.g., *shavasanam, balasanam) and pranayamam* for calming mental agitation. Lifestyle modifications-10 min Students observe the demonstration and applied for the practical examination. The total duration of the activity is 2 hours.
NLHP 14.14	Invited seminar talks on psychology counselling	The teacher will arrange invited talks at the symposium by external faculty on topics related to psychological counselling and its benefits. The invited discussions will cover the following subjects and will include video clips. Additionally, students will be guided in developing their clinical skills. 1. Foundations and principles of counselling 2. Specialized techniques in counselling 3. Counseling for specific populations 4. Mental health awareness and stigma 5. Integrating technology and innovation in counseling 6. Trauma and crisis counseling 7. Holistic and alternative approaches in counselling Students watch the talks and apply for the practical examination. The total duration of the activity is 5 hours.
NLHP 14.15	Field visits to government / Private psychiatric hospitals	Team-based learning: Field visits to government and private psychiatric hospitals in groups, review the case details, interact with patients and healthcare professionals, determine the appropriate examination methods, participate in post-visit activities, and discuss the diagnosis.

		Hour 1: Pre-visit introduction & orientation (60 minutes) Introduction to the hospital (30 minutes), objectives of the visit (15 minutes), questions and expectations (15 minutes): **Hour 2: Facility tour walkthrough (60 minutes)** Inpatient wards, outpatient clinics, rehabilitation areas, observation areas for patients in acute crisis **Hour 3: Observation of patient care and therapeutic activities (60 minutes)**-Individual therapy observation (30 minutes), group therapy session (30 minutes). **Hour 4: Interaction with healthcare professionals and observing medication management (60minutes)** Professional staff interaction (30 minutes), medication management observation (30 minutes) **Hour 5: Post-visit reflection, Q&A session & wrap-up (60 minutes)**-Patient experience reflection (30 minutes), Q&A session with the professionals (20 minutes), wrap-up and takeaways Post-visit activities (Optional for follow-up)-Field visit report (After visit), discussion session The total duration of the activity is 5 hours.
NLHP 14.16	Mental status examination and Siddha psychiatric assessment for patients with phobias.	The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, and *Siddha* examination) by demonstrating at the bedside, and discuss the diagnosis. **1. Introduction and initial patient interaction-10 mins** **2. Mental status examination (MSE)-25 minutes** The mental status examination will focus on assessing the cognitive, emotional, and behavioral aspects of the patient's current state. A. Appearance and behavior (5 minutes): B. Mood and affect (5 minutes): C. Thought process and content (5 minutes): D. Perception (5 minutes): E. Insight and judgment (5 minutes): **3. *Siddha* psychiatric examination-15 minutes** a. Identification of *mukkutram* (10 minutes)

		b. Evaluation of *Siddha* treatments (5 minutes) Internal / External medicine, dietary changes, lifestyle modifications. **4. Conclusion and feedback-10 minutes** Sudents keep a notebook for future documentation and research needs, observe the demonstration, and apply for the practical exam. The total duration of the activity is 1 hour.
NLHP 14.17	Demographic details and the line of treatment in phobia condition	The teacher will conduct case-based learning. In groups, students will review the case details, determine the appropriate examination methods (Demographic details, clinical examination, mental status examination, *Siddha* examination, treatment plan) by demonstrating at the bedside, and discuss the diagnosis. **Introduction and demographic information gathering (0-15 minutes)** Personal information, medical history, family history, social environment, presenting problem. **Assessment of the phobia (15-30 minutes)** Specific phobia identification (10 minutes), functional impact of the phobia (5 minutes), physical and emotional symptoms (5 minutes) psychiatric and psychological history-30-45 minutes psychiatric history (10 minutes), coping mechanisms (5 minutes) **Line of treatment and recommendations-45-60 minutes** Cognitive behavioral therapy, exposure therapy, relaxation technique, medication Students observe the demonstration and apply for the practical exam. The total duration of the activity is 1 hour.
NLHP 14.18	Management protocol for anxiety disorders	The teacher will conduct case-based learning. In groups, students will review the case details and treatment plan by demonstrating at the bedside and discussing the diagnosis. **1. Personal information (10 minutes**)-Name, age, gender, marital status, occupation and education level, living arrangements **2. Socioeconomic and cultural context (15 minutes**)-Socioeconomic status: Cultural beliefs and practices, family dynamics **3. Medical history and presenting complaints (20 minutes)**

		presenting symptoms: Nature, location, and duration of physical complaints.impact on daily life and functional ability.history of medical evaluations showing no organic cause. Medical history: Past illnesses, surgeries, or treatments.history of frequent doctor visits for unexplained symptoms. Psychiatric history: Previous mental health diagnoses, if any.history of anxiety, depression, or trauma. **4. Psychosocial and emotional factors (15 minutes)** Identify stressors such as financial issues, family conflicts, or work pressure. Explore the possibility of secondary gains (E.g., attention, avoiding responsibilities). Identifying the line of treatment-duration: 1 hour **5. Psychological approaches (20 minutes)** Psychoeducation: Cognitive-behavioral therapy (CBT) Stress management techniques Behavioral activation **6.*Siddha* medicine approaches (20 minutes)** Internal / External medicine, external therapies, meditation, yogasanam **7. Lifestyle and dietary adjustments (10 minutes)** Dietary recommendations: Sleep hygiene **8. Social and family interventions (10 minutes)** Students observe the demonstration and apply for the practical exam. The total duration of the activity is 2 hours.

Table 4 : NLHT Activity

(*Refer table 3 of similar activity number)

Activity No*	CO No	Activity details
1.1	CO1,CO3	Procedures of *Thokkanam* (Physical manipulation)
1.2	CO1,CO3	Procedure for *Vedhu Maruthuvam* (Steam therapy)
1.3	CO1,CO3	Procedure for conducting *Pugai Maruthuvam* (Fumigation)
1.4	CO1,CO3	Procedure of *Kattu (C*ompresss)
1.5	CO1,CO3	The procedure of *Ottradam* therapy (Fomentation)
1.6	CO1,CO3	Procedure for performing *Podithimirthal - Podithuval* (Powder massage)
2.1	CO3	Procedure for *Murichal* (Bone resetting / Surgical correction of malunited fracture)
2.2	CO3	Procedures of *Kombu Kattal* (Bone setting by supporting / Splint / *Seeli kattumurai)*
2.3	CO3	Procedure for *Peechu* therapy
3.1	CO4,CO5	*Varmam therapy* for the management of *Saganavatham* (Cervical Spondylosis).
3.2	CO4,CO5	*Varmam* therapy for the management of *Thandagavatham* (Lumbar Spondylosis).
3.3	CO4,CO5	Varmam therapy for the management of *Arugu kai Narambu pinnal Seyalilzhappu* (Erb's palsy).
3.4	CO4,CO5	*Varmam* therapy for the management of *Patha Veezhchi* (Foot Drop).
3.5	CO4,CO5	*Varma* therapy for the management of *kuthiraival Vagai seyalilzhappu* (Cauda equina syndrome)
4.1	CO4	Room Specification of *varmam* application.

4.2	CO4	Measurements and manipulating techniques in *varmam* application
4.3	CO4	*Varmam* points around the head, neck, and *Varmam* points in the extremities.
4.4	CO4	*Paduvarmam* - manipulation techniques
4.5	CO4	Manipulation techniques for stimulating *varmam* points of trunk
4.6	CO4	*Paduvarmam (*7-12) - manipulation techniques
5.1	CO1,CO4	Varma medicine used for *odivu /murivu* condition
5.2	CO1,CO4	Internal medicines utilized in *varmam* application
5.3	CO1,CO4	Preparation of *varmam* medicine
5.4	CO4	Preparation of *Varmam Marunthugal*- External Medicines
5.5	CO4	Preparation of *Varmam* medicines
6.1	CO1,CO4	Varma ilakkumurai for thalai to kazhuthu(head to neck),kazhuthu-muthugu/maarbu(neck to chest/trunk) varmam illness
6.2	CO1,CO4	The *varmam ilakkumurai* in *kaal saarntha varmam, kai saarntha varmam* illness
6.3	CO1,CO4	Methods of *Sarvaanga Thadaval*
6.4	CO1,CO4	*Varmam* application in specific clinical conditions-musculoskeletal disorders*(thasai kootu noigal)*, neuromuscular disorder.

6.5	CO1,CO4	Varmam application in specific clinical conditions- respiratory illness, and gynecological conditions
6.6	CO1,CO4	The physiology of signaling pathways and neurotransmitters.
6.7	CO1,CO4	The Therapeutic applications of *Adangal*
7.1	CO5	Hemiplegia*(Pakkavatham)*
7.2	CO5	Quadriplegia *(Astatantira vatham)* and paraplegia. *(Aruna vatham)*
7.3	CO5	Parkinson's disease *(Nadukkuvatham* or *Panikambavatham)*
7.4	CO5	Peripheral neuropathy *(Vata karsanam)*
7.5	CO5	The vagus nerve (Cranial Nerve X)
7.6	CO5	Olfactory nerve (Cranial nerve I) and optic nerve (Cranial nerve II)
7.7	CO5	Oculomotor nerve (Cranial Nerve III),trochlear nerve (Cranial Nerve IV) and abducent nerve (Cranial Nerve VI)
7.8	CO5	The trigeminal nerve (cranial nerve V)
7.9	CO5	The facial nerve (a cranial nerve VII)
7.10	CO5	The vestibulocochlear nerve (a cranial nerve VIII)
7.11	CO5	The glossopharyngeal nerve (Cranial nerve IX)
7.12	CO5	The accessory nerve (Cranial nerve XI)

7.13	CO5	The hypoglossal nerve (Cranial Nerve XII)
8.1	CO2	Identification, collection and display of *karpa* plants.
8.2	CO2	Identification, collection, and display of *Karpa* Raw drugs.
9.1	CO2	Demonstration of *Pranayamam* steps
9.2	CO2	Demonstration of yoga postures with video clips.
9.3	CO2	Demonstration of *Thiyanam* (Meditation).
9.4	CO2	Demonstration of various posture of *mudhras.*
9.5	CO2	Demonstration of *Tharanai* (Focused thoughts) .
9.6	CO2	Demonstration of various *yoga* postures with general health benefits.
9.7	CO2	Demonstration of y*oga* postures in various disease conditions.
9.8	CO2	Discussion on the contraindication of various *yoga* postures.
10.1	CO5	Delirium
10.2	CO5	Spondyloarthropathy (SpA)
10.3	CO5	The recommended intake of nutrients
10.4	CO5	Prevention of diseases and promoting health in old age
11.1	CO5	Acute Osteomyelitis
11.2	CO5	Spinal tuberculosis (Pott's disease)
11.3	CO5	Rickets

11.4	CO5	Osteoporosis
12.1	CO5	Rheumatoid arthritis (RA)
12.2	CO5	Osteoarthritis (OA)
12.3	CO5	Osteochondroma
12.4	CO5	Bone metastasis
13.1	CO5	Periarthritis of the shoulder.
13.2	CO5	Calcaneal spur .
13.3	CO5	Intervertebral disc prolapse
13.4	CO5	splints in the reduction procedure.
13.5	CO5	Shoulder joint dislocation
13.6	CO5	Plaster of paris (POP)
13.7	CO5	Skull fracture
13.8	CO5	Traction
13.9	CO5	The Achilles tendon
13.10	CO5	Semilunar cartilage injuries and Muscle injury.
14.1	CO6,CO7	Demonstrate the Psychiatric examination
14.2	CO6	Overview of the different types of schizophrenia and their treatment methods.
14.3	CO6	Management strategies for Schizophrenia.

14.4	CO6	Treatment for adult personality disorders
14.5	CO6	Treatment for *Paithiyam* Diseases
14.6	CO6	Clinical features of *kirigai (Kirigaikalin Gunankal)*
14.7	CO6	Common treatments for *Kirigai,* including 18 *Kirigaikku Kulambu* and *Muzhukku thylam.*
14.8	CO6	Treatment for *Unmatha Noi* (Psychosis)
14.9	CO6	Treatment of *mathathiyam.*
14.10	CO6	*Maruthuvam for Mayakkam.*
14.11	CO6	*Maruthuvam* for *Valippu Noi*
14.12	CO6	Management of *Kakai valippu*
14.13	CO6,CO7	History taking and mental status examination in the psychiatric disorders.

Table 5 : List of Practicals

(*Refer table 3 of similar activity number)

Practical No*	CO No	Practical Activity details
1.1	CO1,CO3	Application of Siddha *thokkanam muraigal* (Physical manipulation techniques)
1.2	CO1,CO3	Application of *ottradam* (Fomentation)
1.3	CO1,CO3	Application of *Siddha thokkanam muraigal* (Physical manipulation techniques) in infertility condition
1.4	CO1,CO3	Application of *Vedhu* Maruthuvam (Steam therapy)
2.1	CO1,CO3	Application Of n*asiyam* (Liquid nasal application)
2.2	CO1,CO3	Application of *patti kattal* (Bandaging)
2.3	CO1,CO3	Application of *Peechu maruthuvam (* Enema / Douche)
2.4	CO1,CO3	Application of *Kombu Kattal* (Bone setting by splinting / *seeli kattumurai)*
3.1	CO1,CO4	Application of *Varmam* therapy for the management of *Saganavatham* (Cervical Spondylosis).
3.2	CO4,CO5	Application of *varma* therapy for management of *thandagavatham* (Lumbar Spondylosis).
3.3	CO4,CO5	*Varmam* therapy for the management of *Patha Veezhchi* (Foot Drop).
4.1	CO4	Plotting of *Varmam* points in mannequins
5.1	CO1,CO4,CO6	Varmam Applications in Psychiatry Disorder-Depression (manathalarchi)
5.2	CO1,CO4,CO6,CO7	Varmam application in psychiatric disorder- Mental Restlessness
6.1	CO4,CO5	Varmam Application in Central Nervous System-*Mugavaatham* (facial palsy)

6.2	CO1,CO4	Varmam Application in Central Nervous System-Hemiplegia *(Pakkavatham)*
6.3	CO1,CO4,CO5	*Varmam a*pplication in central nervous system- *valippu noi (Epilepsy)*
6.4	CO1,CO4	Varmam Application in Medical Emergencies-Shock
6.5	CO4	Varmam Application in Medical Emergencies-Fever
6.6	CO4,CO7	Varmam Application in Medical Emergencies-Epistaxis
6.7	CO4,CO7	Varmam Application in Locomotor Disorder (upper limb) -Wrist Joint Pain
6.8	CO1,CO4	Varmam Application in Locomotor Disorder-sciatica
6.9	CO4,CO5	Varmam Application in Locomotor Disorder (Lower limb)-knee joint pain
6.10	CO1,CO4	Adangal application for Tension headache / Migraine
6.11	CO1,CO4	Important *adangal* in the head region
6.12	CO1,CO4	Important *adangal* in chest-abdomen region
6.13	CO1,CO4	Important *adangal* in the upper limb region

6.14	CO1,CO4	Important *adanga*l in lower limb region
6.15	CO1,CO4	*Varma Thadavu murai nootpungal* (Finger techniques)
7.1	CO5,CO7	Clinical examination of higher intellectual functions .
7.2	CO5	Clinical examinations of 12 Pairs of cranial nerves.
7.3	CO5	Clinical Examination of Motor System.
7.4	CO5	Clinical Examination of the Sensory System.
7.5	CO5	Clinical examination of superficial reflexes and Deep tendon reflexes.
7.6	CO5,CO7	Clinical examination of cerebellar dysfunction and examination of posture, stance and gait.
7.7	CO5	Clinical examination of the involuntary movements.
7.8	CO5,CO7	Clinical examination of skull, spine and nerve.
7.9	CO5,CO7	Clinical examination of Autonomic nervous system.
7.10	CO5,CO7	Clinical case writing and case presentation of central nervous system diseases.
8.1	CO1,CO2,CO6,CO7	Application of the suitable *kayakarpam* therapy.
8.2	CO1,CO2,CO6,CO7	Application of long-term benefits of *kaya karpam* medicines in managing and preventing diseases

9.1	CO1,CO2,CO6	Application of *Yogam*
9.2	CO1,CO2,CO6	Education of the patients safty on yoga practice for orthopedic health
9.3	CO1,CO2,CO6	Development of specific yoga modifications to patients.
9.4	CO1,CO2,CO6	Demonstration of Yoga to improve range of motion and flexibility.
9.5	CO1,CO2,CO6	Application of long-term benefits of yoga in managing and preventing orthopaedic diseases
9.6	CO1,CO2,CO6,CO7	Application of breathing exercises (*Pranayama*) to pain management and stress reduction.
10.1	CO5,CO7	Basics of history taking-common complaints in geriatrics
10.2	CO5	Nutrition
10.3	CO5	Physical examination
10.4	CO5	Cognitive function
10.5	CO5	Neuropsychiatric examination
10.6	CO5,CO7	Survey of nutrition assessment of older people with or without systemic illness in nearby locality of your college.
10.7	CO5	Functional examination
10.8	CO5	Gait
10.9	CO5,CO7	Urinary incontinence

11.1	CO5,CO7	Basics of history taking and common complaints in orthopaedics.
11.2	CO5,CO7	General examination of the joints
11.3	CO5,CO7	Clinical case writing and presentation of orthopaedic disease.
11.4	CO5,CO7	Field visit to orthopaedic traditional Hospital and modern Hospital.
12.1	CO5,CO7	Examination of hip joint
12.2	CO5	Examination of knee joint.
12.3	CO5,CO7	Clinical case writing and case presentation of orthopaedic disease
13.1	CO5	Examination of shoulder joint.
13.2	CO5	Examination of the elbow joint.
13.3	CO5	Examination of the wrist joint
13.4	CO5	Examination of the ankle joint
13.5	CO5,CO7	Clinical case writing and presentations of orthopaedic diseases
13.6	CO5,CO7	Documentation of single case study by individual students.
14.1	CO6,CO7	Siddha psychiatric case format-
14.2	CO6,CO7	Siddha Psychiatric Case Format-Initial assessment
14.3	CO6,CO7	Mental status examination and siddha psychiatric assessment for the depression **(***Manathalarchi***)** case
14.4	CO6,CO7	Line of treatment for the patient in Post-traumatic stress disorder.
14.5	CO6,CO7	Examination of the post-traumatic stress disorder

14.6	CO6,CO7	Mental status examination (MSE) and Siddha psychiatric evaluation for Obsessive-Compulsive Disorder (OCD).
14.7	CO6,CO7	Examination of obsessive-compulsive disorder (OCD)
14.8	CO6	Treatment plan for depression (*Manathalarchi).*
14.9	CO6,CO7	Collection of the demographic details and history taking of the patient with depression
14.10	CO6,CO7	Examination of a patient with anxiety disorders
14.11	CO6,CO7	Mental status examination and siddha assessment for anxiety disorder.
14.12	CO6	Mental status examination and siddha psychiatric assessment for adult personality disorder
14.13	CO6	Line of treatment for adult personality disorder
14.14	CO6	Invited seminar talks on psychology counselling
14.15	CO6	Field visits to government / Private psychiatric hospitals
14.16	CO6,CO7	Mental status examination and Siddha psychiatric assessment for patients with phobias.
14.17	CO6,CO7	Demographic details and the line of treatment in phobia condition
14.18	CO6,CO7	Management protocol for anxiety disorders

Table 6 : Assessment Summary: Assessment is subdivided in A to H points

6 A : Number of Papers and Marks Distribution

Subject Code	Papers	Theory	Practical/Clinical Assessment (150)					Grand Total
			Practical	Viva	Elective	IA	Sub Total	
SIDUG-VPS	2	200	100	20	10 (Set-TB)*	20	150	350

6 B : Scheme of Assessment (Formative and Summative)

PROFESSIONAL COURSE	FORMATIVE ASSESSMENT			SUMMATIVE ASSESSMENT
	First Term (1-6 Months)	Second Term (7-12 Months)	Third Term (13-18 Months)	
Third	3 PA & First TT	3 PA & Second TT	3 PA	**UE****

PA: Periodical Assessment; **TT:** Term Test; **UE:** University Examinations; **NA:** Not Applicable.
**University Examination shall be on entire syllabus

6 C : Calculation Method for Internal assessment Marks

Term	Periodical Assessment*				Term Test**	Term Assessment	
	A	B	C	D	E	F	G
	1 (20)	2 (20)	3 (20)	Average **(A+B+C/3)** (20)	Term Test (MCQ+SAQ+LAQ and Practical) (Converted to 20)	Sub Total	Term Assessment
First						**D+E**	**D+E /2**
Second						**D+E**	**D+E /2**
Third					NIL		**D**
Final IA	**Average of Three Term Assessment Marks as Shown in 'G' Column**						
	* Select an Evaluation Methods which is appropriate for the objectives of Topics from the Table 6 D. Convert it to 20 marks. ** Conduct Theory (100 Marks) (MCQ (20*1 Marks), SAQ (8*5), LAQ (4*10)) and Practical (100 Marks) Then convert to 20 Marks.						

6 D : Evaluation Methods for Periodical Assessment

S. No.	Evaluation Methods
1.	Practical / Clinical Performance
2.	Viva Voce, MCQs, MEQ (Modified Essay Questions/Structured Questions)
3.	Open Book Test (Problem Based)
4.	Summary Writing (Research Papers/ Samhitas)
5.	Class Presentations; Work Book Maintenance
6.	Problem Based Assignment
7.	Objective Structured Clinical Examination (OSCE), Objective Structured Practical Examination (OPSE), Mini Clinical Evaluation Exercise (Mini-CEX), Direct Observation of Procedures (DOP), Case Based Discussion (CBD)
8.	Extra-curricular Activities, (Social Work, Public Awareness, Surveillance Activities, Sports or Other Activities which may be decided by the department).
9.	Small Project
10.	Activities Indicated in Table 3 - Column G3 as per Indicated I, II or III term in column I3.

Topics for Periodic Assessments

Exam type	Paper 1	Paper 2
PA1	Topic 1	Topic 8
PA 2	Topic 2	Topic 9
PA 3	Topic 3	Topic 10
TT 1	Topic No 1- 3	Topic No 8- 10
PA 4	Topic 4	Topic 11
PA 5	Topic 5	Topic 12
PA 6	Topic 6	Topic 13
TT 2	Topic No 4-6	Topic No 11-13
PA 7	Topic No 7.1- 7.4	Topic No 14.1- 14.5
PA8	Topic No 7.5 – 7.8	Topic No 7.6 – 7.10
PA9	Topic No 7/9 – 7.11	Topic No 14.11 – 14.16

6 E : Question Paper Pattern

III PROFESSIONAL B.S.M.S EXAMINATIONS
SIDUG-VAR
PAPER-I
Time: 3 Hours Maximum Marks: 100
INSTRUCTIONS: All questions compulsory

		Number of Questions	**Marks per question**	**Total Marks**
Q 1	MULTIPLE CHOICE QUESTIONS (MCQ)	20	1	20
Q 2	SHORT ANSWER QUESTIONS (SAQ)	8	5	40
Q 3	LONG ANSWER QUESTIONS (LAQ)	4	10	40
				100

Similar for Paper II.

6 F : Distribution of theory examination

Paper 1 (Varmam,Puramaruthuvam and Sirappumaruthuvam)					
Sr. No	**A List of Topics**	**B Marks**	**MCQ**	**SAQ**	**LAQ**
1	**PURA MARUTHUVAM -I (EXTERNAL THERAPY)**	12	Yes	Yes	Yes
2	**PURAMARUTHUVAM-2 (EXTERNAL THERAPY)**	08	Yes	Yes	No
3	**MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY**	10	Yes	Yes	Yes
4	**INTRODUCTION AND CLASSIFICATION OF VARMAM**	22	Yes	Yes	Yes
5	**VARMAM THERAPEUTICS FOR ODIVU/ MURIVU AND VARMA MARUNTHUKAL**	07	Yes	Yes	No
6	**VARMA ILAKKUMURAI (VARMAM MANIPULATION AND MASSAGE TECHNIQUES)**	11	Yes	Yes	Yes
7	**DISORDERS OF CENTRAL NERVOUS SYSTEM**	30	Yes	Yes	Yes
Total Marks		**100**			

Paper 2 (Varmam,Puramaruthuvam and Sirappumaruthuvam)					
Sr. No	**A List of Topics**	**B Marks**	**MCQ**	**SAQ**	**LAQ**
8	**KAYAKALPAM (JUVENILIZATION THERAPY) AND MUPPU**	12	Yes	Yes	Yes
9	**ATTANGA YOGAM**	8	Yes	Yes	No
10	**GERIATRICS**	10	Yes	Yes	Yes
11	**INTRODUCTION TO ORTHOPAEDICS**	13	Yes	Yes	Yes
12	**DISEASES OF THE BONES AND JOINTS**	11	Yes	Yes	Yes
13	**REGIONAL CONDITIONS OF BONES AND JOINTS DISEASES**	16	Yes	Yes	Yes
14	**PSYCHIATRY DISORDERS**	30	Yes	Yes	Yes
Total Marks		**100**			

6 G : Instructions for UG Paper Setting & Blue print

1. All questions shall be compulsory.
2. The maximum marks for one question paper shall be 100.
3. Questions shall be drawn based on Table 6F, which provides the topic name, types of questions (MCQ(Multiple Choice Question), SAQ(Short Answer Question), LAQ(Long Answer Question)).
4. The marks assigned in Table 6F for each topic/group of topics shall be considered as the maximum allowable marks for that topic/group of topics.
5. Ensure that the total marks allocated per topic/group of topics do not exceed the limits specified in Table 6F.
6. Refer to Table 6F before setting the questions. Questions shall be framed only from topics where the type is marked as “YES”, and avoided if marked as “NO”.
7. Each 100-mark question paper shall contain:
   - 20 MCQs
   - 8 SAQs
   - 4 LAQs
8. MCQs:
   - Majority shall be drawn from the Must to Know part of the syllabus.
   - Questions from the Desirable to Know part of syllabus shall not exceed 3.
   - Questions from the Nice to Know part of syllabus shall not exceed 2.
9. SAQs:
   - Majority shall be drawn from the Must to Know part of the syllabus.
   - Questions from the Desirable to Know part of syllabus shall not exceed 1.
   - No questions shall be drawn from the Nice to Know part of syllabus.
   - SAQs shall assess understanding, application, and analysis, rather than simple recall.
10. LAQs:
    - All LAQs shall be drawn exclusively from the Must to Know part of the syllabus.
    - No questions shall be taken from the Desirable to Know or Nice to Know part of the syllabus.
    - Number of LAQs should not exceed one per topic unless maximum marks exceed 20 for the topic.
11. Long Answer Questions shall be structured to assess higher cognitive abilities, such as application, analysis, and synthesis.
12. Follow the guidelines in User Manual III for framing MCQs, SAQs, and LAQs.

Demo Blueprint for Illustration. Blue printing should be done based on Instructions for Question paper setting and using 6 F table.

Paper No:1		
Question No	**Type of Question**	**Question Paper Format**
Q1	**Multiple choice Questions** **20 Questions** **1 mark each** **All compulsory**	1. PURA MARUTHUVAM -I (EXTERNAL THERAPY) 2. PURA MARUTHUVAM -I (EXTERNAL THERAPY) 3. PURAMARUTHUVAM-2 (EXTERNAL THERAPY) 4. PURAMARUTHUVAM-2 (EXTERNAL THERAPY) 5. PURAMARUTHUVAM-2 (EXTERNAL THERAPY) 6. MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY 7. MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY 8. MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY 9. MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY 10. MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY 11. INTRODUCTION AND CLASSIFICATION OF VARMAM 12. INTRODUCTION AND CLASSIFICATION OF VARMAM 13. VARMAM THERAPEUTICS FOR ODIVU/ MURIVU AND VARMA MARUNTHUKAL 14. VARMAM THERAPEUTICS FOR ODIVU/ MURIVU AND VARMA MARUNTHUKAL 15. VARMA ILAKKUMURAI (VARMAM MANIPULATION AND MASSAGE TECHNIQUES) 16. DISORDERS OF CENTRAL NERVOUS SYSTEM 17. DISORDERS OF CENTRAL NERVOUS SYSTEM 18. DISORDERS OF CENTRAL NERVOUS SYSTEM 19. DISORDERS OF CENTRAL NERVOUS SYSTEM 20. DISORDERS OF CENTRAL NERVOUS SYSTEM
Q2		1. PURAMARUTHUVAM-2 (EXTERNAL

	Short answer Questions **8 Questions** **5 Marks Each** **All compulsory**	THERAPY) 2. MANAGEMENT OF NEURODEGENERATIVE DISEASES THROUGH VARMA THERAPY 3. INTRODUCTION AND CLASSIFICATION OF VARMAM 4. INTRODUCTION AND CLASSIFICATION OF VARMAM 5. VARMAM THERAPEUTICS FOR ODIVU/ MURIVU AND VARMA MARUNTHUKAL 6. DISORDERS OF CENTRAL NERVOUS SYSTEM 7. DISORDERS OF CENTRAL NERVOUS SYSTEM 8. DISORDERS OF CENTRAL NERVOUS SYSTEM
Q3	**Long answer Questions** **4 Questions** **10 marks each** **All compulsory**	1. PURA MARUTHUVAM -I (EXTERNAL THERAPY) 2. INTRODUCTION AND CLASSIFICATION OF VARMAM 3. VARMA ILAKKUMURAI (VARMAM MANIPULATION AND MASSAGE TECHNIQUES) 4. DISORDERS OF CENTRAL NERVOUS SYSTEM
Paper No:2		
Question No	**Type of Question**	**Question Paper Format**
Q1	**Multiple choice Questions** **20 Questions** **1 mark each** **All compulsory**	1. KAYAKALPAM (JUVENILIZATION THERAPY) AND MUPPU 2. KAYAKALPAM (JUVENILIZATION THERAPY) AND MUPPU 3. ATTANGA YOGAM 4. ATTANGA YOGAM 5. ATTANGA YOGAM 6. GERIATRICS 7. GERIATRICS 8. GERIATRICS 9. GERIATRICS 10. GERIATRICS 11. INTRODUCTION TO ORTHOPAEDICS 12. INTRODUCTION TO ORTHOPAEDICS 13. INTRODUCTION TO ORTHOPAEDICS 14. DISEASES OF THE BONES AND JOINTS 15. REGIONAL CONDITIONS OF BONES AND JOINTS DISEASES 16. PSYCHIATRY DISORDERS 17. PSYCHIATRY DISORDERS 18. PSYCHIATRY DISORDERS

		19. PSYCHIATRY DISORDERS 20. PSYCHIATRY DISORDERS
Q2	**Short answer Questions** **8 Questions** **5 Marks Each** **All compulsory**	1. ATTANGA YOGAM 2. GERIATRICS 3. DISEASES OF THE BONES AND JOINTS 4. DISEASES OF THE BONES AND JOINTS 5. REGIONAL CONDITIONS OF BONES AND JOINTS DISEASES 6. PSYCHIATRY DISORDERS 7. PSYCHIATRY DISORDERS 8. PSYCHIATRY DISORDERS
Q3	**Long answer Questions** **4 Questions** **10 marks each** **All compulsory**	1. KAYAKALPAM (JUVENILIZATION THERAPY) AND MUPPU 2. INTRODUCTION TO ORTHOPAEDICS 3. REGIONAL CONDITIONS OF BONES AND JOINTS DISEASES 4. PSYCHIATRY DISORDERS

6 H : Distribution of Practical Exam

S.No	Heads	Marks
1	Major clinical Examination of the patient (Long case- 1) Duration:90 minutes Procedure: IP case sheet writing Distribution of Marks: 1.Demographic data, Chief Complaints and duration -4 marks 2. History taking - 5 marks 3. General Examination (Pothu parisothanai) -4 marks 4. Relevant Systemic Examination (Sirappu parisothanai-CNS / Orthopaedics/MSE) -5 marks 5.Gnanenthiriyam(Sensory Function) -3 marks 6.Kanmenthiriyam(Motor Function) -3 marks 7. Uyirthathukkal -3 marks 8.Udal thathukkal -3 marks 9. Envagaithervugal - 3 marks 10. Investigations -4 marks 11.Noikanippu vivatham (Differential Diagnosis) - 3 marks 12.Noikanippu (Diagnosis) -3 marks 13. One-day medicine - 3 marks 14. Puramaruthuvam, Varmam &Yogasanam - 5 marks 15. Piramarunthukal (Other medicines)- 5 marks 16. Unavu & Maruthuva Arivurai (Diet & Medical advice) - 4 marks	60

2	Minor Clinical Examination (Short case-1) Duration:30 minutes Procedure: OPD Based Diagnosis Distribution of Marks: 1. Demographic data, Chief Complaints, and duration – 4 marks 2. General Examination, Relevant Systemic Examination (Pothu parisothanai, Sirappu parisothanai) –4 marks 3.Noikurikunankalin thokuppu (Positive findings) – 3 marks 4.Noikanippu (Diagnosis) -3 marks 5. Investigations -2 marks 6. Oneday medicine & Puramaruthuvam - 4 marks	20
3	Clinical Demonstration of Anyone of the procedure –(External therapy / varmam / yogasanam)	10
4	Viva voce	20
5	Electives	10 (Set-TB)
6	Internal Assessment	20
7	Record (Case sheet writing)	10
Total Marks		**150**

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Abbreviations

Domain		T L Method		Level		Assessment		Integration	
CK	Cognitive/Knowledge	L	Lecture	K	Know	T-CS	Theory case study	V-SATV	V-SATV
CC	Cognitive/Comprehension	L&PPT	Lecture with PowerPoint presentation	KH	Knows how	T-OBT	Theory open book test	V-UK	V-UK
CAP	Cognitive/Application	L&GD	Lecture & Group Discussion	SH	Shows how	P-VIVA	Practical Viva	V-UT	V-UT
CAN	Cognitive/Analysis	L_VC	Lecture with Video clips	D	Does	P-REC	Practical Recitation	V-UV	V-UV
CS	Cognitive/Synthesis	REC	Recitation			P-EXAM	Practical exam	V-NU	V-NU
CE	Cognitive/Evaluation	SY	Symposium			PRN	Presentation	V-MT	V-MT
PSY-SET	Psychomotor/Set	TUT	Tutorial			P-PRF	Practical Performance	V-GMM	V-GMM
PSY-GUD	Psychomotor/Guided response	DIS	Discussions			P-SUR	Practical Survey	V-GMK	V-GMK
PSY-MEC	Psychomotor/Mechanism	BS	Brainstorming			P-EN	Practical enact	V-SSM-NM	V-SSM-NM
PSY-ADT	Psychomotor Adaptation	IBL	Inquiry-Based Learning			P-RP	Practical Role play	V-NN1	V-NN1
PSY-ORG	Psychomotor/Origination	PBL	Problem-Based Learning			P-MOD	Practical Model	V-NN2	V-NN2
AFT-REC	Affective/ Receiving	CBL	Case-Based Learning			P-POS	Practical Poster	V-NAVO	V-NAVO
AFT-RES	Affective/Responding	PrBL	Project-Based Learning			P-CASE	Practical Case taking	H-MM	H-MM
AFT-VAL	Affective/Valuing	TBL	Team-Based Learning			P-ID	Practical identification	H-VPS	H-VPS
AFT-SET	Affective/Organization	TPW	Team Project Work			P-PS	Practical Problem solving	H-AM	H-AM
AFT-CHR	Affective/ characterization	FC	Flipped Classroom			QZ	Quiz	H-SMM	H-SMM
PSY-PER	Psychomotor/perception	BL	Blended Learning			PUZ	Puzzles	H-KM	H-KM
PSY-COR	Psychomotor/ Complex Overt Response	EDU	Edutainment			CL-PR	Class Presentation	H-RM	H-RM
		ML	Mobile Learning			DEB	Debate		
		ECE	Early Clinical Exposure			WP	Word puzzle		
		SIM	Simulation			O-QZ	Online quiz		
		RP	Role Plays			O-GAME	Online game-based assessment		
		SDL	Self-directed learning			M-MOD	Making of Model		
		PSM	Problem-Solving Method			M-CHT	Making of Charts		

		KL	Kinaesthetic Learning			M-POS	Making of Posters		
		W	Workshops			C-INT	Conducting interview		
		GBL	Game-Based Learning			INT	Interactions		
		LS	Library Session			CR-RED	Critical reading papers		
		PL	Peer Learning			CR-W	Creativity Writing		
		RLE	Real-Life Experience			C-VC	Clinical video cases		
		PER	Presentations			SP	Simulated patients		
		D-M	Demonstration on Model			PM	Patient management problems		
		PT	Practical			CHK	Checklists		
		X-Ray	X-ray Identification			Mini-CEX	Mini-CEX		
		CD	Case Diagnosis			DOPS	DOPS		
		LRI	Lab Report Interpretation			CWS	CWS		
		DA	Drug Analysis			RS	Rating scales		
		D	Demonstration			RK	Record keeping		
		D-BED	Demonstration Bedside			COM	Compilations		
		DL	Demonstration Lab			Portfolios	Portfolios		
		DG	Demonstration Garden			Log book	Log book		
		FV	Field Visit			TR	Trainers report		
						SA	Self-assessment		
						PA	Peer assessment		
						360D	360-degree evaluation		
						PP-Practical	Practical		
						VV-Viva	Viva		
						DOAP	Demonstration Observation Assistance Performance		
						SBA	Scenario Based Assessment		
						CBA	Case based Assessment		
						S-LAQ	Structured LAQ		
						OSCE	Objective Structured Clinical Examination		
						OSPE	Objective Structured Practical Examination		

						DOPS	Direct observation of procedural skills		