Curriculum for MD/MS Ayurveda
(PRESCRIBED BY NCISM)

अभ्यासात्प्राप्यते दृष्टिः कर्मसिद्धिप्रकाशिनी।

Semester III-VI
Shalya Tantra
(Ayurveda Surgery)
(SUBJECT CODE : AYPG-ST)

(Applicable from 2024-25 batch, from the academic year 2025-26 onwards until further notification by NCISM)

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NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE
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PREFACE

Shalya Tantra, one of the eight classical branches of Ayurveda, encompasses the science of surgical interventions, para-surgical procedures, trauma care, and post-operative management. It stands as a testament to Ayurveda's foundational contributions to the field of surgery, with historical texts elaborating on sophisticated surgical instruments, operative methods, and pre- and post-surgical care. The discipline emphasizes not only surgical precision and technical skill but also a holistic understanding of the patient and disease pathology. The evolving landscape of healthcare demands that Ayurvedic surgical training remain both rooted in tradition and aligned with contemporary standards of clinical excellence.

This Competency-Based Dynamic Curriculum for postgraduate education in Shalya Tantra has been meticulously developed to meet the current needs of healthcare systems while preserving the authenticity of Ayurvedic surgical principles. The curriculum integrates robust theoretical knowledge with structured, hands-on clinical and surgical training. It emphasizes early diagnosis through the understanding of Shatkriyakala, mastery in the use of surgical instruments, aseptic techniques, wound care, and bandaging. A strong focus is placed on skill development, including the administration of emergency and life-saving drugs with a clear understanding of their pharmacodynamics, indications, and contraindications. Ethical practice, patient safety, and audit mechanisms are embedded throughout the program to prepare students for surgical practice with integrity, accountability, and continuous improvement.

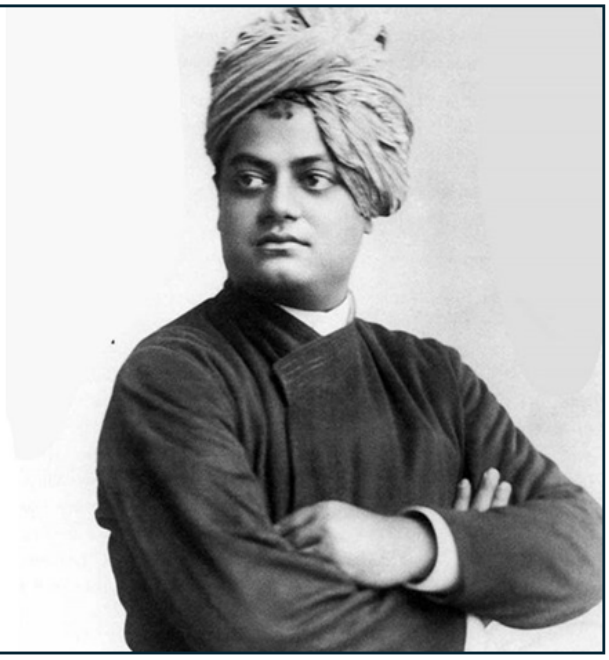
Looking ahead, this curriculum aspires to produce competent Ayurvedic surgeons who are clinically proficient, research-oriented, and ethically grounded. The program is designed to foster critical thinking, innovation, and compassionate care, enabling postgraduates to evolve into leaders in integrative surgical practice. By blending time honored Ayurvedic knowledge with modern training methodologies, this curriculum empowers students to contribute meaningfully to both the academic and clinical domains of surgery. It is our firm belief that the postgraduates trained through this program will emerge as skilled practitioners, visionary researchers, and responsible healers dedicated to advancing the discipline of Shalya Tantra in the service of humanity.

INDEX

Summary & Credit Framework 4
Course Code and Name of Course 9
Table 1 : Course learning outcomes and mapped Program learning outcomes 9
Table 2 : Course contents (Modules- Credits and Notional Learning Hours) 10
Table 3 : Modules - Unit - Module Learning Objectives and Session Learning Objective- Notional Learning Hours- Domain-Level- TL Methods 70
Paper 1 Vrana, Sandhankarma Evam Sangyaharan Vigyan (Wound, Plastic Surgery and Anaesthesiology) 70
Paper 2 Asthi, Sandhi, Marma Aghat Evam Mootraroga Vigyan (Orthopedics and Urology) 184
Paper 3 Mahasrotas Evam Manyagat Shalyavikara (Surgical Disorders of Gastro-Intestinal System and Neck) .. 322
Paper 4 Anushastrakarma Evam Vishishta Shastrakarma (Parasurgical and Specialized Surgical Procedures) 468
Table 4 : Practical Training Activity 633
Table 5 : Experiential learning Activity 652
Table 6 : Assessment Summary: Assessment is subdivided in A to H points 671
6 A : Number of Papers and Marks Distribution 671
6 B : Scheme of Assessment (Formative and Summative Assessment) 671
6 C : Calculation Method for Modular Grade Points (MGP) 671
6 D : Semester Evaluation Methods for Semester Grade point Average (SGPA) 675
6 E : Question Paper Pattern 678
6 F : Distribution for summative assessment (University examination) 680
6 G : Instruction for the paper setting & Blue Print for Summative assessment (University Examination) 689
6 H : Distribution of Practical Exam (University Examination) 690
Reference Books/ Resources 694
Abbreviations 699

We want that education by which **character** is formed, **strength of mind** is increased, the **intellect** is expanded, and by which one can **stand on one's own feet.**

-Swami Vivekananda



NCISM

(NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE)

Curriculum MD/ MS Ayurveda

Shalya Tantra (AYPG-ST)

Summary & Credit Framework

Semester III-VI

Module Number & Name	Credits	Notional Learning Hours	Maximum Marks of assessment of modules (Formative Assessment)
Semester No : 3			
Paper No : 1 (Vrana, Sandhankarma Evam Sangyaharan Vigyan (Wound, Plastic Surgery and Anaesthesiology))			
M1 Vrana Sopha, Vidradhi, Pidika (Inflammation , Abscess , Boils & its Management)	2	60	50
M2 Vrana Chikitsa (Wound/ Ulcer and its management)	2	60	50
Paper No : 2 (Asthi, Sandhi, Marma Aghat Evam Mootraroga Vigyan (Orthopedics and Urology))			
M9 Asthi Sandhi Vikara - Mool Sidhanta (Basics of orthopaedics)	2	60	50
M10 Marma Vigyana & Sports Medicine	2	60	50
Paper No : 3 (Mahasrotas Evam Manyagat Shalyavikara (Surgical Disorders of Gastro-Intestinal System and Neck))			
M17 Mukha Roga and Annamargagata Vyadhi (Diseases of Oral Cavity and Oesophagus)	1	30	25
M18 Amashayagata, Grahanigata and Kshudrantragata Vyadhi (Diseases of Stomach, Duodenum and Small Intestine)	3	90	75
Paper No : 4 (Anushastrakarma Evam Vishishta Shastrakarma (Parasurgical and Specialized Surgical Procedures))			
M25 Principles and Practice of Kshara Karma	2	60	50
M26 Principles and Practice of Agni Karma	2	60	50
Total	**16**	**480**	**400**

Semester No : 4			
Paper No : 1 (Vrana, Sandhankarma Evam Sangyaharan Vigyan (Wound, Plastic Surgery and Anaesthesiology))			
M3 Principles and Practice of Sangyaharan -Anaesthesiology	2	60	50
M4 Description of Types of Anaesthesia	2	60	50
Paper No : 2 (Asthi, Sandhi, Marma Aghat Evam Mootraroga Vigyan (Orthopedics and Urology))			
M11 Orthopaedic Disorders & Musculo-Skeletal Injuries	2	60	50
M12 Bhagna Management	2	60	50
Paper No : 3 (Mahasrotas Evam Manyagat Shalyavikara (Surgical Disorders of Gastro-Intestinal System and Neck))			
M19 Manya Vikara (Neck Disorders)	1	30	25
M20 Yakrit, Pittashaya, Pittanalika evam Pleeha Vyadhi (Diseases of Hepatobiliary System and Spleen)	3	90	75
Paper No : 4 (Anushastrakarma Evam Vishishta Shastrakarma (Parasurgical and Specialized Surgical Procedures))			
M27 Principles and Practice of Raktamokshana	2	60	50
M28 Stana Roga (Breast Diseases)	2	60	50
Total	**16**	**480**	**400**
Semester No : 5			
Paper No : 1 (Vrana, Sandhankarma Evam Sangyaharan Vigyan (Wound, Plastic Surgery and Anaesthesiology))			
M5 Perioperative Anaesthesiology and Anaesthesia in specific conditions.	2	60	50
M6 : Dagdha Vrana (Burn injuries & Scalds) and Pranashta Shalya (Extraction of retained foreign body.	2	60	50
Paper No : 2 (Asthi, Sandhi, Marma Aghat Evam Mootraroga Vigyan (Orthopedics and Urology))			
M13 Complications of Musculo-Skeletal Injuries & Corrective Orthopaedics.	2	60	50
M14 Mutravaha Srotas Vikara [Urinary disorders]	2	60	50
Paper No : 3 (Mahasrotas Evam Manyagat Shalyavikara (Surgical Disorders of Gastro-Intestinal System and Neck))			
M21 Diseases of Peritoneum, Omentum, Mesentery, Retroperitoneal Space and Abdominal Mass	2	60	50
M22 Unduk, Unduk Puchha and Brihadantragata Vyadhi (Diseases of Caecum and Vermiform Appendix and Large Intestine)	2	60	50

Paper No : 4 (Anushastrakarma Evam Vishishta Shastrakarma (Parasurgical and Specialized Surgical Procedures))			
M29 Vriddhi Roga - Hernia, Diseases of Abdominal Wall and Umbilicus.	2	60	50
M30 Vrishana Evam Vrishanakoshagat Vyadhi - The Testes and Scrotum	2	60	50
Total	**16**	**480**	**400**
Semester No : 6			
Paper No : 1 (Vrana, Sandhankarma Evam Sangyaharan Vigyan (Wound, Plastic Surgery and Anaesthesiology))			
M7 Granthi, Arbuda (Principles of Management of Cyst and Neoplasm)	2	60	50
M8 Fundamentals of Sandhana Karma - Plastic & Reconstructive Surgery	2	60	50
Paper No : 2 (Asthi, Sandhi, Marma Aghat Evam Mootraroga Vigyan (Orthopedics and Urology))			
M15 Vrukka, Gavini Evam Bastigat Vyadhi [Diseases of Kidney, Ureter & Urinary Bladder]	2	60	50
M16 Paurushgranthi, Shishna Evam Mutramargagat Vyadhi [Diseases of Prostate, Penis & Urethra]	2	60	50
Paper No : 3 (Mahasrotas Evam Manyagat Shalyavikara (Surgical Disorders of Gastro-Intestinal System and Neck))			
M23 Gudagat Roga (Diseases of Rectum and Anal Canal)	3	90	75
M24 Urah Evam Udara Abhighat (Torso Trauma)	1	30	25
Paper No : 4 (Anushastrakarma Evam Vishishta Shastrakarma (Parasurgical and Specialized Surgical Procedures))			
M31 Naadiyantrakrit Shastrakarma: Minimally Invasive Surgeries (MIS)	3	90	75
M32 Baala Shalyakarma - Paediatric Surgery	1	30	25
Total	**16**	**480**	**400**
Grand Total	**64**	**1920**	**1600**

Credit frame work

AYPG-ST consists of 32 modules totaling 64 credits, which correspond to 1920 Notional Learning Hours. Each credit comprises 30 hours of learner engagement, distributed across teaching, practical, and experiential learning in the ratio of 1:2:3. Accordingly, one credit includes 5 hours of teaching, 10 hours of practical training, 13 hours of experiential learning, and 2 hours allocated for modular assessment, which carries 25 marks.

Important Note: The User Manual MD/MS Ayurveda 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 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. Each paper has 16 credits and each semester covers 16 credits across 4 papers. In case of difficulty and questions regarding the curriculum, write to syllabus24ayu@ncismindia.org.

Credit Analysis Overview					
Sem/Paper	**Paper No 1**	**Paper No 2**	**Paper No 3**	**Paper No 4**	**Credits**
Semester 3	M-1 | 2 Crs M-2 | 2 Crs	M-9 | 2 Crs M-10 | 2 Crs	M-17 | 1 Crs M-18 | 3 Crs	M-25 | 2 Crs M-26 | 2 Crs	**16**
Semester 4	M-3 | 2 Crs M-4 | 2 Crs	M-11 | 2 Crs M-12 | 2 Crs	M-19 | 1 Crs M-20 | 3 Crs	M-27 | 2 Crs M-28 | 2 Crs	**16**
Semester 5	M-5 | 2 Crs M-6 | 2 Crs	M-13 | 2 Crs M-14 | 2 Crs	M-21 | 2 Crs M-22 | 2 Crs	M-29 | 2 Crs M-30 | 2 Crs	**16**
Semester 6	M-7 | 2 Crs M-8 | 2 Crs	M-15 | 2 Crs M-16 | 2 Crs	M-23 | 3 Crs M-24 | 1 Crs	M-31 | 3 Crs M-32 | 1 Crs	**16**
Credits	**16**	**16**	**16**	**16**	**64**

Semester VI University examination					
Theory			Practical*		
Paper	Marks	Total	Practical Heads	Marks	Total
Paper -1	100	400	Long case or procedure/Major practical as applicable	100	400
			Short case or procedure/Minor practical	50	
Paper -2	100		Spotters	50	
			Assessing teaching ability	20	
Paper -3	100		Assessing presentation skills	20	
			Viva (4 examiners: 20 marks/each examiner)	80	
Paper -4	100		Dissertation Viva	40	

			Logbook (Activity record)	20	
			Practical/Clinical Record	20	
Semester VI University examination – 800 Marks					

* Details in 6H table

Course Code and Name of Course

Course code	Name of Course
AYPG-ST	Shalya Tantra (Ayurveda Surgery)

Table 1 : Course learning outcomes and mapped Program learning outcomes

CO No	A1 Course learning Outcomes (CO) AYPG-ST At the end of the course AYPG-ST, the students should be able to-	B1 Course learning Outcomes mapped with program learning outcomes.
CO1	Illustrate and apply the core principles of Shalya Tantra, integrating insights from recent advancements in the field to enhance surgical practice.	PO1
CO2	Integrate foundational principles of anesthesia into surgical practice, achieving proficiency in the management of various surgical conditions with safety and efficacy.	PO1,PO2
CO3	Perform and demonstrate para-surgical procedures such as Kshara Karma, Agnikarma, and Raktamokshana for managing relevant surgical conditions, including the identification and management of complications.	PO1,PO2
CO4	Identify and manage surgical conditions through appropriate conservative and operative interventions, including comprehensive perioperative care and complication handling.	PO1,PO2
CO5	Conduct research and contribute to the development of innovative surgical tools and techniques, leveraging contemporary scientific and technological advances.	PO3,PO5,PO7,PO8
CO6	Demonstrate professionalism, uphold surgical ethics, and fulfill medico-legal responsibilities with integrity and accountability in clinical and academic practice.	PO2,PO4
CO7	Demonstrate empathy and compassion in patient interactions, embracing a holistic Ayurvedic approach to surgical care and patient education.	PO4,PO6
CO8	Exhibit sound, timely, and well-reasoned clinical decision-making in emergency surgical conditions, including judicious referral and appropriate management within the scope of Shalyatantra.	PO1,PO4

Table 2 : Course contents (Modules- Credits and Notional Learning Hours)

Paper No : 1 (Vrana, Sandhankarma Evam Sangyaharan Vigyan (Wound, Plastic Surgery and Anaesthesiology))						
Semester No : 3						
2A Module Number	**2B Modules & units**	**2C Number of Credits**	**Notional Learning hours**			
			2D Lectures	**2E Practical Training**	**2F Experiential Learning including Modular Assessment**	**2G Total**
1	**M-1 Vrana Sopha, Vidradhi, Pidika (Inflammation , Abscess , Boils & its Management)** **This Module describes a Comprehensive Overview of Vrana Shopha (inflammation) and similar diseases like Vidradhi(abscess), Prameha Pidaka(Diabetic carbuncle), along with their treatment, giving importance to Recent advancements. Emphasis will be given to hands-on training on the diagnosis and surgical treatment of the described diseases.** • **M1U1 Vrana Shopha Vidradhi** • Comprehensive description of Vranashopha-Inflammation & Vidradhi – Abscesses • **M1U2 Prameha Pidaka / Diabetic Carbuncle, Boils** • Comprehensive description of pathology of Prameha Pidaka (Diabetic Carbuncle, Boils)	2	10	20	30	60

	• Comprehensive description of treatment of Prameha Pidaka (Diabetic Carbuncle, Boils) • **M1U3 Diabetic Foot Ulcer (DFU)** • Description of Aetiology, Pathophysiology, Practice essentials and Treatment of Diabetic Foot Ulcer. • **M1U4 Advances in Diabetic foot Ulcer (DFU) care** • Recent advance in the management of Diabetic foot Ulcer care • Future opportunities to address challenges in offloading Diabetic feet • **M1U5 Visarpa, Cellulitis & Erysipelas** • Comprehensive description of pathology and treatment of Visarpa, Cellulitis & Erysipelas					
2	**M-2 Vrana Chikitsa (Wound/ Ulcer and its management)** **This module focuses on the assessment, classification, and treatment of various types of wounds, including acute wounds, chronic wounds, and ulcers. This module covers clinical features, risk factors, pathophysiology, and evidence-based management strategies to facilitate healing. Emphasis is placed on integrating advanced wound healing techniques with Ayurvedic concepts to achieve optimal patient care. There is a focus on combining Ayurvedic treatments with innovative wound care methods, either as treatment modalities or through the development of biomaterials.**	2	10	20	30	60

- **M2U1 Vrana, its components, and the principles of management.**

  - Clinical understanding of the classification of Vrana, its Lakshana.
  - Management of Nija Vrana, Dushta Vrana, and Nadi Vrana.
  - A detailed description of Vrana Srava, Vrana Vastu, and Vranopadrava, highlighting their importance in wound care.

- **M2U2 Comprehensive description of wounds, ulcers and their management**

  - Wound and its Components,
  - Pathophysiology of Wound Healing,
  - Complications of Healing and its management.
  - Ulcer: Definition, progression, patient assessment, types of ulcers,
  - Distinguishing characteristics of Sinus & Fistula and their management.

- **M2U3 Sadyo Vrana and its Chikitsa**

  - Description of Sadyo Vrana (acute wounds),
  - Management of Sadyo Vrana
  - Description of Clinical manifestations and the treatment of bites and stings.

- **M2U4 Advanced techniques in wound management:**

  - Advanced wound management techniques,
    - Negative pressure wound therapy (NPWT),
    - Vacuum-assisted closure (VAC) dressings,
    - Hyperbaric oxygen therapy (HBOT),
  - Advanced dressing techniques such as
    - skin substitutes
    - extracellular matrix (ECM) therapies,
    - stem cell therapies.

	• **M2U5 Recent advances in Functional wound dressing** • Biomedical materials, • Innovative treatment strategies to accelerate Wound healing. • Wound Biomarker sensing in the Wound management					
		4	**20**	**40**	**60**	**120**

Semester No : 4

2A Module Number	2B Modules & units	2C Number of Credits	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
3	**M-3 Principles and Practice of Sangyaharan -Anaesthesiology** **This module covers the fundamental principles of Sangyaharan, including an overview of anaesthesia equipment, preoperative anaesthetic assessment, and the pharmacology of drugs used in various types of anaesthesia.** • **M3U1 Introduction to Anaesthesia and its Equipment** • History of Sangyaharan/ Anaesthesiology • Physics related to anaesthesia. • Anaesthesia equipment -	2	10	20	30	60

- Medical gas systems,
- Breathing systems,
- Ventilators and
- Anaesthesia machine, including recent advancements

• **M3U2 Preoperative evaluation and Preanaesthetic medication**

- General Principles of Preoperative Anaesthetic Assessment
- Interpretation of laboratory investigations
- Anaesthetic Plan
- Preanaesthetic preparation, including Fasting, preanaesthetic medication, and Informed Consent

• **M3U3 Airway management**

- Relevant anatomy of upper Airway,
- Evaluation of airway.
- Equipment and of technique of Intubation
- Failed intubation drill, LMA, Bag and mask ventilation

• **M3U4 Pharmacology of Sangyaharan related Ayurvedic drugs.**

- Pharmacology of Medhya, Vednasthapak, Madkari, Sangyasthapak, Nidrajanan, Akshepjanan and Shamana, Svedjanan, Hridya, Hridyotejak, Raktbharshamak, Shoolprashaman, Vaman and Hrillashar (Antiemetic) Dravyas as mentioned in Ayurvedic Samhita and their application in Sangyaharan.

• **M3U5 Pharmacology of drugs related to anaesthesia**

- Drugs acting on Autonomic nervous system:
  - Cholinergic system and drugs- Agonist and antagonist and

	◦ Adrenergic system and drugs- Agonist and antagonist • Autacoids and related drugs: Histamine and Antihistaminic, 5HT and antagonist, NSAID'S, Prostaglandins and leukotrienes • Drugs acting on Peripheral (Somatic) nervous system: ◦ Local anaesthetics – ◦ a) Injectable anaesthetic e.g. Procaine, Chloroprocaine, Lidocaine(Lignocaine), Prilocaine, Tetracaine, Bupivacaine, Ropivacaine, Dibucaine etc. ◦ b) Surface anaesthetic e.g. Cocaine, Lidocaine, Tetracaine, Proparacaine, Benzocaine, Butylaminobenzoate, Oxethazine etc. • Drugs acting on Central Nervous System: ◦ i) General Anaesthetics- ◦ a) Inhalational Anaesthetic Agents e.g. Ether, Halothane, Isoflurane, Desflurane, Sevoflurane, Nitrous oxide etc. ◦ b) Intravenous Anaesthetic Agents e.g. Thiopentone sodium, Methohexitone sodium, Propofol, Etomidate, Diazepam, Lorazepam, Midazolam, Ketamine, Fentanyl, Remifentanil etc. ◦ ii) Sedative and hypnotics, ◦ iii) Anti epileptics, ◦ iv) Anti-psychotic and anti-maniacs, ◦ v) Opioids Analgesics and antagonists • Coagulants and anti-coagulants • Drug interactions in Anaesthesiology, (drug interactions with the other drugs taken concomitantly by the patient) and anaphylactoid reactions					
4	**M-4 Description of Types of Anaesthesia** **This module focuses on the various types of anaesthesia used in different surgical interventions, highlighting the importance of proper documentation**	2	10	20	30	60

and the medicolegal aspects associated with anaesthesia.

• **M4U1 General Anaesthesia**

- Description and demonstration of General Anaesthesia .
- Indications
- Contraindications
- Mechanism
- Stages
- Techniques
- Complications and their management.

• **M4U2 Central Neuraxial block**

- Description and Demonstration of
    - Spinal Anaesthesia.
    - Epidural Anaesthesia.
    - Caudal Anaesthesia.

• **M4U3 Peripheral Nerve Blocks, Surface anaesthesia, Infiltration and Field blocks and medicolegal aspects**

- Brachial plexus block,
- Cervical plexus block,
- Stellate ganglion block,
- Lumbar plexus block,
- Lumbar sympathetic block,
- Sciatic nerve block,
- Femoral nerve block,
- 3 in 1 block,
- Wrist block,
- Popliteal Nerve block,

	• Trigeminal nerve block, • Retro bulbar Paravertebral blocks, • Intercostal blocks, • Ankle block, • Intravenous Regional Anaesthesia (Bier's block), • Iliohypogastric, Ilioinguinal and Genitofemoral nerve block, • Penile block. Surface anaesthesia, Infiltration and Field blocks Documentation and Medico- legal aspects of General anaesthesia and Regional anaesthesia					
		4	**20**	**40**	**60**	**120**

Semester No : 5

2A Module Number	**2B Modules & units**	**2C Number of Credits**	**Notional Learning hours**			
			2D Lectures	**2E Practical Training**	**2F Experiential Learning including Modular Assessment**	**2G Total**
5	**M-5 Perioperative Anaesthesiology and Anaesthesia in specific conditions.** **This module focuses on the principles of anaesthesiology in the preoperative, intraoperative, and postoperative management of patients, anaesthesia in specific conditions, recent advances in Sangyaharan, and the scope and application of Ayurvedic principles in Sangyaharan**	2	10	20	30	60

• **M5U1 Principles of anaesthesiology in different specialities of surgery**

- Principles and practice of Anaesthesiology including preoperative, perioperative, and postoperative care of patient belonging to
    - General surgery,
    - Obstetrics and Gynaecology,
    - Orthopaedics,
    - Paediatric,
    - Urology,
    - Plastic surgery,
    - Endoscopy,
    - Laparoscopic Surgery,
    - Laser Surgery and
    - Outpatient / Day care surgery

• **M5U2 Anaesthesia for patients with co-morbid conditions**

- Anaesthesia for patients with:
    - Diabetes mellitus,
    - Thyroid diseases,
    - Inherited metabolic diseases,
    - Obesity,
    - Respiratory diseases,
    - Cardiac diseases,
    - Renal diseases,
    - Geriatric problems and
    - Neuromuscular diseases.

• **M5U3 Monitoring and post operative management in anaesthesia**

- Monitoring in anaesthesia: Cardiovascular, Respiratory, Renal function, Neurologic and neuromuscular monitoring;

	• Peri- operative Thermo- regulation and monitoring; • Perioperative awareness and monitoring depth of anaesthesia with BIS; • Perioperative acid-base balance; • Patient's positioning in anaesthesia, its hazards and management; • Peri- operative Fluid management and Blood transfusion; • Risks and hazards of anaesthesia • Postoperative management- ◦ Post anaesthesia care ◦ Postoperative nausea and vomiting ◦ Postoperative Intra-Venous fluid therapy ◦ Acute postoperative pain • **M5U4 Lifesaving skills** • Lifesaving Skills CCPR, • Basic life support (BLS) & • Advanced cardiovascular life support (ACLS) and • Monitoring patient in HDU, ICU &Parenteral nutrition; • Environmental factors and electrical safety in anaesthesia • **M5U5 Anaesthesia in remote locations and recent advances in Sangyaharan** • Anaesthesia in remote locations - Anaesthesia at Low Barometric Pressure, Anaesthesia at Hyperbaric chamber, Anaesthesia Outside the Operating Theatre -Objectives, Procedure and Risks of Anaesthesia in remote Locations • Describe recent advances in research in Sangyahrana, Palliative care, • Scope and Application of Principles of Ayurveda in Sangyahrana					
6	**M-6 : Dagdha Vrana (Burn injuries & Scalds) and Pranashta Shalya (**	2	10	20	30	60

	Extraction of retained foreign body. **This module comprises Dagdha Vrana and Pranashta Shalya, which emphasize the need for both theoretical knowledge and practical skills. Students are expected to gain the ability to assess, manage, and treat burns and hidden foreign bodies effectively, incorporating both modern medical techniques and traditional Ayurvedic principles wherever applicable. This module gives importance to the assessment and treatment of Burn injuries and Diagnostic tools to be incorporated in diagnosing foreign bodies in body cavities and their possible extraction method.** • **M6U1 Dagdha vrana (Burns)** • Comprehensive assessment and management of Dagdha Vrana: • Exploring Thermal, Chemical, and Electrical Burn Injuries • **M6U2 Pranashta Shalya** • Description of Nidana, Lakshana, and Chikitsa of Pranashta Shalya.: • Symptoms, Clinical Significance, complication of retained foreign body. • Comprehensive Study of Available Techniques, Emerging Technologies in Foreign Body Extraction • Post removal care as per Sushruta and Contemporary science					
		4	**20**	**40**	**60**	**120**
Semester No : 6						
2A Modu	**2B Modules & units**	**2C Num**	**Notional Learning hours**			

le Number		ber of Credits	2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
7	**M-7 Granthi, Arbuda (Principles of Management of Cyst and Neoplasm)** **Comprehensive description of Granthi, Arbuda & Principles Of Oncology will describe the Granthi, arbuda as per Ayurveda and Contemporary science. Also, it deals with Histological classification of Benign and Malignant Soft tissue tumours, Immunohistochemistry, Clinicopathological & Molecular Prognostic factors, The Module briefs about the role of Chemotherapy and Radiotherapy in Soft tissue sarcoma** • **M7U1 Granthi – Cyst and Arbuda – Benign and malignant Neoplasm** • Description and Surgical management of Granthi (Cyst) • Description and Surgical management of Arbuda (Benign and malignant Neoplasm) • **M7U2 Soft Tissue Tumours** • Histological classification of Benign and Malignant Soft tissue tumours, • Immunohistochemistry, Clinicopathological & Molecular Prognostic factors of tumours. • Growth patterns & Staging of tumours. • **M7U3 Tumour - Diagnosis and General Treatment**	2	10	20	30	60

	• Diagnostic test and their interpretation of Tumour • Treatment protocol and recent advancements in the management of Tumour. • **M7U4 Surgical treatment of Tumors** • Principles of Surgical Resection. • Treatment of Metastatic soft tissue sarcoma • **M7U5 Chemotherapy and radiotherapy in the management of Malignant Neoplasm** • Role of Chemotherapy in the management of Malignant Neoplasm • Role of Radiotherapy in the management of Malignant Neoplasm, • Ayurveda Treatment in the Post chemotherapy and Radiotherapy complications					
8	**M-8 Fundamentals of Sandhana Karma - Plastic & Reconstructive Surgery** **This module provides a comprehensive foundation in the principles, techniques, and practices of plastic and reconstructive surgery. It covers essential topics in aesthetic, reconstructive, and functional surgery. The module combines both theoretical knowledge and practical applications, focusing on the latest advancements and techniques in the field.** • **M8U1 Sandhana Karma - Plastic & Reconstructive Surgery** • Concept and Fundamentals of Sandhana Karma • Concept and Fundamentals of Plastic, reconstructive and cosmetic surgery	2	10	20	30	60

• **M8U2 Principles of Plastic surgery**

- Fundamental principles of Plastic surgery
- Classification of Skin Graft & Flaps in Current Surgical Practice.

• **M8U3 Nasa, Karna and Oshtha sandhana**

- Principles and techniques of Nasa Sandhana (Rhinoplasty,)
- Principles and techniques of Karna Sandhana (Auroplasty)
- Principles and techniques of Oshthasandhana(Cheiloplasty)
- Post operative Care described by Sushruta after different Sandhan Karma

• **M8U4 Techniques and tools used in reconstructive and cosmetic surgery**

- Tissue expansion
- Reservoir of tissue expansion
- Liposuction
- Implants and Biomaterials

• **M8U5 Leech Therapy in Plastic and Reconstructive Surgery**

- Role of Jalaukavacharana/Leech therapy in Plastic surgery and its recent advancements

• **M8U6 Concept of Transplant surgery and Organ transplantation**

- Principles of Transplantation
- Concept of Brain death, Organ Retrieval and Immunosuppression in Transplantation. Fundamentals,
- General principles and surgical techniques of Renal and Liver Transplantation.

		4	**20**	**40**	**60**	**120**
		16	**80**	**160**	**240**	**480**
Paper No : 2 (Asthi, Sandhi, Marma Aghat Evam Mootraroga Vigyan (Orthopedics and Urology))						
Semester No : 3						
2A Module Number	**2B Modules & units**	**2C Number of Credits**	**Notional Learning hours**			
			2D Lectures	**2E Practical Training**	**2F Experiential Learning including Modular Assessment**	**2G Total**
9	**M-9 Asthi Sandhi Vikara - Mool Sidhanta (Basics of orthopaedics)** **This module covers key topics in orthopaedics, including its historical background, primary care planning, case-taking strategies, investigation protocols, and the medico-legal implications relevant to orthopaedic practice.** **• M9U1 History of orthopaedics, Orthopaedics terminology & Applied knowledge of Tarunasthi(cartilage), Asthi (bone) & Sandhi** • History of orthopaedics • Orthopaedics terminology. • Applied knowledge about the embryological development, Ossification Histology, Anatomy & Physiology of Tarunasthi(cartilage) & Asthi (bone). • Applied anatomy and physiology of Asthi-Sandhi (skeletal-joints)	2	10	20	30	60

• **M9U2 The plan of primary care in Musculo-skeletal injuries**

- Plan of first-aid, Temporary splintage & triage in trauma.
- Informed consent & documentation & medical record keeping & other regulatory compliances.

• **M9U3 General scheme of case taking in the scenario of Musculo-skeletal injuries**

History taking, Clinical Examination, assessment & Plan of investigations for: (a) General orthopaedics disorders & Trauma cases, (b) Orthopaedic disorders & Trauma in Paediatric cases (c) Elderly Population

• **M9U4 Medico-legal implications.**

Addressing the case requiring the medico-legal concern & initiating the trail of documentation.

• **M9U5 Plan of investigations in orthopaedics.**

- Planning of the investigations: Diagnostic Radiology like plane X-ray, USG, Computerized tomography (CT), MRI, PET scan, Radio-isotope bone scan, Digital subtraction angiography (DSA), dual energy X-Rays absorptiometry (DEXA) & other recently introduced tools in context to orthopaedic conditions

• **M9U6 Mechanism & factors influencing the Bhagna Sandhana**

- Mechanism & factors influencing the Bhagna Sandhana (fracture healing).
- Pathya-Apathya Sandhaniya & Ropniya drugs in context to Bhagna Sandhana.
- Recent advances in the form of biological and biophysical technologies for the enhancement of fracture healing.

10	**M-10 Marma Vigyana & Sports Medicine** **This module addresses essential topics, including a thorough understanding of Marma and their anatomical correlations, manipulation techniques, and the Adankal maneuver for Marma chikitsa, while also covering the fundamentals of sports medicine.** • **M10U1 Marma & its anatomical correlations** • Marma. • Anatomical correlations of Marma. • **M10U2 Different systems of Marma Therapy, Manipulation techniques of individual Marma, Adankal manoeuvre, Traction manoeuvres & orthopaedics appliances.** • Different systems of Marma therapy like Tamil Varma & Kalaripayattu-chikitsa. • Manipulation techniques and Adankal maneuver of individual Marma in context to the trauma & pain Management • Traditional traction maneuver & orthopaedics appliances employed in Marma chikitsa • **M10U3 Recent Developments & scope of Research in Marma.** Recent Developments & scope of Research in Marma for Orthopaedics Specialty & Kreeda Bheshaja (sports medicine).	2	10	20	30	60

	• **M10U4 Applied fundamentals of Kreeda Bheshaja (Sports Medicine).** • History of *Kreeda Bheshaja*. • Introduction about the Basic fundamentals of *Kreeda Bheshaja* (Sports Medicine). • Etymology, Definition & Importance of *Kreeda Bheshaja*. • **M10U5 Sports Fitness & Sports Injuries.** • Fitness of Sports person incorporating fundamentals of sports physiology, sports nutrition, Ayurveda & Marma therapy. • Comprehensive knowledge about the Sports related injuries of Head, chest, spine, Pelvis, upper limb & lower limb. • Knowledge about the basic rehabilitation, Proprioceptive, Neuro-muscular facilitations, isotonic, isometric, isokinetic stretching & their contra-indications • **M10U6 Primary care protocols in sports injuries & rehabilitation strategies** • First-Aid, • RICE/PRICE /POLICE protocols, and • Management through various modalities like Taping, bandaging, needling & other on- field sports-injury management techniques.					
		4	**20**	**40**	**60**	**120**
Semester No : 4						
2A Modu	**2B Modules & units**	**2C Num**	**Notional Learning hours**			

le Number		ber of Credits	2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
11	**M-11 Orthopaedic Disorders & Musculo-Skeletal Injuries** **This module covers key topics in congenital and acquired metabolic, infectious, endocrinological, and neuro-muscular orthopedic disorders, along with osteonecrosis (AVN), bone tumors, musculoskeletal injuries, and emphasizes pediatric and geriatric trauma. It also addresses disorders of the vascular and lymphatic systems and includes diagnostic and therapeutic arthroscopy** • **M11U1 Congenital & acquired regional musculo-skeletal disorders** • Congenital & acquired orthopaedic conditions of spine, chest, pelvis, upper & lower limb their classification, diagnosis, and associated complications- Spina-bifida, hemivertebra, block vertebra, sacralization and lumbarization Congenital dysplasia of hip (CDH), Slipped capital femoral epiphysis, Perthes Disease, CTEV & other such deformities. • Non-Traumatic orthopaedic condition like Osteoarthrosis & its various implication, Spondylosis, spondylolysis, Spondylolisthesis, Conditions affecting the soft tissue (Ligaments, tendons, Joint capsules, menisci etc.) • **M11U2 Metabolic, Infective, Endocrinological, Neuro-muscular orthopaedic disorders & Osteonecrosis/Avascular necrosis (AVN)** • Comprehensive knowledge of	2	10	20	30	60

- Metabolic disorders,
- Infective disorders (osteomyelitis, brodies abscess, Fungal contaminations (Madura foot), Typhoid, syphilitic brucellar, parasitic infections of the bone, Septic arthritis, Koch's lesion),
- Endocrinological disorders hyperparathyroidism, skeletal fluorosis, lathyrism, scurvy, polysaccharidosis,
- Neuro-muscular disorders (post-polio paralysis & post cerebral Palsy scenarios)

- Understanding the basic aetiology pathophysiology, clinical features & implications of Osteonecrosis/avascular necrosis (AVN), affecting the bones & joints)

• **M11U3 Asthigata Arbuda (Tumours of the Bone)**

- Asthigata Arbuda (Tumours of the Bone)
- Tumours of the Bone (Benign, Pre-malignant, Malignant & Metastatic skeletal lesions)

• **M11U4 Musculo-skeletal injuries with emphasis on Paediatric & Geriatric Trauma.**

- Knowledge of Asthi Bhagna & Sandhimoksh their aetiology classification & associated clinical features. Understanding the concept of Traumatic, pathological, stress fractures and peri- prosthetic fractures, subluxations, dislocations & associated soft tissue injuries of muscles, tendons, ligaments, fascia and bursae.
- Regional Injuries of Head, Spine, Chest, abdomen, pelvis & the extremities.
- Comprehensive knowledge of Associated Neuro-Vascular injuries in context to the Musculo-skeletal injuries.
- Physeal injuries & fractures of spine, chest, pelvis, upper & lower limb in children.
- Geriatric Trauma.

	• **M11U5 Disorders of the Arteries, Veins, lymphatic system & Nerves.** • Disorders of the Arteries: Atherosclerosis, Arteriosclerosis, Aneurysm Arterial occlusion, Raynaud' syndrome, Raynaud' disease, Thoracic outlet syndrome, Burger's disease, Knowledge of Peripheral vascular disease & other arterial disorders. • Specific lesions like Necrosis, gangrene, Diabetic foot lesions, ischemic & trophic ulcers • Diseases of the Veins: Varicose veins, Thrombophlebitis, venous ulcers, Deep vein thrombosis, Pulmonary embolus & chronic venous insufficiency. • Diseases of lymphatic System: Lymph nodes, lymphangitis, Lymphoedema & neoplasm. • **M11U6 Diagnostic and therapeutic Arthroscopy** • Knowledge of diagnostic and therapeutic Arthroscopy					
12	**M-12 Bhagna Management** **This unit provides an overview of general principles of Bhagna Chikitsa and rehabilitation strategies (Punachesta Prasaar), details on orthopedic implants, external fixators, splints, orthotics, and prosthetics. It covers conservative and surgical management of bone and joint injuries, strategies for prompt identification and initial care of head and spine injuries, and approaches for managing bone diseases and regional orthopedic disorders.** • **M12U1 General Principle of Bhagna Chikitsa & Punachesta prasaar (Rehabilitation strategies)**	2	10	20	30	60

- Bhagna, Management Principle as per Ayurveda & contemporary science.
- Closed Reduction, Principle of immobilization (Classical and traditional Kusha-splints, Bandha, Plaster of Paris & other recent inclusions),
- Methods of Open reduction & internal fixation.
- Principles of mobilization, Physical medicine & rehabilitation (Sukhchestaprachara), Manual therapy, Trigger point release, deep and superficial heat agents, IFT, UST, TENS & incorporation Yogic Practices in rehabilitations of Musculo - skeletal injuries.
- Incorporation of Agnikarma, Cupping, Snehana, Swedana and panchakarma in rehabilitation.

• **M12U2 Knowledge about Orthopaedic implants, external fixators, splints, orthotics, prosthetics & other relevant equipments.**

- Orthopaedic implants (wires, screws, plates, nails, other recent inclusions),
- Different types of external fixators, and other operative techniques.
- Different kinds of splints, orthotics. & prosthetics.
- Orthopaedics surgery instruments, drill machines and
- Other equipment required for orthopaedics practice *like C-arm, image intensifier etc.*

• **M12U3 Conservative Management of Individual Bone and Joint injuries**

Conservative Management of Individual Bone and Joint injuries for:

- Chest wall injuries .
- Shoulder girdle & upper limb.
- Pelvis & lower limb.

• **M12U4 Surgical Management of Individual Bone and Joint injuries.**

	Surgical Management of Individual Bone and Joint injuries for: • Chest wall injuries. • Shoulder girdle & upper limb. • Pelvis & lower limb • **M12U5 Strategy of prompt identification, primary care, initial assessment & management plan in Head & spine injuries** • Primary care for head & spine injuries comprising the immediate assessment to avoid further damage & stabilize the condition. • **M12U6 Management of Diseases of the bone & regional Orthopaedic disorders: Conservative & Surgical management** • Management of Diseases of the bone & regional Orthopaedic disorders: • Conservative & Surgical management of various orthopaedic conditions.					
		4	**20**	**40**	**60**	**120**

Semester No : 5

2A Module Number	**2B Modules & units**	**2C Number of Credits**	**Notional Learning hours**			
			2D Lectures	**2E Practical Training**	**2F Experiential Learning including Modular Assessment**	**2G Total**

13	**M-13 Complications of Musculo-Skeletal Injuries & Corrective Orthopaedics.** **This unit covers systemic complications of orthopedic injuries, including pulmonary, delayed, and vascular issues. It also addresses conservative and corrective surgeries, such as tendon and ligament repairs, bone grafting, amputation, arthrodesis, and arthroplasty.** • **M13U1 Systemic complications in relation to the orthopaedic injuries.** • Systemic complications: Emergent conditions like ◦ Shock, ◦ Crush syndrome, ◦ Compartment syndrome, ◦ Disseminated intra-vascular coagulopathy (DIC) & their management. • **M13U2 Pulmonary, Delayed & Vascular complications in relation to the orthopaedic injuries** • Tension pneumothorax, pneumo-haemothorax, acute respiratory distress syndrome (ARDS), Hypostatic pneumonia & their management. • Deep vein thrombosis (DVT), thrombo-embolism, fat embolism. Neuro-vascular injuries, Infections & their management. • Non-union, mal-union and ignored or un-reduced dislocations & their management. • Myositis ossificans, Volkman's ischemic contracture other associated complications & their management. • **M13U3 Conservative & Corrective orthopaedic surgery (Repair, Transfer,**	2	10	20	30	60

	reconstruction & lengthening procedures for Tendon & ligament. Corrective orthopaedics • Conservative & Surgical corrective approaches for upper & lower limb deformities. • Tendon & ligament repair, transfer, reconstruction & lengthening procedures. Bone grafting, bone banking & bone transportation. • **M13U4 Bone grafting, bone banking & bone transportation** • Bone grafting, bone banking & bone transportation • Appreciate the theoretical, Practical & experiential knowledge regarding the fundamentals of Bone grafting, bone banking & bone transportation • **M13U5 Amputation Surgery.** • Amputation Surgery: Indications, Principles, Approach & Planning of Amputation surgery. • Post Amputation complications, care plan & rehabilitation. • **M13U6 Arthrodesis & Arthroplasty.** • Principles of Arthrodesis & Arthroplasty. • Joint replacement (spine & extremities), • Post Arthrodesis, Arthroplasty complications, care plan & rehabilitation					
14	**M-14 Mutravaha Srotas Vikara [Urinary disorders]**	2	10	20	30	60

This module covers key topics in *Mutravaha Srotas Vikara* including its classical description, types, nidanpanchak, and chikitsa of *Ashmari, Mutraghata, Mutrakrichhra, Niruddhaprakasha, Parivartika* and *Avapatika*. It also addresses the procedure of *Uttarbasti* and management of male infertility.

- **M14U1 Ashmari**
  - Aetiopathogenesis, classification, clinical features, diagnosis and management of *Ashmari*
- **M14U2 Mutraghata**
  - Aetiopathogenesis, classification, clinical features, diagnosis and management of Mutraghata
- **M14U3 Mutrakrichhra**
  - Aetiopathogenesis, classification, clinical features, diagnosis and management of *Mutrakrichhra.*
- **M14U4 Shishna Vikara**
  - Aetiopathogenesis, classification, clinical features, diagnosis, and management of Niruddhaprakasha.
  - Aetiopathogenesis, classification, clinical features, diagnosis, and management of Parivartika.
  - Aetiopathogenesis, classification, clinical features, diagnosis, and management of Avapatika
- **M14U5 Uttar Basti**

	• Uttar Basti ◦ Indications, ◦ contraindications, ◦ procedure and ◦ complications of and its management • **M14U6 Male infertility** • Aetiopathogenesis, investigations, and surgical management of male infertility					
		4	**20**	**40**	**60**	**120**

Semester No : 6

2A Module Number	2B Modules & units	2C Number of Credits	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
15	**M-15 Vrukka, Gavini Evam Bastigat Vyadhi [Diseases of Kidney, Ureter & Urinary Bladder]** **This module addresses the applied anatomy, clinical examinations, and related investigative tools to diagnose the diseases of the Kidney & Ureter, Urinary bladder. This module also steers the scholar to comprehend the skills for**	2	10	20	30	60

surgical techniques and methodologies used in surgical procedures in the Kidney & Ureter, Urinary bladder.

- **M15U1 Applied anatomy & Physiology of urinary system**
    - Applied anatomy & Physiology of
        - Retroperitoneum,
        - Kidney
        - Ureter,
        - Urinary bladder.
- **M15U2 Anomalies of Kidney and Ureter**
    - Clinical presentation, investigations and management of
        - Congenital anomalies of Kidney and Ureter
        - Trauma of Kidney and Ureter
        - Infection of Kidney and Ureter &
        - Neoplasm of Kidney and Ureter
- **M15U3 Obstructive Uropathy and Haematuria**
    - Clinical presentation, investigations and management of
        - Hydronephrosis,
        - Hydroureter,
        - Haematuria
- **M15U4 Renal failure**
    - Basic knowledge of Renal failure
    - Basic knowledge of dialysis
- **M15U5 Anomalies of urinary bladder**

	• Clinical presentation, investigations, and management of ◦ Congenital anomalies of the urinary bladder ◦ Trauma of the urinary bladder ◦ Infection of the urinary bladder & ◦ Neoplasm of the urinary bladder • **M15U6 Urinary system complications** • Clinical presentation, investigations, and management of ◦ Diverticulum, ◦ Vesico-vaginal fistula, ◦ Atony, ◦ Retention of urine, ◦ Neurogenic bladder, ◦ Overactive bladder, ◦ Cystocele, ◦ Urinary incontinence.					
16	**M-16 Paurushgranthi, Shishna Evam Mutramargagat Vyadhi [Diseases of Prostate, Penis & Urethra]** **This module addresses the applied anatomy, case-taking strategies, investigation protocols to diagnosis the diseases of Prostate, Penis & Urethra. This module also steers the scholar to comprehend with the skills for surgical techniques and methodologies used in surgical procedures in Prostate, Penis & Urethra.** • **M16U1 Applied anatomy & Physiology of urinary system** • Applied Anatomy & Physiology of	2	10	20	30	60

- Prostate.
- Penis.
- Urethra

• **M16U2 Anomalies & Disorders of prostate**

- Clinical presentation, investigations, and management of
  - Congenital anomalies of the prostate
  - Trauma of the prostate
  - Infection of the prostate
  - Neoplasm of prostate (BPH & Ca. Prostate)

• **M16U3 Prostatitis**

- Clinical presentation, investigations, and management of
  - Prostatitis.
  - Prostatic abscess.
  - Prostatic Calculi
  - Ejaculatory duct obstruction (EDO)

• **M16U4 Anomalies & Disorders of penis**

- Clinical presentation, investigations, and management of
  - Congenital anomalies of *Shisna.*
  - Trauma of *Shisna*
  - Infection of *Shisna*
  - *Lingaarsha*
  - Neoplasm of *Shisna* (Ca. Penis)

• **M16U5 Phimosis and Paraphimosis**

- Clinical presentation, investigations, and management of

	◦ Niruddhaprakash (Phimosis) ◦ Parivartika (Paraphimosis) ◦ Avapatika (Preputial ulcer) ◦ Priapism ◦ Erectile dysfunction ◦ Chordee ◦ Penile fracture. • **M16U6 Anomalies & Disorders of Urethra** • Clinical presentation, investigations, and management of ◦ Hypospadias, ◦ Epispadias, ◦ urethral stricture, ◦ meatal stenosis, ◦ urethrocutaneous fistula					
		4	**20**	**40**	**60**	**120**
		16	**80**	**160**	**240**	**480**

Paper No : 3 (Mahasrotas Evam Manyagat Shalyavikara (Surgical Disorders of Gastro-Intestinal System and Neck))

Semester No : 3

2A Module Number	2B Modules & units	2C Number of Credits	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular	2G Total

					Assessment	
17	**M-17 Mukha Roga and Annamargagata Vyadhi (Diseases of Oral Cavity and Oesophagus)** **This module comprises of Diseases of Oral Cavity and Oesophagus which emphasizes the need for both theoretical and practical skills. Student are expected to gain the ability to assess, manage and treat the oral cavity disorders, and oesophageal disorders by Ayurvedic principles and different surgical procedure** • **M17U1 Diagnosis and Management of Oral diseases** Diagnosis and Management of oral disorders • Oral ulcers (Mukhapak), • Oral cavity cancer (Mukharbud), • Precancerous conditions, • Submucosal fibrosis, • Leukoplakia, • Rannula • **M17U2 Oshtha Roga** Diagnosis and Management of • Congenital anomalies • Lip tumours • Mucosal cyst (Jalarbuda) • Nasopharyngeal cancer • Tongue ulcer and cancer	1	5	10	15	30

	• **M17U3 Oesophageal Disorders** Diagnosis and Management of • Oesophageal varices. • Dysphagia. • Neoplasm, Strictures. • Achalasia cardia. • GERD, Hiatus hernia. • Motility Disorders of Oesophagus.					
18	**M-18 Amashayagata, Grahanigata and Kshudrantragata Vyadhi (Diseases of Stomach, Duodenum and Small Intestine)** **This module comprises Diseases of the stomach, duodenum, and small intestine, along with their clinical presentations, which emphasizes the need for both theoretical and practical skills. Students are expected to gain the ability to assess, manage, and treat the Stomach, Duodenum, and Small Intestine disorders by Ayurvedic principles and different surgical procedures** • **M18U1 Diseases of Stomach** Diagnosis and management of- • Congenital and acquired pyloric stenosis, • Gastritis, • Gastric ulcer, and its complications, • Acute gastric dilatation and • Neoplastic diseases of stomach.	3	15	30	45	90

• **M18U2 Diseases of Duodenum**

Diagnosis and management of-

- Duodenitis,
- Duodenal ulcer and its complications,
- Neoplastic diseases of duodenum.
- Upper GI endoscopy- Diagnostic and Therapeutic

• **M18U3 Amashayagat Roga**

Nidan Panchaka, Chikitsa and Upadrava of-

- Parinam Shool,
- Annadrava Shool,
- Amlapitta

• **M18U4 Diseases of Small Intestine**

Diagnosis and management of-

- Congenital anomalies,
- Inflammatory disorders,
- Ulcer,
- Diverticuli,
- Stricture,
- Obstruction (Baddhagudodar),
- Perforation (Chidrodar) and
- Neoplasm of Small Intestine

• **M18U5 Abdominal Tuberculosis**

	• Diagnosis of Abdominal Tuberculosis. • Management of Abdominal Tuberculosis. • **M18U6 Urdhvag Raktapitta** Upper Gastrointestinal Bleeding-Urdhvag Raktapitta • Diagnosis of Upper Gastrointestinal Bleeding • Management of Upper Gastrointestinal Bleeding • Urdhvag Raktapitta					
		4	**20**	**40**	**60**	**120**

Semester No : 4

2A Module Number	2B Modules & units	2C Number of Credits	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
19	**M-19 Manya Vikara (Neck Disorders)** **This module comprises diseases of the Neck, which emphasizes the need for both theoretical and practical skills. Student are expected to gain the ability to assess, manage, and treat the diseases of the salivary gland, thyroid gland, thyroglossal cyst and fistula, branchial cyst and fistula, and be able to differentiate the exact**	1	5	10	15	30

	causative factors for cervical lymphadenopathy by their clinical presentation, FNAC, and Biopsy, and manage these conditions by appropriate Ayurvedic drugs/procedures or by surgery • **M19U1 Diagnosis of neck disorders** Diagnosis of neck disorders e.g. • Salivary glands, • Thyroid, • Thyroglossal cyst and Fistula, • Branchial cyst and fistula, • Cystic hygroma and • Cervical Lymphadenopathies. • **M19U2 Management of neck disorders** Management of neck disorders e.g. • salivary glands, • thyroid, • Thyroglossal cyst and Fistula, • Branchial cyst and fistula, • Cystic hygroma and • Cervical Lymphadenopathies • Chedan Karma of Manyagat Granthi, and Arbuda					
20	**M-20 Yakrit, Pittashaya, Pittanalika evam Pleeha Vyadhi (Diseases of Hepatobiliary System and Spleen)**	3	15	30	45	90

This module comprises of Diseases of Liver, Gall Bladder, Biliary Tree, Pancreas and Spleen which emphasizes the need for both theoretical and practical skills. Student are expected to gain the ability to assess, manage and treat the Diseases of Liver, Gall Bladder, Biliary Tree, Pancreas and Spleen by Ayurvedic principles and different surgical procedure

- **M20U1 Investigations in Hepatobiliary diseases**

  - Radiological investigations for hepatobiliary diseases- ERCP, MRCP, etc
  - Laboratory investigations for hepatobiliary diseases

- **M20U2 Plihavikara (Diseases of Spleen)**

Diagnosis and management of

  - Splenomegaly.
  - Splenic Injury.
  - Neoplasm of spleen.

- **M20U3 Agnyashaya Vikara (Diseases of Pancreas)**

Diagnosis and management of

  - Agnyashaya Shoth (Pancreatitis).
  - Cyst of pancreas.
  - Calculous of pancreas
  - Neoplasm of pancreas

- **M20U4 Cholangitis & other**

Diagnosis and management of

- Cholangitis
- Stenosis
- Choledocholithiasis
- Choledochal Cyst
- Neoplasm of biliary tree.

• **M20U5 Pittashaya Vikara (Diseases of Gall Bladder)**

Diagnosis and management of

- Acute and Chronic Cholecystitis
- Pittashmari (Cholelithiasis)
- Neoplasm of Gall Bladder.
- Pittashaya Nirharan-Chhedan Shastra Karma (Cholecystectomy-Open, Laparoscopic, robotic and other advancements)

• **M20U6 Congenital Anomalies of Biliary Tract**

- Diagnosis and management of Congenital anomalies of
    - Gall bladder
    - Bile duct
    - Vascular.

• **M20U7 Yakriddalyodara**

Yakritodara-

- Portal Hypertension
- Budd-Chiari Syndrome etc.

• **M20U8 Granthi & Arbud of Yakrit**

	• Diagnosis and Management of ◦ Yakrit vidradhi (Liver Abscess), ◦ Cyst - Hydatid cyst, ◦ Granthi, ◦ Yakrit Arbuda (Primary and Secondary malignant tumours)					
		4	**20**	**40**	**60**	**120**

Semester No : 5

2A Module Number	2B Modules & units	2C Number of Credits	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
21	**M-21 Diseases of Peritoneum, Omentum, Mesentery, Retroperitoneal Space and Abdominal Mass** **This module comprises of Diseases of Peritoneum, Omentum, Mesentery, Retroperitoneal Space and Abdominal mass which emphasizes the need for both theoretical and practical skills. Student are expected to gain the ability to assess, manage and treat the Peritoneal, Omental, Mesenteric, Retroperitoneal Space and Abdominal masses by conventional and Ayurvedic principles and different surgical procedure** • **M21U1 Retroperitoneal disorders**	2	10	20	30	60

Diagnosis and Management of-

- Swelling of Retroperitoneal space
- Fibrosis of Retroperitoneal space
- Tumours of Retroperitoneal space
- Psoas Abscess

• **M21U2 Gulma**

- Gulma roga-nidan panchak and chikitsa

• **M21U3 Abdominal Mass**

Differential Diagnosis, Investigations and Management of Abdominal mass.

• **M21U4 Laparotomy**

- Udar Roga, Nidan Panchak and Chikitsa - Udar patan, Exploratory Laparotomy

• **M21U5 Mesentric diseases**

- Mesenteric cyst,
- Torsion of mesentery,
- Mesenteric Lymphadenitis,
- Mesenteric Malignancy and
- Vascular thrombosis,
- Retroperitoneal cyst and
- Fibrosis.

• **M21U6 Diseases of Peritoneum**

- Diagnosis and Management of-
    - Peritonitis,

	◦ Peritoneal abscess, ◦ Neoplasms of peritoneum					
22	**M-22 Unduk, Unduk Puchha and Brihadantragata Vyadhi (Diseases of Caecum and Vermiform Appendix and Large Intestine)** **This module comprises of Diseases of Caecum and Vermiform appendix and Large intestine which emphasizes the need for both theoretical and practical skills. Student are expected to gain the ability to assess, manage and treat the Caecum and Vermiform appendix and large intestine by Conventional and Ayurvedic principles along with different surgical procedures.** • **M22U1 Caecum & large intestine** • Diagnosis and Management of- ◦ Congenital anomalies, ◦ Inflammation, ◦ Ulcers, ◦ Stenosis, ◦ Injuries, ◦ Foreign bodies, ◦ Diverticuli, ◦ Faecal fistula, ◦ Amoebiasis, ◦ Familial polyposis coli and ◦ Neoplasm of caecum and large intestine. • **M22U2 Emergencies of colon & grahani and their management**	2	10	20	30	60

	• Ulcerative colitis/ Grahani, • Ileostomy, • colostomy, • Resection anastomosis in emergency. • **M22U3 Therapeutics of scopies** • Diagnostic and Therapeutic applications of- ◦ colonoscopy ◦ Laparoscopy ◦ Sigmoidoscopy. • **M22U4 Diagnosis and management of Undukpuchhagat disorders** • Diagnosis and management of- ◦ Unddukpuchha Shoth (Appendicitis), ◦ Vedhan-Visravan of Abhyantar Vidradhi (appendicular abscess), ◦ Appendicular mass, ◦ Appendicular Perforation, ◦ Carcinoid Tumour and • Other Neoplasms of Appendix. Appendicectomy (Open, Laparoscopic) and other advances in surgical management.					
		4	**20**	**40**	**60**	**120**
Semester No : 6						
2A Module Number	**2B Modules & units**	**2C Number of Credi**	**Notional Learning hours**			

		ts	2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
23	**M-23 Gudagat Roga (Diseases of Rectum and Anal Canal)** **This module comprises diseases of Gudagat Roga (Diseases of Rectum and Anal Canal), which is focused on theoretical knowledge, practical Knowledge, and different skills along with newer techniques. Students are expected to gain the ability to assess, manage, and treat Acute and Chronic Diseases of the Rectum and anal canal effectively. He should be able to manage the emergency conditions related to the Rectum and Anal Canal, incorporating recent updates in medical techniques and traditional Ayurvedic principles wherever applicable** • **M23U1 Diagnosis and Management of Adhog Raktapitta** • Diagnosis and Management of Adhog Raktapitta (Lower Gastrointestinal bleeding). • **M23U2 Congenital Anomalies of Rectum** • Diagnosis and Management of- ◦ Congenital Anomalies, ◦ Inflammation, ◦ Ulcer, ◦ Stenosis, ◦ Neoplasm of Rectum.	3	15	30	45	90

- **M23U3 Nidanpanchak and Chikitsa of Arsha (Haemorrhoids)**

  - Nidanpanchak and Chikitsa of Arsha.
  - Diagnosis and Management of Haemorrhoids
    - Various methods of haemorrhoidectomy.
    - Rubber band Ligation.
    - Sclerotherapy.
    - IRC, Radio frequency / Laser ablation.
    - Stapler, etc. and new advances

- **M23U4 Diagnosis and management of Bhagandara (Fistula-in-ano)**

  - Nidanpanchak and Chikitsa of Bhagandara.
  - Diagnosis and management of Fistula-in-ano.
    - LIFT,
    - Laser therapy,
    - Core fistulectomy,
    - VAFT and
    - other recent advancement s like IFTAK and MIKST in the management of Fistula in ano.

- **M23U5 Ksharsutra & Ksharkarma**

  - Ksharsutra and Ksharkarma and its advancement, and its usage in anorectal disorders.

- **M23U6 Nidanpanchak and Chikitsa of Parikartika (Fissure-in ano)**

  - Nidanpanchak and Chikitsa of-
    - Parikartika (Fissure-in-ano)
    - Sannirudha Guda (Anal Stenosis and stricture),
    - Gudavidradhi (Perianal Abscess),

	◦ Faecal Incontinence, ◦ Anorectal Injuries, ◦ Foreign bodies. • Reconstructive procedure for Anal Stricture. • **M23U7 Diagnosis and Management of Pilonidal Sinus** • Diagnosis and management of Pilonidal sinus ◦ Nadivrana – Chedana, ◦ Z-Plasty, ◦ Rhomboid Flap, ◦ VAFT ◦ MIKKT etc. and ◦ recent advances • **M23U8 Nidanpanchak and Chikitsa of Gudabransha (Prolapse of Rectum)** • Nidanpanchak and Chikitsa of Gudabransha (Prolapse of rectum- • Advance Surgical Procedures like ◦ Abdominal Rectopexy, (Open and Laparoscopic) ◦ Suture and mesh rectopexy, ◦ Transanal Suture Rectopexy, ◦ pelvic floor repair and • other recent advances in the management of rectal prolapse.					
24	**M-24 Urah Evam Udara Abhighat (Torso Trauma)** **This module comprises of Thoracic and Abdominal injury which emphasizes the need for both theoretical and practical skills. Student are expected to gain the**	1	5	10	15	30

	ability to assess, manage and treat the blunt trauma, penetrating injuries, blast & crushed injuries of abdomen and thorax and manage this emergency condition by appropriate lifesaving first aid and able to triaging of patient and may refer to appropriate centre at right time • **M24U1 Urahgat Bhinna Vrana Evam Chikitsa** • Diagnosis of Thoracic Injury and its management, • Urahgat Bhinna Vrana Evam Chikitsa • **M24U2 Udargat Bhinna Vrana Evam Chikitsa** • Diagnosis and management of abdominal injury, • Udargat Bhinna Vrana Evam Chikitsa. • **M24U3 Diagnosis and Management of Koshthabhighat (Abdominal Injury)** • Diagnosis and management of individual organ Injury. • Pelvic Injury. • Emergency Laparotomy.					
		4	**20**	**40**	**60**	**120**
		16	**80**	**160**	**240**	**480**

Paper No : 4 (Anushastrakarma Evam Vishishta Shastrakarma (Parasurgical and Specialized Surgical Procedures))			
Semester No : 3			
2A Modu	**2B Modules & units**	**2C Num**	**Notional Learning hours**

le Number		ber of Credits	2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
25	**M-25 Principles and Practice of Kshara Karma** **This module comprises of Kshara karma and Kshara Sutra emphasizing on Preparation, standardization, clinical applications and latest updates. Here the student is expected to gain knowledge on different types of kshara and Kshara sutra, Sterilization of Kshara sutra, clinical applications of each type of Kshara including Ksharasutra in the management of various diseases specially ano-rectal conditions. The student is expected to acquire competency in rational use of different types of Kshara with efficient use of diagnostic tools and integrating with advanced techniques, identify and manage complications.** • **M25U1 Principles of Kshara and Kshara Sutra** • Preparation and standardization of different types of ◦ Kshara. ◦ Kshara Sutra. • Sterilization of Kshara Sutra. • **M25U2 Application of Kshara** • Indications, Contra indications and pre operative evaluation for Kshara Karma. • Mridu, Madhyama and Teekshna Kshara and their clinical application.	2	10	20	30	60

	• Paneeya and Pratisarana Kshara. • Indications & method of applications of Kshara Varthi, Kshara Thaila, Kshara pichu, Ksharodaka in surgical and non- surgical conditions • Pratisaraneeya Kshara procedure. • Complications of Kshara Karma and its management • **M25U3 Application of Kshara Sutra.** • Indications, Contra indications and pre operative evaluation for Kshara Sutra application. • Complications of Kshara Sutra and its management • **M25U4 Scientific advances in Kshara Karma and Kshara Sutra** • Recent researches, innovations and advanced techniques in indications, preparations and applications of ◦ Different forms of Kshara. ◦ Kshara Sutra.					
26	**M-26 Principles and Practice of Agni Karma** **This module comprises of fundamentals of Agnikarma, its types, clinical applications, complications, management, advanced Agnikarma equipment and techniques. The module will provide hands-on training in performing Agnikarma using different substances and Shalaka. Student will acquire detailed knowledge about the indications and therapeutic benefits of Agnikarma, proficiency in Agnikarma Procedure. Students will develop the ability to assess clinical conditions requiring Agnikarma, using Ayurvedic diagnosis as well as modern assessment tools. Students will be encouraged to**	2	10	20	30	60

engage in research and explore the scientific basis of Agnikarma, contributing to evidence-based practice. These outcomes aim to equip students with the knowledge and skills to confidently apply Agnikarma in clinical practice for a wide range of disorders including surgical conditions and pain management.

- **M26U1 Principles of Agnikarma**
    - Types of Agnikarma
    - Various substances and Shalakas used for Agnikarma as per disease indications.
- **M26U2 Application of Agnikarma**
    - Indications, Contra-indications and pre operative evaluation for Agnikarma.
    - Agnikarma procedure, dagdha lakshana, management of dagdha vrana.
    - Complications of Agnikarma and its management.
- **M26U3 Agnikarma Karmukatva**
    - Mode of action (Agnikarma Karmukatva) of Agnikarma in different surgical conditions- as Dahana, Chedana and Vedana Shamak in relation to Hemostatic, surgical excisions and pain management in different conditions
    - Advancements in Agnikarma Techniques and emerging research trends.
    - Vidha Karma and Viddhagni karma.
- **M26U4 Advanced tools and techniques of Agnikarma.**
    - Knowledge and application of modern thermal equipment with their techniques and uses.
        - Diathermy,
        - Laser therapy,
        - Microwave,

	◦ Ultracision harmonic scalpel, ◦ Vessel sealers etc. • Indications, contraindications, complications and management - of modern thermal equipment.					
		4	**20**	**40**	**60**	**120**
Semester No : 4						
2A Module Number	**2B Modules & units**	**2C Number of Credits**	**Notional Learning hours**			
			2D Lectures	**2E Practical Training**	**2F Experiential Learning including Modular Assessment**	**2G Total**
27	**M-27 Principles and Practice of Raktamokshana** **This module comprises of fundamentals of Rakthamokshana, procedure of Jalaukavacharna and other bloodletting procedures, indications, contraindications, complications, managements and recent advances. The student will develop a comprehensive understanding of the theoretical foundations of Rakthamokshana and gain insights into the role of Rakthamokshana in various disease management.** **The student will expertise in different techniques of Rakthamokshana, including Pracchanna, Siravyadha, Shringa, Alabu and Jalaukavacharana understanding the specific indications, contraindications, and therapeutic benefits of each**	2	10	20	30	60

method based on patient's conditions.The course will equip students to manage post-procedural care following Rakthamokshana, ensuring proper wound care, managing bleeding, and addressing potential complications. Students will be trained on safety protocols when performing Rakthamokshana like sterilization, safe handling of blood, and proper disposal of leeches in Jalaukavacharana.

Student will learn to integrate Rakthamokshana, particularly Jalaukavacharana, with modern medical therapies in wound management, vascular ailments, infections, plastic surgery etc. Students will be encouraged to engage in research activities that explore the efficacy of Rakthamokshana and Jalaukavacharana, contributing to evidence-based practice in Ayurveda

- **M27U1 Principles of Rakthamokshana**

  - Types of Rakthamokshana (Siravedha, Shringa, Jalauka, Alabhu and Prachhanna).
  - Indications and contraindications of various rakthamokshana types.
  - Pre operative evaluation and selection of Rakthamokshana technique as per indication.

- **M27U2 Procedure of Raktamokshana**

  - Procedure of different types of Rakthamokshana.
  - Complications of Rakthamokshana and its management.

- **M27U3 Jalaukavacharana(Leech therapy)**

  - Knowledge of leeches - Morphology, Anatomy, Physiology, Bio-chemical effects of various constituents present in the leech saliva.
  - Identification, Collection, Preservation and Cultivation of medicinal leeches.
  - Mode of action in leech therapy.
  - Indications and contraindications for Jalaukavacharana.

	• Jalaukavacharana vidhi, Complications and its management. • **M27U4 Recent advances.** • Recent innovations in Rakthamokshana including Jalaukavacharana. • Recent research developments in Rakthamokshana including Jalaukavacharana					
28	**M-28 Stana Roga (Breast Diseases)** **This module comprises of anatomical considerations, Ayurvedic aspects of sthana roga, classification, investigations and management of inflammatory, benign and malignant breast diseases. Students will be able to identify and describe common breast diseases, including inflammatory, benign (such as fibrocystic changes, fibroadenomas, and mastitis) and malignant conditions (such as breast cancer), clinical presentations, and risk factors. Student will develop skills to perform a thorough clinical examination of breast and diagnose. Learn to utilize appropriate diagnostic imaging techniques, understand the surgical options for managing breast disorders, including lumpectomy, mastectomy, and reconstructive options, as well as non-surgical interventions.** • **M28U1 Anatomy** • Surgical anatomy of Breast. • **M28U2 Nidana and Chikitsa of Stana Roga** • Nidana panchaka, lakshana evam Chikitsa of Stana Roga.	2	10	20	30	60

	• **M28U3 Diagnosis and management of inflammatory and benign breast diseases** • Etiopathogenesis, clinical features, investigations, conservative and surgical management of - Fibroadenosis. • Etiopathogenesis, clinical features, investigations, conservative and surgical management of fibroadenoma. • Etiopathogenesis, clinical features, investigations, conservative and surgical management of duct ectasia. • **M28U4 Diagnosis and management of malignant breast diseases** • Etiopathogenesis, clinical features of Stanarbuda (carcinoma of breast.) • Investigations, staging, spread of Stanarbuda (carcinoma of breast.) • Medical (chemo and radio therapy) and surgical management of Stanarbuda (carcinoma of breast.) • **M28U5 Phyllodes tumor** • Etiopathogenesis, clinical features, investigations of phyllodes tumor. • Management of phyllodes tumor.					
		4	**20**	**40**	**60**	**120**

Semester No : 5

2A Module Number	**2B Modules & units**	**2C Number of Credits**	**Notional Learning hours**			
			2D Lectures	**2E Practical Training**	**2F Experiential Learning**	**2G Total**

					including Modular Assessment	
29	**M-29 Vriddhi Roga - Hernia, Diseases of Abdominal Wall and Umbilicus.** **This module consists of Ayurvedic aspects of Vriddhi Roga with management, etiopathology of abdominal wall herniations, diseases of umbilicus and abdominal wall. Students will gain a detailed understanding of the conditions of abdominal wall, and umbilicus, along with the pathophysiology of the conditions like inguinal, umbilical, femoral, incisional hernia etc. The student is expected to understand and learn diagnostic workup and clinical assessment to diagnose different types of hernias and other conditions pertaining to; gain competency in surgical management of hernias and abdominal wall defects, postoperative care including prevention and management of complications** • **M29U1 Vriddhi Roga** • Nidana panchaka, bheda, lakshana evam chikista of ◦ Vriddhi roga. • **M29U2 Abdominal wall hernia** • Causes, Pathophysiology, investigations and surgical management(Sandhana Karma - Herniotomy, herniorrhaphy and hernioplasty) and laparoscopic procedures of – ◦ Inguinal hernia ◦ Femoral hernia ◦ Ventral Hernia – Primary - Umbilical, Epigastric, Spigelian, Lumbar, Traumatic; and Secondary -Incisional, parastomal. ◦ Others – Obturator, Perineal, Gluteal and sciatic hernias.	2	10	20	30	60

	• **M29U3 Umbilicus and abdominal wall conditions** • Congenital anomalies, Umbilical infections, Sinus, and Neoplasms with their surgical management. • Abdominal wall conditions and their surgical management. • General Infections • Synergistic gangrene • Cutaneous fistula • Abdominal compartment syndrome • Neoplasm of the abdominal wall-Desmoid tumor etc.					
30	**M-30 Vrishana Evam Vrishanakoshagat Vyadhi - The Testes and Scrotum** **This module comprises of Congenital anomalies of the scrotum and testes, scrotal cysts, torsion testes and testicular tumours -their etiopathology and management.** **Students will develop a thorough understanding of common surgical conditions affecting the scrotum and testes, such as hydrocele, varicocele, haematocele, chylocele, epididymo-orchitis, testicular torsion and testicular tumours etc. Understands the pathophysiology, risk factors, and clinical presentations of these disorders. Develops the skills for clinical diagnosis, ability to perform a comprehensive physical examination and utilize appropriate diagnostic tests evaluate scrotal and testicular conditions. Recognize and differentiate between urgent and non-urgent scrotal conditions, such as testicular torsion versus epididymitis. Understands and exhibits skills of both conservative and surgical treatment options for conditions affecting the scrotum and testes, with an emphasis on timely intervention in emergencies such as torsion. Gain knowledge of postoperative care and long-term management of scrotal and testicular**	2	10	20	30	60

conditions.

- **M30U1 Congenital anomalies**

  - Diagnosis and surgical Management of Congenital Anomalies -Ectopic testes and undescended testes
  - Orchidectomy and Orchidopexy techniques.

- **M30U2 Scrotal cysts**

  - Diagnosis and surgical Management of-
    - Hydrocele (Mutravridhi) surgical management with Vedhana karma and Eversion of sac
    - Retention cysts (Spermatocele and Sebaceous cyst), congenital cyst (Epididymal cyst and Hydatid cyst of Morgagni) and Tubercular epididymoorchitis.
    - Spermatocele, Chylocele, Pyocele, Haematocele and management through Bhedana karma (drainage)
    - Varicocele and management using high ligation method.

- **M30U3 The Testes**

  - Clinical presentation, investigations, diagnosis and conservative and surgical Management of-
    - Torsion of testes,
    - Epididymo-orchitis.
    - Orchitis.
    - Testicular trauma,
    - Benign and malignant tumors of testes.
    - Diseases of Scrotum
      - Fourniers Gangrene etc.

		4	**20**	**40**	**60**	**120**

Semester No : 6

2A Module Number	2B Modules & units	2C Number of Credits	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
31	**M-31 Naadiyantrakrit Shastrakarma: Minimally Invasive Surgeries (MIS)** **This module includes minimally invasive surgical techniques like laparoscopic and robotic surgeries, along with a brief understanding of bariatric surgery. The student will have an understanding of Minimally Invasive Techniques and gain comprehensive knowledge of the principles, equipment, and techniques of laparoscopic surgery, principles, and current areas of robotic surgeries, including their application across various surgical specialties. The student is expected to have a fair knowledge of Bariatric Surgery, understand the basic principles, indications, contraindications, advantages, and complications. Develop fundamental technical skills required for laparoscopic procedures, such as port placement, camera navigation, and handling specialized instruments** • **M31U1 Introduction to laparoscopic surgery** • Introdcution to MIS, Robotics, NOTES, Single Incision-Laparoscopic Surgery	3	15	30	45	90

- Introduction and insights on Diagnostic and therapeutic laparoscopy.
- Laparoscopic anatomy of the abdomen.
- Physiology of pneumo-peritoneum and dangers of pneumoperitoneum.

• **M31U2 Principles of energy devices**

- Principles, use and dangers of energy devices
- Theory of different forms of diathermy and other energy devices.
- Medico-legal implications of video-endoscopic surgery
- Informed consent for laparoscopic procedures

• **M31U3 Laparoscopy equipment**

- Technology of video imaging, cameras, insufflator etc.
- The methods of manipulation of images.
- Laparoscopic instruments, clips, staplers and port types.
- Advanced instrumentation and equipments.
- Endoscopic suturing devices.

• **M31U4 Laparoscopic complications**

- Pre and post operative management of laparoscopic cases.
- Recognition and management of laparoscopic complications.
- Anesthetic problems in laparoscopic surgery.
- Port complications and its management.
- Management of equipment failure.

• **M31U5 Robotic & Bariatric Surgery**

- Introduction, indications and contraindications, Advantages and disadvantages of robotic surgery.
- Current areas of robotics surgery.

	• Introduction, Indications and contraindications, advantages and disadvantages of bariatric surgery.					
32	**M-32 Baala Shalyakarma - Paediatric Surgery** **This module comprises pre- and post-operative care of paediatric patients, diagnosis, investigations and surgical management of common paediatric conditions like undescended testes, ectopic testes, lymphadenopathy, cystic lesions, etc. Students will be able to identify and describe common paediatric surgical conditions like ectopic testes, undescended testes, et, along with proficiency in Paediatric Surgical Procedures. Acquire surgical skills in paediatric conditions, ensuring safe and effective techniques tailored to the pre- and post-operative needs of children** • **M32U1 Care of pediatric surgical patients** • Pre-operative assessment pediatric patients. • Post operative care of pediatric patients. • **M32U2 Common pediatric surgical conditions** • Diagnosis, investigations and surgical management of Common pediatric surgical diseases like ◦ Undescended testis. ◦ Ectopic testis. ◦ Lymphadenopathy. ◦ Lymphangioma, Thyroglossal cyst, Branchial cyst and other soft tissue lesions, etc.	1	5	10	15	30

		4	**20**	**40**	**60**	**120**
		16	**80**	**160**	**240**	**480**
		64	**320**	**640**	**960**	**1920**

Table 3 : Modules - Unit - Module Learning Objectives and Session Learning Objective- Notional Learning Hours- Domain-Level- TL Methods

Paper No : 1 Vrana, Sandhankarma Evam Sangyaharan Vigyan (Wound, Plastic Surgery and Anaesthesiology)

Semester No : 3

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experiential Learning	3E Domain/ Sub Domain	3F Level (Does/Shows how/ Knows how/Know)	3G Teaching Learning Methods

Module 1 : Vrana Sopha, Vidradhi, Pidika (Inflammation , Abscess , Boils & its Management)

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe the Clinical Understanding of Vrana Sopha, Vidradhi, & Prameha Pidaka
- Perform the utility of Saptopakrama, Incision & Drainage of Abscess, and treatment modalities of DFU as per Ayurveda & Contemporary science.
- Perform Recent advances in the management of Diabetic foot Ulcer & Future opportunities to address challenges through Ayurveda.

M 1 Unit 1 Vrana Shopha Vidradhi

- Comprehensive description of Vranashopha-Inflammation & Vidradhi – Abscesses

References: 1,2,4,5

3A	3B	3C	3D	3E	3F	3G
CO1,CO4	Describe the pathology, clinical features, and management strategies of Vranashopha (inflammation) and Vidradhi (abscesses), integrating Ayurvedic and contemporary	1	Lecture	CC	Knows-how	L&PPT ,L_VC

	approaches					
CO1,CO4	Describe the pathology, clinical features, and treatment principles of Vranashopha (inflammation) and Vidradhi (abscesses) using Ayurvedic and contemporary approaches	1	Lecture	CK	Knows-how	L&PPT ,L_VC
CO4	Describe and evaluate anti-inflammatory treatment modalities in Ayurveda and contemporary medicine, and apply them in patient care.	2	Practical Training 1.1	PSY-ADT	Shows-how	DIS,LS,D ,Mnt
CO4	Describe and evaluate anti-inflammatory treatment modalities in Ayurveda and contemporary medicine, and apply them in patient care.	2	Practical Training 1.2	PSY-ADT	Shows-how	LS,D,DIS
CO4	Describe and apply treatment strategies for Vrana, Sopha, and Vidradhi using Ayurvedic and contemporary approaches	3	Experiential-Learning 1.1	PSY-GUD	Shows-how	PSM,CB L
CO4	Describe and demonstrate the treatment of Vrana, Sopha, and Vidradhi, including the procedure for Incision & Drainage (I&D) of abscess.	2	Experiential-Learning 1.2	PSY-GUD	Shows-how	RLE,D,C BL

M 1 Unit 2 Prameha Pidaka / Diabetic Carbuncle, Boils

- Comprehensive description of pathology of Prameha Pidaka (Diabetic Carbuncle, Boils)
- Comprehensive description of treatment of Prameha Pidaka (Diabetic Carbuncle, Boils)

References: 1,2,3,4

3A	3B	3C	3D	3E	3F	3G
CO4,CO5	Describe the pathology and demonstrate the application of treatment strategies for Prameha Pidaka (diabetic carbuncle and boils) using both Ayurvedic and contemporary approaches.	1	Lecture	CAN	Knows-how	L&GD,L, L_VC,L& PPT
CO5	Describe the pathology and apply treatment strategies for Prameha Pidaka (diabetic carbuncle and boils), integrating Ayurvedic and modern approaches.	1	Lecture	CK	Knows-how	D-BED,L _VC,L& GD,L&P PT ,L

CO4	Describe the pathology and demonstrate treatment strategies of Prameha Pidaka (diabetic carbuncle and boils) using Ayurvedic and contemporary approaches.	1	Lecture	CS	Knows-how	ML,LS,L_VC,L&PPT ,L&GD
CO4,CO8	Identify and analyze diagnostic challenges and potential complications of Prameha Pidaka	2	Practical Training 1.3	PSY-GUD	Shows-how	D-BED,CD,CBL
CO4,CO8	Identify and analyze diagnostic challenges and potential complications of Prameha Pidaka	2	Practical Training 1.4	PSY-GUD	Shows-how	PER,D-BED,D,PBL
CO4,CO5	Identify and analyze diagnostic challenges and potential complications of Prameha Pidaka	2	Practical Training 1.5	PSY-GUD	Shows-how	CBL,PBL
CO4,CO5	Apply Ayurvedic and contemporary treatment strategies for diabetic carbuncle, including management principles, procedural interventions, and follow-up care.	3	Experiential-Learning 1.3	PSY-GUD	Shows-how	PBL,PSM

M 1 Unit 3 Diabetic Foot Ulcer (DFU)

- Description of Aetiology, Pathophysiology, Practice essentials and Treatment of Diabetic Foot Ulcer.

References: 1,2,3,4,5

3A	3B	3C	3D	3E	3F	3G
CO1,CO4	Describe the Aetiology, Pathophysiology, Practice essentials, and Treatment of DFU	1	Lecture	AFT-VAL	Knows-how	BS,L&PPT ,D,L_VC,L
CO1,CO4	Describe the Aetiology, Pathophysiology, Practice essentials, and Treatment of DFU	1	Lecture	CAN	Knows-how	C_L,DIS,CD
CO1,CO4	Develop and document a comprehensive DFU healing case record by identifying, recording, analyzing, and correlating Ayurvedic and modern assessment parameters	2	Practical Training 1.6	CAP	Shows-how	PBL,PER

CO1,CO4	Develop and document a comprehensive DFU healing case record by identifying, recording, analyzing, and correlating Ayurvedic and modern assessment parameters	2	Practical Training 1.7	PSY-ADT	Shows-how	D
CO1,CO4	Assess and describe the characteristic features of DFU according to Ayurvedic parameters (e.g., Vrana Lakshana, Dushti Lakshana, Dosha predominance, Srotodushti).	3	Experiential-Learning 1.4	PSY-MEC	Shows-how	CBL,D-BED
CO1,CO4	Assess and describe the characteristic features of DFU according to Ayurvedic parameters (e.g., Vrana Lakshana, Dushti Lakshana, Dosha predominance, Srotodushti).	2	Experiential-Learning 1.5	PSY-GUD	Shows-how	CD,CBL

M 1 Unit 4 Advances in Diabetic foot Ulcer (DFU) care

- Recent advance in the management of Diabetic foot Ulcer care
- Future opportunities to address challenges in offloading Diabetic feet

References: 10,11,13,14

3A	3B	3C	3D	3E	3F	3G
CO4,CO5,CO7	Discuss and correlate recent advances in the management of Diabetic foot Ulcer care & Future opportunities to address challenges in offloading Diabetic feet	1	Lecture	CK	Knows-how	L_VC,L&PPT ,L&GD
CO4,CO5,CO7	Analyze and discuss how these innovations have transformed wound healing strategies and patient care.	1	Lecture	CAP	Knows-how	L&PPT , L,D,L&GD
CO4,CO5,CO7	Enlist and describe recent advancements in DFU management, compare them with conventional treatment, and evaluate their clinical effectiveness.	2	Practical Training 1.8	PSY-ADT	Knows-how	CBL,L&GD
CO4,CO5,CO7	Enlist and describe recent advancements in Diabetic Foot Ulcer (DFU) management, compare them with conventional treatment, and evaluate their clinical effectiveness.	2	Practical Training 1.9	PSY-ADT	Knows-how	D-BED,CBL,PER
CO4,CO5,CO7	Identify the anatomy and physiology of the foot, and correlate them with the pathogenesis and management of diabetic foot ulcer (DFU).	3	Experiential-Learning 1.6	PSY-GUD	Shows-how	RLE,D-BED,PSM

CO4,CO5	Demonstrate skills in assisting the care of a diabetic foot ulcer, including wound dressing, infection monitoring, and patient education under supervision.	2	Experiential-Learning 1.7	PSY-ADT	Shows-how	CBL,D,CD

M 1 Unit 5 Visarpa, Cellulitis & Erysipelas

- Comprehensive description of pathology and treatment of Visarpa, Cellulitis & Erysipelas

References: 16,17

3A	3B	3C	3D	3E	3F	3G
CO4	Describe and differentiate cellulitis and erysipelas, including their etiology, pathology, symptoms,	1	Lecture	CAN	Know	DIS,D,L &PPT
CO1,CO4	Perform physical examination in patients with cellulitis and erysipelas. Apply appropriate management protocols and evaluate treatment outcomes. *Identify and recognize complications of cellulitis (abscess, necrotizing fasciitis, septicemia).* *Demonstrate and perform clinical procedures such as Incision & Drainage (I&D), fasciotomy, and debridement under supervision.*	2	Practical Training 1.10	PSY-SET	Knows-how	CD,D-BED,RLE
CO4,CO5	Demonstrate limb care strategies in cellulitis (elevation, compression, rest, hygiene, physiotherapy). Analyze and evaluate the scope of Ayurvedic treatment modalities (Shodhana, Shamana, Pathya-Apathya) in cellulitis and erysipelas.	4	Experiential-Learning 1.8	PSY-MEC	Shows-how	D-BED,CBL
CO4	Demonstrate limb care strategies in cellulitis (elevation, compression, mobility restriction, skin care, Analyze and evaluate the scope of Ayurvedic treatment modalities in cellulitis and erysipelas, and correlate them with modern approaches.	4	Experiential-Learning 1.9	PSY-GUD	Shows-how	PBL,CBL

Practical Training Activity

Practical Training 1.1 : Anti-inflammatory Treatment Modalities

Activity Details
• Demonstration of Ayurvedic lepa and contemporary topical NSAID application on model.
• Students practice preparation and application in pairs.
• Case-based discussion on choosing appropriate modality.
Teacher's Role
• Demonstrate both methods clearly.
• Provide clinical cases for discussion.
Students' Role
• Perform preparation and application accurately.
• Compare modalities and justify choices in cases.

Practical Training 1.2 : Anti-inflammatory Treatment Modalities

Activity Details
• Demonstration of Ayurvedic lepa and NSAID gel on model.
• Students practice both methods and apply to case scenarios.
Teacher's Role
• Demonstrate, supervise practice, give cases.
Students' Role
• Perform techniques, compare methods, apply in cases.

Practical Training 1.3 : Identification of diagnostic challenges complications of Prameha pidaka

Activity Details
• Case/images of Prameha Pidaka presented.
• Students analyze, identify diagnostic challenges, and predict complications.
• Group discussion to consolidate.
Teacher's Role
• Present cases, guide discussion.
Students' Role
• Analyze cases, identify challenges, list complications.

Practical Training 1.4 : complications of Prameha pidaka

Activity Details • Cases/images of Prameha Pidaka given. • Students identify diagnostic challenges and complications. • Guided group discussion. Teacher’s Role • Provide cases, guide discussion. Students’ Role • Analyze cases, note challenges, list complications.
Practical Training 1.5 : Identification of diagnostic challenges complications of Prameha pidaka
Activity Details • Cases/images of Prameha Pidaka shown. • Students identify diagnostic challenges and complications. • Findings shared in discussion. Teacher’s Role • Present cases, guide with questions. Students’ Role • Analyze, list challenges, note complications, discuss.
Practical Training 1.6 : Assessment of DFU healing
Activity Details • DFU case data given. • Students identify Ayurvedic & modern parameters, analyze, and document in case record. Teacher’s Role • Provide case data, guide documentation. Students’ Role • Record, analyze, and compile DFU case details.
Practical Training 1.7 : Documentation of healing of DFU
Activity Details • Demonstration of DFU case documentation.

• Students identify, record, and correlate parameters, then prepare full case record.
Teacher’s Role
• Demonstrate, provide cases, supervise.
Students’ Role
• Document parameters and compile DFU record.

Practical Training 1.8 : DFU management

Activity Details
• Brief review of DFU advances (NPWT, skin substitutes, oxygen therapy, regenerative options).
• Groups compare one advance with conventional care using a checklist.
• Hands-on: simulated NPWT setup, skin substitute dressing, indication charting.
• Groups present effectiveness and suitability.
Teacher’s Role
• Present advances, provide demo kits, guide stations, lead synthesis.
Students’ Role
• Perform simulations, complete checklist, present conclusions.

Practical Training 1.9 : Recent advancements in DFU management

Activity Details
• Demonstration of DFU advances (e.g., NPWT, skin substitutes) vs conventional dressing.
• Students compare with checklist, practice on model, and discuss effectiveness.
Teacher’s Role
• Demonstrate, provide checklist, supervise.
Students’ Role
• Compare methods, perform advanced technique, evaluate suitability.

Practical Training 1.10 : Cellulitis and Erysipelas

Activity Details
• Demonstration of physical exam, management, and procedures (I&D, fasciotomy, debridement).
• Students practice exams and procedures on models/simulations, apply protocols, note complications.
Teacher’s Role

• Demonstrate, explain, supervise.
Students' Role
• Perform exams, apply management, recognize complications, practice procedures.

Experiential learning Activity

Experiential-Learning 1.1 : Treatment of Vrana Sopha and Vidradhi,

Activity Details
• Groups work on Vrana, ?opha, or Vidradhi cases.
• Plan and demonstrate Ayurvedic & contemporary treatments on model.
• Peer groups discuss and compare strategies.
Teacher's Role
• Provide cases, guide resources, supervise, clarify.
Students' Role
• Prepare and demonstrate treatments.
• Discuss and evaluate peers' approaches.

Experiential-Learning 1.2 : Procedure for Incision & Drainage of Abscess

Activity Details
• Groups handle cases of Vrana, ?opha, Vidradhi.
• Plan and demonstrate treatments with simulated I&D on model.
• Cross-observe and exchange feedback.
Teacher's Role
• Provide cases/models, supervise, clarify.
Students' Role
• Perform treatments and I&D.
• Observe peers, give feedback.

Experiential-Learning 1.3 : Treatment of Diabetic Carbuncle

Activity Details

• Groups handle diabetic carbuncle case.
• Plan Ayurvedic & contemporary management, demonstrate procedures on model, outline follow-up.
• Peer groups observe and discuss.
Teacher's Role
• Provide case/models, supervise, clarify.
Students' Role
• Demonstrate management and follow-up.
• Observe and discuss peers' approaches.

Experiential-Learning 1.4 : Examination of DFU and assessment of its Characteristics features as per Ayurveda

Activity Details
• Groups analyze DFU cases/images for Ayurvedic parameters (Vrana Lakshana, Dushti Lakshana, Dosha, Srotodushti).
• Document and present findings, compare with peers.
Teacher's Role
• Provide cases, guide identification, facilitate discussion.
Students' Role
• Assess, record, present, and discuss parameters.

Experiential-Learning 1.5 : Examination of DFU and assessment of its Characteristics features as per Ayurveda

Activity Details
• Groups analyze DFU cases/images for Ayurvedic features (Vrana Lakshana, Dushti, Dosha, Srotodushti).
• Present and discuss findings.
Teacher's Role
• Provide cases, guide, supervise.
Students' Role
• Identify, record, and present parameters.

Experiential-Learning 1.6 : Care of Limb and Care of DFU

Activity Details
• Groups study foot models, link anatomy/physiology to DFU pathogenesis and management.

• Present case-based correlations. Teacher’s Role • Provide models and cases, guide and supervise. Students’ Role • Identify structures, correlate with DFU, present findings.
Experiential-Learning 1.7 : Care of Limb and Care of Diabetic Foot Ulcer
Activity Details • Students practice DFU dressing, infection monitoring, and foot-care education via role-play. Teacher’s Role • Provide models, supervise, guide corrections. Students’ Role • Perform dressing, assess infection, educate patient.
Experiential-Learning 1.8 : Cellulitis and erisepelas
Activity Details • Groups demonstrate limb care (elevation, compression, rest, hygiene, physiotherapy). • Analyze Ayurvedic modalities via cases and present integrated care plan. Teacher’s Role • Provide cases/resources, supervise, guide. Students’ Role • Perform limb care, evaluate Ayurvedic options, present plan.
Experiential-Learning 1.9 : Description of Cellulitis limb care strategies in Cellulitis, Scope of Ayurveda treatment in the Cellulitis and Erysipelas
Activity Details • Groups demonstrate limb care (elevation, compression, mobility restriction, skin care). • Analyze Ayurvedic modalities in cases and correlate with modern care. • Present integrated plan. Teacher’s Role • Provide cases/resources, supervise, guide.

Students' Role
• Perform limb care, evaluate Ayurvedic options, link with modern protocols, present.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks per credit. Keep a structured marking pattern. Keep a record of the structured pattern used for assessment. Calculate the Modular grade point as per Table 6 C. Select any one or two methods for the assessment. 1. Theory open Book test- 50 marks. Conduct a theory open-book test for 50 marks, which will contain either 1 ABQ or 2 LAQ and 6 SAQ. OR 2. Viva -Take questions from each unit and select 25 questions for the module. 2marks for each question can be allocated Preparation**:** Create open-ended questions testing clinical knowledge, procedural steps, and reasoning. Execution: Conduct one-on-one or panel-based interviews. Evaluation**:** Assess knowledge depth, clarity, and application ability. OR 3. DOPS (Direct Observation of Procedural Skills) - 25marks for each procedure. Select any two procedures for the Module Preparation: Identify critical procedures (e.g., venipuncture, IV canulation, etc relevant to the module. Execution: Allow students to perform procedures under observation in a clinical or simulated environment. Observe key steps, techniques, and patient interaction. Evaluation: Evaluate the skill, technique, aseptic methods, and safety adherence followed during the procedure. OR Any practical in converted form can be taken for assessment (25 Marks) And Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)	4

3A Course Outcome	**3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)**	**3C Notional learning Hours**	**3D Lecture/ Practical Training/ Experiential Learning**	**3E Domain/ Sub Domain**	**3F Level (Does/Shows how/ Knows how/Know)**	**3G Teaching Learning Methods**

Module 2 : Vrana Chikitsa (Wound/ Ulcer and its management)

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe the clinical features of Nija Vrana (dosha-based ulcers/wounds) and Agantuja Vrana (traumatic wounds).
- Assess each Vrana type by examining the local signs, systemic features, and doshic predominance.
- Differentiate Nija and Agantuja Vrana on the basis of cause, progression, and healing pattern.
- Correlate Ayurvedic descriptions of Vrana with modern concepts of acute traumatic injuries (incised wounds, lacerations, burns, ulcers).
- Apply this understanding in clinical case discussions and treatment planning.
- Integrate the Ayurvedic principles and contemporary science in the care of acute and chronic wounds
- Identify advanced techniques in wound care and innovative treatment strategies that can be implemented using Ayurvedic principles for effective wound management

M 2 Unit 1 Vrana, its components, and the principles of management.

- Clinical understanding of the classification of Vrana, its Lakshana.
- Management of Nija Vrana, Dushta Vrana, and Nadi Vrana.
- A detailed description of Vrana Srava, Vrana Vastu, and Vranopadrava, highlighting their importance in wound care.

References: 1,2,3,4

3A	3B	3C	3D	3E	3F	3G
CO4	Analyze wound exudates, along with factors delaying wound healing as described by Sushruta and contemporary science, and their practical utility in clinical diagnosis.	3	Practical Training 2.1	PSY-MEC	Shows-how	BL,TBL, PBL

CO1	Apply and execute Shasti Upakrama in the various stages of Vrana (ulcer) management	3	Experiential-Learning 2.1	PSY-GUD	Does	TPW,CBL,SIM
CO1,CO4,CO5	Describe Vrana and its types.	1	Lecture	CC	Knows-how	L,L_VC,CD,L&PPT
CO1,CO4,CO8	Describe Vrana Lakshanas as per Ayurvedic literature	1	Lecture	CC	Knows-how	JC,L_VC,L&PPT,L&GD
CO1,CO4,CO5	Clinical understanding of Vrana based on their characteristic features.	1	Lecture	CC	Knows-how	L,PER,L&GD,L&PPT
CO1	Illustrate Shasti Upakrama at various stages of Vrana (ulcer) management.	3	Experiential-Learning 2.2	PSY-GUD	Shows-how	SIM,D-BED,CBL
CO4	Analyze wound exudates and factors delaying wound healing, integrating Sushruta's principles with Contemporary science, and apply this knowledge in clinical diagnosis	3	Practical Training 2.2	PSY-ADT	Shows-how	BL,D-BED,DIS

M 2 Unit 2 Comprehensive description of wounds, ulcers and their management

- Wound and its Components,
- Pathophysiology of Wound Healing,
- Complications of Healing and its management.
- Ulcer: Definition, progression, patient assessment, types of ulcers,
- Distinguishing characteristics of Sinus & Fistula and their management.

References: 5,7,8,9,11,15,16

3A	3B	3C	3D	3E	3F	3G

CO1	Identify the types of ulcers, their assessment and documentation, along with distinguishing characteristics of sinus and fistula	2	Practical Training 2.3	PSY-GUD	Shows-how	EDU,L&GD,L_VC
CO1	Examine a wound or ulcer and the application of strategies to understand and manage factors contributing to delayed wound healing	3	Experiential-Learning 2.3	PSY-ADT	Does	L_VC,CBL,D-BED
CO1,CO4,CO5	Description of the pathophysiology of wounds and ulcers.	1	Lecture	CC	Knows-how	L,L&GD,L&PPT
CO1,CO4,CO5	Describe the stages of wound healing,	1	Lecture	CC	Knows-how	L&PPT , L_VC,L&GD
CO1,CO4	Apply strategies of management of delayed wound healing, considering contributing factors	3	Experiential-Learning 2.4	PSY-ADT	Shows-how	CBL,D
CO1,CO5	Demonstrate the distinguishing characteristics of Sinus & fistula	2	Practical Training 2.4	PSY-MEC	Shows-how	L&GD,EDU,L,CBL
CO1	Identify the types of ulcers, and document	2	Practical Training 2.5	PSY-GUD	Shows-how	EDU,CD,DIS,D

M 2 Unit 3 Sadyo Vrana and its Chikitsa

- Description of Sadyo Vrana (acute wounds),
- Management of Sadyo Vrana
- Description of Clinical manifestations and the treatment of bites and stings.

References: 1,2,3,4,5

3A	3B	3C	3D	3E	3F	3G
CO4	Identify the management of specific injuries in acute trauma, including head and neck,	2	Practical	PSY-	Shows-	CBL,PrB

	thoracic region, and abdomen		Training 2.6	GUD	how	L,CD,BS
CO1,CO4	Describe the Management of acute trauma, including pre-hospital care, transportation, hospital treatment, and rehabilitation. Assessment of appropriate wound closure techniques	3	Experiential-Learning 2.5	PSY-ADT	Does	D-BED,PSM,D,PBL,CBL
CO1,CO4,CO5	Describe the clinical manifestations of acute traumatic wounds.	1	Lecture	CC	Knows-how	PER,D,L&GD,L_VC,L&PPT
CO1,CO4,CO5	Describe the signs and symptoms of bites and stings.	1	Lecture	CC	Knows-how	DIS,D
CO1,CO4,CO8	Manage acute trauma, including pre-hospital care, transportation, and hospital care	3	Experiential-Learning 2.6	PSY-ADT	Shows-how	PER,CBL,D

M 2 Unit 4 Advanced techniques in wound management:

- Advanced wound management techniques,
  - Negative pressure wound therapy (NPWT),
  - Vacuum-assisted closure (VAC) dressings,
  - Hyperbaric oxygen therapy (HBOT),
- Advanced dressing techniques such as
  - skin substitutes
  - extracellular matrix (ECM) therapies,
  - stem cell therapies.

References: 5,6,7,8,9

3A	3B	3C	3D	3E	3F	3G
CO1,CO4	Describe the desired mechanisms of action associated with advanced techniques	2	Practical Training 2.7	PSY-GUD	Shows-how	PAL,CD,IBL,CBL

CO1,CO4,CO5	Identify the recent advancements in wound treatment and evaluating their clinical utility.	4	Experiential-Learning 2.7	PSY-ADT	Does	DIS,D,JC,D-BED,BS
CO1,CO4,CO5	Describe skin substitutes	1	Lecture	CC	Knows-how	L_VC,L&GD,L&PPT ,L
CO1,CO4,CO5	Describe the extracellular matrix (ECM) materials	1	Lecture	CC	Knows-how	L&GD,L,L&PPT
CO1,CO4	Interpret the desired mechanisms of advanced techniques, such as stem cell therapies, in chronic and acute wound healing.	2	Practical Training 2.8	CS	Knows-how	CD,D

M 2 Unit 5 Recent advances in Functional wound dressing

- Biomedical materials,
- Innovative treatment strategies to accelerate Wound healing.
- Wound Biomarker sensing in the Wound management

References: 5,7,8,9,10,11

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO5,CO8	Illustrate innovative treatment strategies to enhance wound healing.	2	Practical Training 2.9	PSY-GUD	Shows-how	PAL,BL,CBL,PL,CD
CO1,CO4,CO5,CO8	Demonstrate the potential innovative contributions of Ayurveda to wound care.	4	Experiential-Learning 2.8	PSY-ADT	Does	D-BED,CBL,D,DIS,D-M
CO4,CO5,CO8	Describe wound biomaterials and biomarkers, and their utility in treating acute and chronic wounds	1	Lecture	CC	Knows-how	PER,L&PPT ,L_VC

						,L&GD

Practical Training Activity

Practical Training 2.1 : Recent advancements in the managements Burn injury with Scope for Ayurveda Treatment

Activity Details
• Demonstration of burn care for complication prevention on model.
• Students practice dressing and plan long-term surgical, rehab, and psychological care.
Teacher’s Role
• Demonstrate, explain, supervise.
Students’ Role
• Perform care, note preventive steps, outline long-term plan.

Practical Training 2.2 : Recent advancements in the managements Burn injury with Scope for Ayurveda Treatment

Activity Details
• Demonstration of burn management and complication care on model.
• Students practice wound care and plan long-term surgical, rehab, and psychological support.
Teacher’s Role
• Demonstrate, explain, supervise.
Students’ Role
• Perform care, identify complications, draft long-term plan.

Practical Training 2.3 : Recent advancements in the management Burn injury with Scope for Ayurveda Treatment

Activity Details
• Teacher demonstrates initial burn assessment, fluid management, wound care, and complication handling on simulation models/case examples.
• Outlines steps for surgical planning, rehabilitation strategies, and psychological support.
• Students practice wound dressing techniques, fluid calculation, and role-play patient counseling under supervision.
Teacher’s Role
• Demonstrate systematic burn management with emphasis on complications and long-term care.
• Provide simulation models, case data, and dressing materials.
• Supervise student practice and correct errors in technique.

Students' Role
• Perform burn wound dressing, fluid resuscitation calculations, and demonstrate basic surgical planning steps.
• Role-play counseling sessions addressing rehab and psychological support.
• Document a concise management plan.

Practical Training 2.4 : Mechanisms of action associated with advanced techniques in wound healing

Activity Details
• Demonstration of mechanisms of action of advanced techniques using models/simulators.
• Students practice identifying and replicating steps in groups.
Teacher's Role
• Demonstrate mechanisms, highlight key points, and supervise.
Students' Role
• Replicate techniques on models and link steps to actions.
Brain storming sessions and Interactions
Assess the practical utility of these advanced wound care techniques.

Practical Training 2.5 : Mechanisms of action of advanced techniques in wound healing

Activity Details
• Teacher explains mechanisms of advanced wound-healing techniques (e.g., stem cell therapy, growth factors, tissue engineering) using models, charts, or video clips.
• Students work in small groups to analyze case examples and interpret how mechanisms apply in acute vs. chronic wounds.
Teacher's Role
• Demonstrate mechanisms with visual aids, guide interpretation, and clarify applications.
Students' Role
• Examine cases, link mechanisms to clinical outcomes, and present interpretations.

- Assess the practical utility of these advanced wound care techniques with L-VC, L -PPT

Brain storming sessions and Interactions
Assess the practical utility of these advanced wound care techniques.

Experiential learning Activity

Experiential-Learning 2.1 : Management of acute trauma

Activity Details
• Groups are given trauma case scenarios covering pre-hospital care, transport, hospital management, and rehabilitation.
• Each group demonstrates management flow and performs wound closure techniques on simulators.
• Peer groups review steps and suggest improvements, followed by reflection.
Teacher's Role
• Provide scenarios/resources, supervise demonstrations, and ensure accuracy.
• Facilitate peer critique and consolidate key principles.
Students' Role
• Demonstrate trauma care sequence and wound closure methods.
• Critique peer performances and integrate feedback.
Hands-On Training

- Conduct workshops that focus on practical skills in trauma management and wound closure techniques.
- Organize Sessions where in students practice wound closure techniques on simulated skin , Vegetables or any other models

Bedside Teaching D-BED

- Assign students to emergency or trauma wards where they can observe trauma resuscitation, wound management, and rehabilitation planning.

Experiential-Learning 2.2 : Advancements in wound treatment

Activity Details
• Groups present recent wound treatment advances (e.g., NPWT, bio-dressings, growth factors) with demonstrations on models/charts.
• Peers evaluate clinical utility and discuss pros/cons.
Teacher's Role

• Provide scenarios/resources, supervise, and guide reflections.
Students' Role
• Demonstrate advanced therapies, assess utility, and critique peers.
Flipped Classroom Approach:

- Teacher will Assign pre-class material to introduce the basics of advanced techniques, followed by in-class discussions and practical applications.

Research-Based Learning:

- Encourage students to research the latest scientific findings on the mechanisms of advanced wound care techniques.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks per credit. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment. 1. Theory open Book test- 50 marks: Conduct theory open book test for 50 marks which will contain either 1 ABQ or 2 LAQ and 6 SAQ. OR 2. Viva -Take questions from each Units and select 25 questions for the module. 2marks for each question can be allocated Preparation**:** Create open-ended questions testing clinical knowledge, procedural steps, and reasoning. Execution: Conduct one-on-one or panel-based interviews. Evaluation**:** Assess knowledge depth, clarity, and application ability. OR 3. OSPE (Objective Structured Practical Examination) - Plan 10 stations from the list of practical can be planned which carries 50marks Preparation**:** Develop multiple stations covering practical and theoretical aspects (e.g., instrument identification, lab tests, clinical findings). Execution: Students rotate through stations within a set time frame. Station formats may include tasks, demonstrations, or written responses. Evaluation: Evaluate based on knowledge, skill performance, communication during the procedure. OR Any practical in converted form can be taken for assessment (25 Marks) And	4

Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)

Semester No : 4

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experiential Learning	3E Domain/ Sub Domain	3F Level (Does/Shows how/ Knows how/Know)	3G Teaching Learning Methods

Module 3 : Principles and Practice of Sangyaharan -Anaesthesiology

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe the fundamentals of Anaesthesiology & Pharmacodynamics and Pharmacokinetics of Drugs related to Anaesthesia.
- Verify the anaesthesia machine for its proper functioning,
- Assess preoperative Anaesthetic Assessment, airway management
- Describe commonly used drugs in anaesthesia practice
- Identify and explain the physical principles underlying the function of anaesthesia equipment.
- Assess anaesthetic problems in high-risk patients and analyse appropriate management strategies.
- Justify appropriate preanaesthetic medication and preparation for patients undergoing surgery.
- Demonstrate and perform techniques for effective airway maintenance.
- Describe and compare the pharmacokinetics and pharmacodynamics of commonly used anaesthetic drugs.

M 3 Unit 1 Introduction to Anaesthesia and its Equipment

- History of Sangyaharan/ Anaesthesiology

- Physics related to anaesthesia.
- Anaesthesia equipment -
    - Medical gas systems,
    - Breathing systems,
    - Ventilators and
    - Anaesthesia machine, including recent advancements

References: 23,24,25,26,27

3A	3B	3C	3D	3E	3F	3G
CO2	Discuss the history, physics, and functioning of equipment related to anaesthesiology, including medical gas systems, breathing systems, ventilators, and anaesthesia machines, along with recent advancements.	1	Lecture	CC	Knows-how	L_VC
CO2	Conduct a thorough check of oxygen and other gas supplies, assemble the anaesthesia machine, and demonstrate the proper disconnection and reassembly of anaesthetic circuits.	3	Practical Training 3.1	PSY-GUD	Shows-how	SIM,D
CO2	Apply the principles of physics to anaesthesia equipment by evaluating monitors, ventilators, vaporizers, breathing systems, continuous flow systems, draw-over systems, and the storage and central pipeline system for medical gases.	4	Experiential-Learning 3.1	PSY-ADT	Shows-how	SIM,D
CO2	Describe the history of Sangyaharan/Anaesthesiology, the physics related to anaesthesia, and anaesthesia equipment, including medical gas systems, breathing systems, ventilators, and anaesthesia machines, along with recent advancements in these areas –	1	Lecture	CC	Knows-how	L_VC

M 3 Unit 2 Preoperative evaluation and Preanaesthetic medication

- General Principles of Preoperative Anaesthetic Assessment
- Interpretation of laboratory investigations
- Anaesthetic Plan
- Preanaesthetic preparation, including Fasting, preanaesthetic medication, and Informed Consent

References:

3A	3B	3C	3D	3E	3F	3G
CO2,CO7	Describe the general principles of preoperative anaesthetic assessment and interpret laboratory investigations.	1	Lecture	CAN	Knows-how	L&GD
CO2,CO7	Demonstrate documentation of an appropriate history and clinical examination for a patient undergoing surgery. Choose and interpret appropriate laboratory investigations, develop an anaesthetic plan, select appropriate premedication, and ensure pre-anaesthetic preparation for patients undergoing surgery. Obtain patient or guardian consent for anaesthesia after properly explaining the anaesthesia procedure, its advantages, and any potential complications - Session 1	3	Practical Training 3.2	PSY-GUD	Shows-how	RP,D-BED,LRI
CO2,CO6,CO7	Identify anaesthetic problems in high-risk patients and relevant investigations and referral for expert opinion for dealing with specific issues, preanaesthetic examination, taking detailed history, through physical examination, examining the reports of laboratory tests, preanaesthetic medication and preparation, including advice for withholding food and fluids	3	Experiential-Learning 3.2	PSY-ADT	Shows-how	CBL,D-BED,PL
CO2,CO7	Conduct and documentation of the patient history and clinical examination; select and interpret laboratory investigations; develop an anaesthetic plan; choose appropriate premedication; ensure pre-anaesthetic preparation; and obtain informed consent after describing the anaesthesia procedure, along with its advantages and complications.	2	Practical Training 3.3	PSY-GUD	Shows-how	LRI,RP,D
CO2,CO6,CO7	Assess anaesthetic problems in high-risk patients, investigations, and refer for expert opinion, including detailed history, physical examination, laboratory interpretation, and preanaesthetic preparation with fasting and medication advice.	3	Experiential-Learning 3.3	PSY-ADT	Does	PL,D-BED
CO2,CO7	Describe the anaesthetic plan and pre-anaesthetic preparation, including fasting, premedication, and informed consent.	1	Lecture	CAN	Knows-how	BL,BS

M 3 Unit 3 Airway management

- Relevant anatomy of upper Airway,
- Evaluation of airway.
- Equipment and of technique of Intubation
- Failed intubation drill, LMA, Bag and mask ventilation

References: 21,22,23,24

3A	3B	3C	3D	3E	3F	3G
CO2,CO7	Describe airway maintenance, the relevant anatomy of the upper airway, and the evaluation of the airway.	1	Lecture	CAP	Knows-how	L_VC
CO2,CO7	Conduct a demonstration of the technique of intubation, management of a failed intubation drill, maintenance of the airway by using different types of laryngeal mask airway, and maintenance of the airway by using mask ventilation.-	2	Practical Training 3.4	PSY-GUD	Shows-how	D,W,SIM
CO2,CO7	Perform intubation and management of failed intubation drills with airway maintenance using adjunct devices.	3	Experiential-Learning 3.4	PSY-ADT	Shows-how	D,SIM
CO2,CO7	Demonstrate the technique of intubation, management of a failed intubation drill, maintenance of the airway by using different types of laryngeal mask airway, maintenance of the airway by using mask ventilation -	2	Practical Training 3.5	PSY-GUD	Shows-how	D,W,SIM
CO2,CO7	Illustrate technique of intubation, failed intubation drill, Maintenance of airway by using different types of laryngeal mask airway, and maintenance of airway by using mask ventilation - Session 2	3	Experiential-Learning 3.5	PSY-ADT	Shows-how	SIM,D
CO2,CO7	Discuss techniques of intubation, failed intubation drills, and airway maintenance using laryngeal mask and mask ventilation	1	Lecture	CAP	Knows-how	L_VC

M 3 Unit 4 Pharmacology of Sangyaharan related Ayurvedic drugs.

- Pharmacology of Medhya, Vednasthapak, Madkari, Sangyasthapak, Nidrajanan, Akshepjanan and Shamana, Svedjanan, Hridya, Hridyotejak, Raktbharshamak, Shoolprashaman, Vaman and Hrillashar (Antiemetic) Dravyas as mentioned in Ayurvedic Samhita and their application in Sangyaharan.

References: 20,21,23,24,29,30

3A	3B	3C	3D	3E	3F	3G
CO2	Describe the pharmacology of Medhya, Vednasthapak, Madkari, Sangyasthapak, Nidrajanan, Akshepjanan, Shamana, Svedjanan, Hridaye, Hridyotejak, Raktbharshamak, Shoolprashaman, Vaman, and Hrillashar as mentioned in Ayurvedic Samhita, and their applications in Sangyaharan.	1	Lecture	CS	Knows-how	L&GD
CO2	Demonstrate Ayurvedic and modern pharmacological perspectives of drugs relevant to Sangyaharan.	2	Practical Training 3.6	PSY-ORG	Shows-how	LS,D
CO2	Evaluate the safety, efficacy, and limitations of Ayurvedic drugs in Sangyaharan practice.	2	Experiential-Learning 3.6	AFT-SET	Shows-how	JC,PL

M 3 Unit 5 Pharmacology of drugs related to anaesthesia

- Drugs acting on Autonomic nervous system:
  - Cholinergic system and drugs- Agonist and antagonist and
  - Adrenergic system and drugs- Agonist and antagonist
- Autacoids and related drugs: Histamine and Antihistaminic, 5HT and antagonist, NSAID’S, Prostaglandins and leukotrienes
- Drugs acting on Peripheral (Somatic) nervous system:
  - Local anaesthetics –
  - a) Injectable anaesthetic e.g. Procaine, Chloroprocaine, Lidocaine(Lignocaine), Prilocaine, Tetracaine, Bupivacaine, Ropivacaine, Dibucaine etc.
  - b) Surface anaesthetic e.g. Cocaine, Lidocaine, Tetracaine, Proparacaine, Benzocaine, Butylaminobenzoate, Oxethazine etc.
- Drugs acting on Central Nervous System:
  - i) General Anaesthetics-
  - a) Inhalational Anaesthetic Agents e.g. Ether, Halothane, Isoflurane, Desflurane, Sevoflurane, Nitrous oxide etc.
  - b) Intravenous Anaesthetic Agents e.g. Thiopentone sodium, Methohexitone sodium, Propofol, Etomidate, Diazepam, Lorazepam, Midazolam, Ketamine, Fentanyl, Remifentanil etc.
  - ii) Sedative and hypnotics,
  - iii) Anti epileptics,
  - iv) Anti-psychotic and anti-maniacs,
  - v) Opioids Analgesics and antagonists

- Coagulants and anti-coagulants
- Drug interactions in Anaesthesiology, (drug interactions with the other drugs taken concomitantly by the patient) and anaphylactoid reactions

References: 26,28,29,30

3A	3B	3C	3D	3E	3F	3G
CO2	Discuss the pharmacokinetics, pharmacodynamics, drug interactions, and adverse reactions, including anaphylactoid responses, of drugs used in anaesthesiology.	1	Lecture	CAP	Knows-how	L&PPT
CO2	Demonstrate commonly used drugs in anaesthesia practice (premedication, induction agents - intravenous and inhalational, neuromuscular blocking agents, and reversal of muscle relaxants) - general principles, concepts of pharmacokinetics and pharmacodynamics, drug interaction in Anaesthesiology -	3	Practical Training 3.7	PSY-ORG	Shows-how	CBL,D-BED,LS
CO2,CO7	Illustrate pharmacokinetics and pharmacodynamics of various drugs used in anaesthesiology, drug interactions with other drugs taken concomitantly by the patient, and anaphylactoid reactions -	4	Experiential-Learning 3.7	PSY-ADT	Does	PL,JC,DIS,D
CO2	Demonstrate use of common drugs in anaesthesia practice, including premedication, intravenous and inhalational induction agents, neuromuscular blocking agents, and reversal agents, with reference to general principles, pharmacokinetics, pharmacodynamics, and drug interactions	3	Practical Training 3.8	PSY-ORG	Shows-how	D-BED,LS,CBL
CO2,CO7	Illustrate pharmacokinetics and pharmacodynamics of various drugs used in anaesthesiology, drug interactions with the other drugs taken concomitantly by the patient, and anaphylactoid reactions.	4	Experiential-Learning 3.8	PSY-ADT	Shows-how	PL,DIS,JC,D
CO2	Describe types, mechanism of action, doses, side effects, indications and contraindications of drugs acting on:- Autonomic nervous system: i) Cholinergic system and drugs- Agonist and antagonist and ii) Adrenergic system and drugs- Agonist and antagonist Autocoids and related drugs: Histamine and Antihistaminic, 5HT and antagonist,	1	Lecture	CAN	Shows-how	BS,L&PPT ,CBL

	NSAID'S, Prostaglandins and leukotrienes Drugs acting on Peripheral (Somatic) nervous system: Local anaesthetics – a) Injectable anaesthetic e.g. Procaine, Chloroprocaine, Lidocaine(Lignocaine), Prilocaine, Tetracaine, Bupivacaine, Ropivacaine, Dibucaine etc. b) Surface anaesthetic e.g. Cocaine, Lidocaine, Tetracaine, Proparacaine, Benzocaine, Butylaminobenzoate, Oxethazine etc. Drugs acting on Central Nervous System: i) General Anaesthetics- a) Inhalational Anaesthetic Agents e.g. Ether, Halothane, Isoflurane, Desflurane, Sevoflurane, Nitrous oxide etc. b) Intravenous Anaesthetic Agents e.g. Thiopentone sodium., Methohexitone sodium, Propofol, Etomidate, Diazepam, Lorazepam, Midazolam, Ketamine, Fentanyl, Remifentanil etc. ii) Sedative and hypnotics, iii) Anti epileptics, iv) Anti-psychotic and anti-maniacs, v) Opioids Analgesics and antagonists Session 2					
CO2	Describe Coagulants, anti-coagulants and drug interactions in Anaesthesiology, (drug interactions with the other drugs taken concomitantly by the patient) and anaphylactoid reactions	1	Lecture	CAN	Knows-how	L&PPT ,CBL,BS

Practical Training Activity

Practical Training 3.1 : Anaesthesia Equipment

Activity Details
• Teacher demonstrates oxygen/gas supply check and anaesthesia machine assembly.
• Students practice assembling, disconnecting, and reassembling anaesthetic circuits stepwise.
• Short discussion on troubleshooting and safety checks.

Teacher’s Role
• Demonstrate gas supply check and machine setup.
• Provide machines/circuits for hands-on practice.
• Supervise and correct errors during assembly/disassembly.
Students’ Role
• Observe demonstration.
• Perform checks and assemble/disassemble circuits.
• Discuss troubleshooting measures.

Practical Training 3.2 : Preoperative evaluation and preanesthetic medication

Activity Details
• Teacher demonstrates complete pre-anaesthetic assessment on a simulated/real patient.
• Students practice history-taking, examination, and selection of investigations.
• Groups prepare an anaesthetic plan, choose premedication, and perform mock consent discussions.
Teacher’s Role
• Demonstrate structured pre-anaesthetic workflow.
• Provide patient/simulation cases and guide practice.
• Supervise consent-taking and emphasize key explanations.
Students’ Role
• Conduct history and examination.
• Choose and interpret investigations.
• Formulate anaesthetic plan, premedication, and practice obtaining consent.

Practical Training 3.3 : Preoperative evaluation and preanesthetic medication

Activity Details
• Teacher demonstrates complete pre-anaesthetic assessment on a standardized patient/simulation model.
• Stepwise coverage: history-taking, clinical exam, lab investigation selection, anaesthetic plan formulation, premedication choice, pre-op preparation, and consent process.
• Students practice the same sequence in pairs under supervision.
Teacher’s Role
• Demonstrate full procedure with emphasis on sequence and key decision points.
• Provide sample lab reports and case variations for practice.

• Observe student performance and correct technique errors immediately.
Students' Role
• Perform history-taking, clinical exam, and investigation selection.
• Formulate anaesthetic plan, choose premedication, and role-play consent explanation.
• Document findings systematically.

Practical Training 3.4 : Airway management

Activity Details
• Teacher demonstrates endotracheal intubation, failed intubation drill, laryngeal mask airway (LMA) use, and mask ventilation on mannequins/simulators.
• Students practice each technique stepwise under supervision.
• Brief discussion on indications, safety, and troubleshooting.
Teacher's Role
• Demonstrate all airway management techniques.
• Provide mannequins/simulators for hands-on practice.
• Supervise and correct technical errors.
Students' Role
• Observe demonstrations.
• Perform intubation, failed drill, LMA insertion, and mask ventilation.
• Discuss safety considerations.

Practical Training 3.5 : Airway Management

Activity Details
• Teacher demonstrates stepwise intubation on airway mannequin, followed by failed intubation drill.
• Demonstrates insertion and use of different laryngeal mask airways and mask ventilation.
• Students practice each technique individually under supervision in rotation.
Teacher's Role
• Demonstrate correct techniques with emphasis on safety and sequence.
• Provide mannequins and airway devices for hands-on practice.
• Observe student performance and correct errors promptly.
Students' Role
• Practice intubation, failed drill response, laryngeal mask use, and mask ventilation.

• Repeat procedures until technique is consistent and accurate.
• Clarify doubts during practice.

Practical Training 3.6 : Role of ayurvedic medicines in sangyaharan

Activity Details
• Teacher demonstrates key Ayurvedic and modern drugs used in Sangyaharan with their preparation, dosage forms, and administration principles.
• Students examine drug samples/formulations and compare pharmacological perspectives.
• Short discussion on clinical applications and integration of both systems.
Teacher's Role
• Demonstrate drug handling and explain pharmacology.
• Provide Ayurvedic and modern drug samples/references.
• Guide comparative discussion.
Students' Role
• Observe drug demonstration.
• Analyze and compare pharmacological aspects.
• Discuss integrated applications.

Practical Training 3.7 : Pharmacology of drugs related to anaesthesia

Activity Details
• Demonstration of anaesthetic drugs: premedication, induction, neuromuscular blockers, reversal agents.
• Explanation of pharmacokinetics, pharmacodynamics, and interactions.
• Students practice mock preparation and administration.
Teacher's Role
• Demonstrate safe drug handling and explain principles.
• Supervise and correct student practice.
Students' Role
• Observe demonstrations.
• Perform mock preparation/administration.
• Discuss key pharmacological aspects.

Practical Training 3.8 : Pharmacology of drugs related to anaesthesia

Activity Details
• Teacher demonstrates preparation and administration of premedication, IV induction, inhalational agents, neuromuscular blockers, and reversal agents using mannequins/simulated setup.
• Emphasizes drug principles, kinetics, dynamics, and interactions during demonstration.
• Students then practice drug preparation, dosage calculation, and administration steps in rotation.
Teacher's Role
• Demonstrate correct drug handling, administration techniques, and sequencing.
• Provide drug vials, syringes, and simulation models for practice.
• Supervise practice, ensuring accuracy in dosage and safe handling.
Students' Role
• Prepare drugs, calculate doses, and perform administration techniques.
• Apply pharmacokinetic/dynamic concepts and identify potential interactions.
• Repeat procedures until competent.

Experiential learning Activity

Experiential-Learning 3.1 : Assembly and checking of Anaesthesia Equipment

Activity Details
• Students rotate through stations with anaesthesia equipment (monitors, ventilators, vaporizers, breathing systems, flow systems, gas pipelines).
• At each station, groups apply physics principles to evaluate function and safety.
• Peer discussion comparing systems and identifying limitations.
Teacher's Role
• Provide equipment and structured evaluation checklists.
• Guide application of physics concepts at each station.
• Clarify safety and clinical relevance.
Students' Role
• Examine and operate equipment at stations.
• Apply physics principles to evaluate performance.
• Share observations and compare findings in groups.

Experiential-Learning 3.2 : Preoperative evaluation, referral & preanaesthetic check-up of patient

Activity Details
• Students work in groups with high-risk patient case scenarios.
• Each group performs full pre-anaesthetic evaluation: history, physical exam, lab report review, medication, and preparation.
• Groups identify anaesthetic problems, plan investigations/referrals, and present management strategies.
Teacher's Role
• Provide detailed high-risk case scenarios.
• Guide systematic evaluation and decision-making.
• Clarify key issues in preparation and referral.
Students' Role
• Conduct history and examination.
• Review labs, identify risks, and plan management.
• Present findings and recommendations

Experiential-Learning 3.3 : Preoperative evaluation, referral & preanaesthetic check-up of patient

Activity Details
• Groups are assigned high-risk patient case scenarios with history, clinical findings, and lab reports.
• Students identify anaesthetic risks, required investigations, and indications for referral.
• They prepare a preanaesthetic checklist with fasting and medication instructions.
• Each group presents their plan and justifies clinical decisions.
Teacher's Role
• Provide varied high-risk patient cases and relevant lab data.
• Facilitate group analysis and clarify complex decision points.
• Ensure completeness of student checklists.
Students' Role
• Analyze history, exam findings, and labs to detect anaesthetic risks.
• Decide additional investigations and referral needs.
• Draft preanaesthetic preparation plan with fasting/medication advice.
• Present reasoning to peers.

Experiential-Learning 3.4 : Airway management

Activity Details

• Students practice intubation and failed intubation drills on mannequins/simulators.
• Groups perform airway maintenance using adjunct devices (LMA, mask ventilation).
• Peer discussion on troubleshooting and safety.
Teacher's Role
• Provide mannequins/simulators and protocols.
• Supervise and correct performance.
• Emphasize safety and decision-making in failed airway.
Students' Role
• Perform intubation and failed drill independently.
• Apply adjunct airway devices for maintenance.
• Share challenges and solutions in groups.

Experiential-Learning 3.5 : Airway management

Activity Details
• Students, in small groups, rotate through simulation stations: intubation, failed intubation drill, laryngeal mask airway insertion, and mask ventilation.
• Each group performs the technique on mannequins, troubleshooting challenges during attempts.
• Groups compare outcomes, discuss errors, and refine approaches through peer input.
Teacher's Role
• Set up simulation stations with appropriate airway equipment.
• Provide complex scenarios (e.g., difficult airway) to challenge adaptation.
• Facilitate debriefing, highlighting critical adjustments.
Students' Role
• Perform airway techniques on mannequins, adapting methods when faced with challenges.
• Collaborate in groups, observe peers, and provide feedback.
• Modify technique based on outcomes and peer/teacher input.

Experiential-Learning 3.6 : Pharmacology of Ayurvedic sangyaharan Drugs

Activity Details
• Students work in groups to compile data from classical Ayurvedic texts and modern research on drugs used in Sangyaharan.
• Each group evaluates safety, efficacy, and limitations, then presents findings with case examples or literature support.
• Collective discussion to integrate perspectives into practice guidelines.

Teacher’s Role
• Assign drug categories and guide resources.
• Facilitate group presentations and moderate discussion.
• Ensure balanced evaluation of Ayurvedic and modern perspectives.
Students’ Role
• Search and compile textual and research evidence.
• Critically analyze safety, efficacy, and limitations.
• Present findings and participate in integrative discussion.

Experiential-Learning 3.7 : Pharmacology of drugs related to anaesthesia

Activity Details
• Groups receive simulated patient cases with anesthetic drug charts.
• Analyze kinetics, dynamics, interactions, and anaphylactoid risks.
• Perform drug administration on simulation model/software and observe outcomes.
• Present findings and management strategies to peers.
Teacher’s Role
• Provide case scenarios and guide simulation use.
• Facilitate group discussion and highlight key decisions.
Students’ Role
• Analyze cases, operate simulation, record responses.
• Collaborate in groups and present management plans.

Experiential-Learning 3.8 : Pharmacology of drugs related to anaesthesia

Activity Details
• Students work in groups on advanced simulated patient scenarios involving multiple anaesthetic and concomitant drugs.
• Each group identifies pharmacokinetics, pharmacodynamics, potential interactions, and risks of anaphylactoid reactions.
• Groups use simulation to demonstrate drug administration sequence and adapt techniques when adverse reactions occur.
• Present management strategies and compare approaches with peers.
Teacher’s Role
• Provide complex multi-drug patient cases with simulation support.

• Introduce unexpected reactions (e.g., anaphylactoid event) during simulation to test adaptability.
• Facilitate debrief and highlight critical adjustments in drug management.
Students' Role
• Analyze and interpret pharmacological data from cases.
• Administer drugs in simulation, adapting to adverse outcomes.
• Collaborate to develop safe, evidence-based management plans.
• Present adapted strategies and justify decisions.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6C. Select any one or two methods for the assessment. 1. Theory Open Book Test Conduct theory open book test for 50 marks which will contain either 2 LAQ and 6 SAQ. OR 2.Practical Roleplay: (25marks for presentation & 25 marks for evaluation) Preparation: : Create clinical scenarios related to the module (e.g. Preoperative evaluation, referral & preanaesthetic check-up of patient etc.) and provide clear instructions for the roles and expected outcomes. Execution: Divide students into groups, assign roles related to Mock assessment of Preoperative evaluation, referral & preanaesthetic check-up of patient etc Evaluation: Assess skills like communication, problem-solving, and teamwork. OR 3.Debate –25 marks for each debate (Total 2 debates) Preparation: Select relevant topics connected to the module (e.g. Pharmacology of Ayurvedic sangyaharan Drugs), Divide students into teams and provide time for preparation. Execution: Conduct the debate with clear time limits for each speaker. Assign a moderator to ensure smooth proceedings. Evaluation: Evaluate focusing on argument quality, Content delivery and teamwork. OR 4. Viva –Take questions from each Units and select 25 questions for the module. Two marks for each question can be allocated Preparation: Create open-ended questions testing clinical knowledge, procedural steps, and reasoning. Execution: Conduct one-on-one or panel-based interviews. Evaluation: Assess knowledge depth, clarity, and application ability. Or Any practical in converted form can be taken for assessment (25 Marks) And Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks	4

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experiential Learning	3E Domain/ Sub Domain	3F Level (Does/Shows how/ Knows how/Know)	3G Teaching Learning Methods

Module 4 : Description of Types of Anaesthesia

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe different types of anaesthesia and their medicolegal aspects
- Demonstrate and perform various techniques of general anesthesia and local anesthesia, while documenting the associated medico-legal aspects.
- Identify the indications, contraindications, mechanisms, stages, techniques, complications, management, and medico-legal aspects of various types of anaesthesia.

M 4 Unit 1 General Anaesthesia

- Description and demonstration of General Anaesthesia .
- Indications
- Contraindications
- Mechanism
- Stages
- Techniques
- Complications and their management.

References: 18,19,21,22,23

3A	3B	3C	3D	3E	3F	3G
CO1,CO7	Describe Indications and contraindications of general anaesthesia.	1	Lecture	CAN	Knows-how	L_VC
CO2,CO7	Demonstrate application of indications and contraindications, mechanism, stages and techniques of general anaesthesia.	3	Practical Training 4.1	PSY-GUD	Shows-how	D,EDU,RP
CO1,CO2,CO7	Assess the stages, techniques, complications, and management of general anesthesia.	3	Experiential-Learning 4.1	PSY-ADT	Shows-how	PL,CBL,JC
CO1,CO7	Describe Mechanism, Stages and Techniques of general anaesthesia.	1	Lecture	CAN	Knows-how	L_VC
CO1,CO7	Describe Complications and management of general anaesthesia.	1	Lecture	CAN	Knows-how	L_VC
CO2,CO7	Demonstrate application of indications and contraindications, mechanism, stages and techniques of general anaesthesia.	3	Practical Training 4.2	PSY-GUD	Shows-how	D,RP,EDU
CO1,CO2,CO7	Identify stages techniques, complications and management of general anaesthesia.	3	Experiential-Learning 4.2	PSY-ADT	Shows-how	PL,JC
CO1,CO2,CO7	Identify stages techniques, complications and management of general anaesthesia	3	Experiential-Learning 4.3	PSY-ADT	Shows-how	JC,PL

M 4 Unit 2 Central Neuraxial block

- Description and Demonstration of
  - Spinal Anaesthesia.
  - Epidural Anaesthesia.
  - Caudal Anaesthesia.

References: 19,20,21,26,27,28

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO7	Describe Indications, contraindications, Techniques, Complications and management of Spinal Anaesthesia	1	Lecture	CAN	Knows-how	L_VC
CO1,CO2,CO7	Demonstrate application of indications, contraindications, techniques, complications, and management of central neuraxial block.	3	Practical Training 4.3	PSY-MEC	Shows-how	SIM,D,CBL
CO1,CO2,CO7	Identify techniques, complications of central neuraxial block	3	Experiential-Learning 4.4	PSY-ADT	Shows-how	D,PL,CBL
CO1,CO2,CO7	Describe Indications, contraindications, Techniques, Complications and management of Epidural Anaesthesia	1	Lecture	CAN	Knows-how	BL,BS,L_VC
CO1,CO2,CO7	Describe Indications, contraindications, Techniques, Complications and management of Caudal Anaesthesia	1	Lecture	CAN	Shows-how	BS,L_VC,BL
CO1,CO2,CO7	Demonstrate application of indications, contraindications, techniques, complications and management of central neuraxial block.	2	Practical Training 4.4	PSY-MEC	Shows-how	CBL,D,SIM
CO1,CO2,CO7	Demonstrate application of indications, contraindications, techniques, complications and management of central neuraxial block.	2	Practical Training 4.5	PSY-MEC	Shows-how	CBL,D,SIM
CO1,CO2,CO7	Identify techniques, complications and management of central neuraxial block.	3	Experiential-Learning 4.5	PSY-ADT	Shows-how	CBL,SIM,PL,D
CO1,CO2,CO7	Identify techniques, complications and management of central neuraxial block.	3	Experiential-Learning 4.6	PSY-ADT	Shows-how	PL,D

M 4 Unit 3 Peripheral Nerve Blocks, Surface anaesthesia, Infiltration and Field blocks and medicolegal aspects

- Brachial plexus block,
- Cervical plexus block,
- Stellate ganglion block,
- Lumbar plexus block,

- Lumbar sympathetic block,
- Sciatic nerve block,
- Femoral nerve block,
- 3 in 1 block,
- Wrist block,
- Popliteal Nerve block,
- Trigeminal nerve block,
- Retro bulbar Paravertebral blocks,
- Intercostal blocks,
- Ankle block,
- Intravenous Regional Anaesthesia (Bier's block),
- Iliohypogastric, Ilioinguinal and Genitofemoral nerve block,
- Penile block.

Surface anaesthesia, Infiltration and Field blocks Documentation and Medico- legal aspects of General anaesthesia and Regional anaesthesia

References: 24,25,27,28,30

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe different types of peripheral nerve blocks - Brachial plexus block, cervical plexus block, stellate ganglion block, lumbar plexus block, lumbar sympathetic block, Sciatic nerve block, Femoral nerve block, 3 in 1 block, Wrist block, Popliteal Nerve block, Trigeminal nerve block, Retro bulbar Paravertebral blocks, Intercostal blocks, Ankle block, Intravenous Regional Anaesthesia (Bier's block), iliohypogastric, Ilioinguinal and Genitofemoral nerve block, Penile block - Session 1	1	Lecture	CAN	Knows-how	L&GD,L_VC
CO1,CO2,CO6,CO7	Demonstrate different types of peripheral nerve blocks, Surface anaesthesia, Infiltration and Field blocks & documentation and medico-legal aspects of General anaesthesia and Regional anaesthesia.	3	Practical Training 4.6	PSY-GUD	Shows-how	DIS,D,EDU,RP
CO1,CO2,CO6,CO7	Illustrate various conditions where different types of peripheral nerve blocks, Surface anaesthesia, Infiltration, and Field blocks are indicated and their mode of application and	3	Experiential-Learning 4.7	PSY-ADT	Shows-how	PBL,PER

	ability to document Medico-legal aspects of anaesthesia.					
CO1,CO2	Describe different types of peripheral nerve blocks - Brachial plexus block, cervical plexus block, stellate ganglion block, lumbar plexus block, lumbar sympathetic block, Sciatic nerve block, Femoral nerve block, 3 in 1 block, Wrist block, Popliteal Nerve block, Trigeminal nerve block, Retro bulbar Paravertebral blocks, Intercostal blocks, Ankle block, Intravenous Regional Anaesthesia (Bier's block), iliohypogastric, Ilioinguinal and Genitofemoral nerve block, Penile block - Session 2	1	Lecture	CAN	Knows-how	L&GD,L_VC
CO1,CO2	Describe Surface anaesthesia, Infiltration anaesthesia and Field blocks	1	Lecture	CAN	Knows-how	L&GD,L_VC
CO2,CO6	Describe the documentation and medico-legal aspects of General and regional anaesthesia	1	Lecture	CAN	Knows-how	L_VC,L&GD
CO1,CO2,CO6,CO7	Conduct demonstration of different types of peripheral nerve blocks, Surface anaesthesia, Infiltration and Field blocks & documentation and medico-legal aspects of General anaesthesia and Regional anaesthesia.	2	Practical Training 4.7	PSY-GUD	Shows-how	EDU,D,DIS
CO1,CO2,CO6,CO7	Conduct different types of peripheral nerve blocks, Surface anaesthesia, Infiltration and Field blocks & documentation and medico-legal aspects of General anaesthesia and Regional anaesthesia	2	Practical Training 4.8	PSY-GUD	Shows-how	DIS,EDU,D
CO1,CO2,CO6,CO7	Identify various conditions where different types of peripheral nerve blocks, Surface anaesthesia, Infiltration and Field blocks are indicated and their mode of application and ability to document Medico-legal aspects of anaesthesia.	3	Experiential-Learning 4.8	PSY-ADT	Shows-how	PER,PBL
CO1,CO2,CO6,CO7	Identify various conditions where different types of peripheral nerve blocks, Surface anaesthesia, Infiltration and Field blocks are indicated and their mode of application and ability to document Medico-legal aspects of anaesthesia.	2	Experiential-Learning 4.9	PSY-ADT	Shows-how	PBL,PER
Practical Training Activity						
Practical Training 4.1 : General Anaesthesia						

Activity Details
• Demonstration of indications, contraindications, stages, and techniques of general anaesthesia on simulators.
• Students practice induction, maintenance, and recovery in rotation.
Teacher’s Role
• Demonstrate stepwise, supervise, and correct errors.
Students’ Role
• Perform GA techniques safely and refine with feedback.
Edutainment- Teachers will employ methods such as videos, slideshows, and demonstrations to elucidate the mechanisms, stages, techniques, and the various drugs utilized for general anesthesia.
Role plays

- Assemble the students and inform them about the techniques, complications, and management of general anesthesia, fostering an open discussion to explore all pertinent issues. Then, divide the students into small groups and allocate different roles such as Doctor, Patient, Attendants, and Operating Theatre staff. Direct the students to enact the process of administering general anesthesia, along with its complications and management. Finally, review and discuss the observations and learnings from the activity.

The teacher shall summarize the key concepts covered in the practical

Practical Training 4.2 : General Anaesthesia

Activity Details
• Demonstration of indications, contraindications, mechanism, stages, and techniques of general anaesthesia on simulators.
• Students practice induction, maintenance, and recovery steps in rotation.
Teacher’s Role
• Demonstrate stepwise, organize practice, and supervise closely.
Students’ Role
• Perform GA techniques safely and apply corrections.

Practical Training 4.3 : Central Neuraxial block

Activity Details
• Demonstration of indications, contraindications, techniques, complications, and management of central neuraxial block using models/simulators.

• Students practice block techniques stepwise under supervision.
Teacher's Role
• Demonstrate procedures, highlight safety checks, and supervise practice.
• Correct errors and explain complication management.
Students' Role
• Perform neuraxial block techniques stepwise.
• Apply precautions and refine skills with corrections.

Practical Training 4.4 : Central Neuraxial block

Activity Details
• Demonstration of indications, contraindications, techniques, complications, and management of central neuraxial block on simulators/models.
• Students practice block techniques stepwise under supervision.
Teacher's Role
• Demonstrate procedures, stress safety checks, supervise, and correct errors.
Students' Role
• Perform neuraxial block techniques, apply precautions, and refine skills.
Simulation- The teacher will demonstrate the techniques of spinal, epidural, and caudal anesthesia, as well as their complications and management, on simulated patients.
Case based learning-The teacher will demonstrate the technique for administering spinal anesthesia, and students will actively participate in the case study.
The teacher shall summarize the key concepts covered in the practical

Practical Training 4.5 : Central Neuraxial block

Activity Details
• Teacher begins with a stepwise demonstration of the indications and contraindications for central neuraxial block (spinal/epidural), using charts or slides for clarity.
• Teacher demonstrates the mechanism of action with a model or spine simulator to show anatomical landmarks.
• Practical demonstration of techniques (needle insertion, patient positioning, aseptic precautions, drug preparation and administration) on mannequins/simulators.
• Teacher explains possible complications (hypotension, post-dural puncture headache, nerve injury, etc.) and demonstrates management protocols with case-based mini-scenarios.
• Students rotate through skill stations: patient positioning, landmark identification, needle handling, and complication management drills.
Teacher's Role
• Provide detailed demonstration of each step with emphasis on asepsis and patient safety.
• Organize stations and ensure resources (spine models, mannequins, charts, drug sets) are available.

• Supervise students individually, correcting errors in positioning, needle insertion technique, or drug preparation.
• Discuss management protocols for complications and clarify specialty-wise variations.
Students' Role
• Practice patient positioning and identification of spinal landmarks on simulators.
• Perform stepwise neuraxial block procedures under supervision, including aseptic preparation and safe needle handling.
• Demonstrate recognition and management of common complications through role-play/simulated cases.
• Document the procedure and reflect on error corrections.

Practical Training 4.6 : Peripheral Nerve Blocks, Surface anaesthesia, Infiltration and Field blocks and medicolegal aspects

Activity Details
• Demonstration of peripheral nerve blocks, surface, infiltration, and field blocks on simulators.
• Explanation of documentation and medico-legal aspects of GA/RA.
• Students practice techniques and prepare sample records.
Teacher's Role
• Demonstrate, supervise, and stress safety and medico-legal points.
Students' Role
• Perform block techniques and complete accurate documentation.

Practical Training 4.7 : Peripheral Nerve Blocks, Surface anaesthesia, Infiltration and Field blocks and medicolegal aspects

Activity Details
• Teacher demonstrates peripheral nerve blocks, surface anaesthesia, infiltration, and field blocks on models/simulators.
• Steps of documentation and medico-legal aspects of GA and RA are explained with sample records.
• Students rotate through stations to practice techniques and prepare documentation.
Teacher's Role
• Demonstrate block techniques stepwise and highlight medico-legal points.
• Supervise station practice and guide accurate record-keeping.
Students' Role
• Perform nerve block and infiltration techniques on models.
• Complete sample documentation ensuring medico-legal compliance.
Group Discussion- Create small group of students and ask them to discuss and document medico- legal aspects of General anaesthesia and Regional anaesthesia under the guidance of teacher

Role plays

- Assemble the students and explain the various types of peripheral nerve blocks, surface anesthesia, infiltration, field blocks, and the documentation and medico-legal aspects of general and regional anesthesia. Encourage an open discussion to explore all pertinent issues. Then, divide the students into small groups and assign them different roles, such as doctor, patient, attendants, hospital staff, etc. Have the students enact the scenario and afterwards, discuss their observations and what they have learned.

The teacher shall summarize the key concepts covered in the practical

Practical Training 4.8 : Peripheral Nerve Blocks, Surface anaesthesia, Infiltration and Field blocks and medicolegal aspects

Activity Details
• Demonstration of peripheral nerve blocks, surface anaesthesia, infiltration, and field blocks on simulators/models.
• Explanation of documentation and medico-legal requirements in GA and RA with sample case sheets.
• Students practice block techniques and prepare documentation in rotation.
Teacher’s Role
• Demonstrate procedures clearly, emphasize aseptic and medico-legal points.
• Supervise practice and correct errors.
Students’ Role
• Perform block techniques stepwise on simulators.
• Complete documentation accurately with medico-legal compliance.

Experiential learning Activity

Experiential-Learning 4.1 : General Anaesthesia

Activity Details
• Groups are given scenarios requiring assessment of GA stages, techniques, and complications.
• Each group demonstrates management steps on simulators and presents findings.
• Peer groups review and reflect on management approaches.
Teacher’s Role
• Provide scenarios/resources, observe, and guide accurate application.
• Facilitate peer discussion and consolidate key points.

Students' Role
• Assess GA stages and techniques, demonstrate complication management.
• Present scenario outcomes, critique peers, and integrate feedback.
Kinesthetic learning

- Students should identify indications, contraindications, stages of general anaesthesia.
- Students should demonstrate ability to administer general anaesthesia in OT under supervision
- Students should identify complications of general anaesthesia and manage accordingly
- Students should discuss about their observations with each other
- Students should present their findings in the form of class seminar

Peer learning- Students will present a case and exchange ideas regarding stages techniques, complications and management of general anaesthesia by working together and discuss the results
Journal Club- Students should collect latest data/development in the field of general anaesthesia through recent research articles

Experiential-Learning 4.2 : General Anaesthesia

Activity Details
• Groups work on scenarios covering stages, techniques, complications, and management of general anaesthesia.
• Each group demonstrates procedures on simulators and presents management strategies.
• Peer groups review and discuss alternative approaches.
Teacher's Role
• Provide scenarios/resources, supervise, and ensure correct application.
• Facilitate peer review and consolidate key points.
Students' Role
• Demonstrate GA stages and techniques, identify complications, and show management.
• Critique peers' performance and refine learning.
Journal Club- Students should collect latest data/development in the field of general anaesthesia through recent research articles

Experiential-Learning 4.3 : General Anaesthesia

Activity Details

• Groups are given GA case scenarios to identify stages, demonstrate techniques, and address complications with management steps on simulators.
• Each group presents approaches; peers discuss alternatives and improvements.
Teacher's Role
• Provide scenarios/resources, observe demonstrations, and guide reflection.
Students' Role
• Demonstrate GA stages and techniques, manage complications, and present findings.
• Critique peers and integrate feedback.
Journal Club- Students should collect latest data/development in the field of general anaesthesia through recent research articles

Experiential-Learning 4.4 : Central Neuraxial block

Activity Details
• Groups work on scenarios requiring central neuraxial block with emphasis on technique and complication management.
• Each group demonstrates procedures on simulators and shares management strategies.
• Peer groups discuss and reflect on alternative approaches.
Teacher's Role
• Provide scenarios/resources, supervise, and guide accuracy.
• Facilitate peer critique and summarize key points.
Students' Role
• Demonstrate techniques, identify complications, and present management.
• Critique peers' performance and incorporate feedback.

Experiential-Learning 4.5 : Central Neuraxial block

Activity Details
• Groups receive case scenarios requiring central neuraxial block.
• Each group demonstrates technique steps on simulators, identifies potential complications, and presents management strategies.
• Peer groups review and discuss alternative approaches.
• Collective reflection on safe practices.
Teacher's Role
• Provide case scenarios/resources, supervise, and ensure accuracy.
• Guide peer discussion and consolidate learning.
Students' Role

• Demonstrate block techniques, identify complications, and explain management.
• Critique peers' approaches and integrate feedback.

Experiential-Learning 4.6 : Central Neuraxial block

Activity Details
• Students are divided into small groups and given clinical scenarios (e.g., spinal anaesthesia for caesarean, epidural for orthopaedic surgery, contraindication cases, or complication emergencies).
• Each group prepares and demonstrates the technique of central neuraxial block on spine models/simulators, including patient positioning, aseptic steps, and needle insertion pathway.
• During the demonstration, groups must also identify possible complications (hypotension, dural puncture, nerve injury, infection) and present their management plan.
• Peer groups observe, critique the steps, and suggest alternative strategies.
• Session concludes with a collective reflection, comparing variations in technique and reinforcing key safety principles.
Teacher's Role
• Provide structured scenarios, mannequins/simulators, and relevant instruments.
• Observe group performance, ensuring correct application of techniques.
• Prompt discussion on overlooked steps, complication recognition, and evidence-based management.
• Summarize main takeaways and highlight specialty-specific considerations.
Students' Role
• Collaboratively plan and demonstrate block techniques with proper aseptic precautions.
• Discuss and explain how to anticipate, recognize, and manage complications.
• Critique peers constructively, integrating improvements into their own demonstrations.
• Document findings and reflect on safe clinical practice.

Experiential-Learning 4.7 : Peripheral Nerve Blocks, Surface anaesthesia, Infiltration and Field blocks and medicolegal aspects

Activity Details
• Groups receive case scenarios requiring selection of appropriate nerve blocks, surface, infiltration, or field blocks.
• Each group demonstrates application steps on simulators and prepares medico-legal documentation.
• Peer groups review choices and discuss alternatives.
Teacher's Role
• Provide case scenarios/resources, observe, and ensure accuracy.
• Facilitate peer critique and highlight medico-legal essentials.

Students' Role
• Identify indications, apply techniques on simulators, and complete documentation.
• Critique peers' approaches and refine learning.

Experiential-Learning 4.8 : Peripheral Nerve Blocks, Surface anaesthesia, Infiltration and Field blocks and medicolegal aspects

Activity Details
• Groups receive case scenarios requiring selection of appropriate peripheral nerve block, surface, infiltration, or field block.
• Each group demonstrates application steps on simulators and prepares medico-legal documentation.
• Peer groups critique the choice and documentation, followed by group reflection.
Teacher's Role
• Provide clinical scenarios/resources, observe, and ensure accuracy.
• Guide peer critique and highlight medico-legal essentials.
Students' Role
• Select and demonstrate the appropriate block for given conditions.
• Prepare documentation with medico-legal accuracy.
• Review peers' demonstrations and refine learning.

Experiential-Learning 4.9 : Peripheral Nerve Blocks, Surface anaesthesia, Infiltration and Field blocks and medicolegal aspects

Activity Details
• Groups are given scenarios requiring choice of peripheral nerve block, surface, infiltration, or field block.
• Each group demonstrates application steps on simulators and prepares medico-legal documentation.
• Peer groups review techniques and records, followed by reflection.
Teacher's Role
• Provide scenarios/resources, supervise demonstrations, and ensure correctness.
• Facilitate peer critique and emphasize medico-legal essentials.
Students' Role
• Select and demonstrate appropriate block techniques.
• Prepare accurate medico-legal documentation.
• Critique peers' work and integrate feedback

Modular Assessment

Assessment method	Hour
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks per credit. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6C. Select any one or two methods for the assessment. 1.Theory open Book test- 50 marks Conduct theory open book test for 50 marks which will contain either 2 LAQ and 6 SAQ. OR 2.Practical Roleplay: (25marks for presentation & 25 marks for evaluation) Preparation: : Create clinical scenarios related to the module (e.g. Preoperative evaluation, referral & preanaesthetic check-up of patient etc.) and provide clear instructions for the roles and expected outcomes. Execution: Divide students into groups, assign roles related to Mock assessment of Preoperative evaluation, referral & preanaesthetic check-up of patient etc Evaluation: Assess skills like communication, problem-solving, and teamwork. OR 3.Viva -Take questions from each Units and select 25 questions for the module. 2marks for each question can be allocated Preparation: Create open-ended questions testing clinical knowledge, procedural steps, and reasoning. Execution: Conduct one-on-one or panel-based interviews. Evaluation: Assess knowledge depth, clarity, and application ability. OR 4.DOPS (Direct Observation of Procedural Skills) - 25marks for each procedure . Select any two procedures for the Module Preparation: Identify critical procedures (e.g Peripheral Nerve Blocks, Surface anaesthesia, Infiltration and Field blocks etc.) relevant to the module. Execution: Allow students to perform procedures under observation in a clinical or simulated environment. Observe key steps, technique, and patient interaction. Evaluation: Evaluate the skill, technique, aseptic methods, and safety adherence followed during the procedure. OR 5.OSPE (Objective Structured Practical Examination) - 10 stations from the list of practicals can be planned which carries 50marks Preparation: Develop multiple stations covering practical and theoretical aspects (e.g., Techniques and drugs used for general anaesthesia, complications of central neuraxial block etc.). Execution: Students rotate through stations within a set time frame. Station formats may include tasks, demonstrations, or written responses. Evaluation: Evaluate based on knowledge, skill performance, communication during the procedure. OR 6.OSCE (Objective Structured Clinical Examination) -Plan 5 clinical examination stations carrying 50marks Preparation: Set up stations mimicking real-life clinical scenarios (e.g., Medicolegal aspect of anaesthesia, diagnosing conditions e,g. complications of spinal anaesthesia, or handling emergencies in OT/PACU/Postoperative ward). Execution: Allow students to demonstrate clinical skills, communication, and decision-making at each station. Provide feedback immediately after the station or during review sessions. Evaluation: Assess clinical reasoning, procedural accuracy, and patient-centered approach during the task. Or	4

Any practical in converted form can be taken for assessment (25 Marks) and
Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment.(25 Marks)

Semester No : 5

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experiential Learning	3E Domain/ Sub Domain	3F Level (Does/Shows how/ Knows how/Know)	3G Teaching Learning Methods

Module 5 : Perioperative Anaesthesiology and Anaesthesia in specific conditions.

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe the principles of anaesthesiology in the preoperative, intraoperative, and postoperative management of patients, as well as anaesthesia in specific conditions. Additionally, outline recent advances and research in Sangyaharan
- Perform preoperative, intraoperative, and postoperative anaesthetic management of patients, including anaesthesia in specific conditions, and demonstrate recent advances and research in Sangyahara
- Identify the administration of anaesthesia and carry out the complete preoperative, intraoperative, and postoperative anaesthetic management of patients, including anaesthesia in specific conditions. Additionally, explore recent advances in Sangyaharan and the scope and application of Ayurvedic principles in Sangyaharan.

M 5 Unit 1 Principles of anaesthesiology in different specialities of surgery

- Principles and practice of Anaesthesiology including preoperative, perioperative, and postoperative care of patient belonging to
  - General surgery,

- Obstetrics and Gynaecology,
- Orthopaedics,
- Paediatric,
- Urology,
- Plastic surgery,
- Endoscopy,
- Laparoscopic Surgery,
- Laser Surgery and
- Outpatient / Day care surgery

References: 19,20,21,22,23

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO7	Describe the principles and practice of anaesthesiology, including preoperative, perioperative, and postoperative care for patients in general surgery, obstetrics and gynaecology, orthopaedics, paediatrics, urology, and plastic surgery.	1	Lecture	CAP	Knows-how	L&PPT
CO1,CO2,CO7	Demonstrate anaesthetic skills tailored to the requirements of general surgery, obstetrics and gynaecology, orthopaedics, paediatrics, urology, plastic surgery, endoscopy, laparoscopic surgery, laser surgery, and outpatient or day-care surgery	3	Practical Training 5.1	PSY-GUD	Shows-how	LRI,D,W
CO1,CO2,CO7	Identify the administration of anaesthesia and manage perioperative care in general surgery, obstetrics and gynaecology, orthopaedics, paediatrics, urology, plastic surgery, endoscopy, laparoscopic surgery, laser surgery, and outpatient or day-care surgery.	4	Experiential-Learning 5.1	PSY-ADT	Shows-how	CBL,DIS, SIM,PL
CO1,CO2,CO7 ,CO8	Describe the principles and practice of anaesthesiology in endoscopy, laparoscopic surgery, laser surgery, and outpatient or day-care surgery.	1	Lecture	CAP	Knows-how	L&PPT

M 5 Unit 2 Anaesthesia for patients with co-morbid conditions

- Anaesthesia for patients with:

- Diabetes mellitus,
- Thyroid diseases,
- Inherited metabolic diseases,
- Obesity,
- Respiratory diseases,
- Cardiac diseases,
- Renal diseases,
- Geriatric problems and
- Neuromuscular diseases.

References: 21,22,23,24

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO7	Describe anaesthesia for patients with: Diabetes mellitus, Thyroid diseases, inherited metabolic diseases, Obesity, Respiratory diseases, Cardiac diseases, Renal diseases, Geriatric problems and neuromuscular diseases	1	Lecture	CC	Knows-how	L&GD
CO1,CO2,CO7	Demonstrate ability to administer anaesthesia and manage patients with co-morbid conditions: Diabetes mellitus, Thyroid diseases, inherited metabolic diseases, Obesity, Respiratory diseases, Cardiac diseases, Renal diseases, Geriatric problems and neuromuscular diseases	2	Practical Training 5.2	PSY-GUD	Shows-how	SIM,D,DIS
CO1,CO2,CO7	Identify co-morbid conditions and administer anaesthesia in such patients	4	Experiential-Learning 5.2	PSY-ADT	Shows-how	PL,CBL,DIS,LRI

M 5 Unit 3 Monitoring and post operative management in anaesthesia

- Monitoring in anaesthesia: Cardiovascular, Respiratory, Renal function, Neurologic and neuromuscular monitoring;
- Peri- operative Thermo- regulation and monitoring;
- Perioperative awareness and monitoring depth of anaesthesia with BIS;
- Perioperative acid-base balance;
- Patient’s positioning in anaesthesia, its hazards and management;
- Peri- operative Fluid management and Blood transfusion;

- Risks and hazards of anaesthesia
- Postoperative management-
    - Post anaesthesia care
    - Postoperative nausea and vomiting
    - Postoperative Intra-Venous fluid therapy
    - Acute postoperative pain

References: 23,27,28,29,30

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO7	Describe monitoring in anaesthesia: Cardiovascular, Respiratory, Renal function, Neurologic and neuromuscular, Perioperative Thermo-regulation; Perioperative awareness and monitoring depth of anaesthesia with BIS; Perioperative acid-base balance; Pt's positioning in anaesthesia, its hazards and management; Perioperative fluid management and Blood transfusion; Risks and hazards of anaesthesia	1	Lecture	CAN	Knows-how	L_VC
CO1,CO2,CO7 ,CO8	Demonstrate monitoring in anaesthesia, Pt's positioning in anaesthesia; Peri- operative Fluid management and Blood transfusion; Risks & hazards of anaesthesia and post operative care and management.	3	Practical Training 5.3	PSY-GUD	Shows-how	CBL,D,RP
CO1,CO2,CO7	Identify different routine non-invasive and invasive monitors intra-operatively ; Pt's positioning in anaesthesia, its hazards and management; ; Peri- operative Fluid management and Blood transfusion; Risks and hazards of anaesthesia; post operative complications and their management	3	Experiential-Learning 5.3	PSY-GUD	Shows-how	RP,CBL,D
CO1,CO2,CO7	Describe post-operative management- Post anaesthesia care; nausea and vomiting; Post-operative Intra-Venous fluid therapy; Acute post-operative pain	1	Lecture	CAN	Knows-how	L_VC
CO1,CO2,CO7 ,CO8	Demonstrate monitoring in anaesthesia, patient's positioning, perioperative Fluid management, and Blood transfusion; Risks and hazards, postoperative care, and management- Session 2	2	Practical Training 5.4	PSY-GUD	Shows-how	CBL,RP,D
CO1,CO2,CO7	Identify routine non-invasive and invasive intra-operative monitors. - Understand patient	3	Experiential-	PSY-	Shows-	D,RP,CB

	positioning in anaesthesia and its hazards. - Review perioperative fluid management and blood transfusions. - Discuss anaesthesia risks and postoperative complications.		Learning 5.4	GUD	how	L

M 5 Unit 4 Lifesaving skills

- Lifesaving Skills CCPR,
- Basic life support (BLS) &
- Advanced cardiovascular life support (ACLS) and
- Monitoring patient in HDU, ICU &Parenteral nutrition;
- Environmental factors and electrical safety in anaesthesia

References: 21,22,23,24,25

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO7 ,CO8	Describe indications and steps of Lifesaving Skills CCPR, basic life support (BLS) & advanced cardiovascular life support (ACLS)	1	Lecture	CAP	Knows-how	L_VC
CO1,CO2,CO7 ,CO8	Conduct and demonstration of CCPR, BLS & ACLS in adults and children, monitoring patient in HDU, ICU; Parenteral nutrition; Environmental factor and electrical safety in anaesthesia	3	Practical Training 5.5	PSY-GUD	Shows-how	D,EDU,CBL
CO1,CO2,CO7 ,CO8	Identify indications and steps of Lifesaving Skills CCPR, BLS & ACLS and train medical and paramedical staff in BLS and ACLSand monitoring patient in HDU, ICU	4	Experiential-Learning 5.5	PSY-ADT	Does	SIM,W,D
CO1,CO2,CO7 ,CO8	Conduct demonstration CCPR, BLS & ACLS in adults and children, monitoring patients in HDU, ICU; Parenteral nutrition; Environmental factors and electrical safety in anaesthesia.	2	Practical Training 5.6	PSY-GUD	Shows-how	EDU,D,CBL
CO1,CO2,CO7 ,CO8	Identify indications and steps for CCPR, BLS, and ACLS. Train medical staff in BLS and ACLS, and monitor patients in HDU and ICU	3	Experiential-Learning 5.6	PSY-ADT	Shows-how	W,D,SIM
CO1,CO2,CO7 ,CO8	Describe monitoring patient in HDU, ICU ; Parenteral nutrition, Environmental factor and electrical safety in anaesthesia	1	Lecture	CAP	Knows-how	L_VC

M 5 Unit 5 Anaesthesia in remote locations and recent advances in Sangyaharan

- Anaesthesia in remote locations - Anaesthesia at Low Barometric Pressure, Anaesthesia at Hyperbaric chamber, Anaesthesia Outside the Operating Theatre -Objectives, Procedure and Risks of Anaesthesia in remote Locations
- Describe recent advances in research in Sangyahrana, Palliative care,
- Scope and Application of Principles of Ayurveda in Sangyahrana

References: 22,23,24,25

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO7	Describe Anaesthesia in remote locations - Anaesthesia at Low Barometric Pressure, Anaesthesia at Hyperbaric chamber, Anaesthesia Outside the Operating Theatre -Objectives, Procedure and Risks of Anaesthesia in remote Locations	1	Lecture	PSY-GUD	Knows-how	L&PPT,BL,JC,BS
CO1,CO2,CO5	Conduct demonstration of Anaesthesia in remote locations, provide special sedation /anaesthesia requirements outside the operating Room, eg, Radiology: for CT, MRI (especially in relation to dye allergy, embolization etc., and recent advances in research in Sangyahrana and Palliative care.	3	Practical Training 5.7	PSY-GUD	Shows-how	LS,D,JC,EDU
CO1,CO2,CO5	Identify anaesthesia requirement outside operating room, recent advances in sangyaharan , palliative care and Scope and Application of principles of Ayurveda in Sangyahrana - Session 1	3	Experiential-Learning 5.7	PSY-ADT	Shows-how	PrBL,D,LS
CO1,CO2,CO5	Conduct demonstration anesthesia in remote locations, provide special sedation /anaesthesia requirements outside the operating Room, eg, Radiology: for CT, MRI (especially in relation to dye allergy, embolization, etc., and recent advances in research in Sangyahrana and Palliative care.	2	Practical Training 5.8	PSY-GUD	Shows-how	D,JC,EDU,LS
CO1,CO2,CO5	Identify anaesthesia requirements outside the operating room, recent advances in surgical techniques, palliative care, and the scope and application of Ayurvedic principles in surgery	2	Experiential-Learning 5.8	PSY-ADT	Shows-how	D,LS,PrBL
CO1,CO2,CO5	Describe recent advances in research in Sangyahrana and Palliative care	1	Lecture	CC	Knows-	L&GD,L

					how	&PPT
CO1,CO2,CO5	Describe Scope and Application of principles of Ayurveda in Sangyahrana	1	Lecture	CS	Knows-how	L&GD

Practical Training Activity

Practical Training 5.1 : Anaesthesia in different specialities of surgery

Activity Details
• Teacher demonstrates anaesthetic techniques on models/simulators across different surgical scenarios.
• Students practice airway management, drug preparation, and monitoring at rotating specialty stations.
• Short debrief after each rotation.
Teacher's Role
• Demonstrate core and specialty-specific skills.
• Organize stations and guide rotations.
• Give immediate corrections and feedback.
Students' Role
• Perform assigned anaesthetic tasks at each station.
• Apply dosage calculations and monitoring.
• Reflect during debrief on specialty-specific adaptations.
TL Methods Used – Demonstration, Simulation, Practical, Discussion

Practical Training 5.2 : Anaesthesia for patients with co-morbid conditions

Activity Details
• Demonstration of anaesthesia techniques for co-morbid conditions using simulators/case charts/patients.
• Students rotate through stations to practice adaptations.
Teacher's Role
• Demonstrate, organize stations, supervise, and give corrections.
Students' Role
• Perform adapted anaesthetic steps, apply correct drugs/monitoring
TL Methods Used – Demonstration, Simulation, Practical, Discussion

Practical Training 5.3 : Monitoring and post operative management in anaesthesia

Demonstration by the teacher and Case-Based Learning (CBL)
Activity Details
• Teacher demonstrates monitoring setup, patient positioning, fluid management, blood transfusion techniques, and post-op care using simulators/models.
• Students practice stepwise under supervision at skill stations.
Teacher's Role
• Demonstrate procedures and set up skill stations.
• Supervise practice and provide immediate corrections.
Students' Role
• Perform monitoring, positioning, fluid/blood management, and post-op care at stations.
• Apply correct techniques and respond to feedback.
Observation, recognition, and treatment of common complications that may occur in the Post-Anesthesia Care Unit (PACU), particularly those related to the cardiorespiratory systems
Evaluation of patient recovery and criteria for discharge from the PACU to the ward, ICU, or home
Workshops and Brain storming sessions:
Arrange workshops and engage students in discussions about monitoring and post operative management in anaesthesia

Practical Training 5.4 : Monitoring and post operative management in anaesthesia

Activity Details

Demonstration by the teacher and Case-Based Learning (CBL)
Monitoring during anesthesia
Patient positioning for anesthesia
Perioperative fluid management and blood transfusion
Anesthesia risks and hazards
Management of postoperative nausea and vomiting; intravenous fluid therapy after surgery; acute postoperative pain
Observation, recognition, and treatment of common complications that may occur in the Post-Anesthesia Care Unit (PACU), particularly those related to the cardiorespiratory systems
Evaluation of patient recovery and criteria for discharge from the PACU to the ward, ICU, or home
Teacher's Role
• Demonstrate, organize stations, supervise, and stress safety.

Students' Role
• Perform tasks stepwise and apply safe techniques.
Workshops and Brain storming sessions:
Arrange workshops and engage students in discussions about monitoring and post operative management in anaesthesia

Practical Training 5.5 : Lifesaving skills

Activity Details
• Teacher demonstrates CCPR, BLS & ACLS for adults/children, ICU/HDU monitoring, parenteral nutrition setup, and safety checks using mannequins/simulators.
• Students rotate through stations to practice each skill with supervision.
Teacher's Role
• Demonstrate procedures, organize skill stations, and supervise.
• Provide immediate corrections and emphasize safety aspects.
Students' Role
• Perform resuscitation steps, monitoring, nutrition setup, and safety checks.
• Apply correct techniques and adapt based on feedback.
The teacher shall summarize the key concepts covered in the practical

Practical Training 5.6 : Lifesaving skills

Activity Details
• Demonstration of CCPR, BLS & ACLS (adult/child), ICU/HDU monitoring, parenteral nutrition setup, and safety checks using mannequins/simulators.
• Students practice each procedure in rotation at skill stations.
Teacher's Role
• Demonstrate procedures, organize stations, and supervise practice.
• Emphasize safety steps and correct errors.
Students' Role
• Perform resuscitation, monitoring, nutrition setup, and safety checks.
• Apply correct techniques stepwise.
Hands on training

- Organize the students into small groups and have them practice CPR, BLS, and ACLS on a mannequin. Encourage frequent repetition of these procedures to

enhance their proficiency. Prompt them to share and discuss their observations with their group members.

Edutainment-

- Teachers will utilize methods such as videos, slideshows, and demonstrations to illustrate the indications and procedures of CPR, BLS, and ACLS in adults and children, following the latest guidelines in a simulated environment. They will also cover parenteral nutrition, environmental factors, and electrical safety in anesthesia.

The teacher shall summarize the key concepts covered in the practical

Practical Training 5.7 : Anaesthesia in remote locations and recent advances in sangyaharan

Activity Details
Demonstration by the teacher
The teacher's demonstration covers the objectives, procedures, and risks of administering anesthesia in remote locations. It includes the special sedation and anesthesia requirements outside the operating room, such as in radiology for CT and MRI scans, particularly concerning dye allergies, embolization, and endoscopy. The demonstration emphasizes the importance of maintaining composure and acting appropriately during critical incidents in the operating room and critical care units. It also highlights the fundamental principles of palliative care and the latest advancements and developments in medical sciences related to anesthesia.
Edutainment- Educators will employ techniques such as videos, slideshows, and demonstrations to elucidate Anesthesia in distant locales, and to address specific sedation/anesthesia needs outside the operating room, for instance in Radiology for CT and MRI scans, particularly concerning dye allergies, embolization, and similar concerns.
Library Sessions

- Divide the students into small groups and direct them to gather information from books, journals, and digital databases on the latest research in Sangyahrana and the fundamental principles of palliative care. Encourage the students to discuss their findings within their groups. Then, have them present their findings in a class seminar.

The teacher shall summarize the key concepts covered in the practical

Practical Training 5.8 : Anaesthesia in remote locations and recent advances in sangyaharan

Activity Details
• It includes the special sedation and anesthesia requirements outside the operating room, such as in radiology for CT and MRI scans, particularly concerning dye allergies, embolization, and endoscopy.
• Students practice protocols and monitoring on simulators.
• Brief discussion on advances in Sangyahrana and palliative care.
Teacher's Role
• Demonstrate procedures, organize practice, and emphasize safety.
• Guide discussion on recent advances.
Students' Role
• Perform anaesthesia/sedation steps and apply precautions.
• Participate in discussion on advances and palliative care.
Edutainment- Educators will employ techniques such as videos, slideshows, and demonstrations to elucidate Anesthesia in distant locales, and to address specific sedation/anesthesia needs outside the operating room, for instance in Radiology for CT and MRI scans, particularly concerning dye allergies, embolization, and similar concerns.
Library Sessions

- Divide the students into small groups and direct them to gather information from books, journals, and digital databases on the latest research in Sangyahrana and the fundamental principles of palliative care. Encourage the students to discuss their findings within their groups. Then, have them present their findings in a class seminar.

The teacher shall summarize the key concepts covered in the practical

Experiential learning Activity

Experiential-Learning 5.1 : Anaesthesia in different specialities of surgery

Activity Details
• Groups enact anaesthesia administration and perioperative care for assigned surgical scenarios using simulators/case charts/ patients
• Peer groups review adaptations and share feedback.
• Joint reflection on specialty-specific differences.
Teacher's Role
• Assign scenarios and resources.

• Supervise, guide corrections, and facilitate reflection.
Students' Role
• Demonstrate scenario-based anaesthesia steps and adaptations.
• Critique peers' performance and share insights.
• Summarize key perioperative variations.
TL Methods Used – Case-Based Learning, Simulation, Peer Learning, Discussion

Experiential-Learning 5.2 : Anaesthesia for patients with co-morbid conditions

Activity Details
• Groups receive co-morbidity scenarios (diabetes, thyroid disease, cardiac, renal, etc.).
• Each group plans and demonstrates anaesthesia administration with required adaptations on simulators/case charts/patients.
• Peer groups review and suggest modifications.
• Joint reflection on key learning points.
Teacher's Role
• Assign scenarios/resources, observe, and guide corrections.
• Facilitate peer critique and final discussion.
Students' Role
• Demonstrate anaesthesia steps adapted to co-morbidity.
• Critique peers' approaches and integrate feedback.
• Highlight differences in drug choice, monitoring, and perioperative care.
TL Methods Used – Case-Based Learning, Simulation, Peer Learning, Discussion

Experiential-Learning 5.3 : Monitoring and post operative management in anaesthesia

Activity Details
• Groups work on scenarios covering monitor use, positioning hazards, fluid/blood management, and post-op complications.
• Demonstrate management steps; peers review and discuss safer options.
• Conclude with group reflection.
Teacher's Role
• Provide scenarios/resources, observe, correct, and guide reflection.
Students' Role
• Demonstrate scenario-based management.

• Critique peers and integrate feedback.
• Summarize key strategies.

Experiential-Learning 5.4 : Monitoring and post operative management in anaesthesia

Activity Details
• Groups receive intra-operative case scenarios requiring monitor interpretation, patient positioning, fluid/blood management, and complication handling.
• Each group demonstrates solutions and discusses risks/complications.
• Peer groups review and reflect on differences.
Teacher's Role
• Provide scenarios/resources, observe, and guide discussions.
• Correct errors and highlight key safety points.
Students' Role
• Demonstrate monitoring, positioning, fluid/blood management, and complication care.
• Critique peers' approaches and integrate feedback.
• Summarize safe practices during reflection.

Experiential-Learning 5.5 : Lifesaving skills

Activity Details
• Student groups handle scenarios on CCPR, BLS & ACLS, and ICU/HDU monitoring using mannequins/simulators.
• Each group demonstrates lifesaving steps, then trains peers/paramedical staff in BLS & ACLS.
• Peer groups provide critique, followed by joint reflection.
Teacher's Role
• Assign scenarios, provide resources, and observe demonstrations.
• Ensure accuracy, correct errors, and facilitate feedback.
Students' Role
• Demonstrate CCPR, BLS & ACLS and monitoring procedures.
• Conduct peer/paramedical training sessions.
• Review peers' performance and share improvements.

Experiential-Learning 5.6 : Lifesaving skills

Simulation-based learning, hands-on training, and demonstrations

- Activity Details
  • Groups perform CCPR, BLS, ACLS, and ICU/HDU monitoring on mannequins.
  • Conduct peer/paramedical training, followed by review and reflection.
  Teacher’s Role
  • Provide scenarios/resources, supervise, ensure accuracy, and guide reflection.
  Students’ Role
  • Demonstrate lifesaving skills and monitoring.
  • Lead peer training and critique performances.

Webinar and workshop- Students are encouraged to participate in workshops and webinars to remain informed about the guidelines and procedures of Lifesaving Skills CCPR, BLS & ACLS, as well as patient monitoring in HDU and ICU settings.

Experiential-Learning 5.7 : Anaesthesia in remote locations and recent advances in sangyaharan

Kinesthetic learning
Students should identify and fulfill anaesthesia requirements outside the operating room, such as in radiology for CT scans, MRI, and endoscopy procedures.
Webinar and workshop-
Students are encouraged to participate in workshops and webinars to remain informed about anesthesia requirements outside the operating room, recent developments in Sangyaharan, palliative care, and the scope and application of Ayurvedic principles in Sangyaharan.
Project based learning
A group of students will be tasked with creating a project on the recent advancements in Sangyaharan, developments in palliative care, and the scope and application of Ayurvedic principles in Sangyaharan.
Library sessions
Students should critically assess the latest medical literature from books, journals, and digital databases to update their knowledge on recent advancements in Sangyaharan, palliative care, and the scope and application of Ayurvedic principles in Sangyaharan, and adapt therapeutic procedures accordingly.
Students should be well-versed in the principles of research methodology and possess the competence to impart the skills they have acquired to medical and paramedical professionals.

Experiential-Learning 5.8 : Anaesthesia in remote locations and recent advances in sangyaharan

Activity Details
• Groups work on scenarios of anaesthesia outside OR (CT, MRI, endoscopy, IR).
• Each group presents requirements, integrates recent advances, and explores applications of Ayurveda in surgery and palliative care.
• Peer groups discuss and reflect on findings.
Teacher's Role
• Provide scenarios/resources, supervise, and ensure accurate integration.
• Facilitate discussion and guide reflections.
Students' Role
• Demonstrate requirements, present advances, and link Ayurveda applications.
• Critique peer presentations and consolidate key points.
Kinesthetic learning
Students should identify and fulfill anaesthesia requirements outside the operating room, such as in radiology for CT scans, MRI, and endoscopy procedures.
Webinar and workshop-
Students are encouraged to participate in workshops and webinars to remain informed about anesthesia requirements outside the operating room, recent developments in Sangyaharan, palliative care, and the scope and application of Ayurvedic principles in Sangyaharan.
Project based learning
A group of students will be tasked with creating a project on the recent advancements in Sangyaharan, developments in palliative care, and the scope and application of Ayurvedic principles in Sangyaharan.
Library sessions
Students should critically assess the latest medical literature from books, journals, and digital databases to update their knowledge on recent advancements in Sangyaharan, palliative care, and the scope and application of Ayurvedic principles in Sangyaharan, and adapt therapeutic procedures accordingly.
Students should be well-versed in the principles of research methodology and possess the competence to impart the skills they have acquired to medical and paramedical professionals.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6C. Select any one or two methods for the assessment. 1. Theory Open Book Test Conduct theory open book test for 50 marks which will contain either 2 LAQ and 6 SAQ. OR 2.Practical Roleplay: (25marks for presentation & 25 marks for evaluation)	4

Preparation: : Create clinical scenarios related to the module (e.g. Anaesthesia in different specialities of surgery, Lifesaving skills etc.) and provide clear instructions for the roles and expected outcomes.
Execution: Divide students into groups, assign roles related to Mock assessment
Evaluation: Assess skills like communication, problem-solving, and teamwork. OR
3.Debate –25 marks for each debate (Total 2 debates)
Preparation: Select relevant topics connected to the module (e.g. Anaesthesia in remote locations, recent advances in sangyaharan etc.), Divide students into teams and provide time for preparation.
Execution: Conduct the debate with clear time limits for each speaker. Assign a moderator to ensure smooth proceedings.
Evaluation: Evaluate focusing on argument quality, Content delivery and teamwork. OR
4. DOPS (Direct Observation of Procedural Skills) - 25marks for each procedure . Select any two procedures for the Module Preparation: Identify critical procedures (e.g Lifesaving skills, administration of anaesthesia in remote locations etc.) relevant to the module.
Execution: Allow students to perform procedures under observation in a clinical or simulated environment. Observe key steps, technique, and patient interaction.
Evaluation: Evaluate the skill, technique, aseptic methods, and safety adherence followed during the procedure.
5. Viva –
Take questions from each Units and select 25 questions for the module. Two marks for each question can be allocated
Preparation: Create open-ended questions testing clinical knowledge, procedural steps, and reasoning.
Execution: Conduct one-on-one or panel-based interviews.
Evaluation: Assess knowledge depth, clarity, and application ability. Or
Any practical in converted form can be taken for assessment (25 Marks) And
Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experiential Learning	3E Domain/ Sub Domain	3F Level (Does/Shows how/ Knows how/Know)	3G Teaching Learning Methods
Module 6 : : Dagdha Vrana (Burn injuries & Scalds) and Pranashta Shalya (Extraction of retained foreign body.						

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe the various types of burns (thermal, chemical, electrical, etc.), their classification based on severity (degrees of burns), and the underlying pathophysiology, including both local tissue damage and systemic effects of severe burns.
- Describe the common anatomical locations where foreign bodies can be retained, the mechanisms of injury leading to hidden foreign bodies, and the clinical signs and symptoms associated with these conditions.
- Conduct an initial assessment of burn injuries using diagnostic tools and apply appropriate first-aid measures
- Conduct diagnostic procedures, including the use of imaging techniques (X-ray, ultrasound, etc.), and perform or assist in the safe removal of hidden foreign bodies using surgical or minimally invasive techniques.
- Identify potential complications arising from burns, such as infection, contractures, and scarring, and plan for long-term management, including surgical intervention, rehabilitation, and psychological support
- Identify complications associated with retained foreign bodies, such as infection, impaired function, or abscess formation, and plan effective post-removal care, including wound management, infection control, and follow-up care.

M 6 Unit 1 Dagdha vrana (Burns)

- Comprehensive assessment and management of Dagdha Vrana:
- Exploring Thermal, Chemical, and Electrical Burn Injuries

References: 1,4,5,9,10

3A	3B	3C	3D	3E	3F	3G
CO1,CO4	Discuss classification of burn types and degrees, and list the symptoms of Dagdhavrana.	1	Lecture	CK	Knows-how	L&PPT
CO1,CO4,CO5	Discuss burn types and describe the degree and symptoms of Dagdhavrana.	1	Lecture	CK	Knows-how	L&PPT
CO1,CO4,CO5	Identify burn types and degrees and differentiate the symptoms of Dagdhavrana.	1	Lecture	CK	Knows-	L&PPT

					how	,L
CO1,CO4,CO5	Describe burn types and degrees and outline the symptoms of Dagdhavrana.	1	Lecture	CC	Knows-how	L&PPT ,L
CO1,CO4,CO5	Describe the classification of burn types and degrees, and the symptoms of Dagdhavrana.	1	Lecture	CC	Shows-how	L&PPT
CO1,CO4	Demonstrate management of burns and burn wounds, addressing complications and providing long-term care interventions.	2	Practical Training 6.1	PSY-GUD	Does	D-BED,RLE
CO1,CO4	Manage burns and burn wounds, including identification of complications and planning long-term surgical, rehabilitative, and psychological interventions.	2	Practical Training 6.2	PSY-GUD	Does	RLE
CO1,CO4	Apply burn management strategies to prevent complications and implement long-term surgical, rehabilitative, and psychological care.	2	Practical Training 6.3	PSY-GUD	Does	RLE
CO1,CO4	Manage burn wounds and complications with emphasis on long-term surgical, rehabilitative, and psychological support.	2	Practical Training 6.4	PSY-GUD	Does	RLE,D
CO1,CO4	Manage burns by addressing complications and designing long-term treatment involving surgery, rehabilitation, and psychological care.	2	Practical Training 6.5	PSY-GUD	Shows-how	RLE,D
CO1,CO4	Manage burns and burn wounds, including complications such as infection, contractures, and scarring, and outline long-term surgical, rehabilitative, and psychological support.	4	Experiential-Learning 6.1	PSY-ADT	Know	SIM,SDL, D-BED
CO1,CO4	Illustrate management strategies for burns and burn wounds, including complications such as infection, contractures, and scarring, and outline long-term care with surgical, rehabilitative, and psychological support.	4	Experiential-Learning 6.2	PSY-ADT	Knows-how	D-BED
CO1,CO4	Demonstrate strategies for managing burns and burn wounds, addressing complications	3	Experiential-	PSY-	Shows-	D-

	such as infection, contractures, and scarring, and plan long-term care, including surgery, rehabilitation, and psychological support.		Learning 6.3	ADT	how	BED,SDL
CO1,CO4	Perform management of burns and burn wounds by identifying complications and planning long-term surgical, rehabilitative, and psychological interventions.	2	Experiential-Learning 6.4	PSY-SET	Shows-how	CBL,RLE,D-BED,PrBL

M 6 Unit 2 Pranashta Shalya

- Description of Nidana, Lakshana, and Chikitsa of Pranashta Shalya.:
- Symptoms, Clinical Significance, complication of retained foreign body.
- Comprehensive Study of Available Techniques, Emerging Technologies in Foreign Body Extraction
- Post removal care as per Sushruta and Contemporary science

References: 1,2,3,4

3A	3B	3C	3D	3E	3F	3G
CO4	Describe the anatomy and mechanisms of foreign body retention and identify essential instruments for removal procedures in Ayurveda and contemporary science.	1	Lecture	CK	Knows-how	L&PPT,L
CO4	Describe the anatomy and mechanisms of foreign body retention, and identify and demonstrate essential instruments and procedures for foreign body removal according to Ayurvedic and contemporary science.	1	Lecture	CC	Knows-how	L,L&GD,L&PPT
CO4	Describe the anatomy and mechanisms of foreign body retention and list essential instruments for removal as per Ayurveda and contemporary science.	1	Lecture	CK	Knows-how	L,L&PPT
CO4	Describe the anatomy and mechanisms of foreign body retention and demonstrate the use of essential instruments for removal as per Ayurveda and modern practice.	1	Lecture	CC	Does	L&PPT,L
CO4	Describe the anatomy and mechanisms of foreign body retention and procedures for safe removal using Ayurvedic and contemporary techniques	1	Lecture	CAP	Knows-how	L&PPT,L

CO4,CO7	Manage complications of retained foreign bodies, infection, and effective post-removal care, including wound infection control and follow-up, integrating Sushruta's principles.	3	Practical Training 6.6	PSY-MEC	Shows-how	TBL,PBL,RP,SIM
CO4,CO7	Demonstrate the anatomy and mechanisms of foreign body retention and apply essential instruments and procedures for removal in Ayurvedic and modern contexts.	3	Practical Training 6.7	PSY-ADT	Shows-how	PBL,SDL,PSN,CBL
CO4,CO7	Apply advanced wound care knowledge by integrating research findings with Ayurvedic practices into evidence-based clinical applications.	2	Practical Training 6.8	PSY-GUD	Shows-how	SDL,D-M,PBL,CBL,D
CO4,CO7	Manage complications of retained foreign bodies, applying post-removal care, including wound care, and integrating Sushruta's infection control principles and follow-up care.	2	Practical Training 6.9	PSY-GUD	Shows-how	CBL,PBL,SDL,D-BED
CO5	Perform appropriate diagnostic procedures, including imaging techniques (X-ray, ultrasound), and demonstrate or assist in the safe removal of hidden foreign bodies using surgical or minimally invasive methods.	4	Experiential-Learning 6.5	PSY-MEC	Shows-how	D,PrBL,D-M,X-Ray,SIM
CO5	Demonstrate diagnostic imaging (X-ray, ultrasound) in the safe removal of hidden foreign bodies with surgical or minimally invasive methods.	4	Experiential-Learning 6.6	PSY-MEC	Shows-how	D
CO4,CO7	Perform diagnostic procedures—including imaging techniques such as X-ray and ultrasound— assisting in the safe removal of hidden foreign bodies using surgical or minimally invasive methods.	5	Experiential-Learning 6.7	PSY-ADT	Shows-how	CBL,X-Ray,D

Practical Training Activity

Practical Training 6.1 : Describe wound exudates

Activity Details
• Teacher demonstrates collection and analysis of wound exudates using lab methods and microscopic examination.
• Parallel explanation of Sushruta's descriptions of wound exudates and comparison with modern clinical parameters.
• Students practice stepwise analysis in the lab and identify factors delaying wound healing with case examples.

Teacher’s Role
• Demonstrate exudate analysis procedures and highlight traditional vs. modern interpretations.
• Organize lab setup, supervise practice, and explain clinical relevance.
Students’ Role
• Perform exudate analysis under supervision.
• Compare findings with Sushruta’s descriptions and modern criteria.
• Relate observed features to wound healing delays in clinical diagnosis.

Practical Training 6.2 : Management Strategies of Burns and Burn wound care

Activity Details
• Demonstration of burn first aid, dressing, and complication management on model.
• Students practice dressing and outline long-term care.
Teacher’s Role
• Demonstrate, explain, supervise.
Students’ Role
• Perform care, identify complications, suggest long-term measures.

Practical Training 6.3 : Analysis of wound exudates

Activity Details
• Demonstration of wound exudate collection and analysis using lab methods.
• Explanation of Sushruta’s descriptions and comparison with modern scientific factors delaying wound healing.
• Students perform exudate analysis in the lab and link findings to clinical diagnosis.
Teacher’s Role
• Demonstrate lab techniques, highlight classical vs. modern interpretations, and guide application.
Students’ Role
• Conduct exudate analysis, compare results with both frameworks, and apply in case-based diagnosis.
Self-assessment:

- Encourage self-assessment and deeper understanding through reflective learning

- After performing wound assessments and applying Ayurvedic or modern treatment plans, students will write a reflection on their experience. Encourages critical thinking and self-improvement in wound care practices.

Practical Training 6.4 : Assessment and documentation of Ulcers

Activity Details
• Teacher demonstrates identification of different ulcer types, their assessment parameters, and documentation using case records/models/images.
• Distinguishing features of sinus and fistula are explained with clinical examples.
• Students practice ulcer assessment, classification, and documentation in rotation.
Teacher's Role
• Demonstrate assessment and documentation process.
• Highlight key distinguishing points between sinus and fistula.
• Supervise practice and guide accurate recording.
Students' Role
• Examine and classify ulcers using provided models/cases.
• Record findings systematically in documentation format.
• Identify differences between sinus and fistula.
Lecture with Vedio clips – L-VC

- Teacher will use videos that demonstrate the assessment and identification of different types of ulcers, including examples of sinus and fistula.
- Provide standardized checklists and templates for documenting ulcer assessments.

Integration of Advanced Technologies:
EDUTAINMENT

- Introduce students to digital tool that assist in wound assessment and monitoring.

Group discussion:

- Organize hands-on workshops where students work in pairs or small groups to Enhance collaborative learning and practical skills in ulcer assessment and documentation.

Practical Training 6.5 : Assessment and Documentation of Sinus and Fistula

Activity Details
• Demonstration of clinical assessment of sinus and fistula using case examples/models.
• Explanation of documentation methods with sample case sheets.
• Students practice assessment and prepare documentation in rotation.
Teacher's Role
• Demonstrate assessment techniques and guide documentation.
• Supervise student practice and correct errors.
Students' Role
• Perform assessment of sinus/fistula on models/cases.
• Record findings systematically in documentation format

Practical Training 6.6 : Assessment and documentation of Ulcers

Activity Details
• Demonstration of ulcer types and documentation format using cases/models.
• Students practice identification and recording.
Teacher's Role
• Demonstrate, supervise, and ensure accuracy.
Students' Role
• Identify ulcers and document systematically.
Lecture with Vedio clips – L-VC

- Teacher can use real patients or videos that demonstrate the assessment and identification of different types of ulcers, including sinus and fistula.
- Provide standardized checklists and templates for documenting ulcer assessments.

Edutainment:

- Introduce students to digital tool that assist in wound assessment and monitoring.

Group discussion:

- Organize hands-on workshops where students work in pairs or small groups to Enhance collaborative learning and practical skills in ulcer assessment and documentation.

Practical Training 6.7 : complications associated with retained foreign bodies

Activity Details
• Teacher demonstrates removal techniques of simulated foreign bodies on models, followed by wound irrigation, debridement, and infection control measures.
• Explains post-removal care, dressing, and follow-up protocol, integrating Sushruta's principles of wound management.
• Students practice stepwise removal (on models), wound cleaning, dressing application, and documenting follow-up care.
Teacher's Role
• Demonstrate safe removal methods, wound infection control, and post-removal care.
• Provide simulation models, instruments, and dressing materials.
• Supervise practice and correct technical errors.
Students' Role
• Perform removal of simulated foreign body, wound cleaning, and dressing under guidance.
• Apply infection control measures and outline follow-up care.
• Relate actions to Sushruta's principles during performance.

Practical Training 6.8 : complications associated with retained foreign bodies

Activity Details
• Teacher demonstrates anatomy relevant to common sites of foreign body retention using models/prosections.
• Demonstrates mechanisms of retention and shows essential instruments for removal in both Ayurvedic and modern practice.

• Students practice instrument handling and simulated removal techniques on models under supervision.
Teacher's Role
• Demonstrate anatomical basis and mechanisms of retention clearly.
• Display and explain Ayurvedic and modern instruments with their applications.
• Supervise hands-on practice, correcting handling and procedural errors.
Students' Role
• Identify anatomical sites and mechanisms of retention on models.
• Handle instruments and practice removal techniques stepwise.
• Compare Ayurvedic and modern approaches during practice.

Practical Training 6.9 : complications associated with retained foreign bodies

Activity Details
• Teacher demonstrates case scenarios of retained foreign bodies with complications such as infection, abscess, tissue damage, and systemic effects using models/images/X-rays.
• Explains and demonstrates initial management steps for each complication.
• Students practice identifying complications from case data, simulate wound care, and outline management steps.
Teacher's Role
• Present cases with varied complications and use models/X-rays for illustration.
• Demonstrate practical management of each complication.
• Guide students during simulation and correct errors.
Students' Role
• Identify complications from provided cases/images/X-rays.
• Perform wound care and simulate basic management.
• Summarize complication-specific management steps.

Practical Training 6.10 : Identify complications associated with retained foreign bodies, including infection and related clinical outcomes.

Activity Details
• Teacher demonstrates management of complications after foreign body removal on models/simulated wounds.
• Shows wound cleaning, dressing, and infection control steps based on Sushruta's principles.
• Explains follow-up protocols and monitoring for delayed complications.
• Students practice wound care techniques and document a follow-up plan.

Teacher’s Role
• Demonstrate post-removal wound care and infection control methods.
• Provide models, instruments, and dressing materials.
• Supervise student practice and correct technique errors.
Students’ Role
• Perform wound cleaning, dressing, and apply infection control principles.
• Prepare a structured follow-up care plan.
• Relate actions to Sushruta’s principles during practice.

Practical Training 6.11 : Examination of a case of Acute trauma

Activity Details
• Demonstration of management of head & neck, thoracic, and abdominal trauma on simulators.
• Students practice airway, bleeding control, decompression, and abdominal care at stations.
Teacher’s Role
• Demonstrate protocols, organize stations, and supervise.
Students’ Role
• Perform region-specific trauma management and apply corrections.

- Use of multimedia tools to enhance understanding of trauma management in different body regions.

Practical Training 6.12 : Innovative treatment strategies to enhance wound healing.

Activity Details
• Demonstration of innovative wound healing strategies (e.g., negative pressure therapy, skin substitutes, growth factor application) on models/simulators.
• Students practice selected techniques in rotation and note key applications.
Teacher’s Role
• Demonstrate procedures, explain rationale, and supervise practice.
Students’ Role
• Perform wound-healing techniques stepwise and relate to clinical use.

Brainstorming Discussions
To Encourage students to engage in research on how Ayurveda can complement modern wound care methods, fostering innovation in areas like the development of biocompatible wound dressings or drug delivery systems.

Experiential learning Activity

Experiential-Learning 6.1 : Demonstrate Shasti Upakrama

Activity Details
• Groups are assigned case scenarios of ulcers (acute, chronic, infected, non-healing).
• Each group applies and demonstrates appropriate Shasti Upakrama for the given stage of *Vrana* using simulation models/patient case charts.
• Groups present rationale for choice and flow of management; peers critique and discuss alternatives.
Teacher's Role
• Provide case scenarios/resources, observe demonstrations, and ensure accuracy of application.
• Facilitate peer critique and highlight stage-specific principles.
Students' Role
• Select and demonstrate Shasti Upakrama relevant to the stage of *Vrana*.
• Justify selection and present application steps.
• Critique peers' demonstrations and refine learning.
Case-Based Learning (CBL):

- To Develop critical thinking by applying Shasti Upakrama principles to clinical cases.
- Present a case of a patient with a specific stage of Vrana and Students will discuss the appropriate Upakrama to be applied based on the stage of healing, the nature of the wound, and Dosha involvement.

Simulation-Based Learning: SL

- Provide hands-on experience in executing Shasti Upakrama techniques. instruct students to perform or simulate specific Upakramas such as Shodhana (cleansing), Ropana (healing), and Bandhana (dressing) for different wound conditions.
- Each student will practice the step-by-step process of treatment and wound cleansing procedures.
- Tools like Mannequins or wound models dressing materials can be used

Team Project Work

- Assign groups to research and present the application of specific Upakrama (e.g., Pachana, Kshara Karma) in different stages of wound healing.
- Groups will also explore the contemporary relevance and scientific validation of these practices.

Experiential-Learning 6.2 : Applicability of Shashti Upakrama

Activity Details
• Groups handle wound/ulcer scenarios and demonstrate suitable Shashti Upakrama with justification.
• Peers review approaches and reflect together.
Teacher's Role
• Provide scenarios/resources, supervise, and guide discussion.
Students' Role
• Apply Shashti Upakrama, present rationale, and critique peers.
Case-Based Learning (CBL):

- Present a case of a patient with a specific stage of Vrana and Students will discuss the appropriate Upakrama to be applied based on the stage of healing, the nature of the wound, and Dosha involvement.

Simulation-Based Learning: SL

- Provide hands-on experience in executing Shasti Upakrama techniques. instruct students to perform or simulate specific Upakramas such as Shodhana (cleansing), Ropana (healing), and Bandhana (dressing) for different wound conditions.
- Each student will practice the step-by-step process of treatment and wound cleansing procedures.
- Tools like Mannequins or wound models dressing materials can be used

Team Project Work

- Assign groups to research and present the application of specific Upakrama (e.g., Pachana, Kshara Karma) in different stages of wound healing.
- Groups will also explore the contemporary relevance and scientific validation of these practices.

Experiential-Learning 6.3 : Explain the aetiology of burns and outline management strategies, complications, and long-term care approaches.

Activity Details
• Students work in groups on simulated burn cases with varying degrees of injury and complications (infection, contractures, scarring).
• Each group designs a stepwise management plan covering acute wound care, complication handling, surgical interventions, rehabilitation, and psychological support.
• Students perform burn dressing, splinting/positioning, and role-play counseling for rehabilitation and psychological care.
• Groups present their comprehensive plans and adapt approaches after peer discussion.
Teacher's Role
• Provide diverse burn case scenarios with complications.
• Facilitate simulation setup with wound models, dressing materials, and rehab aids.
• Challenge groups with evolving case situations to test adaptability.
• Guide debriefing to highlight effective adaptations.
Students' Role
• Analyze cases and formulate acute-to-long-term management plans.
• Perform wound dressing, practice splinting/rehab techniques, and role-play patient/family counseling.
• Collaborate in groups, compare strategies, and refine plans after discussion.

Experiential-Learning 6.4 : Management Strategies of Burns and Burn wound care.

Activity Details
• Groups receive complex burn case scenarios with details of wound extent, infection, contractures, and scarring.
• Students perform simulated wound care and dressing, demonstrate positioning/splinting for contracture prevention, and outline surgical and rehab strategies.
• Role-play patient/family counseling for long-term psychological and social support.
• Each group presents and adapts their management plan after peer critique.
Teacher's Role
• Provide detailed case scenarios and wound simulation materials.
• Introduce evolving complications during activities to test adaptability.
• Facilitate debriefing and emphasize critical decision-making in long-term management.

Students' Role
• Execute simulated wound dressing and contracture prevention techniques.
• Formulate integrated surgical, rehab, and psychological care strategies.
• Collaborate in groups, role-play counseling, and adapt plans after discussion.

Experiential-Learning 6.5 : Management Strategies of Burns

Activity Details
• Students are divided into groups and provided simulated burn cases with infection, contractures, or scarring.
• Each group performs wound dressing and splinting/positioning on models, then drafts a surgical and rehabilitation plan.
• Groups role-play patient/family counseling for psychological and long-term care.
• Present and refine strategies through peer discussion.
Teacher's Role
• Provide case variations and wound models with required materials.
• Guide students during simulation and introduce evolving complications.
• Facilitate group presentations and highlight critical adaptations.
Students' Role
• Perform wound care and contracture-prevention techniques.
• Develop integrated surgical, rehab, and psychological care plans.
• Collaborate, role-play counseling, and adapt strategies after peer feedback.

Experiential-Learning 6.6 : Management Strategies of Burns

Activity Details
• Students work in pairs on simulated burn cases with specified complications (infection, contracture, scarring).
• Each pair performs wound dressing and basic splinting/positioning on models.
• They outline a concise long-term plan including surgical steps, rehab measures, and psychological support.
• Plans are briefly shared with peers for comparison.
Teacher's Role
• Provide structured case scenarios and wound models.
• Supervise dressing/splinting practice and ensure correct technique.
• Prompt students to include all domains—surgery, rehab, psychological care—in their plans.

Students' Role
• Perform wound care and demonstrate splinting/positioning.
• Draft a stepwise long-term management plan.
• Share and adapt strategies after peer input.

Experiential-Learning 6.7 : Describe the strategies to understand and manage factors contributing to delayed wound healing

Activity Details
• Groups are assigned case scenarios of wounds/ulcers with delayed healing.
• Each group examines the wound (through case charts/models/images), identifies contributing factors, and demonstrates management strategies.
• Peer groups review findings and discuss alternative approaches.
• Joint reflection on practical utility in clinical care.
Teacher's Role
• Provide case scenarios/resources, observe, and ensure correct clinical reasoning.
• Facilitate peer discussion and highlight key management principles.
Students' Role
• Examine wounds/ulcers, identify healing barriers, and propose management steps.
• Present findings and critique peer approaches.
• Integrate feedback into refined strategies.
Hands on Training:

- Provide students with direct experience in examining wounds and checklist for students to evaluate Wound Characteristics like Size, depth, type of exudate, odor, tissue color (granulation, necrotic). & Surrounding Tissue

Case based Learning :

- Present detailed case studies of patients with wounds and Proposing a comprehensive management strategy.

Group Discussions , Problem-Based Learning , Case based learning (CBL)

- To Discuss potential factors contributing to delayed healing and Brainstorm management strategies and treatment plans based on their analysis
- Demonstration Bedside (D-BED) on selected patients must be carried out

Experiential-Learning 6.8 : Application of strategies to understant and manage factors contributing to delayed wound healing

Activity Details
• Groups analyze delayed-healing wound cases, demonstrate management strategies on models/case charts, and share findings.
• Peer groups review and reflect on alternatives.
Teacher's Role
• Provide scenarios/resources, supervise, and guide discussion.
Students' Role
• Identify healing barriers, apply strategies, and critique peers.
Hands on Training:

- Provide students with direct experience in examining wounds and checklist for students to evaluate Wound Characteristics like Size, depth, type of exudate, odor, tissue color (granulation, necrotic). & Surrounding Tissue

Case based Learning :

- Present detailed case studies of patients with wounds and Proposing a comprehensive management strategy.

Group Discussions , Problem-Based Learning , Case based learning (CBL)

- To Discuss potential factors contributing to delayed healing and Brainstorm management strategies and treatment plans based on their analysis
- Demonstration Bedside (D-BED) on selected patients must be carried out

Experiential-Learning 6.9 : Perform diagnostic procedures using imaging (X-ray, ultrasound) and assist in the safe removal of hidden foreign bodies with surgical or minimally invasive methods.

Activity Details
• Students, in groups, receive simulated patient cases with hidden foreign bodies.
• Each group interprets imaging (X-ray/ultrasound) provided for localization.
• Students perform simulated removal using surgical or minimally invasive techniques on models under guided supervision.
• Groups present their diagnostic approach, removal method, and rationale for technique selection.
Teacher's Role
• Provide case scenarios with corresponding imaging data.
• Set up models/simulators with embedded foreign bodies.
• Facilitate safe handling of instruments and guide technique adaptation when difficulties arise.
Students' Role
• Analyze and interpret imaging to localize foreign bodies.
• Perform simulated removal using appropriate techniques.
• Collaborate in groups, justify chosen approaches, and adapt when challenges occur.

Experiential-Learning 6.10 : Perform diagnostic procedures using imaging (X-ray, ultrasound) and assist in the safe removal of hidden foreign bodies with surgical or minimally invasive methods.

Activity Details
• Students, in small groups, are given simulated cases of hidden foreign bodies with X-ray and ultrasound images.
• Each group localizes the foreign body on imaging, selects the appropriate method (surgical or minimally invasive), and performs simulated removal on models.
• Groups compare outcomes and discuss challenges faced during procedures.
Teacher's Role
• Provide case scenarios with imaging data and prepared models containing foreign bodies.
• Guide students in image interpretation and safe instrument handling.
• Facilitate reflection on technique selection and problem-solving.
Students' Role
• Interpret imaging to identify location of foreign bodies.
• Perform removal procedures on models using suitable techniques.
• Share approaches, adapt methods to overcome difficulties, and discuss results with peers.

Experiential-Learning 6.11 : Adapt diagnostic and imaging procedures (X-ray, ultrasound) and assist in the safe removal of hidden foreign bodies using surgical or minimally invasive methods.

Activity Details
• Groups receive simulated patient cases with embedded foreign bodies and corresponding X-ray/ultrasound images.
• Students localize the foreign body through image interpretation and plan the appropriate removal technique.
• Each group performs simulated surgical or minimally invasive removal on models, adapting technique when challenges arise.
• Groups present their diagnostic approach, procedural steps, and management rationale to peers.
Teacher's Role
• Provide imaging data and simulation models with hidden foreign bodies.
• Facilitate safe handling of instruments and introduce procedural challenges to test adaptability.
• Guide debriefing, emphasizing key technical and decision-making points.
Students' Role
• Interpret imaging to accurately localize foreign bodies.
• Assist and perform removal using surgical/minimally invasive methods on models.
• Collaborate, adapt technique when complications arise, and justify chosen methods in group discussions.

Experiential-Learning 6.12 : Management of acute trauma

Activity Details
• Groups are given trauma scenarios requiring pre-hospital care, safe transport, and hospital management.
• Each group demonstrates stepwise management (airway, bleeding control, immobilization, transport protocols) using mannequins/simulators.
• Peer groups review and suggest improvements, followed by reflection.
Teacher's Role
• Provide scenarios/resources, supervise demonstrations, and ensure accuracy.
• Facilitate peer critique and consolidate key trauma principles.
Students' Role
• Demonstrate trauma management steps from field to hospital.
• Critique peers' performances and refine their own strategies.
Hands-On Training

- Conduct workshops that focus on practical skills in trauma management and wound closure techniques.

- Organize Sessions where in students practice wound closure techniques on simulated skin , Vegetables or any other models

Bedside Teaching D-BED

- Assign students to emergency or trauma wards where they can observe trauma resuscitation, wound management, and rehabilitation planning.

Experiential-Learning 6.13 : Innovative contributions of Ayurveda to wound care.

Activity Details
• Demonstration of innovative wound healing strategies (e.g., negative pressure therapy, skin substitutes, growth factor application) on models/simulators/ patients.
• Students practice selected techniques in rotation and note key applications.
Teacher's Role
• Demonstrate procedures, explain rationale, and supervise practice.
Students' Role
• Perform wound-healing techniques stepwise and relate to clinical use.
Brainstorming Discussions
To Encourage students to engage in research on how Ayurveda can complement modern wound care methods, fostering innovation in areas like the development of biocompatible wound dressings or drug delivery systems.

Modular Assessment

Assessment method	**Hour**
Theory open Book test- 50 marks: Conduct a theory open book test for 50 marks, which will contain either 1 ABQ or 2 LAQ and 6 SAQ. OR 2. Viva -Take questions from each unit and select 25 questions for the module. 2marks for each question can be allocated Preparation**:** Create open-ended questions testing clinical knowledge, procedural steps, and reasoning. Execution: Conduct one-on-one or panel-based interviews. Evaluation**:** Assess knowledge depth, clarity, and application ability. OR 3. DOPS (Direct Observation of Procedural Skills) - 25marks for each procedure. Select any two procedures for the Module Preparation: Identify critical procedures (e.g., venipuncture, IV canulation, etc relevant to the module.	4

Execution: Allow students to perform procedures under observation in a clinical or simulated environment. Observe key steps, techniques, and patient interaction.
Evaluation: Evaluate the skill, technique, aseptic methods, and safety adherence followed during the procedure.
OR
Any practical in converted form can be taken for assessment (25 Marks) And
Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)

Semester No : 6

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experiential Learning	3E Domain/ Sub Domain	3F Level (Does/Shows how/ Knows how/Know)	3G Teaching Learning Methods

Module 7 : Granthi, Arbuda (Principles of Management of Cyst and Neoplasm)

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe Granthi, Arbuda & Principles Of Oncology will describe the Granthi , arbuda as per Ayurveda and Contemporary science.
- Perform surgical procedures for the Benign cysts and able to Diagnose the malignant conditions as per the Staging.
- Identify Immunohistochemistry, Clinicopathological & Molecular Prognostic factors, Growth patterns & Staging by interpreting the Investigation Reports

M 7 Unit 1 Granthi – Cyst and Arbuda – Benign and malignant Neoplasm

- Description and Surgical management of Granthi (Cyst)
- Description and Surgical management of Arbuda (Benign and malignant Neoplasm)

References: 1,2,3,4,5

3A	3B	3C	3D	3E	3F	3G
CO1,CO4	Describe the surgical management of Granthi (cysts) and Arbuda (benign and malignant neoplasms).	1	Lecture	CAN	Knows-how	L&PPT ,L&GD
CO1,CO4	Interpret diagnostic reports and differentiate benign and malignant cysts based on clinical features	2	Practical Training 7.1	CS	Knows-how	TBL,CD
CO4,CO5	Demonstrate diagnostic skills and perform surgical management of cysts with precision.	4	Experiential-Learning 7.1	PSY-ADT	Shows-how	SIM,SDL, D-M

M 7 Unit 2 Soft Tissue Tumours

- Histological classification of Benign and Malignant Soft tissue tumours,
- Immunohistochemistry, Clinicopathological & Molecular Prognostic factors of tumours.
- Growth patterns & Staging of tumours.

References: 4,5,6,7,8,9

3A	3B	3C	3D	3E	3F	3G
CO4,CO5,CO8	Describe the classification of benign and malignant soft tissue tumours histologically, prognostic factors, immunohistochemistry, clinicopathology, molecular markers, growth patterns, and staging.	1	Lecture	CAN	Knows-how	L&PPT
CO4,CO5,CO8	Discuss the classification of benign and malignant soft tissue tumours histologically.	1	Lecture	CS	Knows-how	CBL,BS, CD
CO4,CO5,CO8	Describe histology and oncology references to study tumour types, and summarize their classification and characteristics through guided self-study.	1	Lecture	CC	Knows-how	L
CO4,CO5	Assess clinicopathological and prognostic factors of soft tissue tumours through clinical	2	Practical	PSY-	Shows-	CBL,CD

	evaluation.		Training 7.2	ADT	how	
CO4,CO5	Demonstrate Clinicopathology & Prognostic factors of Soft tissue Tumour	3	Practical Training 7.3	PSY-ADT	Shows-how	D-BED,CBL
CO4,CO5	Assess the staging of soft tissue tumours for determining appropriate treatment strategies.	4	Experiential-Learning 7.2	PSY-GUD	Does	BS,RLE

M 7 Unit 3 Tumour - Diagnosis and General Treatment

- Diagnostic test and their interpretation of Tumour
- Treatment protocol and recent advancements in the management of Tumour.

References: 8,9,10

3A	3B	3C	3D	3E	3F	3G
CO4,CO5,CO7	Interpret diagnostic tests for tumours, evaluate treatment protocols, and appraise recent advancements in tumour management.	1	Lecture	AFT-VAL	Know	BS,D-BED,D
CO4,CO5,CO7	Interpret diagnostic tests for tumours, evaluate treatment protocols, and appraise recent advancements in tumour management.	1	Lecture	CAN	Know	L&PPT , D-BED,CD,L_VC
CO4	Apply different treatment protocols for the management of tumours in clinical practice.	2	Practical Training 7.4	PSY-ADT	Shows-how	PBL,CBL ,PSM
CO4	Demonstrate the application of treatment protocols for tumour management in practical settings.	3	Practical Training 7.5	PSY-MEC	Shows-how	D-BED,CBL

CO4,CO5	Illustrate Therapeutic advancements in the Soft Tissue Tumour	3	Experiential-Learning 7.3	PSY-GUD	Shows-how	D,BS
CO4,CO5,CO7	Demonstrate therapeutic advancements in the management of soft tissue tumours	3	Experiential-Learning 7.4	PSY-ADT	Shows-how	RLE,SDL,PBL

M 7 Unit 4 Surgical treatment of Tumors

- Principles of Surgical Resection.
- Treatment of Metastatic soft tissue sarcoma

References: 9,10,11

3A	3B	3C	3D	3E	3F	3G
CO4	Describe the principles of surgical resection and treatment of metastatic soft tissue sarcoma, including indications, types of resections, and surgical anatomy relevant to soft tissue tumours.	1	Lecture	CK	Knows-how	L&PPT,L_VC
CO4	Describe and discuss the principles of surgical resection and treatment of metastatic soft tissue sarcoma, and present findings through guided research projects.	1	Lecture	CAP	Knows-how	L&PPT,L&GD
CO4,CO5	Assess tumour staging and determine appropriate treatment strategies.	2	Practical Training 7.6	PSY-GUD	Shows-how	D,CBL
CO4,CO5	Apply the evaluation of tumour staging for treatment decisions in case scenarios.	2	Practical Training 7.7	PSY-GUD	Shows-how	D-BED,CBL
CO4,CO5,CO8	Perform incisions for resection of metastatic tissue to support biopsy and clinical decision-making.	3	Experiential-Learning 7.5	PSY-ADT	Shows-how	RLE,DSN,PBL
CO4,CO5,CO8	Conduct cadaveric dissection and perform incisions for surgical training in tumour	3	Experiential-	PSY-	Shows-	D-M,RLE

	management.		Learning 7.6	ADT	how	,CBL,PSM

M 7 Unit 5 Chemotherapy and radiotherapy in the management of Malignant Neoplasm

- Role of Chemotherapy in the management of Malignant Neoplasm
- Role of Radiotherapy in the management of Malignant Neoplasm,
- Ayurveda Treatment in the Post chemotherapy and Radiotherapy complications

References: 8,9,10

3A	3B	3C	3D	3E	3F	3G
CO4	Describe the role of chemotherapy and radiotherapy in managing malignant neoplasms, and outline Ayurvedic treatments for post-chemotherapy and radiotherapy complications.	1	Lecture	CC	Knows-how	L,L&PPT
CO4	Describe and discuss the classification of chemotherapy drugs and their therapeutic applications.	1	Lecture	CAN	Knows-how	L&GD,L&PPT
CO4,CO5,CO7	Manage identified complications of chemotherapy and recommend Ayurvedic remedies	2	Practical Training 7.8	PSY-ADT	Shows-how	PSM,PER,CBL
CO4,CO5,CO7	Illustrate Ayurvedic treatment strategies for the management of complications following chemotherapy.	2	Practical Training 7.9	CAN	Shows-how	CBL,D-BED,PrBL
CO4,CO7	Demonstrate proficiency in the principles and practices of chemotherapy and radiotherapy.	3	Experiential-Learning 7.7	PSY-GUD	Shows-how	W,D,D-M
CO4,CO7	Perform chemotherapy and radiotherapy procedures independently under the supervision of trained professionals.	3	Experiential-Learning 7.8	PSY-GUD	Shows-how	D,CBL,D-M

Practical Training Activity

Practical Training 7.1 : Benign & Malignant Cysts

Activity Details
• Presentation of cyst reports/images.
• Students interpret, note features, differentiate benign vs malignant, and discuss.
Teacher’s Role
• Provide reports, highlight key points, guide.
Students’ Role
• Analyze, classify, and share reasoning.

Practical Training 7.2 : Clinicopathology & Prognostic factors of Soft tissue Tumour

I
Activity Details
• Teacher demonstrates clinical evaluation of soft tissue tumour on patient/model.
• Students practice stepwise exam in small groups.
• Brief case-based discussion on clinicopathological and prognostic factors.
Teacher’s Role
• Demonstrate full exam sequence.
• Guide and correct students’ technique.
• Link findings to pathology and prognosis in discussion.
Students’ Role
• Observe sequence.
• Perform exam on patient/model.
• Note findings and discuss prognostic relevance.

Practical Training 7.3 : Evaluate clinicopathological and prognostic factors of soft tissue tumours in applied case settings.

Activity Details
• Demonstration of soft tissue tumour examination.
• Students practice stepwise evaluation.
• Short case discussion on pathology and prognosis.
Teacher’s Role

• Show exam sequence.
• Supervise and correct.
• Emphasize prognostic factors.
Students' Role
• Observe.
• Perform exam.
• Relate findings to pathology/prognosis.

Practical Training 7.4 : Treatment protocol of Tumor

Activity Details
• Demonstration of tumour treatment planning.
• Students apply protocols to cases.
• Short discussion on variations.
Teacher's Role
• Show protocol use.
• Supervise practice.
• Explain rationale.
Students' Role
• Observe.
• Apply protocols.
• Compare approaches.

Practical Training 7.5 : Treatment protocol of Tumor

Activity Details
• Demonstration of tumour treatment protocols.
• Students practice in groups.
• Brief discussion on decisions.
Teacher's Role
• Show protocol steps.
• Supervise and correct.
• Explain reasoning.

Students' Role
• Observe.
• Apply protocols.
• Share approaches.

Practical Training 7.6 : Key factors to the Metastatic stages and Diagnosis

Activity Details
• Demonstration of tumour staging.
• Students practice on cases and propose treatments.
• Short discussion on stage–treatment link.
Teacher's Role
• Show staging steps.
• Provide cases.
• Emphasize decisions.
Students' Role
• Observe.
• Apply staging.
• Suggest treatment.

Practical Training 7.7 : Key factors to the Metastatic stages and Diagnosis

Activity Details
• Teacher demonstrates tumour staging on sample case.
• Students stage new cases and propose treatments.
• Group compares staging decisions and outcomes.
Teacher's Role
• Show staging method.
• Provide case scenarios.
• Guide evaluation of treatment choices.
Students' Role
• Observe demonstration.
• Apply staging to cases.

• Present and compare treatment plans.

Practical Training 7.8 : Complications and Ayurveda Treatment in the Post chemo therapy and Radiotherapy complications

Activity Details
• Teacher demonstrates common chemotherapy complications using case vignettes.
• Students practice identifying complications and mapping suitable Ayurvedic remedies.
• Short case-based discussion on integrating management strategies.
Teacher's Role
• Present complication scenarios.
• Demonstrate remedy selection process.
• Guide discussion on management integration.
Students' Role
• Analyze cases to identify complications.
• Apply Ayurvedic remedies appropriately.
• Share management plans in discussion.

Practical Training 7.9 : Complications and Ayurveda Treatment in the Post chemo therapy and Radiotherapy complications

Activity Details
• Teacher presents chemotherapy complications through case examples.
• Students analyze cases and map Ayurvedic treatment strategies.
• Short discussion on rationale and application.
Teacher's Role
• Provide structured case examples.
• Demonstrate linking complication to Ayurvedic management.
• Facilitate focused discussion.
Students' Role
• Analyze case data.
• Apply Ayurvedic strategies to each complication.
• Share reasoning in discussion.

Experiential learning Activity
Experiential-Learning 7.1 : Indications of surgery in cysts and Types of surgeries indicated
Activity Details • Students practice diagnosis of cyst cases and perform surgical steps (incision, excision, closure) on models. • Present outcomes and reflect on technique. Teacher’s Role • Provide cases/models, supervise, guide. Students’ Role • Diagnose, perform surgery, evaluate, present.
Experiential-Learning 7.2 : Staging of Soft tissue Tumour
Activity Details • Groups analyze tumour case data. • Assign stage and propose treatment. • Present staging with rationale. Teacher’s Role • Provide cases. • Guide staging framework. • Clarify stage–treatment link. Students’ Role • Apply staging criteria. • Decide treatment strategy. • Present group findings
Experiential-Learning 7.3 : Evaluate therapeutic advancements in the management of soft tissue tumours.
Activity Details

• Groups review therapeutic advances.
• Present clinical applications.
• Peer discussion on impact.
Teacher's Role
• Provide resources.
• Guide focus areas.
• Facilitate discussion.
Students' Role
• Review and extract updates.
• Present findings.
• Discuss relevance.

Experiential-Learning 7.4 : Therapeutic advancements in the Soft tissue Tumour

Activity Details
• Groups work on cases with new therapies.
• Demonstrate application via role play/simulation.
• Brief peer discussion on outcomes.
Teacher's Role
• Provide updated cases.
• Guide correct application.
• Summarize key points.
Students' Role
• Select and apply advancement.
• Demonstrate through simulation.
• Discuss results with peers.

Experiential-Learning 7.5 : Surgical Resection, Indications- Session I

Activity Details
• Students practice incision techniques for metastatic tissue resection on models/simulations.
• Groups perform procedure stepwise, focusing on biopsy adequacy.
• Peer discussion on how incision impacts clinical decision-making.

Teacher’s Role
• Provide models/simulations and procedural guidelines.
• Supervise performance and correct technique.
• Relate incision practice to biopsy and treatment planning.
Students’ Role
• Perform incision and tissue resection on models/simulations.
• Ensure biopsy sample adequacy.
• Discuss clinical implications with peers.

Experiential-Learning 7.6 : Surgical Resection, Indications - Session Ii

Activity Details
• Students perform cadaveric dissection focusing on tumour-related regions.
• Practice surgical incisions relevant to tumour management.
• Group discussion on anatomical landmarks and clinical relevance.
Teacher’s Role
• Provide cadaver and guide dissection steps.
• Supervise incisions and correct technique.
• Emphasize surgical relevance to tumour management.
Students’ Role
• Carry out dissection systematically.
• Perform tumour-related incisions.
• Identify landmarks and discuss applications.

Experiential-Learning 7.7 : Procedure of Chemotherapy and Radiotherapy

Activity Details
• Students rotate through simulation stations on chemotherapy preparation, drug handling, and radiotherapy planning.
• Each group demonstrates steps in administration/planning.
• Peer discussion on safety and efficacy principles.
Teacher’s Role
• Provide simulation setups and protocols.

• Guide correct execution at each station.
• Clarify principles linking practice to patient care.
Students' Role
• Perform tasks at chemo and radiotherapy stations.
• Demonstrate handling and planning steps.
• Discuss principles and practices with peers.

Experiential-Learning 7.8 : Procedure of Chemotherapy and Radiotherapy

Activity Details
• Students perform supervised chemotherapy preparation/administration and radiotherapy setup on simulation models.
• Groups rotate through stations to practice independently.
• Peer discussion on accuracy, safety, and patient care.
Teacher's Role
• Provide models, equipment, and protocols.
• Supervise and correct performance.
• Emphasize safety and professional standards.
Students' Role
• Carry out chemo and radiotherapy procedures on models.
• Follow protocols under supervision.
• Discuss performance and improvements with peers.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks per credit. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment. 1. Theory open Book test- 50 marksConduct theory open book test for 50 marks which will contain either 1 ABQ or 2 LAQ and 6 SAQ. OR 2. Viva -Take questions from each Units and select 25 questions for the module. 2marks for each question can be allocated Preparation**:** Create open-ended questions testing clinical knowledge, procedural steps, and reasoning. Execution: Conduct one-on-one or panel-based interviews. Evaluation**:** Assess knowledge depth, clarity, and application ability.	4

OR
3. DOPS (Direct Observation of Procedural Skills) - 25marks for each procedure . Select any two procedures for the Module
Preparation: Identify critical procedures (e.g., venipuncture, IV canulation etc relevant to the module.
Execution: Allow students to perform procedures under observation in a clinical or simulated environment. Observe key steps, technique, and patient interaction.
Evaluation: Evaluate the skill, technique, aseptic methods, and safety adherence followed during the procedure.
OR
Any practical in converted form can be taken for assessment (25 Marks) And
Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experiential Learning	3E Domain/ Sub Domain	3F Level (Does/Shows how/ Knows how/Know)	3G Teaching Learning Methods

Module 8 : Fundamentals of Sandhana Karma - Plastic & Reconstructive Surgery

Module Learning Objectives
(At the end of the module, the students should be able to)

- Analyze the principles of plastic surgery, including tissue repair, regeneration, and enhancement techniques.
- Differentiate cosmetic surgery from reconstructive surgery.
- Classify types of microsurgical procedures based on clinical indication.
- Evaluate the indications, advantages, and limitations of microsurgery.

- Summarize the evolution and appraise current trends in cosmetic and reconstructive surgery.
- Monitor vital signs, wound healing, and graft uptake with accuracy.
- Detect and report early signs of postoperative complications.
- Perform wound care and dressing techniques with precision.
- Administer prescribed postoperative medications safely.
- Manage complications such as infection, dehiscence, or graft rejection under supervision.

M 8 Unit 1 Sandhana Karma - Plastic & Reconstructive Surgery

- Concept and Fundamentals of Sandhana Karma
- Concept and Fundamentals of Plastic, reconstructive and cosmetic surgery

References: 1,2,3

3A	3B	3C	3D	3E	3F	3G
CO4,CO7	Describe the fundamental principles of plastic surgery and classify skin grafts and flaps in current surgical practice.	1	Lecture	CK	Knows-how	L&PPT ,L_VC
CO4,CO7	Describe the classifications, biological principles, and clinical applications of flaps and grafts in reconstructive surgery.	1	Lecture	CAP	Knows-how	L&PPT ,L_VC
CO1,CO4,CO5	Perform surgical anatomy for reconstructive procedures and hands-on workshops in reconstructive surgery.	2	Practical Training 8.1	PSY-ADT	Shows-how	CBL,W,SIM
CO4,CO5	Demonstrate foundational principles and basic techniques of cosmetic surgery.	3	Experiential-	PSY-	Shows-	D,TPW,D

			Learning 8.1	GUD	how	SN

M 8 Unit 2 Principles of Plastic surgery

- Fundamental principles of Plastic surgery
- Classification of Skin Graft & Flaps in Current Surgical Practice.

References: 12,13,15

3A	3B	3C	3D	3E	3F	3G
CO4,CO5	Describe the classifications, biological principles, and applications of flaps and grafts in reconstructive surgery, including materials and techniques described by Sushruta.	1	Lecture	CS	Knows-how	L&PPT
CO4	Describe classifications of skin grafts, flaps into split-thickness, full-thickness, local, pedicled, free types, identifying specific indications based on wound size, location, vascular supply, functional or aesthetic needs.	1	Lecture	CS	Knows-how	L&PPT ,L_VC
CO4,CO5,CO7	Assess the healing time, outcomes, limitations of skin grafts and flaps in terms of graft take, aesthetic results, functionality, complications.	2	Practical Training 8.2	PSY-ADT	Shows-how	D-BED,D
CO4,CO5,CO7	Assess the clinical outcomes and limitations of grafts and flaps with respect to graft take, aesthetic appearance, functional outcomes, and potential complications.	3	Experiential-Learning 8.2	PSY-MEC	Know	CBL,DIS
CO4,CO5,CO7	Illustrate the respective outcomes and limitations of grafts and flaps in terms of graft take, aesthetic results, functionality, and potential complications.	2	Experiential-Learning 8.3	PSY-MEC	Knows-how	CBL,DIS

M 8 Unit 3 Nasa, Karna and Oshtha sandhana

- Principles and techniques of Nasa Sandhana (Rhinoplasty,)
- Principles and techniques of Karna Sandhana (Auroplasty)
- Principles and techniques of Oshthasandhana(Cheiloplasty)

- Post operative Care described by Sushruta after different Sandhan Karma

References: 1,5,6,8,11

3A	3B	3C	3D	3E	3F	3G
CO4,CO5	Describe the principles and surgical techniques of Nasa Sandhana (Rhinoplasty) as per Ayurvedic and modern reconstructive approaches.	1	Lecture	CS	Knows-how	L&PPT ,L_VC
CO4,CO5	Demonstrate the principles and surgical techniques of Karna Sandhana (Otoplasty) according to Ayurvedic and modern reconstructive practices.	2	Practical Training 8.3	PSY-GUD	Shows-how	D-BED
CO4,CO5	Demonstrate the principles and surgical techniques of Oshta Sandhana (Cheiloplasty) based on Ayurvedic and modern reconstructive surgery.	2	Practical Training 8.4	PSY-GUD	Shows-how	D-BED
CO4,CO5	Demonstrate surgical techniques of Karna Sandhana using Ayurvedic and modern approaches.	2	Practical Training 8.5	PSY-GUD	Shows-how	SIM,D
CO4,CO5,CO7	Perform reconstructive techniques of Karna Sandhana, applying Ayurvedic and modern reconstructive principles.	3	Experiential-Learning 8.4	PSY-MEC	Shows-how	SIM,IBL
CO4,CO5,CO7	Apply Karna Sandhana and its surgical techniques as per Ayurvedic and modern reconstructive principles	2	Experiential-Learning 8.5	PSY-MEC	Shows-how	SIM,IBL, PBL

M 8 Unit 4 Techniques and tools used in reconstructive and cosmetic surgery

- Tissue expansion
- Reservoir of tissue expansion
- Liposuction
- Implants and Biomaterials

References: 52

3A	3B	3C	3D	3E	3F	3G

CO1,CO4	Describe the concept, biological principles, and applications of tissue expansion, and analyze its role in reconstructive and cosmetic surgery	1	Lecture	CAN	Knows-how	L&PPT
CO1,CO4	Describe the concept, principles, and biological basis of tissue expansion, and analyze its applications and limitations in reconstructive surgery.	1	Lecture	CAP	Knows-how	L&PPT
CO1,CO4,CO5	Apply the role of tissue expansion, implants, and biomaterials in comprehensive reconstructive procedures.	2	Practical Training 8.6	PSY-MEC	Shows-how	D,CBL
CO1,CO4,CO5	Demonstrate the integration of tissue expansion, implants, and biomaterials in reconstructive procedures through practical training.	2	Practical Training 8.7	PSY-ADT	Shows-how	BS,D,CD
CO1,CO4,CO7	Illustrate the different techniques of liposuction,	4	Experiential-Learning 8.6	PSY-MEC	Shows-how	D-M,DIS

M 8 Unit 5 Leech Therapy in Plastic and Reconstructive Surgery

- Role of Jalaukavacharana/Leech therapy in Plastic surgery and its recent advancements

References: 1,2,3,4,5

3A	3B	3C	3D	3E	3F	3G
CO1,CO4	Discuss the role of leech therapy (Jalaukavacharana) in plastic and reconstructive surgery, including recent advancements and the biochemical effects of hirudin and other leech-secreted substances in anticoagulation and vasodilation.	1	Lecture	CAN	Knows-how	L
CO1,CO3	Interpret the biological mechanisms underlying leech therapy and their relevance in reconstructive surgical applications.	2	Practical Training 8.8	CAN	Knows-how	L&PPT ,DIS
CO1,CO3	Illustrate the advancements in surgical care that have integrated leech therapy for improving tissue viability, particularly in cases of tissue ischemia or venous congestion	4	Experiential-Learning 8.7	PSY-MEC	Shows-how	RLE,EDU,D-BED

	following reconstructive surgery.					

M 8 Unit 6 Concept of Transplant surgery and Organ transplantation

- Principles of Transplantation
- Concept of Brain death, Organ Retrieval and Immunosuppression in Transplantation. Fundamentals,
- General principles and surgical techniques of Renal and Liver Transplantation.

References: 1,14,15,16

3A	3B	3C	3D	3E	3F	3G
CO4,CO5,CO7	Discuss the biological principles of organ transplantation, including donor–recipient matching, immunological factors, and the role of immunosuppressive therapies.	1	Lecture	CAN	Knows-how	L&PPT
CO4,CO5,CO7	Describe organ viability and preservation techniques, including cold ischemia time, perfusion methods, and criteria for maintaining organ quality in transplantation.	1	Lecture	CAN	Knows-how	L&PPT
CO4,CO5,CO8	Illustrate ethical issues in organ transplantation, including donor consent, allocation systems, equity of distribution, and dilemmas in commercialization and patient care.	2	Practical Training 8.9	PSY-SET	Shows-how	D,CBL
CO4,CO5,CO7	Apply brain death protocols for organ retrieval and preservation, emphasizing the importance of immunosuppression in transplant success.	2	Practical Training 8.10	PSY-ADT	Shows-how	CBL,CD
CO1,CO4,CO5	Demonstrate surgical techniques for kidney transplantation and manage preoperative, intraoperative, and postoperative care of renal transplant patients.	3	Experiential-Learning 8.8	PSY-MEC	Shows-how	SIM,BS,SDL
CO1,CO4,CO5	Apply surgical techniques for kidney transplantation and evaluate preoperative, intraoperative, and postoperative management in renal transplant patients.	2	Experiential-Learning 8.9	PSY-MEC	Shows-how	D,CBL

Practical Training Activity

Practical Training 8.1 : Principles of reconstructive Surgery
Activity Details • Teacher demonstrates key surgical anatomy steps relevant to reconstructive procedures. • Students practice incisions and flap designs in a hands-on workshop using models/cadavers. • Brief discussion on anatomical variations and clinical application. Teacher's Role • Demonstrate anatomical steps for reconstruction. • Provide models/cadavers and guide hands-on practice. • Correct technique and highlight clinical relevance. Students' Role • Observe demonstration. • Perform reconstructive steps in workshop. • Discuss anatomical applications.
Practical Training 8.2 : skin grafts and flaps & their respective types with specific indications for each type
Activity Details • Teacher presents clinical cases of skin grafts and flaps with varying outcomes. • Students examine cases/images to assess graft take, aesthetics, functionality, and complications. • Short discussion on healing time and limitations. Teacher's Role • Provide case materials and outcome data. • Demonstrate structured assessment approach. • Guide discussion on evaluation parameters. Students' Role • Review and assess graft/flap cases. • Identify outcomes, limitations, and complications. • Share evaluations in discussion
Practical Training 8.3 : Principles and techniques of Nasa Sandhana (Rhinoplasty,), Karna Sandhana (Auroplasty), Ostasandhana(Cheiloplasty) and its Post operative Care described by Sushruta

Activity Details
• Teacher demonstrates Karna Sandhana (otoplasty) principles and techniques on models/cadaver.
• Students practice stepwise surgical technique under supervision.
• Short discussion on integrating Ayurvedic and modern approaches.
Teacher's Role
• Demonstrate procedure clearly.
• Provide models/cadaver and supervise practice.
• Explain relevance of both Ayurvedic and modern principles.
Students' Role
• Observe demonstration.
• Perform surgical steps on model/cadaver.
• Compare and apply integrated approaches.

Practical Training 8.4 : Principles and techniques of Karna Sandhana (Auroplasty), and its Post operative Care described by Sushruta

Activity Details
• Teacher demonstrates Oshta Sandhana (cheiloplasty) principles and techniques on model/cadaver.
• Students practice surgical steps under supervision.
• Brief discussion on integration of Ayurvedic and modern approaches.
Teacher's Role
• Demonstrate procedure stepwise.
• Provide model/cadaver for practice.
• Guide technique and highlight combined principles.
Students' Role
• Observe demonstration.
• Perform surgical steps on model/cadaver.
• Discuss integration of approaches.

Practical Training 8.5 : Principles and techniques of Ostasandhana(Cheiloplasty) and its Post operative Care described by Sushruta

Activity Details
• Teacher demonstrates Karna Sandhana (otoplasty) techniques on model/cadaver.

• Students practice surgical steps under guidance.
• Short discussion on Ayurvedic vs modern approaches.
Teacher’s Role
• Demonstrate surgical procedure stepwise.
• Provide model/cadaver and supervise practice.
• Explain key points of both approaches.
Students’ Role
• Observe demonstration.
• Perform surgical steps on model/cadaver.
• Compare and discuss approaches.

Practical Training 8.6 : Techniques and tools used in reconstructive and cosmetic surgery.

Activity Details
• Teacher demonstrates use of tissue expanders, implants, and biomaterials on models.
• Students practice application techniques in small groups.
• Brief discussion on clinical relevance in reconstruction.
Teacher’s Role
• Demonstrate correct handling and application.
• Provide models/materials for hands-on practice.
• Explain role in comprehensive reconstruction.
Students’ Role
• Observe demonstration.
• Practice applying expanders, implants, and biomaterials.
• Discuss outcomes and indications.

Practical Training 8.7 : Techniques and tools used in reconstructive and cosmetic surgery.

Activity Details
• Teacher demonstrates integration of tissue expansion, implants, and biomaterials on models.
• Students practice stepwise application in reconstructive scenarios.
• Short discussion on outcomes and limitations.
Teacher’s Role

• Demonstrate procedure using models.
• Provide materials and supervise practice.
• Highlight integration in reconstruction.
Students' Role
• Observe demonstration.
• Perform application on models.
• Discuss results and challenges.

Practical Training 8.8 : Leech Therapy in Plastic and Reconstructive Surgery
Role of Jalaukavacharana/Leech therapy in Plastic surgery and its recent advancements.

Activity Details
• Teacher presents case scenarios where leech therapy is applied in reconstruction.
• Students analyze biological mechanisms (anticoagulation, vasodilation, decongestion) through lab data/images.
• Short discussion on clinical relevance in reconstructive surgery.
Teacher's Role
• Provide cases, images, and mechanism explanations.
• Demonstrate interpretation process linking biology to practice.
• Guide discussion on applications.
Students' Role
• Review case data and biological mechanisms.
• Interpret relevance for reconstructive outcomes.
• Share insights in discussion

Practical Training 8.9 : Concept of Transplant surgery and Organ transplantation

Activity Details
• Teacher presents clinical/ethical dilemmas in organ transplantation through case vignettes.
• Students analyze issues of consent, allocation, equity, commercialization, and patient care.
• Short group discussion on ethical reasoning and solutions.
Teacher's Role
• Provide structured case scenarios.
• Guide students in identifying key ethical concerns.

• Facilitate focused discussion on solutions.
Students' Role
• Review and interpret ethical dilemmas.
• Apply ethical principles to suggest resolutions.
• Share viewpoints in group discussion.

Practical Training 8.10 : Concept of Transplant surgery and Organ transplantation

Activity Details
• Teacher demonstrates brain death assessment protocols with case scenarios/simulation.
• Students practice applying protocols stepwise for organ retrieval and preservation.
• Brief discussion on immunosuppression relevance in transplant success.
Teacher's Role
• Demonstrate brain death protocols clearly.
• Provide simulated cases for student practice.
• Emphasize link between protocols and transplant outcomes.
Students' Role
• Observe demonstration.
• Apply protocols in simulated cases.
• Discuss role of immunosuppression.

Experiential learning Activity

Experiential-Learning 8.1 : Principles of cosmetic Surgery

Activity Details
• Students work in small groups on simulation models for basic cosmetic surgery techniques (e.g., suturing, flap design).
• Each group demonstrates selected techniques applying foundational principles.
• Peer discussion on precision, aesthetics, and safety.
Teacher's Role
• Provide models/tools and procedural guidelines.
• Supervise group performance and correct technique.
• Emphasize principles of cosmetic outcomes and safety.
Students' Role

• Practice techniques on models.
• Demonstrate steps within groups.
• Discuss challenges and improvements with peers.

Experiential-Learning 8.2 : healing time and clinical applications of skin grafts and their respective outcomes and limitations

Activity Details
• Students work in groups to review patient cases/images of grafts and flaps.
• Each group evaluates graft take, aesthetics, functionality, and complications.
• Present findings and discuss limitations with peers.
Teacher's Role
• Provide documented cases and images.
• Guide evaluation framework.
• Facilitate group presentations and discussions.
Students' Role
• Analyze cases systematically.
• Assess outcomes and identify limitations.
• Present and compare results with peers.

Experiential-Learning 8.3 : grafts and flap and their respective outcomes and limitations

Activity Details
• Students analyze sample cases/images of grafts and flaps.
• Groups illustrate outcomes and limitations using charts/diagrams.
• Peer discussion to compare findings.
Teacher's Role
• Provide cases and structured evaluation points.
• Guide students in illustrating outcomes.
• Moderate peer discussion.
Students' Role
• Review and assess graft/flap cases.
• Illustrate outcomes and limitations visually.
• Share and compare with peers.

Experiential-Learning 8.4 : Principles and techniques of Nasa Sandhana (Rhinoplasty,), Karna Sandhana (Auroplasty), Ostasandhana(Cheiloplasty) and its Post operative Care described by Sushruta
Activity Details • Students perform Karna Sandhana (otoplasty) reconstructive techniques on cadaver/model. • Apply both Ayurvedic and modern principles stepwise. • Groups discuss outcomes and challenges of each approach. Teacher’s Role • Provide cadaver/models and instruments. • Supervise and correct surgical technique. • Emphasize integration of Ayurvedic and modern principles. Students’ Role • Execute reconstructive steps independently in groups. • Apply combined principles during procedure. • Evaluate outcomes and share insights with peers
Experiential-Learning 8.5 : Principles and techniques of Nasa Sandhana (Rhinoplasty,), Karna Sandhana (Auroplasty), Ostasandhana(Cheiloplasty) and its Post operative Care described by Sushruta
Activity Details • Students perform Karna Sandhana techniques on cadaver/model. • Apply Ayurvedic and modern reconstructive principles stepwise. • Groups share observations on outcomes and limitations. Teacher’s Role • Provide cadaver/models and tools. • Supervise and guide surgical performance. • Clarify integration of both approaches. Students’ Role • Execute surgical steps in groups. • Apply combined principles during practice. • Discuss findings with peers.
Experiential-Learning 8.6 : Tissue expansion, Reservoir of tissue expansion , Liposuction, Implants and Biomaterials

Activity Details
• Students work in groups on simulation models to practice various liposuction techniques (tumescent, ultrasound-assisted, power-assisted).
• Each group illustrates technique steps and demonstrates application.
• Peer discussion on indications, outcomes, and limitations.
Teacher's Role
• Provide models/equipment for each technique.
• Supervise group performance and correct technique.
• Emphasize clinical applications and differences between methods.
Students' Role
• Perform liposuction techniques on models.
• Illustrate and demonstrate stepwise procedures.
• Compare approaches and discuss outcomes.

Experiential-Learning 8.7 : Leech Therapy in Plastic and Reconstructive Surgery
Role of Jalaukavacharana/Leech therapy in Plastic surgery and its recent advancements.

Activity Details
• Students review and analyze case studies/images of reconstructive surgeries using leech therapy for ischemia/venous congestion.
• Groups illustrate mechanisms and advancements through diagrams/models.
• Peer presentations followed by discussion on outcomes and limitations.
Teacher's Role
• Provide case materials and structured guidelines.
• Supervise group tasks and ensure accurate interpretation.
• Facilitate presentations and highlight clinical advancements.
Students' Role
• Analyze provided cases.
• Illustrate leech therapy integration using visuals/models.
• Present findings and discuss with peers.

Experiential-Learning 8.8 : Principles of Transplantation, Concept of Brain death, Organ Retrieval and Immunosuppression in Transplantation. Fundamentals, General principles and surgical techniques of Renal and Liver Transplantation.

Activity Details

• Students perform kidney transplantation steps on cadaver/simulation models.
• Groups manage mock scenarios of preoperative preparation, intraoperative procedures, and postoperative care.
• Peer discussion on challenges and critical care points.
Teacher's Role
• Provide cadaver/models and clinical scenarios.
• Supervise surgical steps and patient care simulations.
• Emphasize integration of surgical and perioperative management.
Students' Role
• Execute transplant steps on models.
• Apply perioperative and postoperative care protocols.
• Discuss outcomes and problem-solving approaches

Experiential-Learning 8.9 : Principles of Transplantation, Concept of Brain death, Organ Retrieval and Immunosuppression in Transplantation. Fundamentals, General principles and surgical techniques of Renal and Liver Transplantation.

Activity Details
• Students practice kidney transplant techniques on simulation models/cadaver.
• Groups evaluate mock scenarios covering preoperative, intraoperative, and postoperative management.
• Present findings and discuss best practices.
Teacher's Role
• Provide models and structured scenarios.
• Supervise surgical practice and guide evaluations.
• Highlight key management principles.
Students' Role
• Perform surgical steps in groups.
• Assess perioperative and postoperative care in scenarios.
• Present evaluations and compare with peers

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks per credit. Keep a structured marking pattern. Keep a record of the structured pattern used for assessment. Calculate the Modular grade point as per Table 6 C. Select any one or two methods for the assessment.	4

1. Theory open Book test- 50 marks. Conduct a theory open-book test for 50 marks, which will contain either 1 ABQ or 2 LAQ and 6 SAQ. OR 2. Viva -Take questions from each unit and select 25 questions for the module. 2marks for each question can be allocated Preparation**:** Create open-ended questions testing clinical knowledge, procedural steps, and reasoning. Execution: Conduct one-on-one or panel-based interviews. Evaluation**:** Assess knowledge depth, clarity, and application ability. OR 3. DOPS (Direct Observation of Procedural Skills) - 25marks for each procedure. Select any two procedures for the Module Preparation: Identify critical procedures (e.g., venipuncture, IV canulation, etc relevant to the module. Execution: Allow students to perform procedures under observation in a clinical or simulated environment. Observe key steps, techniques, and patient interaction. Evaluation: Evaluate the skill, technique, aseptic methods, and safety adherence followed during the procedure. OR Any practical in converted form can be taken for assessment (25 Marks) And Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)	

Paper No : 2 Asthi, Sandhi, Marma Aghat Evam Mootraroga Vigyan (Orthopedics and Urology)

Semester No : 3

Module 9 : Asthi Sandhi Vikara - Mool Sidhanta (Basics of orthopaedics)

Module Learning Objectives
(At the end of the module, the students should be able to)

- Analyze the history of orthopaedics and apply orthopaedic terminology to the structural and functional aspects of *Asthi*, *Tarunasthi*, *Asthi-Sandhi*, and associated soft tissues, evaluating their physiological significance in maintaining movement and stability.
- Demonstrate the concept of first-aid, triage, and temporary splintage, and formulate plans for safe shifting of patients with musculoskeletal injuries as part of primary care.
- Perform comprehensive history taking, clinical examination, assessment, and investigations for scenarios of musculoskeletal injuries.
- Evaluate the mechanisms and factors influencing fracture healing by integrating Ayurvedic perspectives with contemporary scientific insights to optimize outcomes.
- Appraise the evolution of the field and apply essential considerations for effective patient management and legal compliance.

M 9 Unit 1 History of orthopaedics, Orthopaedics terminology & Applied knowledge of Tarunasthi(cartilage), Asthi (bone) & Sandhi

- History of orthopaedics
- Orthopaedics terminology.
- Applied knowledge about the embryological development, Ossification Histology, Anatomy & Physiology of Tarunasthi(cartilage) & Asthi (bone).
- Applied anatomy and physiology of Asthi-Sandhi (skeletal-joints)

References: 1,33

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the history of orthopaedics, orthopaedic terminology, and the structural and functional aspects of *Asthi*, *Tarunasthi*, *Asthi-Sandhi*, and associated soft tissues in relation to movement and stability.	1	Lecture	CK	Knows-how	L&PPT,L,L_VC
CO1	Demonstrate the incorporation of applied anatomical fundamentals in general orthopaedic practice.	2	Practical Training 9.1	CAP	Shows-how	D-M,DL,L_VC,D,JC
CO1,CO8	Apply knowledge of embryological development, ossification histology, and the anatomy and physiology of *Tarunasthi* (cartilage), *Asthi* (bone), and *Sandhi*.	2	Experiential-Learning 9.1	CAP	Shows-how	DL,D-M,BS,DSN,C_L
CO1,CO3	Apply recent biophysiological advancements for enhancing fracture healing.	3	Experiential-Learning 9.2	PSY-SET	Shows-how	DA,JC,PSM,Mnt,DIS
CO1,CO3	Demonstrate the incorporation and clinical importance of *Sandhaniya* and *Ropniya* drugs in managing *Bhagna Sandhana* in clinical scenarios.	1	Practical Training 9.2	PSY-MEC	Shows-how	D,DIS
CO1,CO8	Describe the plan of investigations in orthopaedic practice.	1	Lecture	CC	Knows-how	L
CO1,CO8	Assess the historical backgrounds of Orthopaedic & Orthopaedics terminology and understand the process regarding the incorporation of the applied fundamentals of anatomy & physiology in the general orthopaedic practice	2	Experiential-Learning 9.3	PSY-ADT	Shows-how	CBL,DIS
CO1	Demonstrate regarding the incorporation of the applied fundamentals of physiology in the general orthopaedic practice.	1	Practical Training 9.3	PSY-MEC	Shows-how	JC,D,D-M

M 9 Unit 2 The plan of primary care in Musculo-skeletal injuries

- Plan of first-aid, Temporary splintage & triage in trauma.

- Informed consent & documentation & medical record keeping & other regulatory compliances.

References: 75,76

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the concepts of first aid, triage, temporary splintage, and shifting plans in musculoskeletal injuries as primary care.	1	Lecture	CAP	Knows-how	L_VC,L&PPT ,L&GD
CO1,CO8	Demonstrate the plan of first aid, triage, temporary splinting, and shifting in head, spine, and chest injuries, and explain medico-legal implications and consent in musculoskeletal injuries.	2	Practical Training 9.4	PSY-GUD	Shows-how	D-BED,D,C_L,D-M
CO1,CO8	Apply the primary care in musculoskeletal injuries.	2	Experiential-Learning 9.4	PSY-GUD	Shows-how	CBL,D
CO1,CO8	Demonstrate skills in providing primary care for musculoskeletal injuries and medico-legal procedures including consent taking.	2	Experiential-Learning 9.5	PSY-MEC	Shows-how	DIS,D,CBL
CO1,CO8	Demonstrate the plan of first aid, triage, temporary splintage, and shifting in long bone and polytrauma injuries.	1	Practical Training 9.5	PSY-MEC	Shows-how	D,C_L,CBL
CO1	Describe the concepts of first aid, triage, temporary splintage, and shifting plans in musculoskeletal injuries as primary care.	1	Lecture	CK	Knows-how	L&GD

M 9 Unit 3 General scheme of case taking in the scenario of Musculo-skeletal injuries History taking, Clinical Examination, assessment & Plan of investigations for: (a) General orthopaedics disorders & Trauma cases, (b) Orthopaedic disorders & Trauma in Paediatric cases (c) Elderly Population

References: 53

3A	3B	3C	3D	3E	3F	3G
CO1,CO8	Describe the History taking, Clinical Examination, and assessment for General orthopaedic disorders.	1	Lecture	CAP	Knows-how	L&PPT

CO1,CO8	Demonstrate the history taking, Clinical Examination, and assessment for General orthopaedic disorders.	2	Practical Training 9.6	PSY-SET	Shows-how	CBL,DIS,D
CO1,CO8	Perform the process of history taking, clinical examination, and assessment for general orthopaedic disorders.	2	Experiential-Learning 9.6	PSY-GUD	Shows-how	IBL,D,BL,D-BED,DIS
CO1,CO8	Illustrate history taking, clinical examination, and assessment for trauma cases.	2	Experiential-Learning 9.7	PSY-MEC	Shows-how	D-BED,D,CBL,RLE,W
CO1,CO8	Demonstrate the History taking, Clinical Examination, assessment for Trauma cases.	1	Practical Training 9.7	CAP	Shows-how	D-BED,D,DIS,CBL
CO1,CO8	Discuss history taking, clinical examination, and assessment for different types of trauma cases.	1	Lecture	CC	Knows-how	L&PPT,L&GD

M 9 Unit 4 Medico-legal implications. Addressing the case requiring the medico-legal concern & initiating the trail of documentation.

References: 63,76

3A	3B	3C	3D	3E	3F	3G
CO1,CO8	Discuss addressing the case that requires medicolegal concerns & initiating the trail of documentation.	1	Lecture	CS	Knows-how	L&PPT , L_VC,L&GD
CO1,CO8	Respond to the case requiring Medico-legal concerns & initiating the trail of documentation - Session 1	2	Practical Training 9.8	AFT-REC	Shows-how	C_L,CBL,D-BED,DIS
CO1,CO8	Interpret the requirements of a case of medico-legal proceedings under the direct supervision of the peer - Session 1	2	Experiential-Learning 9.8	CS	Shows-how	D,D-BED,C_L,CBL,DIS

CO1,CO8	Demonstrate diagnostic radiology like plane X-ray, USG, Computerized tomography (CT), & MRI in context to orthopaedic conditions.	2	Practical Training 9.9	PSY-MEC	Shows-how	D-M,D,X-Ray,D-BED,DL
CO1,CO8	Illustrate diagnostic radiology like PET scan, Radio-isotope bone scan, Digital subtraction angiography (DSA), dual energy X-ray absorptiometry (DEXA) & other recently introduced tools in context to orthopaedic conditions	2	Practical Training 9.10	PSY-ADT	Shows-how	D-BED,CD,D,CBL,DIS
CO1,CO8	Apply the requirements of a case of the medico-legal proceedings under the direct supervision of a peer.	2	Experiential-Learning 9.9	PSY-GUD	Shows-how	C_L,CBL,D,D-BED
CO1,CO8	Demonstrate how to Address the case requiring Medico-legal concerns & initiating the trail of documentation - Session 2	2	Practical Training 9.11	PSY-MEC	Shows-how	RP,CD,D-BED,D,CBL

M 9 Unit 5 Plan of investigations in orthopaedics.

- Planning of the investigations: Diagnostic Radiology like plane X-ray, USG, Computerized tomography (CT), MRI, PET scan, Radio-isotope bone scan, Digital subtraction angiography (DSA), dual energy X-Rays absorptiometry (DEXA) & other recently introduced tools in context to orthopaedic conditions

References: 5,8

3A	3B	3C	3D	3E	3F	3G
CO1,CO8	Discuss the Plan of investigations in orthopaedic practice.	1	Lecture	CC	Knows-how	L,L&PPT,L&GD
CO1,CO8	Apply diagnosis by the X-ray, USG, CT, & MRI in context to orthopaedic conditions	3	Experiential-Learning 9.10	PSY-ADT	Shows-how	W,CBL,D,BS,DIS
CO1,CO8	Conduct the experiential learning in the domain of the Radio-isotope bone scan, DSA,	2	Experiential-	PSY-	Shows-	W,D-BE

	DEXA & other recently introduced tools in context to orthopaedic conditions		Learning 9.1 1	ADT	how	D,CD,RL E,D

M 9 Unit 6 Mechanism & factors influencing the Bhagna Sandhana

- Mechanism & factors influencing the Bhagna Sandhana (fracture healing).
- Pathya-Apathya Sandhaniya & Ropniya drugs in context to Bhagna Sandhana.
- Recent advances in the form of biological and biophysical technologies for the enhancement of fracture healing.

References: 1,2,5,33,34

3A	3B	3C	3D	3E	3F	3G
CO1,CO8	Describe the Pathya-Apathya Sandhaniya & Ropniya drugs in context to Bhagna Sandhaana.	1	Lecture	CAN	Knows-how	L&GD,L &PPT ,L
CO1,CO8	Conduct exposures in regards to the incorporation of Pathya-Apathya Sandhaniya & Ropaniya drugs in context to Bhagna Sandhaana in clinical scenarioes.	2	Practical Training 9.12	PSY-GUD	Shows-how	PBL,GBL ,DIS,PrB L,CBL
CO1,CO8	Apply recent advances in biological technologies to enhance fracture healing.	2	Experiential-Learning 9.1 2	PSY-MEC	Shows-how	JC,L&GD ,CBL,LS, W
CO1,CO8	Discuss the recent advances in the promotion of fracture healing.	1	Lecture	CC	Knows-how	L&PPT

Practical Training Activity

Practical Training 9.1 : Applied fundamentals of Orthopaedis Practice.

Activity Details
• Teacher demonstrates common orthopaedic procedures (e.g., joint examination, fracture reduction principles) using anatomical models and case-based scenarios.
• Stepwise highlighting of anatomical landmarks, muscle actions, and nerve supply relevant to each manoeuvre.
• Students practice guided demonstrations on models or peers in small groups.

Teacher's Role
• Demonstrate techniques on model/patient simulator with emphasis on anatomical relevance.
• Provide clinical case prompts linking anatomy to orthopaedic decision-making.
• Guide and correct student hand placement, movement, and anatomical referencing.
Students' Role
• Observe and note anatomical references demonstrated.
• Practice joint movements, palpation of landmarks, and alignment techniques in groups.
• Relate anatomical fundamentals to clinical cases provided during practice.

Practical Training 9.2 : Sandhaniya & Ropniya drugs in context to Bhagna Sandhaana in clinical scenarioes.

Activity Details
• Demonstrate and practice Sandhaniya and Ropniya drug use in Bhagna Sandhana scenarios.
Teacher's Role
• Explain indications and demonstrate administration.
• Supervise and correct techniques.
Students' Role
• Apply drugs correctly and note outcomes.

Practical Training 9.3 : Fundamentals of Orthopaedic practice & understanding the development , ossification pattern & its implication in the fracture healing & metabolic disorder.
Demonstrate the application of anatomical and physiological fundamentals in orthopaedic practice.

Activity Details
• Demonstration of physiological principles (e.g., muscle contraction, bone healing, circulation) applied to orthopaedic practice.
• Case-based illustrations linking physiology to clinical decision-making.
• Guided practice with models/simulations for applied skills.
Teacher's Role
• Demonstrate physiology concepts in orthopaedic context.
• Provide case examples and explain clinical relevance.
• Supervise practice and correct application.
Students' Role
• Observe demonstrations and note physiological linkages.

• Engage in practice on models/simulations.
• Apply concepts to case examples under guidance.

Practical Training 9.4 : Practical understanding regarding the prompt, effective & efficient incorporation of the primary care in orthopaedic trauma

Activity Details
• Teacher demonstrates stepwise first aid, triage prioritization, temporary splinting, and safe shifting techniques for head, spine, and chest injuries using mannequins/simulation models.
• Highlighting medico-legal implications and consent procedures through short case scenarios.
• Students practice splinting, log-roll shifting, and triage categorization in small groups under supervision of teacher.
Teacher's Role
• Demonstrate correct application of splints, spinal immobilization, and shifting maneuvers on models.
• Provide mini-scenarios to link medico-legal aspects (e.g., need for written consent, documentation).
• Supervise group practice, correcting technique and reinforcing safety.
Students' Role
• Observe demonstration and note procedural steps.
• Practice splinting, log-roll shifting, and patient positioning in peer groups.
• Apply triage categories to given scenarios and explain consent requirements.

Practical Training 9.5 : Prompt, effective & efficient incorporation of the primary care in orthopaedic trauma.

Activity Details
• Demonstration of rapid primary care steps in orthopaedic trauma.
• Simulation and guided practice on models/peers.
Teacher's Role
• Demonstrate sequence and priorities.
• Supervise and correct practice.
Students' Role
• Observe steps.
• Practice immobilization & first aid promptly.

Practical Training 9.6 : Demonstrate history taking, clinical examination, and assessment for general orthopaedic disorders in practical settings.

Activity Details

• Teacher demonstrates history taking and orthopaedic examination on a simulated patient.
• Students practice stepwise in small groups.
Teacher’s Role
• Demonstrate techniques, highlight key points, and supervise practice.
Students’ Role
• Observe sequence, perform history and exam, and record findings.

Practical Training 9.7 : Trauma cases and their management.

Activity Details
• Demonstration of structured history taking and trauma-focused examination.
• Stepwise illustration of assessment methods on a simulated patient/model.
Teacher’s Role
• Demonstrate sequence of history, exam, and assessment.
• Highlight key clinical signs & documentation.
• Supervise student practice.
Students’ Role
• Observe teacher’s demonstration.
• Practice history taking & exam on peer/simulation.
• Apply assessment steps systematically.

Practical Training 9.8 : Medico-legal concerns & initiating the trail of documentation in orthopaedic practice.

Activity Details
• Teacher presents medico-legal cases and demonstrates documentation steps.
• Students practice filling sample forms in groups.
Teacher’s Role
• Explain legal requirements, demonstrate, and guide.
Students’ Role
• Practice documentation and discuss medico-legal aspects.

Practical Training 9.9 : Investigations in Orthopaedic practice.

Activity Details
• Demonstration of X-ray, USG, CT, MRI for orthopedic cases.
• Guided practice on sample images to identify key findings.
Teacher's Role
• Present representative cases and demonstrate stepwise interpretation.
• Highlight modality differences and correct errors during practice.
Students' Role
• Practice reading provided images and identify pathologies.
• Share brief interpretations and compare with peers.

Practical Training 9.10 : Planning Investigations in Orthopaedic practice

Activity Details
• Demonstration of PET, bone scan, DSA & DEXA with case images/videos.
• Guided practice on simulated console for positioning & image interpretation.
• Group discussion on tool selection according to orthopaedic cases.
Teacher's Role
• Demonstrate procedures with models/videos.
• Explain steps, safety & indications in radiology.
• Provide images and supervise practice.
Students' Role
• Observe demonstrations.
• Practice on simulations.
• Interpret images & discuss tool choice according to need.

Practical Training 9.11 : Medico-legal concerns & trail of documentation in orthopaedic practice.

Activity Details
• Demonstration of medico-legal case handling steps.
• Illustration of documentation trail (from case notes to report).
• Guided practice on sample forms/files.
Teacher's Role
• Demonstrate documentation process.

• Explain sequence & legal relevance.
• Provide sample cases & supervise practice.
Students' Role
• Observe documentation steps.
• Practice filling medico-legal forms.
• Follow sequence to create a mock trail.

Practical Training 9.12 : Pathya-Apathya Sandhaniya & Ropniya drugs in context to Bhagna Sandhaana in clinical scenarioes.

Activity Details
• Demonstrate and practice use of Pathya-Apathya, Sandhaniya, and Ropaniya drugs in Bhagna Sandhaana scenarios.
Teacher's Role
• Explain indications and demonstrate correct administration.
• Supervise and correct students during practice.
Students' Role
• Select and apply appropriate drugs under guidance of peer.
• Record observations systematically.

Experiential learning Activity

Experiential-Learning 9.1 : Applied knowledge about the embryological development, Ossification Histology, Anatomy & Physiology of Tarunasthi, Asthi & Sandhi.

Activity Details
• Students are divided into small teams and given real-life case vignettes (e.g., delayed ossification in a child, cartilage injury in athletes, degenerative bone disease).
• Each team investigates the embryological, histological, anatomical, and physiological basis linked to the case.
• Teams create a flowchart/model connecting embryology ? ossification ? cartilage/bone/joint physiology ? clinical manifestation.
• Teams present their findings and defend reasoning in peer discussion.
Teacher's Role
• Provide authentic clinical vignettes with sufficient cues for inquiry.
• Facilitate group exploration by posing probing questions.
• Ensure students integrate theory with the clinical relevance of Tarunasthi, Asthi, and Sandhi.
Students' Role
• Collaboratively analyze case vignettes and map biological concepts to clinical outcomes.
• Construct visual aids (flowcharts/models) to explain integration.

• Present and justify their application of knowledge during peer discussion.
Experiential-Learning 9.2 : Recent Advancements in the form of Biophysiological for the enhancement of Fracture healing.
Activity Details • Students work in groups to apply recent biophysiological advancements (e.g., growth factors, stem cells, biomaterials) in simulated fracture healing scenarios. • Groups present and discuss their proposed treatment strategies. Teacher's Role • Provide case scenarios and relevant resources. • Facilitate discussions, clarify concepts, and guide strategy formulation. Students' Role • Analyze cases and apply biophysiological advancements. • Collaborate to design evidence-based healing strategies. • Present and justify approaches to peers.
Experiential-Learning 9.3 : Applied knowledge about the embryological development, Ossification Histology, Anatomy & Physiology of cartilage, bone & joints.
Activity Details • Students explore origins of orthopaedic terminology through case-linked examples. • Group activity linking anatomy & physiology fundamentals to orthopaedic practice. • Presentation of findings with peer discussion. Teacher's Role • Provide resources on terminology & historical background. • Facilitate group exploration and guide linkages with applied anatomy. • Moderate presentations and discussions. Students' Role • Investigate history and terminology. • Correlate anatomy & physiology with orthopaedic practice. • Present and discuss insights with peers. TL Methods Used – Case-Based Learning, Peer Learning, Group Discussion, Experiential Learning
Experiential-Learning 9.4 : Musculo-skeletal Injuries and their primary care.
Activity Details

• Teams handle simulated accident scenarios of musculoskeletal injuries.
• Perform assessment, bleeding control, immobilization, and safe shifting.
• Rotate roles (rescuer, assistant, patient) and share reflections.
Teacher's Role
• Provide scenarios, materials, and supervision.
• Guide with prompts and ensure safe practice.
Students' Role
• Deliver primary care through role-play.
• Collaboratively decide priorities and actions.
• Reflect on interventions and outcomes.

Experiential-Learning 9.5 : Musculo-skeletal Injuries and medico-legal aspects in them.

Activity Details
• Students role-play primary care for musculoskeletal injuries.
• Practice splinting, dressing, and basic immobilization.
• Simulate medico-legal steps, including informed consent taking.
Teacher's Role
• Provide injury scenarios and materials.
• Supervise skill practice and ensure correct technique.
• Guide medico-legal documentation steps.
Students' Role
• Perform primary care skills on peers/models.
• Practice obtaining informed consent.
• Document medico-legal notes under supervision.

Experiential-Learning 9.6 : Detailed Case Taking of General orthopaedics disorders.

Activity Details
• Students role-play with simulated patients to perform history, examination, and assessment, rotating roles.
• Summarize and share findings in groups.
Teacher's Role
• Provide cases, guide role rotation, and observe with prompts.

Students' Role
• Perform and record history/exam, rotate roles, and discuss findings.

Experiential-Learning 9.7 : Detailed Case Taking of Trauma cases.

Activity Details
• Students in small groups role-play trauma case scenarios.
• Perform history taking, targeted clinical examinations, and assessment.
• Present findings to peers for feedback.
Teacher's Role
• Provide trauma case scenarios.
• Facilitate and supervise role-plays.
• Guide corrections during presentations.
Students' Role
• Conduct history taking & examinations.
• Perform trauma assessment steps.
• Present and discuss findings with peers.

Experiential-Learning 9.8 : Case taking in Medico legal scenarios.

Activity Details
• Students work in pairs with medico-legal case files.
• Each interprets requirements (consent, reports, injury notes) under peer supervision.
• Findings are shared and cross-checked in small groups.
Teacher's Role
• Provide case files, outline key requirements, and facilitate group sharing.
Students' Role
• Interpret documents, supervise peers, and cross-verify findings.
• Present conclusions in group discussion.

Experiential-Learning 9.9 : Case taking in Medico legal scenarios.

Activity Details
• Work in pairs on medico-legal case file.

• Draft report under peer supervision.
• Role-play case presentation.
Teacher’s Role
• Provide case & format.
• Facilitate supervision.
• Moderate role-play.
Students’ Role
• Analyze case with peer.
• Prepare documentation.
• Present findings.

Experiential-Learning 9.10 : Planning & interpreting the investigations in context to orthopaedic conditions.

Activity Details
• Groups analyze X-ray, USG, CT, MRI cases and apply diagnostic reasoning.
• Present and discuss findings with peers.
Teacher’s Role
• Provide varied cases and guide analysis.
• Clarify misconceptions and highlight key points.
Students’ Role
• Interpret images collaboratively.
• Present and justify diagnoses.

Experiential-Learning 9.11 : Planning & interpreting the investigations in context to orthopaedic conditions

Activity Details
• Students explore Radio-isotope bone scan, DSA, DEXA, and other new diagnostic tools through case scenarios or simulations.
• Groups analyze and discuss the application of each tool in orthopedic conditions.
Teacher’s Role
• Provide cases, resources, and demonstrations of tool usage.
• Facilitate discussions and clarify interpretation principles.
Students’ Role
• Apply tools conceptually to cases and interpret findings.

• Collaborate in groups to propose diagnostic approaches in orthopedic.
• Present and justify their analyses.

Experiential-Learning 9.12 : Recent advances in the enhancement of fracture healing.

Activity Details
• Groups analyze cases and apply recent biological technologies to enhance fracture healing.
• Present and discuss proposed strategies.
Teacher's Role
• Provide cases and resources.
• Facilitate discussions and clarify concepts.
Students' Role
• Apply technologies conceptually in cases of fracture.
• Collaborate and present evidence-based strategies in fracture healing.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks per credit. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment. Topics to be assessed: • Applied knowledge about the embryological development, Ossification Histology, Anatomy & Physiology of Tarunasthi (cartilage) Asthi (bone) & Sandhi. • Practically Understanding regarding the incorporation of the applied fundamental of anatomy & physiology in the general orthopaedic practice. • Comprehensive knowledge about the plan of first-aid, triage, Temporary splintage, & plan of shifting particularly in the scenarios of Injuries to the head, spine, chest wall, long bones & poly-trauma. • Getting the comprehensive knowledge about addressing the case requiring Medico-leagal concerns & initiating the trail of documentation. • Comprehend with the Plan of investigations for the orthopedic practice. • Comprehending with Understanding of the Mechanism & and factors influencing the Bhagna sandhana (fracture healing). Select any one or two methods for the assessment. Assessment method Theory Open Book Test	4

Conduct theory open book test for 50 marks which will contain
Either 2 LAQ or 6 SAQ. OR
Viva –
Take questions from each unit and select 25 questions for the module. Two marks for each question can be allocated
Execution: Conduct one-on-one or panel-based interviews.
Evaluation: Assess knowledge depth, clarity, and application ability. Or
Debate –25 marks for each debate (Total 2 debates)
Execution: Conduct the debate with clear time limits for each speaker. Assign a moderator to ensure smooth proceedings on the scenario based questions focusing any specific orthopedic condition.
Evaluation: Evaluate focusing on argument quality, Content delivery and teamwork. OR
Any practical in converted form can be taken for assessment (25 Marks) And
Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)

Module 10 : Marma Vigyana & Sports Medicine

Module Learning Objectives
(At the end of the module, the students should be able to)

- Identify key *Marma* points in the body, analyze their anatomical locations, and evaluate their therapeutic applications in the context of *Marma Vigyan* as per Tamil Kalari and Ayurveda.
- Demonstrate skills to assess sports injuries and formulate diagnostic strategies that integrate Ayurvedic fundamentals with contemporary sports medicine.
- Analyze the integration of *Marma* with sports medicine and create personalized treatment plans utilizing *Marma* therapy to enhance athletic performance and recovery in sports-related injuries.
- Perform practical techniques of *Marma* therapy for sports-related injuries, including methods for pain relief and functional recovery.
- Design wellness programs for athletes that incorporate *Marma* therapy with other Ayurvedic practices to promote overall health and peak performance.

M 10 Unit 1 Marma & its anatomical correlations

- Marma.
- Anatomical correlations of Marma.

References: 1,3,4,6,53

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Discuss Marma & their anatomical correlations	1	Lecture	CAP	Knows-how	L
CO1,CO3	Mark each Marma as per its anatomical correlation (Shakha marma, Uromarma, Udara marma, and Prrishta marma)	2	Practical Training 10.1	PSY-SET	Shows-how	DIS,D,PER,TBL,C_L
CO1,CO3	Apply Hands-on training workshops, seminar, Horizontal discussions with the department Anatomy in identification of Marma & their anatomical correlations	2	Experiential-Learning 10.1	PSY-SET	Shows-how	C_L,L&GD,PrBL,L,CBL
CO1,CO3	Apply fundamental of Measurement of physiological parameters & prescription of Abhyanga, Yoga & Pranayaam in Sports personnals and experimental studies for developing performance-enhancing drugs using the references from the Ayurveda classics like *Balyakara , jeevaniya, Branghaniya Gana* that will not reflect in doping test.	2	Practical Training 10.2	PSY-MEC	Shows-how	L&PPT , W,D,L_VC
CO1,CO3	Identify Marma & their anatomical correlations	2	Experiential-Learning 10.2	PSY-MEC	Shows-how	CBL
CO1,CO3	Identify each Marma as per its anatomical correlation (Jatrurdhwagata marma)	1	Practical Training 10.3	PSY-ADT	Shows-how	SIM,CBL,D,D-BED

M 10 Unit 2 Different systems of Marma Therapy, Manipulation techniques of individual Marma, Adankal manoeuvre, Traction manoeuvres & orthopaedics appliances.

- Different systems of Marma therapy like Tamil Varma & Kalaripayattu- chikitsa.

- Manipulation techniques and Adankal maneuver of individual Marma in context to the trauma & pain Management
- Traditional traction maneuver & orthopaedics appliances employed in Marma chikitsa

References: 1,53,75,83

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Discuss different systems of Marma therapy, Manipulation techniques	1	Lecture	CAP	Knows-how	L&GD,L &PPT ,L
CO1,CO3	Apply different systems of Marma therapy, Manipulation techniques, & *Adankal* manoeuvre employed in Marma chikitsa	2	Practical Training 10.4	PSY-GUD	Shows-how	C_L,JC,D ,DIS,W
CO1,CO3	Illustrate different systems of Marma therapy, Manipulation techniques, & *Adankal* manoeuvre employed in Marma chikitsa	2	Experiential-Learning 10. 3	PSY-MEC	Shows-how	D,CBL,D -M,SIM,S Y
CO1,CO3	*Describe* Adankal manoeuvre, Traction manoeuvre & orthopaedic appliances employed in Marma chikitsa.	1	Lecture	CC	Knows-how	L&PPT ,L&GD,L
CO1,CO3	Illustrate different systems of traction manoeuvre & orthopaedic appliances employed in Marma chikitsa.	2	Experiential-Learning 10. 4	PSY-MEC	Shows-how	CBL,D,C _L
CO1,CO3	Demonstrate traction manoeuvre & orthopaedics appliances employed in Marma chikitsa.	1	Practical Training 10.5	CS	Does	W,D,C_L ,CBL

M 10 Unit 3 Recent Developments & scope of Research in Marma. Recent Developments & scope of Research in Marma for Orthopaedics Specialty & Kreeda Bheshaja (sports medicine).

References: 1,4,5,6,7,75,76

3A	3B	3C	3D	3E	3F	3G
CO1,CO5	Discuss Recent Developments & scope of Research in Marma for Orthopaedics Specialty.	1	Lecture	CC	Knows-how	L
CO1,CO5	Discuss Recent Developments & scope of Research in Marma for *Kreeda Bheshaja* (sports medicine).	1	Lecture	CC	Knows-how	L
CO1,CO5	Illustrate recent developments & scope of research in Marma for Orthopaedics specialty	2	Practical Training 10.6	PSY-SET	Shows-how	D,D-BED
CO1,CO5	Apply the recent developments & scope of research in Marma for *Kreeda Bheshaja* (sports medicine).	1	Practical Training 10.7	PSY-GUD	Shows-how	JC,L&GD,D,C_L,DIS
CO1,CO5	Perform hands-on training using D-M, CBL, TBL, PrBL, for better understanding to appreciate the recent Developments & scope of Research in Marma for Orthopaedics Speciality	2	Experiential-Learning 10.5	PSY-ADT	Shows-how	C_L,JC,DIS
CO1,CO5	Identify recent developments & scope of research in Marma for *Kreeda Bheshaja* (sports medicine)	2	Experiential-Learning 10.6	PSY-MEC	Shows-how	D,SDL,L,DIS

M 10 Unit 4 Applied fundamentals of Kreeda Bheshaja (Sports Medicine).

- History of *Kreeda Bheshaja*.
- Introduction about the Basic fundamentals of *Kreeda Bheshaja* (Sports Medicine).
- Etymology, Definition & Importance of *Kreeda Bheshaja*.

References: 75,76

3A	3B	3C	3D	3E	3F	3G
CO1,CO5	Discuss • **History of *Kreeda Bheshaja*.** • **Etymology, Definition & Importance of *Kreeda Bheshaja*.** • **Introduction about the Basic fundamentals of *Kreeda Bheshaja* (Sports Medicine).**	1	Lecture	CC	Knows-how	L&PPT ,L&GD,L
CO1,CO5	Demonstrate practical exposures in regard to the understanding the applied fundamentals of *Kreeda Bheshaja* (Sports Medicine).	2	Practical Training 10.8	PSY-MEC	Shows-how	D,D-BED ,DIS,PBL
CO1,CO5	Demonstrate practical exposures in regard to the understanding the applied fundamentals of *Kreeda Bheshaja* (Sports Medicine).	2	Practical Training 10.9	PSY-MEC	Shows-how	D-BED,B L,JC,C_L ,L_VC
CO1,CO5	Adopt schools & institutions to create the awareness among the sports personals regarding the strength of *Kreeda Bheshaja*	2	Experiential-Learning 10. 7	CS	Shows-how	DIS,W,C _L,CBL, BS
CO1,CO5	Create awareness by adopting schools & institutions to among the sports personnel regarding the strength of *Kreeda Bheshaja*	2	Experiential-Learning 10. 8	PSY-MEC	Shows-how	L&GD,DI S,D,L_V C,L&PPT

M 10 Unit 5 Sports Fitness & Sports Injuries.

- Fitness of Sports person incorporating fundamentals of sports physiology, sports nutrition, Ayurveda & Marma therapy.
- Comprehensive knowledge about the Sports related injuries of Head, chest, spine, Pelvis, upper limb & lower limb.
- Knowledge about the basic rehabilitation, Proprioceptive, Neuro-muscular facilitations, isotonic, isometric, isokinetic stretching & their contra-indications

References: 33,34,75

3A	3B	3C	3D	3E	3F	3G
CO1,CO5	Discuss the Fitness of a Sports person, incorporating fundamentals of sports physiology, sports nutrition, Ayurveda & Marma therapy.	1	Lecture	CS	Knows-how	L&GD,L &PPT
CO1,CO5	Discuss the theoretical aspect of Sports related injuries of Head, chest, spine Pelvis & extremities.	1	Lecture	CC	Knows-how	L
CO1,CO3	Demonstrate practical exposures for assessment of physical fitness & athletic performance.	2	Practical Training 10.10	PSY-GUD	Shows-how	L_VC,DIS,C_L,W,D
CO1,CO3	Illustrate Field-work, internship, guided projects, community engagement & reflective practices, helping students to integrate theoretical knowledge into the practice. and Internship in sports medicine clinics, observational visit to the sports team, community sports events, injury assessment workshops, first-aid & BLS training, rehabilitation & recovery sessiion.	3	Experiential-Learning 10.9	PSY-MEC	Shows-how	L,PAL,TPW,W,C_L
CO1,CO3	Conduct experimental studies for developing performance enhancing drugs using the references form the Ayurveda classics like *Balyakara , jeevaniya, Branghaniya Gana* that will not reflect in doping test	2	Experiential-Learning 10.10	PSY-MEC	Shows-how	DG,FV,L,LRI,LS

M 10 Unit 6 Primary care protocols in sports injuries & rehabilitation strategies

- First-Aid,
- RICE/PRICE /POLICE protocols, and
- Management through various modalities like Taping, bandaging, needling & other on- field sports-injury management techniques.

References: 7,8,9

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe first-Aid, RICE/PRICE /POLICE on-field management protocols of sports-	1	Lecture	CK	Knows-	L&PPT ,

	injuries.				how	L_VC,L&GD
CO1,CO3	Discuss incorporating various modalities like Taping, bandaging, needling & other techniques in the scenarios of sports-injuries.	1	Lecture	CK	Knows-how	L&PPT , W,L&GD ,L_VC
CO1,CO3	Demonstrate first-Aid, RICE/PRICE /POLICE on-field management protocols of sports-injuries.	2	Practical Training 10.11	PSY-GUD	Shows-how	D,TUT,DIS,CBL,C_L
CO1,CO3	Apply on-field management protocols and incorporate various modalities like Taping, bandaging, needling & other techniques in the scenarios of sports-injuries.	1	Practical Training 10.12	PSY-SET	Shows-how	D,W,DIS
CO1,CO3	Identify measurement of physiological parameters & prescription of Abhyanga, Yoga & Pranayaam.	3	Experiential-Learning 10.11	PSY-GUD	Shows-how	D,D-BED,DIS
CO1,CO3	Conduct practical exposures for assessment of physical fitness & athletic performance.	2	Experiential-Learning 10.12	PSY-ADT	Shows-how	W,SY,TBL,D-M,DIS

Practical Training Activity

Practical Training 10.1 : Marma as per its anatomical correlation (Shakha marma, Uromarma, Udara marma and Prrishta marma)

Activity Details
• Demonstration of Shakha, Uro, Udara & Prishta marma sites.
• Guided marking practice on models/peers.
Teacher’s Role
• Show accurate locations & explain anatomy.
• Supervise and correct marking.
Students’ Role
• Observe demonstration.

• Practice marma marking & correlate with anatomy.

Practical Training 10.2 : Marma & their anatomical correlation (Jatrurdhwagata marma)

Activity Details
• Demonstration of Jatrurdhwagata marma locations on model/chart.
• Guided marking and correlation with anatomy on peers/models.
Teacher's Role
• Demonstrate marma sites & explain anatomical relevance.
• Supervise and correct student practice.
Students' Role
• Observe demonstrations.
• Practice marking marma points.
• Correlate sites with underlying anatomy.

Practical Training 10.3 : Sports Fittness

Activity Details
• Demonstration of physiological parameter measurement (HR, BP, VO? max basics).
• Guided practice in prescribing Abhyanga, Yoga & Pranayaam for sports personnel.
• Illustration of experimental study models using Ayurvedic references (Balyakara, Jeevaniya, Brimhaniya Gana) for performance enhancement without doping risk.
Teacher's Role
• Demonstrate measurement techniques & therapeutic practices.
• Explain Ayurvedic references and research scope.
• Supervise hands-on practice and experimental study design.
Students' Role
• Perform physiological assessments.
• Practice Abhyanga, Yoga & Pranayaam modules.
• Apply Ayurvedic concepts to experimental study planning.

Practical Training 10.4 : Marma therapy, Manipulation techniques, & *Adankal* manoeuvre.

Activity Details
• Demonstration of marma therapy systems, manipulation techniques & Adankal manoeuvre.

• Guided hands-on practice on models/peers.
• Stepwise rehearsal under supervision.
Teacher's Role
• Demonstrate each technique with safety emphasis.
• Explain therapeutic indications.
• Supervise and correct student performance.
Students' Role
• Observe demonstrations.
• Practice techniques on peers/models.
• Follow supervision for accurate execution.

Practical Training 10.5 : Traction manoeuvre & orthopaedics appliances

Activity Details
• Demonstration of traction manoeuvres & orthopaedic appliances.
• Guided practice on models/peers.
Teacher's Role
• Demonstrate techniques & explain indications.
• Supervise and correct practice.
Students' Role
• Observe demos.
• Practice traction & appliance use.

Practical Training 10.6 : Developments & scope of Research in Marma for Orthopaedics Specialty

Activity Details
• Presentation on recent Marma research in orthopaedics.
• Demonstration of key applied techniques.
• Guided review of research papers.
Teacher's Role
• Present updates & scope.
• Demonstrate applications.
• Guide research review.

Students' Role
• Observe presentations.
• Review articles.
• Discuss practical relevance.

Practical Training 10.7 : Developments & scope of Research in Marma for *Kreeda Bheshaja* (sports medicine)

Activity Details
• Presentation of recent Marma research in sports medicine.
• Demonstration of marma-based techniques for Kreeda Bheshaja (sport medicines).
• Guided practice linking research findings to sports injury care.
Teacher's Role
• Present key research updates.
• Demonstrate relevant marma applications.
• Supervise guided student practice.
Students' Role
• Observe presentation & demonstrations.
• Practice marma techniques under guidance of teacher or skilled one.
• Correlate applications with sports medicine cases.

Practical Training 10.8 : Applied fundamentals of *Kreeda Bheshaja* (Sports Medicine)

Activity Details
• Demonstration of applied fundamentals in Kreeda Bheshaja.
• Practical exposure to sports injury assessment & care.
• Guided practice of basic techniques (immobilization, bandaging, stretching).
Teacher's Role
• Demonstrate sports medicine procedures.
• Explain clinical relevance.
• Supervise and correct student practice.
Students' Role
• Observe demonstrations.
• Practice techniques on models/peers.

• Apply fundamentals to given scenarios.
Practical Training 10.9 : Applied fundamentals of *Kreeda Bheshaja* (Sports Medicine).
Activity Details • Demonstration of Kreeda Bheshaja fundamentals. • Exposure to sports injury care. • Guided practice of basic techniques. Teacher's Role • Demonstrate techniques & explain relevance. • Supervise and correct practice. Students' Role • Observe demos. • Practice on peers/models. • Apply in sample cases.
Practical Training 10.10 : Physical fitness & athletic performance
Activity Details • Demonstration of physical fitness tests (strength, endurance, flexibility). • Practical exposure to athletic performance assessment tools. • Guided student practice on peers. Teacher's Role • Demonstrate standard fitness & performance tests. • Explain procedures and scoring methods. • Supervise and guide student practice. Students' Role • Observe demonstrations. • Perform fitness tests on peers under guidance. • Record and interpret results.
Practical Training 10.11 : Understanding the First-Aid Protocols for Sports Injuries
Activity Details

• Demonstration of First-aid & on-field protocols (RICE/PRICE/POLICE).
• Guided practice of bandaging, immobilization & cold/heat application.
• Simulation of on-field sports injury scenarios.
Teacher's Role
• Demonstrate stepwise first-aid and protocols.
• Explain indications & sequence of management.
• Supervise and correct during student practice.
Students' Role
• Observe demonstrations.
• Practice first-aid protocols on peers/models.
• Apply steps in simulated injury cases.

Practical Training 10.12 : Sports Injuries Management Protocol.

Activity Details
• Demonstration of on-field protocols.
• Guided practice of taping, bandaging, needling.
• Application in simulated injury cases.
Teacher's Role
• Demonstrate techniques & explain safety.
• Supervise and correct practice.
Students' Role
• Observe demos.
• Practice on peers/models.
• Apply in scenarios.

Experiential learning Activity

Experiential-Learning 10.1 : Identification of Marma & their anatomical correlations

Activity Details
• Hands-on marma identification with anatomy faculty.
• Horizontal group discussions on anatomical correlations.
• Student-led seminar on selected marmas.

Teacher’s Role
• Provide resources & guide workshop.
• Facilitate discussions.
• Moderate seminars.
Students’ Role
• Perform marma identification.
• Collaborate in discussions.
• Present seminar findings.

Experiential-Learning 10.2 : Marma & their anatomical correlations.

Activity Details
• Students locate marma points on peers/models.
• Correlate each marma with underlying anatomy in groups.
• Present findings through peer discussion.
Teacher’s Role
• Provide anatomical charts/models.
• Facilitate group exploration.
• Guide and validate correlations.
Students’ Role
• Identify marma points.
• Correlate with anatomical structures.
• Share insights in group discussion.

Experiential-Learning 10.3 : Marma therapy, Manipulation techniques, & *Adankal* manoeuvre employed in Marma chikitsa

Activity Details
• Small groups explore systems of marma therapy.
• Peer-led demonstrations of manipulation & Adankal manoeuvre.
• Group discussion on therapeutic applications.
Teacher’s Role
• Provide resources and guide exploration.

• Facilitate peer demonstrations.
• Moderate discussions and ensure accuracy.
Students' Role
• Collaboratively study marma therapy systems.
• Perform peer-led demonstrations of techniques.
• Discuss therapeutic uses with group.

Experiential-Learning 10.4 : Traction manoeuvre & orthopaedics appliances employed in Marma chikitsa

Activity Details
• Students explore systems of traction manoeuvres & orthopaedic appliances in Marma Chikitsa.
• Peer-led demonstrations of selected manoeuvres and appliance use.
• Group discussion on therapeutic applications.
Teacher's Role
• Provide models/appliances & resources.
• Facilitate peer demonstrations.
• Guide group discussions and ensure accuracy.
Students' Role
• Study and demonstrate traction techniques.
• Practice handling appliances in groups.
• Discuss clinical applications with peers.

Experiential-Learning 10.5 : Recent Developments & scope of Research in Marma for Orthopaedics Specialty .

Activity Details
• Hands-on training through Demonstration, Case-Based Learning, Team-Based Learning & Problem-Based Learning.
• Small groups analyze recent research in Marma for orthopaedics.
• Students apply findings in simulated clinical/problem scenarios.
Teacher's Role
• Facilitate demonstrations & provide research cases.
• Guide group discussions and problem-solving.
• Ensure accurate application in simulations.
Students' Role

• Engage in hands-on practice via D-M, CBL, TBL, PrBL.
• Analyze research and apply to orthopaedic contexts.
• Collaborate in teams for solutions and presentations.

Experiential-Learning 10.6 : Recent Developments & scope of Research in Marma fo *Kreeda Bheshaja* (sports medicine).

Activity Details
• Explore recent Marma research in sports medicine.
• Group discussion on scope & applications.
• Peer presentations on sports injury care.
Teacher's Role
• Provide resources.
• Facilitate discussion.
• Moderate presentations.
Students' Role
• Review research.
• Collaborate in groups.
• Present applications.

Experiential-Learning 10.7 : applied fundamentals of *Kreeda Bheshaja* (Sports Medicine).

Activity Details
• Students design awareness modules on Kreeda Bheshaja for schools/institutions.
• Conduct interactive sessions with sports personnel.
• Collect feedback to refine awareness strategies.
Teacher's Role
• Guide students in preparing modules.
• Facilitate outreach in schools/institutions.
• Supervise awareness sessions.
Students' Role
• Create and present awareness content.
• Interact with sports personnel.
• Gather feedback and adapt approaches.

Experiential-Learning 10.8 : Appreciating the implementations fundamentals of Sports medicine
Activity Details • Students conduct awareness drives in schools/institutions on Kreeda Bheshaja. • Use demonstrations, posters, and interactive talks with sports personnel. • Engage in Q&A and feedback collection. Teacher's Role • Facilitate coordination with schools/institutions. • Guide students in designing awareness activities. • Supervise sessions and ensure accuracy. Students' Role • Prepare and deliver awareness content. • Demonstrate practical aspects of Kreeda Bheshaja. • Interact with sports personnel for feedback.
Experiential-Learning 10.9 : Sports Fitness & Sports Injuries
Activity Details • Field-work & internships in sports medicine clinics. • Observational visits to sports teams & community events. • Hands-on in injury assessment, first-aid, BLS, rehab & recovery sessions. • Guided projects and reflective practice discussions. Teacher's Role • Arrange field/internship opportunities. • Facilitate workshops & visits. • Guide reflection and project integration. Students' Role • Participate in field-work & internships. • Observe, practice, and record experiences. • Engage in reflection to link theory with practice.
Experiential-Learning 10.10 : Sports Fitness & Sports Injuries

Activity Details
• Students review Ayurvedic classics (Balyakara, Jeevaniya, Brimhaniya Gana).
• Design experimental study models for performance-enhancing drugs.
• Group discussion on ensuring non-doping compliance.
• Presentation of proposed study frameworks.
Teacher's Role
• Provide textual references & research guidelines.
• Facilitate experimental design discussions.
• Supervise presentations and ensure scientific accuracy.
Students' Role
• Explore classical references.
• Collaboratively design study protocols.
• Present and justify proposed models.

Experiential-Learning 10.11 : Primary care protocols in sports injuries & rehabilitation strategies

Activity Details
• Students practice measuring physiological parameters (HR, BP, RR).
• Peer-led sessions prescribing Abhyanga, Yoga & Pranayaam.
• Group reflection on therapeutic applications in sports/health.
Teacher's Role
• Provide instruments & resources.
• Facilitate peer demonstrations.
• Guide reflections and ensure accuracy.
Students' Role
• Measure parameters on peers.
• Prescribe & demonstrate Abhyanga, Yoga, Pranayaam.
• Discuss therapeutic outcomes in groups.

Experiential-Learning 10.12 : Primary care protocols in sports injuries & rehabilitation strategies

Activity Details
• Students perform fitness & performance tests (strength, endurance, flexibility, agility).

• Peer-led assessment in small groups.
• Record, compare, and reflect on outcomes.
Teacher's Role
• Provide tools & testing protocols.
• Facilitate group activities.
• Supervise accuracy of assessments.
Students' Role
• Conduct tests on peers.
• Record & interpret results.
• Share reflections in group discussion.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks per credit. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment. Topics to be assessed: • Comprehensive knowledge of Marma & their anatomical correlations. • Comparative knowledge of different systems of Marma therapy, Manipulation techniques, *Adankal* maneuvers, Traction maneuver & orthopaedics appliances employed in Marma chikitsa. • Recent Developments & scope of Research in Marma for Orthopaedics Specialty & *Kreeda Bheshaja* (sports medicine). • How to assess the Fitness of Sports person incorporating fundamentals of sports physiology, sports nutrition, Ayurveda & Marma therapy. • Knowledge about First-Aid, RICE/PRICE /POLICE on-field management protocols and incorporating various modalities like Taping, bandaging, needling & other techniques in the scenarios of sports-injuries. Select any one or two methods for the assessment. 1. Practical Role play: (25marks for presentation & 25 marks for evaluation) Preparation: : Create clinical scenarios related to the module for Manipulation techniques, *Adankal* manoeuvre, Traction manoeuvre & orthopaedics appliances employed in Marma chikitsa and provide clear instructions for the roles and expected outcomes. Execution: Divide students into groups, assign roles related to Mock assessment of Manipulation techniques, *Adankal* manoeuvre, Traction manoeuvre & orthopaedics appliances employed in Marma chikitsa Evaluation: Assess skills like communication, problem-solving, and teamwork.	4

2. Theory open Book test- 50 marks
Conduct theory open book test for 50 marks which will contain either 2 LAQ and 6 SAQ.
OR
3. Viva -Take questions from each Units and select 25 questions for the module. 2marks for each question can be allocated
Preparation: Create open-ended questions testing , procedural steps, and reasoning.
Execution: Conduct one-on-one or panel-based interviews.
Evaluation: Assess knowledge depth, clarity, and application ability.
OR
4. DOPS (Direct Observation of Procedural Skills) - 25marks for each procedure. Select any two procedures for Marma application.
Execution: Allow students to perform procedures under observation in a clinical or simulated environment. Observe key steps, technique, and patient interaction.
Evaluation: Evaluate the skill, technique, aseptic methods, and safety adherence followed during the procedure.
OR
5. OSPE (Objective Structured Practical Examination) –
Stations from the list of practicals can be planned which carries 50marks
Preparation: Develop multiple stations covering practical and theoretical aspects (e.g., Manipulation techniques, *Adankal* manoeuvre, Traction manoeuvre & orthopaedics appliances employed in Marma chikitsa).
Execution: Students rotate through stations within a set time frame. Station formats may include tasks, demonstrations, or written responses.
Evaluation: Evaluate based on knowledge, skill performance, communication during the procedure.
OR
6. Any practical in converted form can be taken for assessment (25 Marks)
and
7. Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment.(25 Marks)

Semester No : 4

Module 11 : Orthopaedic Disorders & Musculo-Skeletal Injuries

Module Learning Objectives
(At the end of the module, the students should be able to)

- Analyze diseases of the bone and regional orthopaedic disorders of the head, spine, chest, and extremities.

- Demonstrate comprehensive assessment of patients with bone and regional orthopaedic disorders by performing physical examination, interpreting imaging, and eliciting patient history.
- Identify key arterial, venous, nerve, and lymphatic disorders and evaluate their clinical implications.
- Formulate integrative management plans for bone diseases, regional orthopaedic conditions, and vascular–neural–lymphatic disorders by incorporating both conventional and complementary approaches.

M 11 Unit 1 Congenital & acquired regional musculo-skeletal disorders

- Congenital & acquired orthopaedic conditions of spine, chest, pelvis, upper & lower limb their classification, diagnosis, and associated complications-Spina-bifida, hemivertebra, block vertebra, sacralization and lumbarization Congenital dysplasia of hip (CDH), Slipped capital femoral epiphysis, Perthes Disease, CTEV & other such deformities.
- Non-Traumatic orthopaedic condition like Osteoarthrosis & its various implication, Spondylosis, spondylolysis, Spondylolisthesis, Conditions affecting the soft tissue (Ligaments, tendons, Joint capsules, menisci etc.)

References: 76

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO5 ,CO6	Describe congenital and acquired orthopaedic conditions of the spine, chest, pelvis, and limbs, including classification, diagnosis, complications, and deformities, as well as non-traumatic conditions such as osteoarthrosis, spondylosis, spondylolysis, spondylolisthesis, and soft-tissue disorders of ligaments, tendons, capsules, and menisci.	1	Lecture	CC	Shows-how	L&PPT , L_VC,L&GD
CO1,CO5,CO6	Demonstrate practical skills in identifying congenital and acquired orthopaedic conditions of the spine, chest, pelvis, and limbs, including classification, diagnosis, complications, and non-traumatic disorders such as osteoarthrosis, spondylosis, spondylolisthesis, and soft-tissue conditions.	2	Practical Training 11.1	PSY-MEC	Shows-how	L_VC,CBL,L&PPT ,L&GD,DIS

CO1,CO5,CO6	Demonstrate the diagnosis and classification of congenital, acquired, and non-traumatic orthopaedic conditions, including spine, hip, limb, and soft-tissue disorders with their complications.	1	Practical Training 11.2	PSY-GUD	Shows-how	L&PPT , W,C_L,BS,D
CO1,CO4,CO5 ,CO6	Demonstrate skills in classifying, diagnosing, and managing congenital, acquired, and non-traumatic orthopaedic disorders of the spine, hip, limbs, and soft tissues through workshops, demonstrations, and clinical case discussions.	2	Experiential-Learning 11. 1	PSY-MEC	Shows-how	X-Ray,W, TBL
CO1,CO4,CO5 ,CO6	Assess congenital and acquired orthopaedic conditions of the spine, chest, pelvis, and limbs, including classification, diagnosis, complications, and non-traumatic disorders such as osteoarthrosis, spondylosis, spondylolisthesis, and soft-tissue conditions.	2	Experiential-Learning 11. 2	PSY-MEC	Shows-how	SIM,TBL, X-Ray,PER,PBL

M 11 Unit 2 Metabolic, Infective, Endocrinological, Neuro-muscular orthopaedic disorders & Osteonecrosis/Avascular necrosis (AVN)

- Comprehensive knowledge of
  - Metabolic disorders,
  - Infective disorders (osteomyelitis, brodies abscess, Fungal contaminations (Madura foot), Typhoid, syphilitic brucellar, parasitic infections of the bone, Septic arthritis, Koch's lesion),
  - Endocrinological disorders hyperparathyroidism, skeletal fluorosis, lathyrism, scurvy, polysaccharidosis,
  - Neuro-muscular disorders (post-polio paralysis & post cerebral Palsy scenarios)
- Understanding the basic aetiology pathophysiology, clinical features & implications of Osteonecrosis/avascular necrosis (AVN), affecting the bones & joints)

References: 5,7,9,13,17

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO5 ,CO6	Describe metabolic, infective, endocrinological, neuromuscular, and orthopaedic disorders, and avascular necrosis (AVN).	1	Lecture	CK	Knows-how	LRI,L_VC,L&GD, L&PPT
CO1,CO4,CO5 ,CO6	Discuss the comprehensive knowledge on Metabolic, Infective Endocrinological , Neuro-muscular orthopaedic disorders & osteo-necrosis &AVN	1	Lecture	CK	Knows-how	L,L&PPT ,L&GD

CO1,CO4,CO5,CO6	Demonstrate practical application of metabolic, infective, endocrinological, and neuromuscular orthopaedic disorders, and analyze the aetiology, pathophysiology, clinical features, and implications of osteonecrosis/avascular necrosis (AVN).	2	Practical Training 11.3	PSY-MEC	Shows-how	D,CD,C_L,CBL
CO1,CO4,CO5,CO6	Diagnose and manage metabolic, infective, endocrinological, neuromuscular bone disorders, and osteonecrosis/avascular necrosis based on their aetiology, pathophysiology, and clinical features.	1	Practical Training 11.4	PSY-GUD	Shows-how	W,CBL,D-BED,C_L,D
CO1,CO4,CO5,CO6	Illustrate the diagnostic and management approaches for metabolic, infective, endocrinological, and neuromuscular bone disorders, as well as osteonecrosis/avascular necrosis, based on their aetiology, pathophysiology, and clinical features.	2	Experiential-Learning 11.3	PSY-MEC	Shows-how	PrBL,D-BED,D-M,C_L,PSM
CO1,CO4,CO5,CO6	Demonstrate clinical skills to diagnose and manage metabolic, infective, endocrinological, and neuromuscular bone disorders, as well as osteonecrosis/avascular necrosis, through examination and appropriate interventions.	2	Experiential-Learning 11.4	PSY-MEC	Shows-how	TBL,D,D-M,TPW,D-BED

M 11 Unit 3 Asthigata Arbuda (Tumours of the Bone)

- Asthigata Arbuda (Tumours of the Bone)
- Tumours of the Bone (Benign, Pre-malignant, Malignant & Metastatic skeletal lesions)

References: 75

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO5,CO6	Describe the basic aetiology, pathophysiology, clinical features & implications of Tumours of the Bone (Benign, Pre-malignant, Malignant & Metastatic skeletal lesions)	1	Lecture	CK	Knows-how	L
CO1,CO4,CO5,CO6	Describe the basic aetiology pathophysiology, clinical features & implications Tumours of the Bone (Benign, Pre-malignant, Malignant & Metastatic skeletal lesions)	1	Lecture	CK	Knows-how	TBL,L

CO1,CO3,CO4 ,CO5	Apply the basic aetiology pathophysiology, clinical features & implications of Tumours of the Bone	2	Practical Training 11.5	PSY-GUD	Shows-how	CD,C_L, D-BED,D
CO1,CO4,CO5 ,CO6	Illustrate the basic aetiology pathophysiology, clinical features & implications of Tumours of the Bone	1	Practical Training 11.6	PSY-GUD	Shows-how	CBL,D-BED,W,D, CD
CO1,CO4,CO5 ,CO6	Identify the challenges addressed in the scenarios & implications of Tumours of the Bone	2	Experiential-Learning 11.5	PSY-MEC	Shows-how	W,X-Ray, SY,PL
CO1,CO4,CO5 ,CO6	Identify different facets of the challenges associated with the clinical scenarios of Tumours of the Bone	2	Experiential-Learning 11.6	PSY-GUD	Shows-how	D,LRI,L_VC,L&PPT ,W

M 11 Unit 4 Musculo-skeletal injuries with emphasis on Paediatric & Geriatric Trauma.

- Knowledge of Asthi Bhagna & Sandhimoksh their aetiology classification & associated clinical features. Understanding the concept of Traumatic, pathological, stress fractures and peri- prosthetic fractures, subluxations, dislocations & associated soft tissue injuries of muscles, tendons, ligaments, fascia and bursae.
- Regional Injuries of Head, Spine, Chest, abdomen, pelvis & the extremities.
- Comprehensive knowledge of Associated Neuro-Vascular injuries in context to the Musculo-skeletal injuries.
- Physeal injuries & fractures of spine, chest, pelvis, upper & lower limb in children.
- Geriatric Trauma.

References: 75

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO5 ,CO6	Describe musculoskeletal injuries in paediatric and geriatric trauma, including classifications, clinical features, regional and physeal injuries, neurovascular involvement, and related fracture types.	1	Lecture	CC	Knows-how	L,L&PPT ,L_VC,L &GD
CO1,CO4,CO5	Demonstrate clinical exposure to *Asthi Bhagna*, *Sandhimoksha*, regional, neurovascular,	2	Practical	PSY-	Shows-	W,C_L,D

,CO6	physeal, pediatric, and geriatric trauma cases.		Training 11.7	MEC	how	-BED,D, CBL
CO1,CO4,CO5 ,CO6	Illustrate the aetiology, pathophysiology, clinical features, and implications of bone tumours, including benign, pre-malignant, malignant, and metastatic skeletal lesions.	2	Practical Training 11.8	PSY-GUD	Shows-how	D-BED, W,D,X-Ray,C_L
CO1,CO4,CO5 ,CO6	Identify clinical challenges through experiential learning in the scenarios of bone tumours.	2	Experiential-Learning 11. 7	PSY-ORG	Shows-how	X-Ray,D-BED,L,CBL,PER
CO1,CO4,CO5 ,CO6	Identify the different facets of the challenges associated with the clinical scenarios of Tumours of the Bone	2	Experiential-Learning 11. 8	PSY-MEC	Shows-how	L&GD,L &PPT ,C_L,D-BED,BS

M 11 Unit 5 Disorders of the Arteries, Veins, lymphatic system & Nerves.

- Disorders of the Arteries: Atherosclerosis, Arteriosclerosis, Aneurysm Arterial occlusion, Raynaud' syndrome, Raynaud' disease, Thoracic outlet syndrome, Burger's disease, Knowledge of Peripheral vascular disease & other arterial disorders.
- Specific lesions like Necrosis, gangrene, Diabetic foot lesions, ischemic & trophic ulcers
- Diseases of the Veins: Varicose veins, Thrombophlebitis, venous ulcers, Deep vein thrombosis, Pulmonary embolus & chronic venous insufficiency.
- Diseases of lymphatic System: Lymph nodes, lymphangitis, Lymphoedema & neoplasm.

References: 9

3A	3B	3C	3D	3E	3F	3G

CO1,CO4,CO5,CO6	Describe the disorders of arteries, veins, lymphatic system, and peripheral nerves	1	Lecture	CK	Knows-how	L_VC,L&PPT,L&GD
CO1,CO4,CO5,CO6	Describe the disorders of the arteries, veins, lymphatic system, and peripheral nerves	1	Lecture	CC	Knows-how	L&PPT,L,L&GD
CO1,CO4,CO5,CO6	Demonstrate practical skills in identifying arterial, venous, and lymphatic disorders, including necrosis, gangrene, diabetic foot lesions, ischemic ulcers, venous ulcers, trophic ulcers, and peripheral nerve injuries.	2	Practical Training 11.9	PSY-MEC	Shows-how	CD
CO1,CO4,CO5,CO6,CO7	Demonstrate practical skills in multidisciplinary settings to evaluate disorders of arteries, veins, lymphatic system, and peripheral nerves through hands-on training, workshops, and group discussions.	2	Practical Training 11.10	PSY-GUD	Shows-how	L&GD,CD,IBL,DIS,LRI
CO1,CO4,CO5,CO6	Apply experiential learning to metabolic, infective, endocrinological, and neuromuscular orthopaedic disorders, and evaluate the aetiology, pathophysiology, clinical features, and implications of osteonecrosis/avascular necrosis (AVN).	2	Experiential-Learning 11.9	PSY-MEC	Shows-how	CD,TBL,SY,PBL,X-Ray
CO1,CO4,CO5,CO6	Illustrate evaluating arterial, venous, lymphatic, and nerve disorders through clinical presentations and case-based expressions.	3	Experiential-Learning 11.10	PSY-ORG	Shows-how	L&GD,PBL,L&PPT,SY,CD

M 11 Unit 6 Diagnostic and therapeutic Arthroscopy

- Knowledge of diagnostic and therapeutic Arthroscopy

References: 75,76

3A	3B	3C	3D	3E	3F	3G

CO1,CO4,CO5,CO6	Discuss the applications of arthroscopy for joint visualization, tissue evaluation, sample collection, repair, removal of loose bodies, debridement, and synovectomy	1	Lecture	CK	Knows-how	L&PPT
CO1,CO4,CO5,CO6	Describe the role of arthroscopy in joint visualization, tissue evaluation, sample collection, repair, removal of loose bodies, debridement, and synovectomy	1	Lecture	CAP	Knows-how	L,L&PPT,L&GD
CO1,CO4,CO5,CO6	Perform arthroscopic techniques for joint visualization, tissue evaluation, sample collection, repair, removal of loose bodies, debridement, and synovectomy.	2	Practical Training 11.11	PSY-MEC	Shows-how	CD,PER,PBL,W
CO1,CO4,CO5,CO6	Illustrate the Arthroscopy for Joint Visualization, tissue evaluation, Sample collection, repair, Removal of the loose bodies, debridement, synovectomy etc	1	Practical Training 11.12	PSY-GUD	Shows-how	BS,IBL,C_L,D,W
CO1,CO4,CO5,CO6	Apply experiential learning in arthroscopy for joint visualization, tissue evaluation, sample collection, repair, removal of loose bodies, debridement, and synovectomy	3	Experiential-Learning 11.11	PSY-ORG	Shows-how	W,PL,L&PPT,SIM,D
CO1,CO4,CO5,CO6	Perform arthroscopic procedures for joint visualization, tissue evaluation, sample collection, repair, removal of loose bodies, debridement, and synovectomy.	2	Experiential-Learning 11.12	PSY-ORG	Shows-how	DIS,X-Ray,TUT,PER,W

Practical Training Activity

Practical Training 11.1 : Congenital & acquired orthopaedic conditions & Non-Traumatic orthopaedic condition

Activity Details
• Demonstration of congenital & acquired orthopaedic conditions using case images, X-rays, and models.
• Stepwise explanation of classification, diagnosis, and complications.
• Guided identification of non-traumatic disorders (osteoarthrosis, spondylosis, spondylolisthesis, soft-tissue conditions).
Teacher’s Role
• Demonstrate conditions with clinical and imaging examples.
• Explain diagnostic features & classification systems.
• Supervise guided practice in identification.

Students' Role
• Observe demonstrations.
• Identify conditions on given cases/images/models.
• Correlate findings with classification & complications.

Practical Training 11.2 : Congenital & acquired regional Musculo-skeletal disorders

Activity Details
• Demonstration of congenital, acquired & non-traumatic orthopaedic conditions with case charts, X-rays & models.
• Stepwise illustration of diagnostic features, classification, and complications.
• Guided student practice in identifying conditions across spine, hip, limb & soft tissues.
Teacher's Role
• Present clinical cases & imaging.
• Explain classification systems & complications.
• Supervise guided identification.
Students' Role
• Observe demonstrations.
• Practice identifying conditions from cases/images.
• Correlate findings with classification & complications.

Practical Training 11.3 : Metabolic, Infective Endocrinological , Neuro-muscular orthopaedic disorders &osteo-necrosis &AVN

Activity Details
• Demonstration of metabolic, infective, endocrinological & neuromuscular orthopaedic disorders using case charts, imaging & models.
• Stepwise analysis of aetiology, pathophysiology & clinical features.
• Focused demonstration on osteonecrosis/AVN with complications.
Teacher's Role
• Present case-based examples & imaging.
• Explain mechanisms & clinical implications.
• Supervise guided student analysis.
Students' Role
• Observe demonstrations.
• Identify features of given disorders.

• Analyze AVN cases for aetiology, pathology & complications.

Practical Training 11.4 : Metabolic, Infective Endocrinological , Neuro-muscular orthopaedic disorders &osteo-necrosis &AVN

Activity Details
• Demonstration of diagnostic approach for bone disorders.
• Guided practice on aetiology, pathology & clinical features.
• Illustration of management steps with focus on AVN.
Teacher's Role
• Demonstrate protocols & explain relevance.
• Supervise guided case practice.
Students' Role
• Observe demos.
• Diagnose from case material.
• Apply guided management steps.

Practical Training 11.5 : Asthigata Arbuda (Tumours of the Bone)

Activity Details
• Demonstration of bone tumour cases using charts, images & specimens.
• Guided practice in identifying aetiology, pathophysiology & clinical features.
• Discussion of clinical implications and complications.
Teacher's Role
• Demonstrate tumour cases and explain mechanisms.
• Guide students through diagnostic features.
• Supervise application to sample cases.
Students' Role
• Observe demonstrations.
• Identify features of bone tumours from cases.
• Apply guided steps to analyze implications.

Practical Training 11.6 : Asthigata Arbuda (Tumours of the Bone)

Activity Details
• Demonstration of bone tumour cases with charts, images & specimens.
• Stepwise illustration of aetiology, pathophysiology & clinical features.
• Brief discussion on clinical implications.
Teacher's Role
• Demonstrate tumour cases & explain mechanisms.
• Highlight key diagnostic features.
• Guide discussion on implications.
Students' Role
• Observe demonstrations.
• Note aetiology, pathology & features.
• Discuss clinical implications.

Practical Training 11.7 : Musculo-skeletal injuries with emphasis on Paediatric & Geriatric Trauma.

Session 2: To arrange the Hands-on training sessions, workshops, videos & group discussions comprising the multi-disciplinary teams regarding Imparting the practical knowledge for the various form to get clinical exposures for Appreciating the Asthi Bhagna & Sandhimoksh, Regional Injuries of Head, Spine, Chest, abdomen, pelvis & the extremities, Neuro-Vascular injuries, Physeal injuries & fractures of spine, chest, pelvis, upper & lower limb in children & Geriatric Trauma.

Practical Training 11.8 : Session 1: : Musculo-skeletal injuries with emphasis on Paediatric & Geriatric Trauma.

Activity Details
• Demonstration of clinical cases: Asthi Bhagna, Sandhimoksha, regional, neurovascular, physeal, pediatric & geriatric trauma.
• Stepwise illustration of diagnosis and management features.
• Guided observation of case presentations and findings.
Teacher's Role
• Present real/simulated trauma cases.
• Explain key clinical signs & management aspects.
• Supervise student observations and clarifications.
Students' Role
• Observe case demonstrations.
• Identify trauma type and clinical findings.
• Correlate observations with management principles.

Practical Training 11.9 : Disorders of the Arteries, Veins, lymphatic system & Nerves.
Activity Details • Hands-on training in evaluating arterial, venous, lymphatic & peripheral nerve disorders. • Workshop on clinical signs, diagnostic tools & basic interventions. • Group discussion on multidisciplinary approaches. Teacher's Role • Demonstrate evaluation techniques. • Facilitate workshop activities. • Guide and moderate group discussions. Students' Role • Practice clinical evaluation skills. • Participate in workshop tasks. • Contribute to group discussions on multidisciplinary care.
Practical Training 11.10 : Disorders of the Arteries, Veins, lymphatic system & Nerves.
Activity Details • Demonstration of arterial, venous & lymphatic disorders using case records, images, and models. • Stepwise identification of necrosis, gangrene, diabetic foot, ischemic & venous ulcers, trophic ulcers, and peripheral nerve injuries. • Guided practice in recognizing clinical signs and correlating with pathology. Teacher's Role • Demonstrate cases with clinical features & images. • Explain diagnostic points and complications. • Supervise guided identification. Students' Role • Observe demonstrations. • Identify disorders from cases/images/models. • Correlate clinical findings with underlying pathology.
Practical Training 11.11 : Diagnostic & Therapeutic Arthroscopy
Activity Details

• Demonstration of arthroscopy setup & steps.
• Illustration of visualization, evaluation, collection, repair, debridement & synovectomy on models.
Teacher's Role
• Demonstrate techniques stepwise.
• Explain clinical applications & safety.
Students' Role
• Observe procedures.
• Correlate steps with clinical use.

Practical Training 11.12 : Diagnostic & Therapeutic Arthroscopy

Activity Details
• Demonstration of arthroscopic setup and instrumentation.
• Stepwise performance of joint visualization, tissue evaluation & sample collection on models/simulators.
• Guided practice of repair, loose body removal, debridement & synovectomy techniques.
Teacher's Role
• Demonstrate arthroscopic procedures.
• Explain indications and safety protocols.
• Supervise and correct student practice.
Students' Role
• Observe demonstration of procedures.
• Perform arthroscopic steps on models/simulators.
• Practice repair and debridement techniques under supervision.

Experiential learning Activity

Experiential-Learning 11.1 : Congenital & acquired regional Musculo-skeletal disorders

Activity Details
• Workshops on classification, diagnosis & management of orthopaedic disorders.
• Peer-led demonstrations of clinical skills.
• Group case discussions on spine, hip, limb & soft-tissue disorders.
Teacher's Role
• Provide case materials & guide activities.

• Facilitate workshops & supervise demos.
• Moderate group case discussions.
Students' Role
• Engage in workshops.
• Demonstrate diagnostic/management skills.
• Discuss and classify cases in groups.

Experiential-Learning 11.2 : Unit :1 Congenital & acquired regional Musculo-skeletal disorders

Activity Details
• Students work in groups to assess congenital, acquired & non-traumatic orthopaedic conditions using case records, X-rays & models.
• Peer-led classification and diagnosis of disorders (spine, chest, pelvis, limbs, soft tissues).
• Group reflection on complications and management approaches.
Teacher's Role
• Provide clinical cases, imaging & guidelines.
• Facilitate group assessment and discussion.
• Validate student findings and guide accuracy.
Students' Role
• Analyze cases & identify conditions.
• Classify, diagnose, and discuss complications.
• Share findings in group reflection.

Experiential-Learning 11.3 : Metabolic, Infective Endocrinological , Neuro-muscular orthopaedic disorders &osteo-necrosis &AVN

Activity Details
• Students work in groups on cases of metabolic, infective, endocrinological & neuromuscular bone disorders.
• Analyze aetiology, pathophysiology & clinical features.
• Peer presentations on diagnostic & management approaches, with focus on AVN.
Teacher's Role
• Provide clinical cases & resources.
• Facilitate group analysis and discussion.
• Guide and validate peer presentations.

Students' Role
• Analyze assigned cases.
• Identify diagnostic and management steps.
• Present findings and discuss with peers.

Experiential-Learning 11.4 : Metabolic, Infective Endocrinological , Neuro-muscular orthopaedic disorders &osteo-necrosis &AVN

Activity Details
• Students practice clinical examination on peers/models for bone disorders.
• Small groups analyze cases of metabolic, infective, endocrinological & neuromuscular disorders, including AVN.
• Peer-led demonstrations of diagnostic steps and management interventions.
Teacher's Role
• Provide cases and examination checklists.
• Facilitate group activities and supervise practice.
• Ensure accuracy of diagnostic and management approaches.
Students' Role
• Perform clinical examination.
• Diagnose and plan management in groups.
• Demonstrate findings and interventions to peers.

Experiential-Learning 11.5 : Tumours of the Bone

Activity Details
• Students analyze case scenarios of bone tumours.
• Identify diagnostic and management challenges.
• Discuss clinical implications in peer groups and present outcomes.
Teacher's Role
• Provide tumour case scenarios & resources.
• Facilitate group analysis and discussions.
• Validate student findings and guide accuracy.
Students' Role
• Review and analyze case scenarios.

• Identify challenges & implications.
• Present group findings for discussion.

Experiential-Learning 11.6 : Clinical scenarios of Tumours of the Bone

Activity Details
• Students work in groups on bone tumour case scenarios.
• Identify diagnostic, therapeutic, and prognostic challenges.
• Share insights through peer discussion and short presentations.
Teacher's Role
• Provide case scenarios & guide exploration.
• Facilitate group discussions.
• Ensure accuracy of identified challenges.
Students' Role
• Analyze case details.
• Identify and categorize challenges.
• Present findings to peers.

Experiential-Learning 11.7 : Musculo-skeletal injuries with emphasis on Paediatric & Geriatric Trauma.

Activity Details
• Students work on bone tumour case scenarios in groups.
• Identify diagnostic, management, and prognostic challenges.
• Discuss implications and present group findings.
Teacher's Role
• Provide case scenarios & resources.
• Facilitate group exploration and discussion.
• Validate and refine student outputs.
Students' Role
• Analyze case details.
• Identify and categorize clinical challenges.
• Present insights in peer groups.

Experiential-Learning 11.8 : Musculo-skeletal injuries with emphasis on Paediatric & Geriatric Trauma.

Activity Details
• Students analyze real/simulated bone tumour case scenarios.
• Identify diagnostic, therapeutic, and prognostic challenges.
• Brainstorm and propose original approaches to address these challenges.
• Present solutions in small-group discussions.
Teacher's Role
• Provide diverse tumour case scenarios.
• Facilitate brainstorming and guide reflections.
• Ensure clinical accuracy of proposed solutions.
Students' Role
• Work in groups to study cases.
• Identify and categorize challenges.
• Propose and present innovative solutions.

Experiential-Learning 11.9 : Disorders of the Arteries, Veins, lymphatic system & Nerves.

Activity Details
• Students work in groups on case scenarios of metabolic, infective, endocrinological & neuromuscular bone disorders.
• Evaluate aetiology, pathophysiology, clinical features & implications, with focus on AVN.
• Present group findings through peer-led discussions.
Teacher's Role
• Provide clinical cases & learning resources.
• Facilitate group analysis and discussions.
• Ensure accuracy in student evaluations.
Students' Role
• Analyze assigned cases.
• Correlate clinical features with pathology.
• Present evaluations and discuss implications.

Experiential-Learning 11.10 : Disorders of the Arteries, Veins, lymphatic system & Nerves.

Activity Details
• Students analyze case-based scenarios of arterial, venous, lymphatic & nerve disorders.

• Prepare and deliver clinical presentations highlighting evaluation approaches.
• Peer group discussion on findings and interpretations.
Teacher's Role
• Provide diverse case scenarios & guidance.
• Facilitate clinical presentations.
• Validate and refine student outputs.
Students' Role
• Study and interpret cases.
• Present evaluation approaches to peers.
• Engage in group discussions for deeper insights.

Experiential-Learning 11.11 : Diagnostic & Therapeutic Arthroscopy

Activity Details
• Students practice arthroscopy on models/simulators for visualization, tissue evaluation & sample collection.
• Perform repair, loose body removal, debridement & synovectomy in guided rotations.
• Group reflection on clinical relevance and challenges.
Teacher's Role
• Provide simulators, instruments & cases.
• Facilitate hands-on practice in groups.
• Guide and validate procedures.
Students' Role
• Perform arthroscopic steps on simulators.
• Rotate roles for different procedures.
• Reflect and discuss clinical applications.

Experiential-Learning 11.12 : Diagnostic & Therapeutic Arthroscopy

Activity Details
• Students perform arthroscopic procedures on models/simulators for visualization, evaluation & sample collection.
• Rotate through tasks: repair, loose body removal, debridement & synovectomy.
• Group discussion on technique challenges and clinical value.
Teacher's Role

• Provide simulators & instruments.
• Facilitate stepwise hands-on training.
• Ensure accuracy and safety in practice.
Students' Role
• Perform assigned arthroscopic steps.
• Rotate roles to cover all procedures.
• Share reflections in group discussion.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks per credit. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment. Topics to be assessed: • Congenital, acquired & Non-Traumatic, orthopedics condition of spine, chest, pelvis, upper & lower limb their classification, diagnosis, and associated complications. • Knowledge of Metabolic & Infective orthopedics condition. • Understanding of the basic aetiology pathophysiology, clinical features & implications Tumours of the bone. • Knowledge of Disorders of the Arteries, Veins, lymphatic system & Nerves 1. Theory Open Book Test Conduct theory open book test for 50 marks which will contain either 2 LAQ and 6 SAQ on the topics mentioned above. OR 2. Debate –25 marks for each debate (Total 2 debates) Preparation: Select relevant topics connected to the module (e.g. Congenital, acquired , infective & Non-Traumatic, orthopedics condition) Divide students into teams and provide time for preparation. Execution: Conduct the debate with clear time limits for each speaker. Assign a moderator to ensure smooth proceedings. Evaluation: Evaluate focusing on argument quality, Content delivery and teamwork. OR 3. Viva – Take questions from each Units and select 25 questions from the Congenital, acquired , infective & Non-Traumatic, orthopedics condition. Two marks for each question can be allocated	4

Preparation: Create open-ended questions testing clinical knowledge, procedural steps, and reasoning.
Execution: Conduct one-on-one or panel-based interviews.
Evaluation: Assess knowledge depth, clarity, and application ability.
Or
4. OSCE (Objective Structured Clinical Examination) -Plan 5 clinical examination stations carrying 50marks
Preparation: Set up stations mimicking clinical scenarios (Congenital, acquired , infective & Non-Traumatic, orthopedics condition).
Execution: Allow students to demonstrate clinical skills, communication, and decision-making at each station. Provide feedback immediately after the station or during review sessions.
Evaluation: Assess clinical reasoning, procedural accuracy, and patient-centered approach during the task.

Module 12 : Bhagna Management

Module Learning Objectives
(At the end of the module, the students should be able to)

- Analyze musculoskeletal injuries by examining mechanisms of injury and evaluating their clinical presentations.
- Differentiate the unique aspects of musculoskeletal developmental disorders, injuries, and paediatric and geriatric orthopaedic conditions.
- Apply diagnostic tools for assessing musculoskeletal injuries and paediatric and geriatric orthopaedic conditions, interpret diagnostic results, and integrate findings into clinical decision-making.
- Formulate comprehensive management strategies by integrating knowledge of musculoskeletal injuries and orthopaedic conditions.
- Evaluate the principles and applications of arthroscopic techniques in the diagnosis and treatment of joint conditions.

M 12 Unit 1 General Principle of Bhagna Chikitsa & Punachesta prasaar (Rehabilitation strategies)

- Bhagna, Management Principle as per Ayurveda & contemporary science.

- Closed Reduction, Principle of immobilization (Classical and traditional Kusha-splints, Bandha, Plaster of Paris & other recent inclusions),
- Methods of Open reduction & internal fixation.
- Principles of mobilization, Physical medicine & rehabilitation (Sukhchestaprachara), Manual therapy, Trigger point release, deep and superficial heat agents, IFT, UST, TENS & incorporation Yogic Practices in rehabilitations of Musculo - skeletal injuries.
- Incorporation of Agnikarma, Cupping, Snehana, Swedana and panchakarma in rehabilitation.

References: 3,4,75,76

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4,CO5	Demonstrate practical skills in closed manipulative reduction, principles of immobilization (classical Kusha-splints, Bandha, Plaster of Paris, and modern techniques), and methods of open reduction with internal fixation for individual injuries.	2	Practical Training 12.1	PSY-MEC	Shows-how	CD,TUT,D,X-Ray,CBL
CO1,CO2,CO4,CO5	Perform closed manipulative reduction, apply immobilization techniques (classical Kusha-splints, Bandha, Plaster of Paris, and modern methods), and execute open reduction with internal fixation for specific injuries.	1	Practical Training 12.2	PSY-GUD	Shows-how	DIS,D,D-BED,JC,LRI
CO1,CO2,CO4,CO5	Illustrate closed manipulative reduction, principles of immobilization (classical Kusha-splints, Bandha, Plaster of Paris, and modern methods), and perform open reduction with internal fixation for specific injuries.	2	Experiential-Learning 12.1	PSY-ORG	Shows-how	
CO1,CO2,CO4,CO5	Perform closed manipulative reduction, immobilization techniques (traditional and modern), and methods of open reduction with internal fixation tailored to individual injuries.	2	Experiential-Learning 12.2	PSY-MEC	Shows-how	BL,CD,X-Ray,W,SY

M 12 Unit 2 Knowledge about Orthopaedic implants, external fixators, splints, orthotics, prosthetics & other relevant equipments.

- Orthopaedic implants (wires, screws, plates, nails, other recent inclusions),
- Different types of external fixators, and other operative techniques.
- Different kinds of splints, orthotics. & prosthetics.
- Orthopaedics surgery instruments, drill machines and
- Other equipment required for orthopaedics practice *like C-arm, image intensifier etc.*

References: 1,3,4,7,8,53

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4,CO5	Describe closed manipulative reduction, immobilization techniques (traditional and modern), and methods of open reduction with internal fixation tailored to individual injuries.	1	Lecture	CK	Knows-how	L
CO1,CO2,CO4,CO5	Describe closed manipulative reduction, immobilization techniques (traditional and modern), and methods of open reduction with internal fixation tailored to individual injuries.	1	Lecture	CC	Knows-how	L,L_VC,L&GD,L&PPT
CO1,CO2,CO4,CO5	• **Demonstrate application of orthopaedic implants (wires, screws, plates, nails, etc.), external fixators, splints, orthotics, prosthetics, and operative techniques using orthopaedic instruments (e.g., drill machines, C-arm, image intensifier).**	2	Practical Training 12.3	PSY-MEC	Shows-how	DIS,D-M,W
CO1,CO2,CO4,CO5	Illustrate operative training with orthopaedic implants, external fixators, splints, orthotics, prosthetics, and surgical instruments, including image-assisted procedures.	1	Practical Training 12.4	CAP	Shows-how	SIM,L,L&GD,D-BED,CBL

CO1,CO2,CO4 ,CO5	Apply hands-on training with orthopaedic implants, external fixators, splints, orthotics, prosthetics, and related surgical equipment in simulated or clinical settings.	2	Experiential-Learning 12. 3	PSY-GUD	Shows-how	LRI,SY,SIM,TUT,JC
CO1,CO2,CO4 ,CO5	Demonstrate orthopaedic implants, fixators, splints, orthotics, prosthetics, and instruments across diverse clinical scenarios.	2	Experiential-Learning 12. 4	PSY-ADT	Shows-how	JC,W,L_VC,DIS,IBL
CO1,CO2,CO4 ,CO5	Discuss about Orthopaedic implants, external fixators, splints, orthotics, prosthetics & other relevant equipment	1	Lecture	CK	Knows-how	L_VC,L&PPT ,L&GD,L

M 12 Unit 3 Conservative Management of Individual Bone and Joint injuries Conservative Management of Individual Bone and Joint injuries for:

- Chest wall injuries .
- Shoulder girdle & upper limb.
- Pelvis & lower limb.

References: 1

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4 ,CO5	Discuss bout handling orthopaedic implants, fixators, splints, orthotics, prosthetics, and instruments across diverse clinical scenarios.	1	Lecture	CC	Knows-how	L_VC,L&GD,L&PPT
CO1,CO2,CO4 ,CO5	Discuss clinical principles and techniques of conservative treatment for chest wall, shoulder girdle, upper limb, pelvis, and lower limb injuries.	1	Lecture	CC	Knows-how	L,SY,L&GD,SIM,L&PPT

CO1,CO2,CO4,CO5	Demonstrate conservative management methods for individual bone and joint injuries, including chest wall, shoulder girdle, upper limb, pelvis, and lower limb.	2	Practical Training 12.5	PSY-GUD	Shows-how	X-Ray,TBL,PBL
CO1,CO2,CO4,CO5	Demonstrate conservative management methods for individual bone and joint injuries, including chest wall, shoulder girdle, upper limb, pelvis, and lower limb.	1	Practical Training 12.6	PSY-GUD	Shows-how	L&GD,TUT,D-BED,LS,PER
CO1,CO2,CO4,CO5	Demonstrate conservative management methods for individual bone and joint injuries, including chest wall, shoulder girdle, upper limb, pelvis, and lower limb	2	Experiential-Learning 12.5	PSY-ORG	Shows-how	DIS,D-BED,D
CO1,CO2,CO4,CO5	Illustrate conservative Management of Individual Bone and Joint injuries.	2	Experiential-Learning 12.6	PSY-GUD	Shows-how	JC,W,L_VC,SY,DIS

M 12 Unit 4 Surgical Management of Individual Bone and Joint injuries. Surgical Management of Individual Bone and Joint injuries for:

- Chest wall injuries.
- Shoulder girdle & upper limb.
- Pelvis & lower limb

References: 5,6,7

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4,CO5	Describe the Surgical Management of Individual Bone and Joint injuries for: Chest wall injuries .Shoulder girdle & upper limb.Pelvis & lower limb.	1	Lecture	CC	Knows-how	L&PPT , L&GD,L_VC,L
CO1,CO2,CO4	Demonstrate clinical examination and surgical procedures in the management of bone	2	Practical	PSY-	Shows-	PER,CBL

	and joint injuries.		Training 12.7	MEC	how	,L_VC,W
CO1,CO2,CO4 ,CO5	Perform surgical techniques for fixation and repair in bone and joint injuries under supervision.	2	Practical Training 12.8	PSY-GUD	Shows-how	Mnt,DL,LRI,L&PPT ,PAL
CO1,CO2,CO4 ,CO5	?????Apply surgical management approaches for bone and joint injuries and apply them in clinical contexts.	2	Experiential-Learning 12.7	PSY-GUD	Shows-how	W,X-Ray, L_VC
CO1,CO2,CO4 ,CO5	Illustrate clinical challenges in the surgical management of bone and joint injuries through case-based and simulated learning.	2	Experiential-Learning 12.8	PSY-MEC	Shows-how	X-Ray,L &PPT ,PBL,L&GD,TBL

M 12 Unit 5 Strategy of prompt identification, primary care, initial assessment & management plan in Head & spine injuries

- Primary care for head & spine injuries comprising the immediate assessment to avoid further damage & stabilize the condition.

References:

3A	3B	3C	3D	3E	3F	3G
CO1,CO3,CO4 ,CO5	Discuss the principles of primary care for head and spine injuries with a focus on immediate assessment to prevent further damage and stabilize the condition.	1	Lecture	CK	Knows-how	L_VC,L&GD,L&PPT
CO1,CO2,CO4 ,CO5	• **Describe the essential steps of primary care for head and spine injuries, emphasizing immediate assessment and stabilization.**	1	Lecture	CK	Know	L&PPT , RP,D-BED,L&GD, LS

CO1,CO2,CO4,CO5	Demonstrate practical skills in providing primary care for head and spine injuries, including immediate evaluation and stabilization.	2	Practical Training 12.9	PSY-MEC	Shows-how	CBL,L&GD,IBL,L_VC,DIS
CO1,CO2,CO4,CO5	Perform practical procedures for primary care of head and spine injuries, ensuring timely assessment and stabilization.	2	Practical Training 12.10	PSY-GUD	Shows-how	D-BED,C_L,BL,D,CBL
CO1,CO2,CO4,CO5	Demonstrate experiential skills in providing primary care for head and spine injuries, including immediate assessment and stabilization.	3	Experiential-Learning 12.9	PSY-ORG	Shows-how	D,C_L,D-BED,CBL,PBL
CO1,CO2,CO4,CO5	Perform integrative experiential training in primary care for head and spine injuries, focusing on immediate assessment and stabilization.	2	Experiential-Learning 12.10	PSY-GUD	Shows-how	CBL,DIS,W,D,D-BED

M 12 Unit 6 Management of Diseases of the bone & regional Orthopaedic disorders: Conservative & Surgical management

- Management of Diseases of the bone & regional Orthopaedic disorders:
- Conservative & Surgical management of various orthopaedic conditions.

References: 5,7,9,75,76

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4,CO5	Demonstrate application of orthopaedic implants (wires, screws, plates, nails, etc.), external fixators, splints, orthotics, prosthetics, and operative techniques using orthopaedic instruments (e.g., drill machines, C-arm, image intensifier)	2	Experiential-Learning 12.11	CAP	Shows-how	SDL,D,PBL,PER,PL

CO1,CO2,CO4 ,CO5	Describe the primary care for head and spine injuries with emphasis on immediate assessment to prevent further damage and stabilize the condition.	1	Lecture	CK	Knows-how	L,L&PPT ,L&GD, W,TBL
CO1,CO2,CO4 ,CO5	Describe the primary care for head and spine injuries with emphasis on immediate assessment to prevent further damage and stabilize the condition.	1	Lecture	CK	Shows-how	L&PPT , L&GD,L, L_VC,SY
CO1,CO2,CO4 ,CO5	Demonstrate the practical skills required for primary care of head and spine injuries, focusing on immediate assessment to prevent further damage and stabilize the condition.	2	Practical Training 12.1 1	PSY-MEC	Shows-how	W,PBL,C BL
CO1,CO2,CO4 ,CO5	Perform supervised practical training in primary care of head and spine injuries with emphasis on immediate assessment to prevent further damage and stabilize the condition.	1	Practical Training 12.1 2	PSY-GUD	Shows-how	X-Ray,W, PBL,DIS
CO1,CO2,CO4 ,CO5	Apply principles of conservative and surgical management in bone and regional orthopaedic disorders through guided experiential learning.	3	Experiential-Learning 12. 12	PSY-MEC	Shows-how	D-M,W,L _VC,DIS

Practical Training Activity

Practical Training 12.1 : General Principle of Bhagna Chikitsa & Punachesta prasaar (Rehabilitation)

Activity Details
• Demonstration of closed manipulative reduction on models/simulators.
• Stepwise explanation of immobilization using Kusha-splints, Bandha, POP, and modern methods.
• Illustration of open reduction and internal fixation techniques with models/instruments.

• Students practice selected steps under supervision.
Teacher's Role
• Demonstrate reduction, immobilization, and fixation methods.
• Explain principles and clinical relevance.
• Guide and correct students' hands-on practice.
Students' Role
• Observe demonstrations and note procedural steps.
• Practice immobilization and reduction techniques on simulators/models.
• Discuss indications and compare traditional vs. modern methods.

Practical Training 12.2 : General Principle of Bhagna Chikitsa & Punachesta prasaar (Rehabilitation)

Activity Details
• Demonstration of closed reduction, immobilization (Kusha-splints, Bandha, POP, modern), and ORIF on models.
• Guided student practice under supervision.
Teacher's Role
• Demonstrate procedures with relevance.
• Supervise and correct techniques.
Students' Role
• Practice reduction, immobilization, and ORIF steps.
• Compare methods and clarify doubts.

Practical Training 12.3 : Knowledge about Orthopaedic implants, external fixators, splints, orthotics, prosthetics & other relevant equipment

Arranging the Clinical Exposures for the usage of orthopaedic implants (wires, screws, plates, nails, other recent inclusions), different types of external fixators, and other operative techniques, different kinds of splints, orthotics. & prosthetics. Orthopaedics surgical instruments- drill machines and other equipment required for orthopaedics practice *like C-arm, image intensifier etc. on* the clinical scenarios - (4). Domain: AD, Teaching AIDS Audio-visual aids.

Practical Training 12.4 : Knowledge about Orthopaedic implants, external fixators, splints, orthotics, prosthetics & other relevant equipment

Activity Details
• Demonstration of orthopaedic implants, external fixators, splints, orthotics, and prosthetics using models/instruments.
• Illustration of operative techniques with surgical tools (drill machine, C-arm, image intensifier).

• Students observe applications and practice handling selected devices.
Teacher’s Role
• Demonstrate operative use of implants, fixators, and instruments.
• Explain principles of image-assisted procedures.
• Supervise and guide students during hands-on handling.
Students’ Role
• Observe demonstrations and note procedural steps.
• Handle implants, splints, and instruments under supervision.
• Discuss applications in operative scenarios.

Practical Training 12.5 : Management of Individual Bone and Joint injuries Conservative

Activity Details
• Demonstration of conservative methods (slings, strapping, casts, splints, traction) for injuries of chest wall, shoulder girdle, upper limb, pelvis, and lower limb on models/patients.
• Stepwise explanation with clinical indications.
• Guided student practice of selected techniques.
Teacher’s Role
• Demonstrate techniques with relevance to each region.
• Supervise hands-on practice and correct errors.
Students’ Role
• Observe demonstrations and record steps.
• Practice application of slings, strapping, splints, and traction.
• Discuss clinical uses and limitations.

Practical Training 12.6 : Management of Individual Bone and Joint injuries Conservative

Activity Details
• Demonstration of conservative techniques (slings, strapping, splints, casts) for chest wall, shoulder girdle, upper limb, pelvis, and lower limb injuries using models/patients.
• Students perform selected applications under supervision.
Teacher’s Role
• Demonstrate each method with clinical context.

• Guide and correct students' practice.
Students' Role
• Observe demonstrations and note steps.
• Practice applying splints, slings, and casts.

Practical Training 12.7 : Surgical Management of Individual Bone and Joint injuries.

Activity Details
• Demonstration of systematic clinical examination for bone and joint injuries on patients/models.
• Stepwise illustration of key surgical procedures (closed/open reduction, fixation methods) using simulators/instruments.
• Students practice selected examination steps and basic surgical handling under supervision.
Teacher's Role
• Demonstrate examination techniques and surgical steps with clinical relevance.
• Provide instruments/models for practice.
• Supervise and correct student performance.
Students' Role
• Observe and record examination and procedure steps.
• Practice examination techniques and basic surgical handling.
• Discuss clinical application in small groups.

Practical Training 12.8 : Surgical Management of Individual Bone and Joint injuries.

Activity Details
• Demonstration of surgical fixation and repair methods (wires, screws, plates, nails) on bone models/simulators.
• Stepwise guidance for incision, reduction, fixation, and closure principles.
• Students perform supervised practice of fixation and repair techniques.
Teacher's Role
• Demonstrate fixation and repair with clinical relevance.
• Provide instruments/models and supervise student practice.
• Correct errors and ensure safe technique.
Students' Role
• Observe demonstrations and note procedural steps.
• Perform fixation and repair techniques on models under guidance.

• Clarify doubts and compare methods in discussion.

Practical Training 12.9 : Strategy of prompt identification, primary care, initial assessment & management plan in Head & spine injuries

Activity Details
• Demonstration of primary care for head and spine injuries using mannequins/simulators.
• Stepwise illustration of immediate evaluation, airway management, cervical immobilization, and spine stabilization.
• Students practice evaluation and stabilization techniques under supervision.
Teacher's Role
• Demonstrate head and spine injury care procedures with clinical context.
• Provide mannequins/simulators and supervise hands-on practice.
• Correct errors and reinforce safety principles.
Students' Role
• Observe demonstrations and note evaluation/stabilization steps.
• Practice airway management, cervical immobilization, and spine stabilization.
• Discuss indications and precautions in groups.

Practical Training 12.10 : Strategy of prompt identification, primary care, initial assessment & management plan in Head & spine injuries

Activity Details
• Stepwise demonstration of assessment and stabilization in head and spine injuries using mannequins/simulators.
• Guided student practice of airway management, cervical collar application, log roll, and spine immobilization.
Teacher's Role
• Demonstrate primary care procedures with clinical relevance.
• Supervise student performance and provide corrective feedback.
Students' Role
• Practice evaluation and stabilization techniques under guidance.
• Perform airway, cervical immobilization, and spine stabilization procedures.

Practical Training 12.11 : Management of Diseases of the bone & regional Orthopaedic disorders: Conservative & Surgical management

Activity Details
• Demonstration of assessment and stabilization for head and spine injuries on simulators.
• Guided student practice of airway, cervical immobilization, log roll, and stabilization.

Teacher’s Role
• Demonstrate key steps and supervise practice.
Students’ Role
• Perform assessment and stabilization under guidance.

Practical Training 12.12 : Management of Diseases of the bone & regional Orthopaedic disorders: Conservative & Surgical management

Activity Details
• Demonstration of primary care steps for head and spine injuries using mannequins/simulators.
• Stepwise illustration of airway assessment, cervical collar application, log roll, and spine stabilization.
• Guided student practice to reinforce safe handling and stabilization techniques.
Teacher’s Role
• Demonstrate evaluation and stabilization procedures with clinical relevance.
• Provide simulators and supervise student practice.
• Correct errors and emphasize precautions to prevent further injury.
Students’ Role
• Observe demonstrations and record stepwise procedures.
• Practice immediate assessment and stabilization under supervision.
• Discuss precautions and apply skills in mini-scenarios.

Experiential learning Activity

Experiential-Learning 12.1 : General Principle of Bhagna Chikitsa & Punachesta prasaar (Rehabilitation)

Activity Details
• Students work in small groups with clinical cases requiring reduction, immobilization, or ORIF.
• Each group practices closed reduction on simulators, applies immobilization (Kusha-splints, Bandha, POP, modern), and performs ORIF steps on models/instruments.
• Groups present management approach and justify technique selection.
Teacher’s Role
• Provide cases, models, and instruments.
• Facilitate hands-on practice and clarify advanced principles.
• Guide discussions linking techniques to clinical outcomes.
Students’ Role
• Perform reduction, immobilization, and ORIF in groups.

• Apply principles to case scenarios and justify choices. • Share findings and compare approaches across groups.
Experiential-Learning 12.2 : General Principle of Bhagna Chikitsa & Punachesta prasaar (Rehabilitation)
Activity Details • Students rotate through clinical skill stations: closed reduction on simulators, immobilization with traditional (Kusha-splints, Bandha) and modern (POP, advanced splints) methods, and ORIF steps on bone models/instruments. • Groups apply techniques to given injury-specific scenarios and justify their choices. Teacher's Role • Set up stations with models, instruments, and case scenarios. • Facilitate practice, clarify principles, and ensure safe technique. • Guide discussions linking procedures to individualized patient care. Students' Role • Perform closed reduction, immobilization, and ORIF steps at stations. • Apply procedures to assigned case scenarios. • Present rationale for technique selection in group discussions.
Experiential-Learning 12.3 : Knowledge about Orthopaedic implants, external fixators, splints, orthotics, prosthetics & other relevant equipment
Activity Details • Students rotate through stations: implants, external fixators, splints, orthotics, prosthetics, and surgical tools. • Perform hands-on application and simulated procedures in clinical-style scenarios. • Groups analyze cases and choose appropriate devices/techniques. Teacher's Role • Organize and equip stations with instruments, models, and case data. • Facilitate practice, ensure correct handling, and clarify doubts. • Guide integration of device use with case management. Students' Role • Actively practice applying implants, fixators, splints, and prosthetics. • Use surgical instruments in simulated settings. • Discuss and justify device selection in group scenarios.
Experiential-Learning 12.4 : Knowledge about Orthopaedic implants, external fixators, splints, orthotics, prosthetics & other relevant equipment

Activity Details
• Students work in groups on diverse clinical scenarios requiring implants, fixators, splints, orthotics, prosthetics, and instruments.
• Each group handles devices, simulates their application, and adapts choices to the scenario.
• Groups present their management approach and rationale.
Teacher's Role
• Provide case scenarios with required instruments/devices.
• Facilitate hands-on practice and ensure proper use.
• Guide discussions linking device selection to clinical context.
Students' Role
• Handle and apply implants, fixators, and supportive devices.
• Adapt techniques to case requirements.
• Present chosen approaches and justify decisions.

Experiential-Learning 12.5 : Management of Individual Bone and Joint injuries Conservative

Activity Details
• Students work in small groups on clinical scenarios of chest wall, shoulder girdle, upper limb, pelvis, and lower limb injuries.
• Each group selects and applies conservative methods (slings, strapping, splints, casts, traction) on models/patients.
• Groups justify chosen techniques based on case needs.
Teacher's Role
• Provide injury-specific case scenarios and materials.
• Facilitate hands-on practice and ensure correct application.
• Guide discussions to link techniques with patient outcomes.
Students' Role
• Apply conservative methods directly to models/patients.
• Adapt techniques according to clinical scenarios.
• Present rationale for chosen management in group discussions.

Experiential-Learning 12.6 : Management of Individual Bone and Joint injuries Conservative

Activity Details
• Students rotate through clinical stations for different bone and joint injuries.
• At each station, they apply conservative methods (slings, strapping, casts, splints, traction) on models/patients.

• Groups discuss indications and limitations for each method.
Teacher’s Role
• Set up stations with models, materials, and case prompts.
• Supervise student practice and clarify doubts.
• Ensure correct technique and link to clinical context.
Students’ Role
• Perform conservative techniques at each station.
• Collaborate in groups to analyze cases.
• Justify choice of method during discussions.

Experiential-Learning 12.7 : Surgical exposures & training regarding the conservative Management of Individual Bone and Joint injuries.

Activity Details
• Students work in groups on clinical case scenarios of bone and joint injuries.
• Each group plans and performs surgical management steps (reduction, fixation, repair) on models/simulators.
• Groups present management strategies, linking chosen techniques to clinical context.
Teacher’s Role
• Provide clinical cases, models, and surgical instruments.
• Facilitate group practice and ensure correct technique.
• Guide discussions connecting procedures with patient outcomes.
Students’ Role
• Perform surgical steps on simulators/models in groups.
• Apply approaches to case scenarios and justify choices.
• Share strategies and compare techniques across groups.

Experiential-Learning 12.8 : Surgical Management of Individual Bone and Joint injuries

Activity Details
• Students engage with case scenarios highlighting surgical challenges in bone and joint injuries.
• In groups, they work through simulated procedures (reduction, fixation, complication handling) on models/instruments.
• Each group discusses encountered challenges and proposes solutions.
Teacher’s Role
• Provide realistic case scenarios and simulation resources.

• Facilitate group activities and highlight decision-making points.
• Clarify complex steps and link challenges to clinical practice.
Students' Role
• Analyze cases to identify surgical challenges.
• Perform simulated surgical steps in groups.
• Present challenges faced and justify chosen management solutions.

Experiential-Learning 12.9 : Strategy of prompt identification, primary care, initial assessment & management plan in Head & spine injuries

Activity Details
• Students work in groups on simulated emergency scenarios of head and spine injuries.
• Each group performs immediate assessment, airway management, cervical immobilization, and spine stabilization on mannequins/simulators.
• Groups present their stepwise management and justify decisions in context.
Teacher's Role
• Provide simulated emergency cases and necessary equipment.
• Facilitate practice, ensure safety, and highlight critical decision points.
• Guide debrief discussions to connect simulation with real clinical care.
Students' Role
• Actively perform assessment and stabilization steps in scenarios.
• Collaborate in teams to manage airway and immobilization.
• Reflect on challenges and share reasoning during group presentations.

Experiential-Learning 12.10 : Strategy of prompt identification, primary care, initial assessment & management plan in Head & spine injuries

Activity Details
• Students participate in simulated trauma scenarios of head and spine injuries.
• Groups perform immediate assessment, airway management, cervical immobilization, log roll, and spine stabilization.
• Teams integrate findings into a structured primary care plan and present approaches.
Teacher's Role
• Set up simulation stations with mannequins/equipment.
• Guide and supervise group performance, ensuring safe technique.
• Facilitate discussion linking simulation to real clinical care.
Students' Role

• Carry out assessment and stabilization steps in teams.
• Collaboratively develop and present care plans.
• Reflect on challenges and refine techniques through peer learning.

Experiential-Learning 12.11 : Management of Diseases of the bone & regional Orthopaedic disorders: Conservative & Surgical management

Activity Details
• Students rotate through skill stations: implants (wires, screws, plates, nails), external fixators, splints/orthotics/prosthetics, and operative instruments (drill machine, C-arm, image intensifier).
• At each station, students handle equipment, simulate application, and discuss operative principles.
• Groups integrate learning into case scenarios, selecting appropriate implant/technique.
Teacher's Role
• Organize stations with instruments, models, and case data.
• Orient students, supervise practice, and explain key applications.
• Facilitate integration of implant choice with clinical context.
Students' Role
• Actively handle and apply implants/instruments at stations.
• Practice simulated fixation and device application.
• Discuss case-based choices and present integrated plans.

Experiential-Learning 12.12 : Management of Diseases of the bone & regional Orthopaedic disorders: Conservative & Surgical management

Activity Details
• Students work in groups on clinical scenarios of bone and regional orthopaedic disorders.
• Each group applies principles of conservative care (splints, traction, POP) and surgical options (reduction, fixation, arthroplasty) using models/simulators.
• Groups integrate findings into management plans and present approaches.
Teacher's Role
• Provide case scenarios, models, and instruments.
• Facilitate hands-on practice and ensure correct technique.
• Guide discussions linking conservative and surgical principles to patient outcomes.
Students' Role
• Perform conservative and surgical management steps on models/simulators.
• Apply principles to case scenarios and justify decisions.

• Present and compare management plans in groups.

Modular Assessment	
Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks per credit. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment. Topics to be assessed: • Practical Knowledge regarding Conservative & Surgical management of developmental, Metabolic, infective, Neoplastic & endocrinological conditions of the bone & regional Orthopaedic disorders. • General Principle of Bhagna Chikitsa & Punachesta prasaar (Rehabilitation) including Closed manipulative Reduction, Principle of immobilization (Classical and traditional Kusha-splints, Bandha, Plaster of Paris & other recent inclusions), methods of Open reduction & internal fixation regarding the individual injuries. • Application of Orthopaedic implants (wires, screws, plates, nails, other recent inclusions), different types of external fixators, and other operative techniques,different kinds of splints, orthotics. & prosthetics. Orthopaedics surgery instruments, drill machines and other equipment required for orthopaedics practice *like C-arm, image intensifier et.* • Management of Individual Bone and Joint injuries, Primary care for head & spine injuries. 1. Theory Open Book Test Conduct theory open book test for 50 marks which will contain either 2 LAQ and 6 SAQ on the topics mentioned above. OR 2. Debate –25 marks for each debate (Total 2 debates) Preparation: Select relevant topics connected to the module (Conservative & Surgical management of developmental, Metabolic, infective, Neoplastic & endocrinological conditions of the bone & regional Orthopaedic disorders, Individual Bone and Joint injuries, Primary care for head & spine injuries) Divide students into teams and provide time for preparation. Execution: Conduct the debate with clear time limits for each speaker. Assign a moderator to ensure smooth proceedings. Evaluation: Evaluate focusing on argument quality, Content delivery and teamwork. OR 3. Viva – Take questions from each Units and select 25 questions from the Conservative & Surgical management of developmental, Metabolic, infective, Neoplastic & endocrinological conditions of the bone & regional Orthopaedic disorders, Individual Bone and Joint injuries, Primary care for head & spine injuries. Two marks for each question can be allocated	4

Preparation: Create open-ended questions testing clinical knowledge, procedural steps, and reasoning.
Execution: Conduct one-on-one or panel-based interviews.
Evaluation: Assess knowledge depth, clarity, and application ability.
Or
4. OSCE (Objective Structured Clinical Examination) -Plan 5 clinical examination stations carrying 50marks
Preparation: Set up stations mimicking clinical scenarios focusing the Conservative & Surgical management of developmental, Metabolic, infective, Neoplastic & endocrinological conditions of the bone & regional Orthopaedic disorders, Individual Bone and Joint injuries, Primary care for head & spine injuries).
Execution: Allow students to demonstrate clinical skills, communication, and decision-making at each station. Provide feedback immediately after the station or during review sessions.
Evaluation: Assess clinical reasoning, procedural accuracy, and patient-centered approach during the task.

Semester No : 5

Module 13 : Complications of Musculo-Skeletal Injuries & Corrective Orthopaedics.

Module Learning Objectives
(At the end of the module, the students should be able to)

- Assess patient criteria for undergoing conservative & corrective procedures, considering factors such as age, comorbidities, and functional goals.
- Create comprehensive pre-procedure plans that include patient education, consent, and risk assessment for each type of surgery.
- Recognize potential complications associated with corrective orthopaedic surgeries, including infection, non-union, and prosthesis-related issues.
- Describe the key to surgical techniques and methodologies used in amputation, arthrodesis, arthroplasty, and plastic surgery in the context of musculoskeletal disorders.
- Outline postoperative care protocols, including pain management, rehabilitation, and monitoring for complications related to each procedure.
- Design and implement individualized rehabilitation programs tailored to the specific needs and goals of patients undergoing corrective procedures.

M 13 Unit 1 Systemic complications in relation to the orthopaedic injuries.

- Systemic complications: Emergent conditions like

- Shock,
- Crush syndrome,
- Compartment syndrome,
- Disseminated intra-vascular coagulopathy (DIC) & their management.

References: 6,7

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4	Describe systemic complications such as shock, crush syndrome, compartment syndrome, and disseminated intravascular coagulation (DIC) with their management.	1	Lecture	CK	Knows-how	L&PPT,L
CO1,CO2,CO4,CO5	Discuss systemic complications, including shock, crush syndrome, and compartment syndrome, and justify their management strategies.	1	Lecture	CAN	Knows-how	PBL,L_VC,L,L&PPT
CO1,CO2,CO4,CO5	Demonstrate clinical management of emergent conditions such as shock, crush syndrome, compartment syndrome, and DIC in varied clinical scenarios with medical optimization.	2	Practical Training 13.1	PSY-MEC	Shows-how	D,D-M,TBL,DIS,D-BED
CO1,CO2,CO4,CO5	Demonstrate clinical management of emergent conditions such as shock, crush syndrome, compartment syndrome, and DIC in varied clinical scenarios with medical optimization.	1	Practical Training 13.2	PSY-MEC	Shows-how	D,W,C_L,CD,D-BED
CO1,CO2,CO4,CO5	Manage systemic complications, including shock, crush syndrome, and compartment syndrome through experiential learning and justify their management.	2	Experiential-Learning 13.1	PSY-GUD	Shows-how	D-BED,CBL,C_L,PBL,D
CO1,CO2,CO4,CO5	Manage systemic complications such as shock, crush syndrome, and compartment syndrome through experiential learning and propose appropriate management strategies.	2	Experiential-Learning 13.2	PSY-GUD	Shows-how	D,CBL,D-BED,C_L
CO1,CO4,CO5	Perform clinical management of emergent conditions such as shock, crush syndrome, compartment syndrome, and DIC in real-life clinical scenarios with medical optimization.	2	Practical Training 13.3	PSY-MEC	Shows-how	PBL,CBL,IBL,L_VC

CO1,CO4,CO5	Illustrate advanced clinical management of emergent conditions such as shock, crush syndrome, compartment syndrome, and DIC in varied clinical settings with medical optimization.	2	Practical Training 13.4	PSY-ORG	Shows-how	LRI

M 13 Unit 2 Pulmonary, Delayed & Vascular complications in relation to the orthopaedic injuries

- Tension pneumothorax, pneumo-haemothorax, acute respiratory distress syndrome (ARDS), Hypostatic pneumonia & their management.
- Deep vein thrombosis (DVT), thrombo-embolism, fat embolism. Neuro-vascular injuries, Infections & their management.
- Non-union, mal-union and ignored or un-reduced dislocations & their management.
- Myositis ossificans, Volkman's ischemic contracture other associated complications & their management.

References: 7

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4,CO5	Describe corrective conservative and surgical approaches for upper limb deformities, including tendon and ligament repair, transfer, reconstruction, and lengthening procedures.	1	Lecture	CK	Knows-how	L
CO1,CO2,CO4,CO5	Demonstrate management of pulmonary, delayed, and vascular complications associated with orthopedic injuries.	2	Practical Training 13.5	PSY-MEC	Shows-how	CBL,CD
CO1,CO2,CO4,CO5	Illustrate pulmonary, delayed, and vascular complications in orthopedic injuries	2	Experiential-Learning 13.3	PSY-MEC	Shows-how	D-BED,C_L,D,CBL
CO1,CO2,CO4,CO5	Perform supervised management of pulmonary, delayed, and vascular complications in orthopedic injuries.	2	Experiential-Learning 13.4	PSY-ORG	Shows-how	D,L_VC,CD,CBL,C_L
CO1,CO2,CO4,CO5	Apply pulmonary, delayed, and vascular complications associated with orthopaedic injuries through supervised clinical exposure.	1	Practical Training 13.6	PSY-MEC	Shows-how	CBL,CD
CO1,CO2,CO4	Discuss corrective conservative and surgical approaches for lower limb deformities,	1	Lecture	CK	Knows-	L

,CO5	including tendon and ligament repair, transfer, reconstruction, and lengthening procedures.				how	

M 13 Unit 3 Conservative & Corrective orthopaedic surgery (Repair, Transfer, reconstruction & lengthening procedures for Tendon & ligament. Corrective orthopaedics

- Conservative & Surgical corrective approaches for upper & lower limb deformities.
- Tendon & ligament repair, transfer, reconstruction & lengthening procedures. Bone grafting, bone banking & bone transportation.

References: 9,10,11

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4 ,CO5	Discuss corrective conservative and surgical approaches for upper, lower limb, and foot deformities, including tendon and ligament repair, transfer, reconstruction, and lengthening procedures.	1	Lecture	CK	Knows-how	L&PPT ,L
CO1,CO2,CO4 ,CO5	Demonstrate corrective, conservative, and surgical approaches for upper and lower limb deformities on simulators and patients.	2	Practical Training 13.7	PSY-MEC	Shows-how	BS,D,C_ L,CBL
CO1,CO2,CO4 ,CO5	Apply management strategies for neurovascular injuries, infections, deep vein thrombosis, thrombo-embolism, and fat embolism in orthopedic trauma through experiential learning and workshops.	2	Experiential-Learning 13. 5	PSY-GUD	Shows-how	C_L,CBL ,CD,D
CO1,CO2,CO4 ,CO5	Manage neurovascular injuries, infections, deep vein thrombosis, thrombo-embolism, and fat embolism in orthopedic trauma through clinical scenarios and workshops.	2	Experiential-Learning 13. 6	PSY-GUD	Shows-how	CBL,CD
CO1,CO2,CO4 ,CO5	Discuss conservative approaches for upper, lower limb, and foot deformities.	1	Lecture	CK	Knows-how	CBL,SIM ,L&GD,L
CO1,CO2,CO4 ,CO5	Demonstrate clinical application of corrective, conservative, and surgical approaches for upper and lower limb deformities on simulators and patients.	1	Practical Training 13.8	PSY-MEC	Shows-how	CBL,BS, C_L

M 13 Unit 4 Bone grafting, bone banking & bone transportation

- Bone grafting, bone banking & bone transportation
- Appreciate the theoretical, Practical & experiential knowledge regarding the fundamentals of Bone grafting, bone banking & bone transportation

References: 10

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO4 ,CO5	Discuss the theoretical principles of bone grafting, bone banking, and bone transportation.	1	Lecture	CK	Knows-how	L,L&GD, L_VC,L& PPT
CO1,CO2,CO4 ,CO5	Demonstrate clinical application of bone banking and bone transportation principles.	2	Practical Training 13.9	PSY-MEC	Shows-how	D,D-BED
CO1,CO2,CO4 ,CO5	Perform experiential learning sessions to understand the types and biology of bone grafting through hands-on training in clinical scenarios and workshops.	2	Experiential-Learning 13. 7	PSY-MEC	Shows-how	D,D-BED ,C_L,CD, CBL
CO1,CO2,CO4 ,CO5	Identify types and biology of bone grafting, bone banking, and indications of bone transportation through experiential learning and workshops.	2	Experiential-Learning 13. 8	PSY-GUD	Shows-how	D-M,D,CBL
CO1,CO2,CO4 ,CO5	Demonstrate clinical skills in types and biology of bone grafting and provide an overview of bone banking in clinical scenarios and workshops.	2	Practical Training 13.1 0	PSY-MEC	Shows-how	D-M,D

M 13 Unit 5 Amputation Surgery.

- Amputation Surgery: Indications, Principles, Approach & Planning of Amputation surgery.
- Post Amputation complications, care plan & rehabilitation.

References: 8

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO5	Explain systemic complications including shock, crush syndrome, compartment syndrome, and disseminated intravascular coagulation (DIC), and outline their management.	1	Lecture	CC	Knows-how	L,L_VC,L&PPT,L&GD
CO1,CO4,CO5,CO6	Describe the principles, indications, approaches, and planning of amputation surgery, and evaluate post-amputation complications, care plans, and rehabilitation.	1	Lecture	CC	Knows-how	L&GD,L_VC,L&PPT
CO1,CO3,CO4,CO5	Demonstrate clinical skills in planning approaches for amputation surgery, managing post-amputation care, addressing complications, optimizing medical conditions, and facilitating rehabilitation in clinical scenarios.	3	Experiential-Learning 13.9	PSY-MEC	Shows-how	D,D-M,W,PAL,DIS
CO1,CO3,CO4,CO5	Illustrate amputation surgery planning, post-amputation care, complication management, medical optimization, and rehabilitation in clinical settings.	2	Experiential-Learning 13.10	PSY-ORG	Shows-how	L&GD,PBL,L_VC,PAL,DIS
CO1,CO3,CO4,CO5	Demonstrate c approaches and planning of amputation surgery, including post-operative care, complication management, medical optimization, and rehabilitation in varied clinical scenarios.	1	Practical Training 13.11	PSY-MEC	Shows-how	DIS,SY,D-M,TBL,Mnt

M 13 Unit 6 Arthrodesis & Arthroplasty.

- Principles of Arthrodesis & Arthroplasty.
- Joint replacement (spine & extremities),
- Post Arthrodesis, Arthroplasty complications, care plan & rehabilitation

References: 1,9,10,11

3A	3B	3C	3D	3E	3F	3G

CO1,CO4,CO5	Discuss theoretical principles of indications, planning, and procedures of arthrodesis and arthroplasty in spine and extremities, including post-operative care, complications, and rehabilitation.	1	Lecture	CC	Knows-how	PER,L&PPT ,L&GD,L_VC
CO1,CO4,CO5	Demonstrate the ability to analyze potential indications and principles of Arthrodesis & Arthroplasty for spine and extremities, and formulate post-procedure care plans with medical optimization in clinical scenarios.	2	Practical Training 13.12	PSY-MEC	Shows-how	D,DIS,PAL,L_VC,SIM
CO1,CO3,CO4,CO5	Identify potential indications and principles of Arthrodesis & Arthroplasty for spine and extremities, and formulate post-procedure care plans with medical optimization in clinical scenarios.	3	Experiential-Learning 13.11	CAP	Shows-how	L_VC,PAL,D-M,JC,PER
CO1,CO4,CO5	Perform clinical exposure sessions on arthrodesis and arthroplasty in spine and extremities by applying principles of indications, care planning, complication management, and medical optimization.	2	Experiential-Learning 13.12	PSY-MEC	Knows-how	LS,PBL,SY,SIM,PAL

Practical Training Activity

Practical Training 13.1 : Unit-1: Systemic complications in relation to the orthopaedic injuries.

Activity Details
• Simulated cases of shock, crush syndrome, compartment syndrome, and DIC demonstrated stepwise.
• Students practice IV access, fluid resuscitation, and stabilization on models under supervision.
Teacher's Role
• Demonstrate emergency management sequence.
• Provide equipment and correct techniques during practice.
Students' Role
• Perform airway, IV, and fluid management in simulations.
• Apply steps in rotation and discuss rationale for interventions.

Practical Training 13.2 :
Systemic complications in relation to the orthopaedic injuries.

Activity Details

• Teacher demonstrates rapid management steps for shock, crush syndrome, compartment syndrome, and DIC using mannequins/case sheets.
• Students practice key procedures: IV access, fluid therapy, monitoring.
Teacher's Role
• Show stepwise emergency protocols.
• Supervise and correct student performance.
Students' Role
• Perform stabilization steps on models.
• Discuss reasoning behind chosen interventions.

Practical Training 13.3 : Practical exposuers of Systemic complications in relation to the orthopaedic injuries.

Activity Details
• Demonstration of emergency management protocols for shock, crush syndrome, compartment syndrome, and DIC on mannequins/simulators.
• Stepwise execution of airway, circulation, decompression, fluid resuscitation, and medical optimization.
• Students practice selected steps under supervision.
Teacher's Role
• Demonstrate each condition's emergency protocol on simulators.
• Explain rationale for interventions during demonstration.
• Supervise and correct students' practical execution.
Students' Role
• Observe demonstrations and note stepwise management.
• Perform emergency steps on simulators/mannequins.
• Discuss and compare techniques with peers.

Practical Training 13.4 : Emergent conditions

Activity Details
• Advanced demonstration of emergency management in varied clinical setups (ER, ICU, OT) using mannequins/simulators.
• Stepwise execution of airway, circulation, decompression, fluid therapy, transfusion protocols, and surgical interventions.
• Students perform advanced steps in supervised practice drills.
Teacher's Role
• Demonstrate advanced protocols with clinical variations across settings.
• Highlight critical decision points and optimization strategies.

• Supervise drills and provide corrective guidance during student practice.
Students' Role
• Observe advanced demonstrations and record variations across clinical contexts.
• Perform advanced management steps in supervised drills.
• Engage in peer comparison and case-based discussions.

Practical Training 13.5 : Pulmonary, Delayed & Vascular complications in relation to the orthopaedic injuries

Activity Details
• Teacher demonstrates management of pulmonary, delayed, and vascular complications in orthopedic injuries using models, X-rays, and case sheets.
• Students practice steps such as airway support, immobilization, monitoring circulation, and identifying delayed complications.
Teacher's Role
• Demonstrate systematic management protocols with cases and models.
• Supervise students' performance and correct techniques.
Students' Role
• Perform airway, circulation, and immobilization procedures on models.
• Identify complications from given cases and apply demonstrated management.

Practical Training 13.6 : Pulmonary, Delayed & Vascular complications in relation to the orthopaedic injuries

Activity Details
• Demonstration of pulmonary, delayed, and vascular complications with patient cases/images.
• Stepwise recognition, assessment, and management.
• Supervised student practice on patients/models.
Teacher's Role
• Present cases and demonstrate assessment/management.
• Explain mechanisms and guide practice.
Students' Role
• Observe and note key signs.
• Perform assessments and interpret findings under supervision.

Practical Training 13.7 : Corrective orthopaedics surgery

Activity Details
• Teacher demonstrates corrective, conservative, and surgical approaches for common upper and lower limb deformities using simulators and selected patient cases.
• Students practice corrective splinting, conservative immobilization, and observe surgical steps on models/patients under guidance.
Teacher's Role
• Set up simulators and patient demonstrations.
• Explain indications and demonstrate each approach stepwise.
• Supervise students' practice and correct technique.
Students' Role
• Perform corrective and conservative procedures on simulators.
• Observe surgical demonstration and note critical steps.
• Correlate patient findings with demonstrated techniques.

Practical Training 13.8 : Corrective Orthopaedics

Activity Details
• Demonstration of corrective, conservative, and surgical approaches on simulators/patients.
• Stepwise explanation of assessment and management.
• Guided student practice on simulators.
Teacher's Role
• Demonstrate approaches with rationale.
• Supervise and refine student practice.
Students' Role
• Observe key steps.
• Practice correction methods.
• Compare approaches in discussion.

Practical Training 13.9 : Attain Clinical Exposures for Types & biology of bone grafting, over view of bone banking in the clinical scenarios & workshops.

Activity Details
• Demonstration of bone banking process using preserved specimens, highlighting harvesting, preservation, and storage techniques.
• Stepwise demonstration of bone transportation principles with model/simulation to show segment movement and fixation.
• Guided hands-on practice by students on models/simulators under supervision.
Teacher's Role

• Demonstrate bone harvesting, preservation, and storage using specimen/model.
• Explain bone transportation steps with clinical relevance and show fixation on simulator.
• Supervise and correct students' hands-on practice during repetition of demonstrated steps.
Students' Role
• Observe teacher's demonstration closely and note procedural steps.
• Perform stepwise bone banking and bone transportation techniques on models/simulators.
• Clarify doubts through discussion and peer comparison of technique.

Practical Training 13.10 : Attain Clinical Exposures for over view of bone banking & Principles & indications of bone transportation in the clinical scenarios & workshops.

Activity Details
• Demonstration of types and biology of bone grafting using specimens/models.
• Stepwise explanation of graft incorporation and healing.
• Overview of bone banking process with clinical relevance.
• Students practice handling graft models and summarize care applications.
Teacher's Role
• Demonstrate graft types, biology, and bone banking steps.
• Explain clinical applications and healing principles.
• Supervise students' practice and guide discussions.
Students' Role
• Observe demonstrations and note graft biology.
• Handle graft models under guidance.
• Discuss clinical uses and summarize key points.

Practical Training 13.11 : Amputation Surgery.

Activity Details
• Demonstration of amputation approaches on models/simulators.
• Stepwise planning of incision, flap design, stump prep, and care strategies.
• Case-based illustration of post-op care, complications, and rehab.
Teacher's Role

• Demonstrate approaches with clinical relevance.
• Link surgical planning to care and rehab.
• Supervise and guide student practice.
Students' Role
• Observe and replicate incision/stump design.
• Discuss post-op care and rehab in groups.

Practical Training 13.12 : Arthrodesis & Arthroplasty.

Activity Details
• Demonstration of indications and principles of arthrodesis and arthroplasty for spine and extremities using case discussions and models/simulators.
• Stepwise explanation of surgical principles, fixation methods, and prosthesis use.
• Illustration of post-procedure care plans including mobilization, infection prevention, and rehabilitation.
• Students practice formulation of care plans in guided mini-scenarios.
Teacher's Role
• Demonstrate surgical principles on models/simulators.
• Present clinical cases highlighting indications and decision-making.
• Guide students in developing structured post-procedure care plans.
Students' Role
• Observe demonstrations and note decision-making principles.
• Participate in case-based discussions on surgical choices.
• Formulate and present post-procedure care plans in small groups.

Experiential learning Activity

Experiential-Learning 13.1 : Systemic complications in relation to the orthopaedic injuries

Activity Details
• Small groups receive simulated patient scenarios of shock, crush syndrome, and compartment syndrome.
• Each group plans and executes immediate management (airway, IV, fluids, monitoring).
• Students justify interventions during group discussion.
Teacher's Role
• Provide case scenarios and simulation setup.
• Guide with prompts, observe group actions, and ensure safe practice.

Students' Role
• Collaboratively assess, prioritize, and perform management steps.
• Rotate roles (leader, responder, recorder) during activity.
• Present and justify chosen management sequence to peers.

Experiential-Learning 13.2 :
Unit-1: Systemic complications in relation to the orthopaedic injuries.

Activity Details
• Students are divided into groups and given simulated cases of shock, crush syndrome, and compartment syndrome.
• Each group performs assessment, executes management steps, and prepares a short strategy plan.
• Groups present and justify their proposed strategies in a peer discussion.
Teacher's Role
• Provide realistic case scenarios and simulation aids.
• Guide with cues, monitor group performance, and clarify misconceptions.
Students' Role
• Collaboratively assess cases, perform guided interventions, and design management strategies.
• Present rationale for chosen steps and compare approaches with peers.

Experiential-Learning 13.3 : Pulmonary, Delayed & Vascular complications in relation to the orthopaedic injuries.

Activity Details
• Students work in groups with case scenarios and X-rays showing pulmonary, delayed, and vascular complications in orthopedic injuries.
• Each group identifies complications, illustrates findings on charts/models, and explains mechanisms to peers.
• Groups compare and discuss management implications in plenary session.
Teacher's Role
• Provide case materials, X-rays, and models.
• Facilitate group work with guiding questions and validate illustrations.
Students' Role
• Analyze cases, identify complications, and create visual explanations.
• Present illustrations and justify their interpretation to peers.

Experiential-Learning 13.4 : Pulmonary, Delayed & Vascular complications in relation to the orthopaedic injuries.

Activity Details
• Students are assigned simulated cases of orthopedic injuries with pulmonary, delayed, and vascular complications.
• Under supervision, groups perform airway support, circulation monitoring, and limb management on mannequins/models.
• Each group documents and presents their management sequence.
Teacher's Role
• Provide simulation setup, guide steps with prompts, and ensure safe performance.
• Observe interventions and clarify errors in real time.
Students' Role
• Actively perform supervised management procedures in groups.
• Rotate roles (airway, circulation, recorder) and apply management sequence.
• Share and justify their approach with peers.

Experiential-Learning 13.5 : Corrective orthopaedics surgery

Activity Details
• Students are divided into groups and provided with simulated orthopedic trauma cases involving neurovascular injuries, infections, DVT, thrombo-embolism, and fat embolism.
• Groups perform assessment and apply appropriate management strategies through hands-on tasks in workshop stations (airway & circulation, wound care, anticoagulation planning, embolism recognition).
• Each group presents their management plan and justifies chosen interventions.
Teacher's Role
• Organize workshop stations with simulation tools and case scenarios.
• Guide with prompts, ensure safe performance, and clarify misconceptions.
Students' Role
• Rotate through workshop stations, performing guided interventions.
• Collaboratively apply strategies and document key steps.
• Present and defend their management approach during plenary sharing.

Experiential-Learning 13.6 : Corrective orthopaedics surgery

Activity Details

• Students rotate through workshop stations: neurovascular injury assessment, infection management, DVT/thrombo-embolism protocols, and fat embolism recognition.
• Each station includes a short clinical scenario, hands-on tasks (e.g., pulse check, splinting, monitoring), and group problem-solving.
• Groups consolidate findings into a stepwise trauma management plan.
Teacher's Role
• Provide clinical scenarios, models/simulators, and structured tasks.
• Orient groups and facilitate during rotations.
• Clarify management protocols and ensure correct application.
Students' Role
• Actively perform tasks at each station (assessment, intervention, care planning).
• Discuss management strategies in groups and apply to cases.
• Present integrated trauma care approaches at session end.

Experiential-Learning 13.7 : Types & Biology of bone grafting

Activity Details
• Group rotations through stations: autograft, allograft, xenograft, synthetic graft.
• Hands-on graft handling, preparation, and case-based application.
Teacher's Role
• Set up stations and give brief orientation.
• Facilitate hands-on practice and guide case discussions.
Students' Role
• Handle and prepare grafts in groups.
• Apply biology concepts to case scenarios and justify graft choice.

Experiential-Learning 13.8 : Types & Biology of bone grafting, over view of Bone banking

Activity Details
• Group rotations through workshop stations: bone graft types/biology, bone banking process, and bone transportation indications.
• Hands-on handling of specimens/models with guided discussions.
• Case scenarios applied to select grafting, banking, or transportation options.
Teacher's Role
• Set up stations with models/specimens and case material.

• Give brief instructions and facilitate group tasks.
• Clarify principles during discussions.
Students' Role
• Examine and compare graft types and biology.
• Practice bone banking steps on models.
• Analyze case scenarios to identify transportation indications.

Experiential-Learning 13.9 : Amputation Surgery.

Activity Details
• Students rotate through clinical scenario stations: pre-op planning, surgical approaches, post-op care, complication management, and rehabilitation.
• Each group works hands-on with models/simulators and case data to plan and practice steps.
• Groups consolidate findings into a comprehensive care pathway.
Teacher's Role
• Set up scenario-based stations with cases, models, and simulators.
• Briefly orient students, then facilitate and clarify during rotations.
• Ensure linkage of surgical planning with post-op optimization and rehab.
Students' Role
• Actively plan and perform steps at each station in small groups.
• Analyze cases, propose management of complications, and integrate rehab strategies.
• Present a complete surgical and care plan at the end of rotations.

Experiential-Learning 13.10 : Amputation Surgery.

Activity Details
• Groups engage with real/virtual clinical cases of patients requiring amputation.
• Students outline surgical planning, immediate post-op care, complication prevention, and rehab pathway.
• Role-play of surgeon, nurse, and physiotherapist to integrate multidisciplinary perspectives.
Teacher's Role
• Provide detailed case scenarios and guide role allocations.
• Facilitate group discussion, ensuring coverage of surgical, medical, and rehab aspects.
• Clarify advanced decision-making principles when students present their plans.
Students' Role

• Collaboratively design surgery plans and structured care pathways.
• Perform role-plays to demonstrate management strategies.
• Integrate medical optimization and rehabilitation in their presentations.

Experiential-Learning 13.11 : Arthrodesis & Arthroplasty.

Activity Details
• Small groups work on clinical case scenarios of spine and extremity disorders.
• Students identify indications for arthrodesis vs. arthroplasty, explain underlying principles, and design structured post-procedure care plans.
• Groups present findings and compare approaches.
Teacher's Role
• Provide diverse clinical cases with relevant data.
• Facilitate group discussions and clarify misconceptions.
• Guide students to integrate principles with care optimization.
Students' Role
• Analyze cases to justify surgical indications and principles.
• Collaboratively formulate post-procedure care plans.
• Present and discuss group solutions with peers.

Experiential-Learning 13.12 : Arthrodesis & Arthroplasty.

Activity Details
• Students participate in clinical exposure sessions in wards/OT, observing arthrodesis and arthroplasty cases.
• In small groups, they analyze indications, surgical principles, and anticipate complications.
• Students collaboratively design post-op care and medical optimization plans for observed cases.
Teacher's Role
• Facilitate clinical exposure by selecting suitable cases.
• Guide students' observation toward surgical decision-making and perioperative care.
• Moderate group discussions and validate care plans.
Students' Role
• Observe live/recorded clinical procedures attentively.
• Identify indications, principles, and potential complications.
• Formulate and present structured care plans with optimization strategies.

Modular Assessment	
Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks per credit. Keep a structured marking pattern. Keep a record of the structured pattern used for assessment. Calculate the Modular grade point as per Table 6 C. Select any one or two methods for the assessment. Topics to be assessed: • Knowledge regarding the management of Emergent conditions like Shock, Crush syndrome, Compartment syndrome, disseminated intravascular coagulopathy (DIC) & their management in the different clinical scenarios. • Proficiency in the management of Pulmonary, Delayed & Vascular complications in relation to the orthopedic injuries. • Knowledge of Corrective, Conservative & Surgical approaches for upper & lower limb deformities on the simulators & patients. • Knowledge of Tendon & ligament repair, transfer, reconstruction & lengthening procedures • Understanding of the fundamentals of Bone grafting, bone banking & bone transportation in the clinical scenarios. • The fundamentals like Approach, planning of amputation surgery, post-amputation complications, care plan & rehabilitation in the different clinical scenarios. • Fundamental knowledge of Arthrodesis & Arthroplasty in spine & extremities, Post-procedure care plan in the different clinical scenarios. 1. **Viva –** Take questions from each unit and select 25 questions from systemic complications of orthopedic injuries, including pulmonary, delayed, and vascular issues. It also addresses conservative and corrective surgeries, such as tendon and ligament repairs, bone grafting, amputation, arthrodesis, and arthroplasty. Two marks for each question can be allocated. Preparation: Create open-ended questions testing clinical knowledge, procedural steps, and reasoning. Execution: Conduct one-on-one or panel-based interviews. Evaluation: Assess knowledge depth, clarity, and application ability. OR **2. Debate –25 marks for each debate (Total 2 debates)** Preparation: Select relevant topics connected to the module (from systemic complications of orthopedic injuries, including pulmonary, delayed, and vascular issues. It also addresses conservative and corrective surgeries, such as tendon and ligament repairs, bone grafting, amputation, arthrodesis, and arthroplasty. Divide students into teams and provide time for preparation. Execution: Conduct the debate with clear time limits for each speaker. Assign a moderator to ensure smooth proceedings. Evaluation: Evaluate focusing on argument quality, Content delivery, and teamwork.	4

OR

3. Theory Open Book Test

Conduct a theory open-book test for 50 marks, which will contain either 2 LAQ and 6 SAQ on the topics mentioned above.

Or

4. OSCE (Objective Structured Clinical Examination) -Plan 5 clinical examination stations carrying 50marks

Preparation: Set up stations mimicking a clinical scenario, focusing on systemic & regional complications in the orthopedic conditions -if possible

Execution: Allow students to demonstrate clinical skills, communication, and decision-making at each station. Provide feedback immediately after the station or during review sessions.

Evaluation: Assess clinical reasoning, procedural accuracy, and patient-centered approach during the task.

OR

5. OSPE (Objective Structured Practical Examination) –

Stations from the list of practical can be planned, which carry 50marks

Preparation: Develop multiple stations covering practical and theoretical aspects (Scenarios depicting systemic & regional complications in the orthopedic conditions -if possible).

Execution: Students rotate through stations within a set time frame. Station formats may include tasks, demonstrations, or written responses.

Evaluation: Evaluate based on knowledge, skill performance, and communication during the procedure.

Module 14 : Mutravaha Srotas Vikara [Urinary disorders]

Module Learning Objectives

(At the end of the module, the students should be able to)

- Classify and analyze the aetiopathogenesis of *Ashmari*, *Mutraghata*, *Mutrakrichhra*, *Niruddhaprakasha*, *Parivartika*, and *Avapatika*.
- Perform comprehensive patient assessment to diagnose cases of *Ashmari*, *Mutraghata*, *Mutrakrichhra*, *Niruddhaprakasha*, *Parivartika*, and *Avapatika*.
- Formulate integrative management plans for *Ashmari*, *Mutraghata*, *Mutrakrichhra*, *Niruddhaprakasha*, *Parivartika*, and *Avapatika*.
- Demonstrate the technique of *Uttarbasti* and manage complications arising from the procedure.
- Evaluate conservative and operative management approaches in male infertility.

M 14 Unit 1 Ashmari

- Aetiopathogenesis, classification, clinical features, diagnosis and management of *Ashmari*

References: 1,2,3,5,7,15,31,35,36,39,40,44,45,51,54,58

3A	3B	3C	3D	3E	3F	3G
CO1	Describe aetiopathogenesis, Classification, Clinical features of *Ashmari*	1	Lecture	CAN	Knows-how	L&PPT
CO1	Describe investigations and management of Ashmari	1	Lecture	CAN	Knows-how	L&PPT
CO1	Examine clinically and diagnose Ashmari	2	Practical Training 14.1	PSY-GUD	Shows-how	D-BED,X-Ray,LRI
CO1	Conduct clinical examination to reach to diagnosis of *Ashmari*	2	Practical Training 14.2	PSY-GUD	Shows-how	RP,D-BED
CO1	Demonstrate the different procedures in the management of *Ashmari*	3	Experiential-Learning 14.1	PSY-ADT	Shows-how	TBL,PBL,RP

M 14 Unit 2 Mutraghata

- Aetiopathogenesis, classification, clinical features, diagnosis and management of Mutraghata

References: 1,2,3,4,36,37,38,51,54,55,58,66,67,69

3A	3B	3C	3D	3E	3F	3G

CO1	Describe aetiopathogenesis, classification, clinical features, investigations and management of Mutraghata	1	Lecture	CAN	Knows-how	BS,BL,JC
CO1	Conduct clinical examination to reach to diagnosis of Mutraghata	2	Practical Training 14.3	PSY-GUD	Shows-how	X-Ray,D-BED,RP,LRI
CO1	Demonstrate different procedures for the management of Mutraghata	3	Experiential-Learning 14.2	PSY-MEC	Shows-how	PBL,TBL,RP

M 14 Unit 3 Mutrakrichhra

- Aetiopathogenesis, classification, clinical features, diagnosis and management of *Mutrakrichhra.*

References: 4,5,7,8,9,10

3A	3B	3C	3D	3E	3F	3G
CO1	Describe aetiopathogenesis, Classification, Clinical features, investigations and management of Mutrakrichhra	1	Lecture	CAN	Knows-how	L
CO1	Conduct clinical examination to reach diagnosis of Mutrakrichhra	2	Practical Training 14.4	PSY-GUD	Shows-how	RP,LRI,X-Ray,D-BED
CO1	Demonstrate different procedures for the management of Mutrakrichhra	3	Experiential-Learning 14.3	PSY-ADT	Shows-how	TBL,PBL,RP

M 14 Unit 4 Shishna Vikara

- Aetiopathogenesis, classification, clinical features, diagnosis, and management of Niruddhaprakasha.
- Aetiopathogenesis, classification, clinical features, diagnosis, and management of Parivartika.

- Aetiopathogenesis, classification, clinical features, diagnosis, and management of Avapatika

References: 1,2,3,4,5,6,7,8

3A	3B	3C	3D	3E	3F	3G
CO1	Describe aetiopathogenesis, classifications, clinical features of Niruddhaprakasha, Parivartika, Avapatika.	1	Lecture	CAN	Knows-how	L&PPT
CO1	Describe investigations and management of Niruddhaprakasha, Parivartika, Avapatika	1	Lecture	CAN	Knows-how	L
CO1	Conduct clinical examination to reach to diagnosis of Niruddhaprakasha, Parivartika, Avapatika	2	Practical Training 14.5	PSY-GUD	Shows-how	LRI,RP,X-Ray,D-BED
CO1	Examine clinically to reach a diagnosis of Niruddhaprakasha, Parivartika, Avapatika	3	Practical Training 14.6	PSY-GUD	Knows-how	D-BED,LRI,RP,X-Ray
CO1	Demonstrate different procedures for the management of Niruddhaprakasha	3	Experiential-Learning 14.4	PSY-ADT	Shows-how	PBL,RP,TBL
CO1	Perform different procedures of management of Parivartika	3	Experiential-Learning 14.5	PSY-ADT	Shows-how	PBL,D-M,TBL

M 14 Unit 5 Uttar Basti

- Uttar Basti
  - Indications,
  - contraindications,
  - procedure and
  - complications of and its management

References: 1,2,3,4,36,37

3A	3B	3C	3D	3E	3F	3G
CO1	Describe indications and contraindications of *Uttar Basti*	1	Lecture	CAN	Knows-how	L
CO1	Describe the procedure and complications of *Uttar Basti*	1	Lecture	CAN	Knows-how	L&PPT,L
CO1	Conduct the pre-procedure of *Uttarbasti*	2	Practical Training 14.7	PSY-GUD	Shows-how	X-Ray,D-BED,LRI,RP
CO1	Demonstrate the procedure of *Uttarbasti*	3	Practical Training 14.8	PSY-GUD	Shows-how	LRI,X-Ray,D-BED
CO1	Perform pre- procedure of *Uttarbasti*	4	Experiential-Learning 14.6	PSY-ADT	Shows-how	PBL,TBL,RP
CO1	Perform procedure of *Uttarbasti*	4	Experiential-Learning 14.7	PSY-ADT	Shows-how	TBL,RP

M 14 Unit 6 Male infertility

- Aetiopathogenesis, investigations, and surgical management of male infertility

References: 1,2,3,4,6,37,38,39,49,67,68,69,70

3A	3B	3C	3D	3E	3F	3G
CO1	Describe investigations to confirm male infertility	1	Lecture	CAN	Knows-how	L&PPT,L

CO1	Describe aetiopathogenesis of male infertility	1	Lecture	CAN	Knows-how	L&PPT
CO1	Illustrate the diagnosis of a case of male infertility	2	Practical Training 14.9	PSY-GUD	Shows-how	X-Ray,D-BED,RP, LRI
CO1	Demonstrate the management of male infertility	3	Experiential-Learning 14.8	PSY-ADT	Shows-how	TBL,PBL ,RP

Practical Training Activity

Practical Training 14.1 : Diagnosis of Ashmari

Activity Details
• Teacher demonstrates systematic clinical examination of a patient presenting with suspected Ashmari (urinary calculus).
• Stepwise guidance on history-taking (pain pattern, urinary symptoms), physical examination (palpation, percussion, tenderness points).
• Teacher highlights diagnostic cues and correlates findings with possible Ashmari diagnosis.
• Students practice the same examination sequence under supervision on standardized patient/simulator.
Teacher's Role
• Demonstrate full clinical examination technique on patient/model.
• Explain clinical significance of each sign during demonstration.
• Supervise students individually while they perform examination steps.
• Correct errors in examination sequence and technique immediately.
Students' Role
• Observe teacher demonstration with focused note-taking on sequence and key findings.
• Perform complete guided examination on patient/simulator step by step.
• Practice palpation/percussion skills and identify tenderness/clinical signs under supervision.
• Summarize diagnostic impressions based on findings.

Practical Training 14.2 : Diagnosis of Ashmari

Activity Details

• Teacher demonstrates clinical examination for Ashmari on patient/simulator.
• Students practice stepwise history and examination under supervision to reach diagnosis.
Teacher's Role
• Demonstrate examination sequence.
• Supervise and correct student performance.
• Emphasize diagnostic cues.
Students' Role
• Observe demonstration.
• Perform examination stepwise.
• Record findings and state probable diagnosis.

Practical Training 14.3 : Diagnosis of Mutraghata

Activity Details
• Teacher demonstrates structured clinical examination for suspected Mutraghata, including history (urinary retention, dribbling, associated pain) and focused physical examination.
• Students practice the same sequence on patient/simulator under guidance to arrive at a probable diagnosis.
Teacher's Role
• Demonstrate complete examination process.
• Highlight diagnostic indicators during each step.
• Supervise and correct students' technique.
Students' Role
• Observe demonstration attentively.
• Perform stepwise examination under supervision.
• Document findings and state probable diagnosis.

Practical Training 14.4 : Diagnosis of *Mutrakrichhra*

Activity Details
• Teacher demonstrates stepwise clinical examination for suspected Mutrakrichhra, covering history (burning micturition, frequency, urgency, hematuria) and physical examination.
• Students practice the same sequence on patient/simulator under guidance to arrive at a probable diagnosis.
Teacher's Role

• Demonstrate history-taking and focused examination.
• Point out diagnostic indicators during steps.
• Supervise and correct students' performance.
Students' Role
• Observe demonstration carefully.
• Perform guided examination on patient/simulator.
• Record findings and state probable diagnosis.

Practical Training 14.5 : Diagnosis of Niruddhaprakasha

Activity Details
• Teacher demonstrates structured clinical examination for Niruddhaprakasha, Parivartika, and Avapatika, including relevant history-taking and focused physical examination steps.
• Students practice the same sequence on patient/simulator under supervision to reach probable diagnosis.
Teacher's Role
• Demonstrate systematic history and examination techniques.
• Highlight distinguishing clinical signs for each condition.
• Supervise and guide students during practice.
Students' Role
• Observe and note demonstration sequence.
• Perform examination stepwise on patient/simulator.
• Record findings and arrive at likely diagnosis.

Practical Training 14.6 : Diagnosis of Parivartika, Avapatika

Activity Details
• Teacher demonstrates complete clinical examination for Niruddhaprakasha, Parivartika, and Avapatika, covering history (onset, urinary symptoms, associated discomfort) and focused physical examination.
• Students, in small groups, practice the examination sequence on patient/simulator under supervision.
• Each group documents findings and presents probable diagnosis.
Teacher's Role
• Demonstrate stepwise history-taking and examination.
• Emphasize key signs differentiating the three conditions.

• Supervise practice, correct techniques, and clarify doubts.
Students' Role
• Observe and note the demonstrated steps.
• Perform guided examinations in groups on patient/simulator.
• Record findings and state likely diagnosis for each condition.

Practical Training 14.7 : pre-procedure of Uttarbasti

Activity Details
• Teacher demonstrates pre-procedure steps of Uttarbasti, including patient preparation, aseptic measures, positioning, selection of instruments, and drug preparation.
• Students practice the same sequence under supervision on models/simulators.
Teacher's Role
• Demonstrate each pre-procedural step systematically.
• Emphasize rationale for asepsis, positioning, and material selection.
• Supervise student practice and correct technique.
Students' Role
• Observe and note sequence of pre-procedure steps.
• Practice preparation and setup on models/simulators.
• Follow aseptic techniques and demonstrate readiness for procedure.

Practical Training 14.8 : Procedre of Uttarbasti

Activity Details
• Teacher demonstrates complete Uttarbasti procedure, including patient positioning, aseptic precautions, catheter/instrument handling, drug instillation, and post-procedure care.
• Students practice the procedure stepwise on models/simulators under supervision until they can perform independently with guidance.
Teacher's Role
• Demonstrate the procedure systematically on model/patient simulator.
• Highlight key precautions, aseptic measures, and clinical significance.
• Supervise, guide, and correct students during hands-on practice.
Students' Role
• Observe the demonstration carefully and note each step.
• Practice the procedure on models/simulators under teacher's supervision.

• Follow aseptic techniques and ensure correct instrument handling.
• Perform post-procedure steps and report observations.
Hands-On Training

- Organize sessions where students practice *Uttarbasti* techniques in cases of urological disorders.
- Conduct training workshops on *Uttarbasti*

Practical Training 14.9 : Diagnosis of male infertility

Activity Details
• Teacher presents a case of suspected male infertility and demonstrates the diagnostic approach, including history (sexual, medical, lifestyle), physical examination (secondary sexual characters, genital examination), and basic investigations (semen analysis overview).
• Students practice guided history-taking and examination steps on standardized patient/simulator, followed by discussion on probable diagnosis.
Teacher's Role
• Demonstrate systematic diagnostic approach.
• Highlight key signs, symptoms, and relevant tests.
• Supervise students during practice and correct technique.
Students' Role
• Observe and note the demonstration sequence.
• Perform guided history-taking and examination on patient/simulator.
• Record findings and discuss probable diagnosis.

Experiential learning Activity

Experiential-Learning 14.1 : Management of Ashmari

Activity Details
• Students are divided into small groups and assigned different Ashmari management procedures (medical, minimally invasive, surgical).
• Each group studies procedure steps through case-based resources and demonstration videos.
• Groups simulate/demonstrate assigned procedure on models/simulators and present workflow to peers.
• Peer-to-peer discussion follows, comparing techniques and clinical applicability.

Teacher’s Role
• Provide structured cases and resources for each procedure.
• Guide students in simulation/demonstration of correct steps.
• Facilitate peer discussion and ensure accuracy of concepts.
Students’ Role
• Collaboratively study assigned procedure.
• Demonstrate steps on model/simulator.
• Present findings and management rationale to peers.
• Engage in peer discussion to compare approaches.

Experiential-Learning 14.2 : Management of Mutraghata

Activity Details
• Students are grouped and assigned different management procedures for Mutraghata (catheterization, bladder wash, surgical options, Basti, uttarbasti).
• Each group studies procedure steps using provided resources and observes demonstration videos/models.
• Groups practice/demonstrate the assigned procedure on models/simulators and explain its clinical use to peers.
• A joint discussion follows comparing different approaches.
Teacher’s Role
• Provide clinical scenarios and resources for each procedure.
• Guide students during simulation and ensure procedural accuracy.
• Facilitate peer discussion and integrate key clinical points.
Students’ Role
• Study and understand their assigned procedure.
• Practice/demonstrate steps on models/simulators.
• Present procedural workflow and its rationale to peers.
• Participate in peer learning through discussion.

- Scholars themselves do different procedures like matrabasti, anuvasan basti, uttarbasti in the management of Mutraghata under the observation of teachers.

Experiential-Learning 14.3 : Management of Mutrakrichhra

Activity Details
• Students are divided into groups and assigned different management procedures for Mutrakrichhra (medical management, palliative measures, catheterization, supportive procedures).
• Each group studies the procedure steps using clinical cases, guidelines, and demonstration models.
• Groups perform simulated demonstration of the assigned procedure on models/simulators and explain indications and precautions to peers.
• Peer discussion follows to compare different approaches.
Teacher's Role
• Provide clinical scenarios and stepwise resources for each procedure.
• Supervise group demonstrations and correct errors.
• Facilitate peer discussion linking procedures to clinical outcomes.
Students' Role
• Study and practice their assigned procedure.
• Demonstrate steps on models/simulators.
• Present clinical use, rationale, and precautions to peers.
• Participate actively in peer discussion.

- Scholars present the cases of Mutrakrichhra in IPD and explain the details to junior scholars independently in the presence of the teacher/faculty.

Experiential-Learning 14.4 : Management of Niruddhaprakasha

Activity Details
• Students are divided into groups and assigned different management procedures for Niruddhaprakasha (e.g., catheterization techniques, surgical approaches, supportive measures).
• Each group studies steps using clinical cases, models, and reference materials.
• Groups practice/demonstrate assigned procedures on models/simulators and explain indications, steps, and precautions to peers.
• Joint peer discussion follows to compare approaches and clinical relevance.
Teacher's Role
• Provide clinical scenarios and stepwise resources.
• Guide and supervise group demonstrations.

• Ensure accuracy of techniques and facilitate peer discussion.
Students' Role
• Study and understand assigned procedure.
• Perform and demonstrate procedure on model/simulator.
• Explain workflow, rationale, and precautions.
• Engage in peer learning through group discussions.

- Scholar is present the cases of *Niruddhaprakasha* in IPD and explain the details to junior scholars independently in presence of teacher/faculty.

Experiential-Learning 14.5 : Management of Parivartika, Avapatika

- Activity Details
  • Students are grouped and assigned procedures for management of Parivartika (e.g., reposition techniques, supportive measures, surgical corrections).
  • Each group reviews procedure steps using case-based resources, models, or simulation videos.
  • Groups practice performing the assigned procedure on models/simulators and present the process with clinical rationale.
  • A collective discussion follows, comparing techniques and their clinical applicability.
  Teacher's Role
  • Provide structured cases and demonstration materials.
  • Guide students during simulation and correct procedural errors.
  • Moderate peer presentations and integrate key clinical insights.
  Students' Role
  • Study and practice their assigned procedure.
  • Perform and demonstrate stepwise management on model/simulator.
  • Explain indications, steps, and precautions to peers.
  • Participate in group discussion to compare management options.

- Scholar is present the cases of *Parivartika, Avapatika* in IPD and explain the details to junior scholars independently in presence of teacher/faculty.
- Perform the circumcission in perivartika (paraphymosis).

Experiential-Learning 14.6 : Uttarbasti-in urinary diseases

Activity Details
• Students are divided into small groups and assigned the task of preparing for Uttarbasti (patient preparation, aseptic setup, selection and sterilization of instruments, drug preparation, and patient positioning).
• Each group performs the pre-procedure steps on models/simulated settings and demonstrates readiness for the actual procedure.
• Groups present workflow and explain the rationale behind each step to peers.
Teacher's Role
• Provide resources, instruments, and simulated environment.
• Observe group performance and guide only when necessary.
• Ensure accuracy of aseptic techniques and procedural sequence.
Students' Role
• Collaboratively perform all pre-procedure steps in a simulated setup.
• Demonstrate correct patient positioning, aseptic preparation, and instrument readiness.
• Present workflow and clinical importance to peers.
• Engage in peer learning through group discussion and feedback.

Experiential-Learning 14.7 : Uttarbasti-in urinary disorders

Activity Details
• Students, in small groups, perform the complete procedure of Uttarbasti in a simulated clinical setup, including aseptic preparation, patient positioning, catheter/instrument handling, drug instillation, and post-procedure care.
• Each group demonstrates the procedure stepwise on models/simulators and explains the rationale for each step to peers.
• A peer-led discussion follows, comparing execution, errors, and improvements.
Teacher's Role
• Provide instruments, models/simulators, and clinical case context.
• Monitor group performance and intervene only to ensure safety/accuracy.
• Facilitate peer discussion and reinforce key procedural principles.
Students' Role
• Collaboratively perform Uttarbasti on models/simulators with proper aseptic techniques.
• Demonstrate and explain each procedural step to peers.

• Reflect on challenges, share insights, and correct errors through peer learning.
• Participate in group discussion on clinical significance and precautions.

Experiential-Learning 14.8 : Management of male infertility

Activity Details
• Students are divided into groups and assigned different management approaches for male infertility (lifestyle modification, medical treatment, surgical interventions, assisted reproductive techniques).
• Each group studies procedure steps/resources and practices simulation/demonstration on models or case scenarios.
• Groups present their assigned management method with indications, workflow, and precautions to peers.
• Peer discussion follows to integrate different management approaches.
Teacher's Role
• Provide clinical cases, models/simulators, and supporting resources.
• Guide and supervise students during practice.
• Ensure correctness of procedural steps and moderate discussion.
Students' Role
• Collaboratively study and practice assigned management approach.
• Demonstrate stepwise procedure or intervention on model/simulator.
• Present rationale, indications, and precautions to peers.
• Engage in peer learning through active discussion.

Modular Assessment

Assessment method	**Hour**
Instruction**:** Conduct a structured Modular assessment. Assessment will be for 50 marks. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment. 1. Theory Open Book Test Conduct theory open book test for 50 marks which will contain either 2 LAQ and 6 SAQ. OR 2. Viva -Take questions from each Units and select 25 questions for the module. 2 marks for each question can be allocated Preparation: Create open-ended questions testing clinical knowledge, procedural steps, and reasoning. Execution: Conduct one-on-one or panel-based interviews. Evaluation: Assess knowledge depth, clarity, and application ability.	4

OR
3. DOPS (Direct Observation of Procedural Skills) – 25 marks for each procedure.
Select any two procedures for the Module Preparation: Identify critical procedures (e.g. *Uttar Basti*, *Matra Basti* etc.) relevant to the module.
Execution: Allow students to perform procedures under observation in a clinical or simulated environment. Observe key steps, technique, and patient interaction.
Evaluation: Evaluate the skill, technique, aseptic methods, and safety adherence followed during the procedure.
OR
4. OSPE (Objective Structured Practical Examination) - 10 stations from the list of practicals can be planned which carries 50 marks
Preparation: Develop multiple stations covering practical and theoretical aspects (e.g., clinical features of *Ashmari* or *Mutraghata*, procedure of *Uttar Basti*, management of complication of *Uttar Basti* etc.).
Execution: Students rotate through stations within a set time frame. Station formats may include tasks, demonstrations, or written responses.
Evaluation: Evaluate based on knowledge, skill performance, communication during the procedure.
OR
5. OSCE (Objective Structured Clinical Examination) - Plan 5 clinical examination stations carrying 50 marks
Preparation: Set up stations mimicking real-life clinical scenarios (e.g., Conduct clinical examination of patient suffering from *Niruddhaprakasha*, scenario of manging complications of procedure like dilatation of prepuce).
Execution: Allow students to demonstrate clinical skills, communication, and decision-making at each station. Provide feedback immediately after the station or during review sessions.
Evaluation: Assess clinical reasoning, procedural accuracy, and patient-centric approach during the task.
OR
Any practical in converted form can be taken for assessment (25 Marks) and
Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)

Semester No : 6

Module 15 : Vrukka, Gavini Evam Bastigat Vyadhi [Diseases of Kidney, Ureter & Urinary Bladder]

Module Learning Objectives
(At the end of the module, the students should be able to)

- Analyze the anatomy of the retroperitoneum, kidney, ureter, and urinary bladder, and apply this knowledge in clinical contexts.

- Apply diagnostic tools to identify diseases of the kidney, ureter, and urinary bladder.
- Perform clinical assessment of patients with urinary disorders involving the kidney, ureter, and urinary bladder.
- Evaluate surgical techniques and methodologies used in procedures related to the kidney, ureter, and urinary bladder.
- Diagnose cases of renal failure and assess the role of dialysis in patient management.

M 15 Unit 1 Applied anatomy & Physiology of urinary system

- Applied anatomy & Physiology of
  - Retroperitoneum,
  - Kidney
  - Ureter,
  - Urinary bladder.

References: 5,7,8,9,10,15,16,31,39,40,44,45,58,61,66,67

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the applied surgical aspect of anatomy and physiology of the Retroperitoneum, Kidney, Ureter, and Urinary bladder	1	Lecture	CC	Knows-how	BS,BL,JC
CO1	Assess anatomy and physiology of the Retroperitoneum, Kidney, Ureter, and Urinary bladder	2	Practical Training 15.1	CE	Shows-how	D-M,L_VC,SIM
CO1	Discuss and demonstrate anatomy and physiology of the retroperitoneum, Kidney, Ureter, and Urinary bladder	3	Experiential-Learning 15.1	PSY-ADT	Does	RP,PBL,TBL

M 15 Unit 2 Anomalies of Kidney and Ureter

- Clinical presentation, investigations and management of
    - Congenital anomalies of Kidney and Ureter
    - Trauma of Kidney and Ureter
    - Infection of Kidney and Ureter &
    - Neoplasm of Kidney and Ureter

References: 7,8,9,10,15,31,39,40,41,44,45

3A	3B	3C	3D	3E	3F	3G
CO4	Describe aetiopathogenesis, classification, clinical features, investigations of Congenital anomalies, Trauma, Infection of Kidney & ureter.	1	Lecture	CC	Knows-how	BL,X-Ray,JC,BS
CO4	Describe aetiopathogenesis, classification, clinical features, investigations of Neoplasm of Kidney & ureter	1	Lecture	CC	Knows-how	BS,X-Ray,BL,JC
CO4	Diagnose Congenital anomalies, Trauma, Infection of Kidney & ureter	2	Practical Training 15.2	PSY-GUD	Shows-how	D-BED,CBL,LRI,X-Ray
CO4	Diagnose Neoplasm of Kidney & ureter	2	Practical Training 15.3	PSY-GUD	Shows-how	CBL,JC,LRI,X-Ray,D-BED
CO4	Demonstrate different procedures for the management of Congenital anomalies, Trauma, Infection & Neoplasm of Kidney & ureter	5	Experiential-Learning 15.2	PSY-ADT	Does	RP,PBL,TBL

M 15 Unit 3 Obstructive Uropathy and Haematuria

- Clinical presentation, investigations and management of
    - Hydronephrosis,
    - Hydroureter,
    - Haematuria

References: 5,8,9,10,15,16,31,39,40,41,42

3A	3B	3C	3D	3E	3F	3G
CO4	Describe clinical examinations to reach to diagnosis of Hydronephrosis, Hydroureter	1	Lecture	CC	Knows-how	BL,BS,JC
CO4	Describe clinical examinations to reach to diagnosis of Haematuria	1	Lecture	CC	Knows-how	BS,BL,JC
CO4	Conduct clinical examinations to reach to diagnosis of Hydronephrosis, Hydroureter, Haematuria	3	Practical Training 15.4	PSY-GUD	Shows-how	D-BED,LRI,X-Ray,CBL,JC
CO4	Demonstrate different procedures for the management of Hydronephrosis, Hydroureter, Haematuria	4	Experiential-Learning 15.3	PSY-ADT	Does	TBL,RP,PrBL

M 15 Unit 4 Renal failure

- Basic knowledge of Renal failure
- Basic knowledge of dialysis

References: 7,8,10,15,16,17,31,39,40,45,59,66,67

3A	3B	3C	3D	3E	3F	3G
CO4	Describe clinical examinations to reach to diagnosis of renal failure	1	Lecture	CAN	Knows-how	BS,BL,JC
CO4	Describe the basic knowledge of dialysis in cases of renal failure	1	Lecture	CAN	Knows-how	BL,JC,BS
CO4	Diagnose renal failure and describe the procedure of dialysis	3	Practical Training 15.5	PSY-GUD	Shows-how	LRI,D-BED,CBL,

						X-Ray
CO4	Manage renal failure and the procedure of dialysis	4	Experiential-Learning 15.4	PSY-ADT	Does	RP,PBL,TBL

M 15 Unit 5 Anomalies of urinary bladder

- Clinical presentation, investigations, and management of
  - Congenital anomalies of the urinary bladder
  - Trauma of the urinary bladder
  - Infection of the urinary bladder &
  - Neoplasm of the urinary bladder

References: 5,8,9,10,11,15,16,31,39,41,45

3A	3B	3C	3D	3E	3F	3G
CO4	Describe aetiopathogenesis, Classification, Clinical features, investigations of Congenital anomalies, Trauma, Infections of the urinary bladder	1	Lecture	CC	Knows-how	BS,JC,BL
CO4	Describe aetiopathogenesis, Classification, Clinical features, investigations of Neoplasms of urinary bladder	1	Lecture	CC	Knows-how	BL,JC,BS
CO4	Diagnose Congenital anomalies, Trauma, Infection & Neoplasm of urinary bladder	3	Practical Training 15.6	PSY-GUD	Shows-how	D-BED,CBL,LRI,X-Ray
CO4	Demonstrate the different procedures for the management of Congenital anomalies, Trauma, Infection & Neoplasm of urinary bladder	4	Experiential-Learning 15.5	PSY-ADT	Does	RP,PBL,TBL

M 15 Unit 6 Urinary system complications

- Clinical presentation, investigations, and management of

- Diverticulum,
- Vesico-vaginal fistula,
- Atony,
- Retention of urine,
- Neurogenic bladder,
- Overactive bladder,
- Cystocele,
- Urinary incontinence.

References: 5,7,8,9,10,13,14,31,32,39,40,45,54

3A	3B	3C	3D	3E	3F	3G
CO4	Describe aetiopathogenesis, Classification, Clinical features, investigations of Diverticulum, Vesico-vaginal fistula, cystocele, Atony, retention of urine, neurogenic bladder, overactive bladder, urinary incontinence.	1	Lecture	CC	Knows-how	BS,BL,JC
CO4	Diagnose Diverticulum, Vesico-vaginal fistula, cystocele of urinary bladder	2	Practical Training 15.7	PSY-GUD	Shows-how	LRI,D-BED,CBL,X-Ray
CO4	Diagnose Atony, retention of urine, neurogenic bladder, overactive bladder, urinary incontinence.	3	Practical Training 15.8	PSY-GUD	Shows-how	CBL,D-BED,LRI,X-Ray
CO4	Demonstrate the different procedures of management of Diverticulum, Vesico-vaginal fistula, cystocele	3	Experiential-Learning 15.6	PSY-ADT	Does	TBL,RP,PBL
CO4	Demonstrate the different procedures for the management of atony, retention of urine, neurogenic bladder, overactive bladder, urinary incontinence.	3	Experiential-Learning 15.7	PSY-ADT	Does	PBL,TBL,RP

Practical Training Activity

Practical Training 15.1 : Anatomy and physiology of the Retroperitoneum, Kidney, Ureter, and Urinary bladder

Activity Details
• The students will engage in a practical dissection session focusing on the retroperitoneum, kidney, ureter, and urinary bladder. Using anatomical models and specimens, the teacher will guide students to identify the structures and relate their anatomy and functions.
• The session will start with a demonstration of the anatomical layout of the retroperitoneum and its surrounding structures. Students will then be given access to cadaveric specimens or anatomical models to closely examine the kidney, ureter, and urinary bladder.
• The teacher will highlight key anatomical landmarks and the relationships between organs within the retroperitoneal space.
• Students will also use diagrams and 3D models to reinforce learning and test their understanding through structured identification and classification tasks.
Teacher's Role
• Begin with a brief introduction to the anatomy of the retroperitoneum, kidney, ureter, and urinary bladder.
• Demonstrate the dissection process, emphasizing key anatomical structures and relationships in the retroperitoneal space.
• Guide students during their practical dissection, answering questions and providing hints to ensure correct identification of structures.
• Provide clarification of the physiological functions of each organ in the context of the overall urinary system.
• Encourage active participation by directing students to inspect and label structures on the models or specimens.
Students' Role
• Actively participate in the dissection, closely observing the anatomical structures in the retroperitoneum, kidney, ureter, and urinary bladder.
• Label key structures on diagrams, models, and specimens, testing their knowledge of the anatomy and function.
• Identify the relationships between the organs within the retroperitoneal space.
• Ask questions to clarify any doubts regarding anatomical details or physiological functions.

Practical Training 15.2 : Clinical examinations of Congenital anomalies, Trauma, Infection of Kidney & ureter.

- Activity Details
  • Students analyze clinical cases with imaging (X-ray, CT, ultrasound) showing kidney and ureter anomalies, trauma, or infection.
  • Guided interpretation of findings to arrive at diagnoses.
  Teacher's Role
  • Present cases with relevant images.
  • Guide diagnostic reasoning and image interpretation.
  • Clarify key clinical and anatomical indicators.
  Students' Role

• Interpret imaging and case data.
• Identify pathology and justify diagnosis.
• Engage in focused group discussion.

Practical Training 15.3 : Diagnosis of Neoplasm of Kidney & ureter

Activity Details
• Students will review clinical cases of suspected kidney and ureter neoplasms using imaging (CT, MRI, ultrasound) and pathology slides.
• They will identify radiological and histological features suggestive of neoplasms and formulate a diagnosis.
Teacher's Role
• Provide case scenarios with imaging and histopathology visuals.
• Guide students through diagnostic criteria and interpretation techniques.
• Highlight distinguishing features of neoplastic conditions.
Students' Role
• Examine provided images and slides.
• Identify key features of neoplasms and suggest a diagnosis.
• Discuss findings and reasoning with peers.

Practical Training 15.4 : Diagnosis of Hydronephrosis, Hydroureter, Haematuria

- Activity Details
  • Students perform supervised clinical examinations on standardized patients or mannequins presenting symptoms of hydronephrosis, hydroureter, and haematuria.
  • They systematically assess relevant signs (palpation, percussion, urine analysis) to reach a diagnosis.
  Teacher's Role
  • Demonstrate clinical examination techniques specific to each condition.
  • Guide students during examinations, correcting technique and prompting diagnostic reasoning.
  • Provide relevant clinical data and assist in interpreting findings.
  Students' Role

• Conduct focused clinical examinations step-by-step.
• Record and interpret signs to form differential diagnoses.
• Discuss findings with the teacher and peers.

- Role plays in understanding, diagnosis, and assessment of patients suffering from Hydronephrosis, Hydroureter, Haematuria

Practical Training 15.5 : Diagnosis of renal failure and and to know the procedure of dialysis

- Activity Details
  • Students analyze clinical cases of renal failure using lab reports, imaging, and patient history to reach a diagnosis.
  • Teacher demonstrates the dialysis procedure using models or videos.
  • Students observe and then practice key steps of dialysis setup on simulation models.
  Teacher's Role
  • Present clinical cases and guide diagnostic reasoning for renal failure.
  • Demonstrate dialysis procedure clearly, emphasizing critical steps and safety.
  • Supervise and assist students during hands-on dialysis simulation.
  Students' Role
  • Interpret clinical data to diagnose renal failure.
  • Observe dialysis demonstration attentively.
  • Practice dialysis setup and procedure on models under guidance.

- Conduct the pre-procedure, procedure, and post-procedure of dialysis in cases of renal failure

Practical Training 15.6 : Diagnosis of Congenital anomalies, Trauma, Infection & Neoplasm of urinary bladder

Activity Details
• Students analyze clinical cases involving congenital anomalies, trauma, infection, and neoplasm of the urinary bladder using imaging (ultrasound, cystoscopy images, X-

rays) and laboratory data.
• They interpret findings to arrive at accurate diagnoses under teacher guidance.
Teacher's Role
• Present diverse clinical cases with relevant imaging and lab reports.
• Guide students in interpreting diagnostic data and correlating clinical features.
• Facilitate focused discussions and clarify diagnostic criteria.
Students' Role
• Review and interpret imaging and lab results.
• Identify pathological features and diagnose bladder conditions.
• Participate actively in case discussions.

Practical Training 15.7 : Diagnosis of Diverticulum, Vesico-vaginal fistula, cystocele.

Activity Details
• Students review clinical cases and imaging (ultrasound, cystography) demonstrating diverticulum, vesico-vaginal fistula, and cystocele.
• They perform guided physical examination techniques on models or standardized patients to identify signs of these conditions.
• Students interpret findings to reach accurate diagnoses.
Teacher's Role
• Present cases with relevant images and clinical data.
• Demonstrate examination techniques specific to each condition.
• Guide students during hands-on examination and assist in interpreting clinical signs.
Students' Role
• Perform focused physical examinations under supervision.
• Analyze imaging and clinical data.
• Diagnose conditions and discuss clinical reasoning.

Practical Training 15.8 : Diagnosis of atony, retention of urine, neurogenic bladder, overactive bladder, urinary incontinence

Activity Details
• Students evaluate clinical cases presenting symptoms of atony, urinary retention, neurogenic bladder, overactive bladder, and urinary incontinence using patient history, physical examination, and diagnostic tests (urodynamics, ultrasound).
• They perform guided bladder examination techniques and interpret diagnostic data to reach a diagnosis.
Teacher's Role

• Present clinical scenarios with relevant diagnostic results.
• Demonstrate bladder examination and urodynamic interpretation.
• Guide students during physical exams and data analysis.
Students' Role
• Conduct focused bladder examinations under supervision.
• Interpret diagnostic tests and clinical findings.
• Diagnose conditions and discuss differential diagnoses.

- LRI (Lab Report Interpretation) in understanding and assessment of patients suffering from atony, retention of urine, neurogenic bladder, overactive bladder, urinary incontinence.
- RRI (Radiological Report Interpretation) in understanding and assessment of patients suffering from atony, retention of urine, neurogenic bladder, overactive bladder, urinary incontinence.

Experiential learning Activity

Experiential-Learning 15.1 : Demonstartion of anatomy of Retroperitoneum, Kidney, Ureter, and Urinary bladder

Activity Details
• In small groups, students will dissect models or manipulate specimens of the retroperitoneum, kidney, ureter, and urinary bladder. They will identify structures, discuss their anatomy and physiology, and explore their functional adaptations.
• Groups will present their findings, demonstrating the identified structures and explaining their relationships and physiological roles.
Teacher's Role
• Guide students on dissection/model manipulation and ensure correct identification of structures.
• Prompt discussion on anatomical adaptations and offer clarification during group work.
• Support group presentations and help link anatomy to physiology.
Students' Role
• Dissect or manipulate models, identify structures, and discuss anatomical and functional relationships.
• Present findings, demonstrating structures and explaining their functions and adaptations.

Experiential-Learning 15.2 : Management of Congenital anomalies, Trauma, Infection & Neoplasm of Kidney & ureter

- Activity Details
  • In simulation stations, students rotate through 4 clinical scenarios: congenital anomalies, trauma, infection, and neoplasm of the kidney & ureter.
  • At each station, they perform or simulate relevant procedures (e.g., catheterization, interpretation of nephrostomy setup, basic surgical steps on models).
  • Each group presents their station's procedure, explaining indications, steps, and rationale.
  Teacher's Role
  • Set up simulation stations with appropriate models and procedure kits.
  • Brief each group, observe techniques, and guide correct procedural steps.
  • Facilitate post-rotation discussion to reinforce key learning points.
  Students' Role
  • Perform or simulate clinical procedures related to each condition.
  • Discuss procedural indications and demonstrate technique.
  • Present and explain assigned procedure to peers.

- Scholar correlate the changes in laboratory and radiological investigations to confirm the severity and chronicity of the disease of the Kidney and ureter.

Experiential-Learning 15.3 : Management of Hydronephrosis, Hydroureter, Haematuria

- Activity Details
  • Students rotate through simulation stations practicing procedures for managing hydronephrosis, hydroureter, and haematuria (e.g., catheter insertion, nephrostomy simulation, bladder irrigation).
  • Each group discusses the indications, steps, and precautions for each procedure.
  • Groups demonstrate and explain the procedures to peers.
  Teacher's Role
  • Prepare simulation stations with models and necessary materials.
  • Observe and guide students during procedure practice.

• Facilitate group discussions linking procedures to clinical management.
Students' Role
• Practice and demonstrate management procedures on models.
• Discuss clinical indications and technique details.
• Present and explain procedures to classmates.

- Scholar is present the cases of Hydronephrosis, Hydroureter, Haematuria in IPD and explains the details to junior scholars independently in the presence of the teacher/faculty.

Experiential-Learning 15.4 : Management of renal failure and procedure of dialysis

Activity Details
• Students engage in hands-on simulation of renal failure management, including initiating and performing dialysis on models or simulators.
• They work in groups to plan patient management, perform dialysis setup, and troubleshoot common complications.
• Groups present their management plans and demonstrate the dialysis procedure.
Teacher's Role
• Set up simulation stations with dialysis equipment and patient scenarios.
• Facilitate group activities, guide procedure practice, and prompt critical thinking on management decisions.
• Provide feedback during presentations and demonstrations.
Students' Role
• Collaborate to develop management plans for renal failure.
• Perform dialysis procedures on simulators, practicing technical and safety skills.
• Present their management approach and demonstrate dialysis techniques.

- Scholar is present the cases of Renal failure in IPD and explain the details to junior scholars independently in the presence of the teacher/faculty.

Experiential-Learning 15.5 : Management of Congenital anomalies, Trauma, Infection & Neoplasm of urinary bladder disorders

Activity Details
• Students rotate through simulation stations to practice management procedures for congenital anomalies, trauma, infection, and neoplasm of the urinary bladder (e.g., catheterization, cystoscopy simulation, wound care).
• They discuss indications, techniques, and precautions for each procedure and collaboratively develop management plans.
• Groups present their procedures and management rationale to peers.
Teacher's Role
• Set up simulation stations with necessary models and equipment.
• Facilitate and guide students during procedure practice and discussions.
• Encourage critical thinking and ensure correct procedural techniques.
Students' Role
• Perform management procedures on simulators or models.
• Discuss clinical indications and technical steps with peers.
• Present management strategies and demonstrate procedures.

- Scholars correlate the changes in laboratory and radiological investigations to confirm the severity and chronicity of the above-mentioned diseases.
- Scholar presents the cases of the above-mentioned urinary bladder disorders in IPD and explain the details to junior scholars independently in the presence of the teacher/faculty.

Experiential-Learning 15.6 : Management of Diverticulum, Vesico-vaginal fistula, cystocele

Activity Details
• Students practice management procedures for diverticulum, vesico-vaginal fistula, and cystocele at simulation stations (e.g., catheterization, fistula repair techniques on models, pelvic floor exercises).
• Groups discuss indications, procedural steps, and patient care considerations.
• Each group demonstrates and explains the procedures to peers.
Teacher's Role
• Set up simulation stations with relevant models and materials.
• Guide students during hands-on practice and facilitate discussions on management principles.
• Ensure correct technique and safety during procedures.

Students' Role
• Perform procedures on simulation models.
• Discuss clinical indications and management strategies.
• Present and demonstrate procedures to classmates.

Experiential-Learning 15.7 : Management of atony, retention of urine, neurogenic bladder, overactive bladder, urinary incontinence.

Activity Details
• Students rotate through simulation stations practicing management procedures for atony, urinary retention, neurogenic bladder, overactive bladder, and urinary incontinence (e.g., catheterization, bladder training exercises, intermittent self-catheterization techniques).
• Groups discuss indications, techniques, and patient care considerations for each management method.
• Each group demonstrates procedures and explains management plans to peers.
Teacher's Role
• Prepare simulation stations with models and materials.
• Facilitate hands-on practice, guide proper technique, and encourage clinical reasoning.
• Support group discussions and presentations.
Students' Role
• Practice management procedures on models or simulators.
• Collaborate to discuss clinical indications and management strategies.
• Demonstrate and explain procedures to peers.

- Scholar is present the cases of above-mentioned diseases in IPD and explains the details to junior scholars independently in the presence of teacher/faculty.
- Scholar perform procedures like urethral catheterization, suprapubic catheterization in the above cases.

Modular Assessment

Assessment method	**Hour**
Instruction: Conduct a structured Modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Keep a record of the structured pattern used for assessment. Calculate the Modular grade point as per Table 6 C. Select any one or two methods for the assessment. 1. Theory Open Book Test	4

Conduct a theory open-book test for 50 marks, which will contain either 2 LAQ and 6 SAQ. OR 2. Practical Roleplay: (25 marks for presentation & 25 marks for evaluation) Preparation: Create clinical scenarios related to the module (e.g, case of renal failure and peritoneal dialysis procedures for the patient, etc.) and provide clear instructions for the roles and expected outcomes. Execution: Divide students into groups, assign roles related to the Mock assessment of the physical condition of the patient, preoperative assessment, procedure of dialysis, and postoperative care, etc Evaluation: Assess skills like communication, problem-solving, and teamwork. OR 3. Viva -Take questions from each unit and select 25 questions for the module. 2 marks for each question can be allocated Preparation: Create open-ended questions testing clinical knowledge, procedural steps, and reasoning. Execution: Conduct one-on-one or panel-based interviews. Evaluation: Assess knowledge depth, clarity, and application ability. OR 4. OSPE (Objective Structured Practical Examination) - 10 stations from the list of practicals can be planned, which carry 50 marks Preparation: Develop multiple stations covering practical and theoretical aspects (e.g., clinical features of hydronephrosis or hydroureter, interpretation of investigations in case of renal failure, clinical examinations of vesicle diverticulum, etc.). Execution: Students rotate through stations within a set time frame. Station formats may include tasks, demonstrations, or written responses. Evaluation: Evaluate based on knowledge, skill performance, and communication during the procedure. OR 5. OSCE (Objective Structured Clinical Examination) - Plan 5 clinical examination stations carrying 50 marks Preparation: Set up stations mimicking real-life clinical scenarios (e.g., Diagnosing haematuria, conducting a clinical examination of a patient with congenital anomalies of the bladder, catheterization in case of incontinence of the urinary bladder, etc.). Execution: Allow students to demonstrate clinical skills, communication, and decision-making at each station. Provide feedback immediately after the station or during review sessions. Evaluation: Assess clinical reasoning, procedural accuracy, and patient-centric approach during the task. OR Any practical in converted form can be taken for assessment (25 Marks) and Any Experiential Learning, such as portfolio/reflections/presentations, can be taken as an assessment. (25 Marks)	

Module 16 : Paurushgranthi, Shishna Evam Mutramargagat Vyadhi [Diseases of Prostate, Penis & Urethra]

Module Learning Objectives
(At the end of the module, the students should be able to)

- Analyze the anatomy of the prostate, penis, and urethra, and apply this knowledge in clinical contexts.
- Apply diagnostic tools to identify diseases of the prostate, penis, and urethra.
- Perform clinical assessment of patients with urinary disorders involving the prostate, penis, and urethra.
- Evaluate surgical techniques and methodologies used in procedures related to the prostate, penis, and urethra.

M 16 Unit 1 Applied anatomy & Physiology of urinary system

- Applied Anatomy & Physiology of
  - Prostate.
  - Penis.
  - Urethra

References: 5,7,8,9,10,11,15,16,17,31,39,40,54,55,58,59

3A	3B	3C	3D	3E	3F	3G
CO4	Describe the applied surgical aspect of anatomy and physiology of Prostate, Penis & Urethra	1	Lecture	CC	Knows-how	BL,BS,JC
CO4	Assess anatomy and physiology of Prostate, Penis & Urethra	2	Practical Training 16.1	CE	Shows-how	X-Ray,LRI,D-BED,JC,CB

						L
CO4	Illustrate applied surgical aspect of anatomy and physiology of Prostate, Penis & Urethra	3	Experiential-Learning 16.1	CAP	Does	TBL,PBL,RP

M 16 Unit 2 Anomalies & Disorders of prostate

- Clinical presentation, investigations, and management of
  - Congenital anomalies of the prostate
  - Trauma of the prostate
  - Infection of the prostate
  - Neoplasm of prostate (BPH & Ca. Prostate)

References: 5,7,8,9,15,16,31,39,45,54,57,59

3A	3B	3C	3D	3E	3F	3G
CO4	Describe aetiopathogenesis, Classification, Clinical features, investigations of Congenital anomalies, Trauma, Infection of Prostate	1	Lecture	CC	Knows-how	BL,BS,JC
CO4	Describe aetiopathogenesis, Classification, Clinical features, investigations of Neoplasm of Prostate (BPH & Ca. Prostate)	1	Lecture	CC	Knows-how	JC,BS
CO4	Diagnose congenital anomalies, Trauma, Infection of Prostate gland	2	Practical Training 16.2	PSY-GUD	Shows-how	CBL,D-BED,X-Ray,LRI,RP
CO4	Diagnose Neoplasm of Prostate (BPH & Ca. Prostate)	2	Practical Training 16.3	PSY-GUD	Shows-how	JC,D-BED,LRI,CBL,X-Ray
CO4	Demonstrate different procedures for the management of Congenital anomalies, Trauma, and Infection of Prostate gland	3	Experiential-Learning 16.2	PSY-ADT	Does	PBL,TBL,RP

CO4	Demonstrate different procedures for the management of Neoplasm of Prostate (BPH & Ca. Prostate)	3	Experiential-Learning 16.3	PSY-ADT	Does	PBL,RP,TBL

M 16 Unit 3 Prostatitis

- Clinical presentation, investigations, and management of
  - Prostatitis.
  - Prostatic abscess.
  - Prostatic Calculi
  - Ejaculatory duct obstruction (EDO)

References: 1,5,7,8

3A	3B	3C	3D	3E	3F	3G
CO4	Describe aetiopathogenesis, Classification, Clinical features, investigations of prostatic abscess, calculi and ejaculatory duct obstruction (EDO)	1	Lecture	CC	Knows-how	BS,BL,JC
CO4	Diagnose Prostatic abscess, calculi and ejaculatory duct obstruction (EDO)	2	Practical Training 16.4	PSY-GUD	Shows-how	JC,X-Ray,LRI,CBL,D-BED
CO4	Demonstrate different procedures for the management of prostatic abscess, calculi and ejaculatory duct obstruction (EDO)	3	Experiential-Learning 16.4	PSY-ADT	Does	RP,TBL,PBL

M 16 Unit 4 Anomalies & Disorders of penis

- Clinical presentation, investigations, and management of
  - Congenital anomalies of *Shisna.*
  - Trauma of *Shisna*
  - Infection of *Shisna*
  - *Lingaarsha*

- Neoplasm of *Shisna* (Ca. Penis)

References: 1,2,3,4,5,6,8,15,16,31,32,36,44,45,54,66

3A	3B	3C	3D	3E	3F	3G
CO4	Describe aetiopathogenesis, Classification, Clinical features, investigations of Congenital anomalies, Trauma, Infection of penis.	1	Lecture	CAN	Knows-how	JC,BL,BS
CO4	Diagnose Congenital anomalies, Trauma, Infection, *Lingaarsha* and Neoplasm of penis (Ca. Penis)	2	Practical Training 16.5	PSY-GUD	Shows-how	LRI,D-BED,JC,CBL,X-Ray
CO4	Demonstrate different procedures for the management of Congenital anomalies, Trauma, Infection, *Lingaarsha* and Neoplasm of penis (Ca. Penis)	3	Experiential-Learning 16.5	PSY-ADT	Does	TBL,RP,PBL
CO4	Describe aetiopathogenesis, Classification, Clinical features, investigations of Neoplasm (Lingaarsha of Shisna and Ca. Penis)	1	Lecture	CC	Knows-how	BS,BL,JC

M 16 Unit 5 Phimosis and Paraphimosis

- Clinical presentation, investigations, and management of
  - Niruddhaprakash (Phimosis)
  - Parivartika (Paraphimosis)
  - Avapatika (Preputial ulcer)
  - Priapism
  - Erectile dysfunction
  - Chordee
  - Penile fracture.

References:

3A	3B	3C	3D	3E	3F	3G
CO4	Describe aetiopathogenesis, Classification, Clinical features, investigations of phimosis, paraphimosis	1	Lecture	CC	Knows-how	JC,BS,BL
CO4	Describe aetiopathogenesis, Classification, Clinical features, investigations of Prepuceal ulcer, Priapism, Erectile dysfunction, Chordee, Penile fracture	1	Lecture	CC	Knows-how	JC,BL,BS
CO4	Diagnose of Phimosis, Paraphimosis	3	Practical Training 16.6	PSY-GUD	Shows-how	D-BED,CBL,X-Ray,LRI
CO4	Diagnose Prepuseal ulcer, Priapism, Erectile dysfunction, Chordee, Penile fracture	3	Practical Training 16.7	PSY-GUD	Shows-how	D-BED,LRI,CBL,X-Ray,JC
CO4	Demonstrate different procedures for the management of Phimosis and Paraphimosis	3	Experiential-Learning 16.6	PSY-ADT	Does	RP,TBL,PBL
CO4	Demonstrate different procedures for the management of Prepuceal ulcer, Priapism, Erectile dysfunction, Chordee, Penile fracture	2	Experiential-Learning 16.7	PSY-ADT	Does	RP,TBL,PBL

M 16 Unit 6 Anomalies & Disorders of Urethra

- Clinical presentation, investigations, and management of
  - Hypospadias,
  - Epispadias,
  - urethral stricture,
  - meatal stenosis,
  - urethrocutaneous fistula

References: 7,8,10,31,32,41,45,54

3A	3B	3C	3D	3E	3F	3G
CO4	Describe aetiopathogenesis, Classification, Clinical features, investigations of Hypospadias, Epispadias	1	Lecture	CC	Knows-how	BS,JC
CO4	Describe aetiopathogenesis, Classification, Clinical features, investigations of urethral stricture, meatal stenosis, urethro-cutaneous fistula	1	Lecture	CC	Knows-how	BS,BL,JC
CO4	Diagnose Hypospadias, Epispadias	2	Practical Training 16.8	PSY-GUD	Shows-how	D-BED,CBL,JC,X-Ray,LRI
CO4	Diagnose urethral stricture, meatal stenosis, urethro-cutaneous fistula	2	Practical Training 16.9	PSY-GUD	Shows-how	X-Ray,CBL,LRI,D-BED,JC
CO4	Demonstrate different procedures for the management of Hypospadias, Epispadias	3	Experiential-Learning 16.8	PSY-ADT	Shows-how	TBL,RP,PBL
CO4	Demonstrate different procedures for the management of urethral stricture, meatal stenosis, urethro-cutaneous fistula	3	Experiential-Learning 16.9	PSY-ADT	Shows-how	TBL,RP,PBL

Practical Training Activity

Practical Training 16.1 : Anatomy and physiology of Prostate, Penis & Urethra

Activity Details
• Demonstration on anatomical models and prosections of prostate, penis, and urethra.
• Guided identification of structures on models and histological slides.
• Lab-based interpretation of normal physiology using diagrams and clinical correlation cases.
Teacher’s Role
• Demonstrate stepwise anatomy on prosections/models with focused explanations.
• Present diagrams/animations to illustrate physiology.

• Guide students through case-based questioning linking structure with function.
Students' Role
• Actively identify labeled parts on models/prosections.
• Interpret histological slides and correlate with functional aspects.
• Participate in case diagnosis discussions to apply anatomical and physiological understanding.

Practical Training 16.2 : Diagnosis of congenital anomalies, Trauma, Infection of Prostate gland

Activity Details
• Demonstration of clinical cases, radiographs, and model-based illustrations of prostate anomalies, trauma, and infections.
• Guided practice of diagnostic approach using case diagnosis and X-ray identification.
• Group-based interpretation of clinical signs and imaging findings.
Teacher's Role
• Demonstrate stepwise diagnostic process using selected case examples.
• Guide students in identifying pathological changes on X-rays and clinical scenarios.
• Provide structured prompts during group discussions.
Students' Role
• Observe diagnostic demonstration and replicate steps under guidance.
• Perform X-ray identification and note distinguishing features.
• Discuss differential diagnosis in small groups based on presented cases.

Practical Training 16.3 : Diagnosis of Neoplasm of Prostate (BPH & Ca. Prostate)

Activity Details
• Demonstration of clinical features, digital rectal examination (DRE) technique on models/patients, and interpretation of radiology/lab reports in cases of BPH and carcinoma prostate.
• Guided group work on identifying diagnostic clues from patient case notes and imaging.
• Structured discussion on differentiating BPH and Ca. Prostate.
Teacher's Role
• Demonstrate DRE steps using model/simulation.
• Present case notes, PSA reports, and imaging for guided interpretation.
• Lead structured discussion highlighting distinguishing features.
Students' Role

• Practice DRE on models under supervision.
• Interpret PSA values, X-ray/USG/MRI findings in guided groups.
• Present diagnostic reasoning distinguishing BPH from Ca. Prostate.

Practical Training 16.4 : Diagnosis of Prostatic abscess, calculi and ejaculatory duct obstruction (EDO)

Activity Details
• Demonstration of diagnostic workflow for prostatic abscess, calculi, and ejaculatory duct obstruction using case notes and clinical findings.
• Guided identification of radiological features (USG, MRI, X-ray, TRUS images).
• Stepwise interpretation of lab reports and correlation with symptoms.
• Small-group case diagnosis exercises under teacher supervision.
Teacher's Role
• Demonstrate diagnostic approach with clinical cases and imaging.
• Highlight key differentiating features among abscess, calculi, and EDO.
• Supervise and guide group discussions with structured prompts.
Students' Role
• Observe and practice diagnostic reasoning using provided case materials.
• Identify pathology on radiological images under guidance.
• Participate in small-group diagnosis tasks and present conclusions.

Practical Training 16.5 : diagnosis of Congenital anomalies, Trauma, Infection *Lingaarsha* and Neoplasm of *Shisna* (Ca. Penis)

Activity Details
• Demonstration of clinical cases, photographs, and models showing congenital anomalies, penile trauma, infections, lingaarsha, and carcinoma penis.
• Guided identification of pathological features on X-ray, MRI, and histopathology slides.
• Stepwise case diagnosis practice in small groups with teacher supervision.
Teacher's Role
• Demonstrate diagnostic features using real/virtual cases and models.
• Highlight differentiating signs for trauma, infections, lingaarsha, and carcinoma penis.
• Provide structured prompts during guided case diagnosis and imaging review.
Students' Role
• Observe diagnostic demonstrations and replicate reasoning under guidance.
• Identify abnormalities in imaging and histopathology slides.

• Work in small groups to practice diagnostic steps and present findings.

Practical Training 16.6 : Diagnosis of Phimosis, Paraphimosis

Activity Details
• Demonstration of clinical features of phimosis and paraphimosis using models, clinical images, and case vignettes.
• Guided practice of diagnostic reasoning with case-based discussions.
• Identification of differential diagnoses and complications through small-group tasks.
• Review of imaging and lab reports (if indicated) to support diagnosis.
Teacher's Role
• Demonstrate diagnostic signs on models/clinical photos with stepwise explanation.
• Present case notes and guide students through structured diagnostic reasoning.
• Supervise group tasks and highlight key differentiating features between phimosis and paraphimosis.
Students' Role
• Observe diagnostic demonstration and replicate reasoning under guidance.
• Identify characteristic findings in models, cases, and clinical photos.
• Work in groups to analyze case vignettes, suggest differential diagnoses, and present conclusions.

Practical Training 16.7 : Diagnosis of Prepuseal ulcer, Priapism, Erectile dysfunction, Chordee, Penile fracture

Activity Details
• Demonstration of clinical features of preputial ulcer, priapism, erectile dysfunction, chordee, and penile fracture using clinical photos, case vignettes, and models.
• Guided identification of diagnostic clues from history, physical findings, and imaging (X-ray, MRI, Doppler).
• Small-group case diagnosis tasks to differentiate between conditions and outline complications.
• Structured discussion on correlating anatomical basis with clinical presentations.
Teacher's Role
• Demonstrate diagnostic features stepwise with cases, models, and images.
• Provide structured prompts to guide diagnostic reasoning.
• Supervise small-group discussions and clarify key differentiating signs.
Students' Role
• Observe diagnostic demonstrations and practice guided reasoning.
• Identify pathology using clinical photos, case vignettes, and imaging.
• Collaborate in groups to analyze cases, discuss differential diagnoses, and present findings.

Practical Training 16.8 : Diagnosis of Hypospadias, Epispadias

Activity Details
• Demonstration of hypospadias and epispadias features using anatomical models, clinical images, and case vignettes.
• Guided identification of external anatomical landmarks and classification (types of hypospadias, epispadias variants).
• Small-group practice in diagnosing case scenarios with structured prompts.
• Discussion of complications and differentiating features between the two anomalies.
Teacher's Role
• Demonstrate diagnostic features stepwise on models and images.
• Present case notes with history and findings for guided reasoning.
• Supervise small-group discussions and ensure correct classification.
Students' Role
• Observe demonstration and replicate diagnostic reasoning under guidance.
• Identify abnormalities on models, images, and case notes.
• Work in groups to analyze cases, classify condition type, and present findings.

Practical Training 16.9 : Diagnosis of urethral stricture, meatal stenosis, urethra-cutaneous fistula

Activity Details
• Demonstration of clinical features of urethral stricture, meatal stenosis, and urethro-cutaneous fistula using models, clinical photos, and case vignettes.
• Guided identification of diagnostic clues from history (straining, poor stream, recurrent infections) and examination findings.
• Interpretation of radiological investigations (MCU, retrograde urethrogram) under teacher guidance.
• Small-group case diagnosis exercises with structured prompts.
Teacher's Role
• Demonstrate diagnostic approach stepwise with models, case notes, and imaging.
• Highlight differentiating features between stricture, stenosis, and fistula.
• Supervise group discussions, correcting misconceptions during case work-up.
Students' Role
• Observe demonstrations and practice diagnostic reasoning in guided steps.
• Identify pathology on imaging studies and correlate with history/exam findings.
• Work in groups to analyze cases, suggest diagnosis, and present conclusions.

Experiential learning Activity

Experiential-Learning 16.1 : Demonstartion of anatomy and physiology of Prostate, Penis & Urethra

Activity Details
• Small groups work on clinical case scenarios involving prostate, penis, and urethral pathologies requiring surgical intervention.
• Students map surgical relevance by illustrating anatomical landmarks and physiological considerations on models/diagrams.
• Peer presentations of findings with emphasis on surgical approaches and complications.
Teacher's Role
• Provide authentic case scenarios highlighting surgical relevance.
• Facilitate group inquiry and guide with probing questions.
• Clarify misconceptions during peer presentations.
Students' Role
• Analyze case scenarios and extract surgical anatomy implications.
• Illustrate anatomical and physiological details relevant to surgical procedures.
• Present group outputs and engage in peer discussion.

Experiential-Learning 16.2 : The management of Congenital anomalies, Trauma, and Infection of the Prostate gland

Activity Details
• Students rotate in small groups through simulated stations:
– Station 1: Model-based demonstration of corrective procedures for congenital anomalies.
– Station 2: Simulation of emergency steps in prostate trauma management.
– Station 3: Case-based exercise for infection management protocols (antibiotics, drainage).
• Each group practices procedures under supervision and later presents their approach to peers.
Teacher's Role
• Set up simulation models and clinical case stations.
• Supervise procedural demonstrations, ensuring accuracy and safety.
• Guide reflection and clarify surgical principles during group presentations.
Students' Role
• Perform guided procedural steps at each station.
• Collaborate in teams to solve case-based management tasks.
• Present procedural flow and justify clinical decisions to peers.

Experiential-Learning 16.3 : Management of Neoplasm of Prostate (BPH & Ca. Prostate)

Activity Details
• Students are divided into small groups and rotated through three interactive stations:
– Station 1: Simulation on models for TURP procedure in BPH.
– Station 2: Case-based activity on surgical approaches for carcinoma prostate (e.g., radical prostatectomy, radiotherapy planning).
– Station 3: Lab report and imaging interpretation (PSA, biopsy, MRI) with management decision-making.
• Groups perform procedural steps, analyze cases, and present management plans to peers.
Teacher's Role
• Organize and facilitate simulation stations with models, imaging, and case scenarios.
• Provide guided supervision during student-led demonstrations.
• Clarify surgical indications, complications, and decision-making principles.
Students' Role
• Perform simulated surgical/diagnostic procedures on models.
• Interpret lab and imaging findings to plan appropriate management.
• Collaborate and present group outputs, highlighting differences between BPH and Ca. prostate management.

Experiential-Learning 16.4 : Management of Prostatic abscess, calculi and ejaculatory duct obstruction (EDO)

- Activity Details
  • Students rotate in groups across simulation/case-based stations:
  – Station 1: Simulation of transurethral drainage procedure for prostatic abscess on models.
  – Station 2: Demonstration and guided practice of endoscopic/operative approaches for prostatic calculi removal.
  – Station 3: Case-based exercise for diagnosis and management of ejaculatory duct obstruction (EDO) using imaging, lab findings, and surgical options (e.g., TURED).
  • Groups practice procedures, interpret cases, and present management plans to peers.
  Teacher's Role
  • Set up models, simulations, and case scenarios at each station.
  • Supervise procedural demonstrations ensuring accuracy and safety.
  • Provide clarifications on surgical principles and complications during peer-led presentations.
  Students' Role

• Perform simulated/guided procedures at each station.
• Interpret imaging and lab findings to decide appropriate management.
• Collaborate in teams to prepare and present management flow.

- Scholar present the cases of above mentioned diseases in IPD and explain the details to junior scholars independently in the presence of teacher/faculty.

Experiential-Learning 16.5 : Management of Congenital anomalies, Trauma, Infection *Lingaarsha* and Neoplasm of *Shisna* (Ca. Penis)

Activity Details
• Students are divided into groups and rotated through 4 simulation/case-based stations:
– Station 1 (Congenital anomalies): Model-based demonstration and guided practice of corrective surgical steps (e.g., hypospadias repair).
– Station 2 (Trauma): Simulation of emergency management protocols for penile trauma with role-play of surgical decision-making.
– Station 3 (Infection & Lingaarsha): Case-based group exercise for diagnosis and stepwise treatment (antibiotics, drainage, excision).
– Station 4 (Neoplasm – Ca. Penis): Case scenario with imaging, biopsy report, and surgical management planning (partial/total penectomy, lymph node dissection).
• Groups perform tasks, discuss approaches, and present management plans to peers.
Teacher's Role
• Organize simulation setups, models, case scenarios, and imaging materials.
• Supervise procedural demonstrations, ensuring accurate technique and safe practice.
• Guide group reflections, correct misconceptions, and emphasize clinical relevance.
Students' Role
• Perform simulated/guided surgical procedures on models or case-based scenarios.
• Interpret clinical, imaging, and lab data to plan management.
• Collaborate within teams and present management protocols with justification.

Experiential-Learning 16.6 : Management of Phimosis and Paraphimosis

Activity Details
• Students are divided into groups and rotated through 3 simulation/case-based stations:
– Station 1 (Phimosis): Practice of dorsal slit and circumcision steps on anatomical models.
– Station 2 (Paraphimosis): Simulation of manual reduction techniques followed by surgical correction on models.

– Station 3 (Case-based): Management planning using patient scenarios, including indications, complications, and postoperative care.
• Groups practice procedures, record steps, and present management approaches to peers.
Teacher's Role
• Prepare simulation models and case scenarios.
• Supervise procedural demonstrations, ensuring correct technique and aseptic principles.
• Guide reflective discussion, clarifying indications, contraindications, and surgical principles.
Students' Role
• Perform simulated surgical steps for phimosis and paraphimosis on models.
• Work in teams to analyze case scenarios and prepare management plans.
• Present procedural flow and justify chosen techniques in peer discussion.

Experiential-Learning 16.7 : Management of Prepuseal ulcer, Priapism, Erectile dysfunction, Chordee, Penile fracture

Activity Details
• Students are divided into groups and rotate through 5 focused stations:
– Station 1 (Preputial ulcer): Case-based activity on diagnosis and management (local care, biopsy, antibiotics).
– Station 2 (Priapism): Simulation of emergency management steps (aspiration, irrigation, intracavernosal drugs).
– Station 3 (Erectile dysfunction): Case analysis of history, lab findings, and treatment planning (medical/surgical).
– Station 4 (Chordee): Model-based demonstration and guided practice of corrective surgical techniques.
– Station 5 (Penile fracture): Simulation-based emergency repair planning with case discussion.
• Each group performs tasks, documents steps, and presents their management approach.
Teacher's Role
• Set up simulation models, case scenarios, and supportive imaging/lab data.
• Supervise procedural demonstrations ensuring technical accuracy.
• Clarify management principles, highlight complications, and guide peer feedback.
Students' Role
• Perform simulated or guided management steps on models/cases.
• Interpret case notes, labs, and imaging to justify management strategies.
• Collaborate in teams to present management plans and engage in peer discussion.

Experiential-Learning 16.8 : Management of Hypospadias, Epispadias

- Activity Details

• Students are divided into groups and rotated through 3 focused stations:
– Station 1 (Hypospadias): Simulation on models for surgical correction steps (e.g., urethroplasty techniques, chordee correction).
– Station 2 (Epispadias): Demonstration and guided practice of reconstructive approaches on models/diagrams.
– Station 3 (Case-based): Group analysis of patient scenarios, including surgical indications, procedure selection, and postoperative care.
• Groups perform tasks, document procedural flow, and present management strategies to peers.

Teacher's Role

• Prepare models, surgical simulation tools, and case scenarios.
• Supervise procedural demonstrations, ensuring accuracy of technique.
• Clarify surgical principles, complications, and decision-making during group discussions.

Students' Role

• Perform simulated/guided surgical steps for hypospadias and epispadias repair on models.
• Work in teams to analyze case vignettes and decide appropriate management.
• Present procedural steps and justify chosen surgical techniques in peer sessions.

Experiential-Learning 16.9 : Management of urethral stricture, meatal stenosis, urethro-cutaneous fistula

Activity Details

• Students rotate in groups through 3 focused stations:
– Station 1 (Urethral Stricture): Simulation on models for dilation, visual internal urethrotomy (VIU), and surgical options.
– Station 2 (Meatal Stenosis): Demonstration and guided practice of meatotomy/meatoplasty on anatomical models.
– Station 3 (Urethro-cutaneous Fistula): Case-based activity with models and clinical vignettes for surgical closure techniques and postoperative considerations.
• Each group performs the simulated steps, records procedure flow, and presents management plans to peers.

Teacher's Role

• Organize simulation models, case scenarios, and procedural kits.
• Supervise students' performance at each station, correcting technique where needed.
• Facilitate peer presentations, emphasizing principles, indications, and complications.

Students' Role

• Perform simulated procedures on models with stepwise adaptation.
• Work collaboratively to interpret case details and select appropriate management strategies.

• Present procedural steps and defend chosen approaches during group discussion.

Modular Assessment

Assessment method	Hour
Instruction: Conduct a structured Modular assessment. Assessment will be for 50 marks. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment. 1. Theory Open Book Test Conduct theory open book test for 50 marks which will contain either 2 LAQ and 6 SAQ. OR 2. Viva -Take questions from each Units and select 25 questions for the module. 2 marks for each question can be allocated Preparation: Create open-ended questions testing clinical knowledge, procedural steps, and reasoning. Execution: Conduct one-on-one or panel-based interviews. Evaluation: Assess knowledge depth, clarity, and application ability. OR 3. DOPS (Direct Observation of Procedural Skills) - 25marks for each procedure. Select any two procedures for the Module Preparation: Identify critical procedures (e.g. TURP, circumcision, urethroplasty etc.) relevant to the module. Execution: Allow students to perform procedures under observation in a clinical or simulated environment. Observe key steps, technique, and patient interaction. Evaluation: Evaluate the skill, technique, aseptic methods, and safety adherence followed during the procedure. OR 4. OSPE (Objective Structured Practical Examination) - 10 stations from the list of practical can be planned which carries 50 marks Preparation: Develop multiple stations covering practical and theoretical aspects (e.g., conduct clinical features of BPH, Diagnosing Carcinoma of prostate, complications of ejaculatory duct obstruction etc.). Execution: Students rotate through stations within a set time frame. Station formats may include tasks, demonstrations, or written responses. Evaluation: Evaluate based on knowledge, skill performance, communication during the procedure. OR 5. OSCE (Objective Structured Clinical Examination) - Plan 5 clinical examinations stations carrying 50 marks Preparation: Set up stations mimicking real-life clinical scenarios (e.g., managing case of emergency paraphimosis patient, ask to perform procedure of TURP, interpretation of lab investigation of Ca. prostate to patient etc.). Execution: Allow students to demonstrate clinical skills, communication, and decision-making at each station. Provide feedback immediately after the station or during review sessions.	4

Evaluation: Assess clinical reasoning, procedural accuracy, and patient-centric approach during the task. OR Any practical in converted form can be taken for assessment (25 Marks) and Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)	

Paper No : 3 Mahasrotas Evam Manyagat Shalyavikara (Surgical Disorders of Gastro-Intestinal System and Neck)

Semester No : 3

Module 17 : Mukha Roga and Annamargagata Vyadhi (Diseases of Oral Cavity and Oesophagus)

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe different Mukghgat Rogas, Ostha Roga and oesophageal disorders
- Conduct the different investigations for the diagnosis of Mukghgat Rogas, Ostha Roga and oesophageal disorders
- Identiphy to plan the medical and surgical management along with Ayurvedic management.

M 17 Unit 1 Diagnosis and Management of Oral diseases Diagnosis and Management of oral disorders

- Oral ulcers (Mukhapak),
- Oral cavity cancer (Mukharbud),
- Precancerous conditions,
- Submucosal fibrosis,
- Leukoplakia,
- Rannula

References: 1,41

3A	3B	3C	3D	3E	3F	3G
CO1,CO4	Describe the oral ulcer, stomatitis, Submucosal fibrosis, Leucoplakia, Precancerous conditions of oral cavity, and Oral cancer	1	Lecture	CK	Know	L,L&PPT
CO4,CO8	Diagnose and apply conservative and surgical management of oral ulcer, stomatitis, submucosal fibrosis, leucoplakia, precancerous conditions, and oral cancer, including the	2	Practical Training 17.1	PSY-GUD	Shows-how	RLE

	use of Ayurvedic drugs and procedures under supervision.					
CO1,CO4,CO8	Assist in surgical procedures for oral cavity and oesophageal disorders, perform oral examinations using diagnostic tools, and apply treatment options including lifestyle modifications and surgical interventions under supervision	3	Experiential-Learning 17.1	PSY-GUD	Shows-how	CBL
CO4,CO6,CO8	Interpret clinical findings of gastro-oesophageal disorders and apply appropriate conservative as well as surgical management for them	3	Practical Training 17.2	PSY-GUD	Shows-how	LRI,CBL

M 17 Unit 2 Oshtha Roga Diagnosis and Management of

- Congenital anomalies
- Lip tumours
- Mucosal cyst (Jalarbuda)
- Nasopharyngeal cancer
- Tongue ulcer and cancer

References: 8,9

3A	3B	3C	3D	3E	3F	3G
CO1,CO4	Describe the Cleft lip and cleft palate, Lip tumours, Mucosal cyst, Tongue ulcer, Tongue tie and neoplasm of Tongue, Nasopharyngeal cancer.	1	Lecture	CK	Knows-how	CD
CO1,CO4	Describe the Cleft lip and cleft palate, Lip tumours, Mucosal cyst, Tongue ulcer, Tongue tie and neoplasm of Tongue, Nasopharyngeal cancer.	1	Lecture	CK	Know	CD
CO4,CO8	Interpretate diagnosis, apply conservative and demonstrate surgical management of lip tumours, mucosal cysts, tongue ulcers, tongue tie, tongue neoplasms, nasopharyngeal cancer, and demonstrate reconstructive surgery of cleft lip and cleft palate under supervision.	2	Practical Training 17.3	PSY-GUD	Knows-how	LRI,CBL,D,SIM
CO4,CO8	Assist in surgical procedures for lip, nasopharyngeal, and tongue disorders, including collecting biopsy samples and performing post-operative follow-up under supervision.	3	Experiential-Learning 17.	PSY-GUD	Shows-how	PAL

			2			

M 17 Unit 3 Oesophageal Disorders Diagnosis and Management of

- Oesophageal varices.
- Dysphagia.
- Neoplasm, Strictures.
- Achalasia cardia.
- GERD, Hiatus hernia.
- Motility Disorders of Oesophagus.

References: 7,8,9

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO8	Describe the Gastro-oesophageal reflux, reflux oesophagitis, dysphagia, oesophageal motility disorders, Achalasia cardia, oesophageal diverticula, stricture, benign and malignant neoplasm of oesophagus.	1	Lecture	CK	Know	CD
CO1,CO4,CO8	Describe the Gastro-oesophageal reflux, reflux oesophagitis, dysphagia, oesophageal motility disorders, Achalasia cardia, oesophageal diverticula, stricture, benign and malignant neoplasm of oesophagus.	1	Lecture	CK	Knows-how	CD
CO4,CO6,CO8	Demonstrate diagnostic skills, perform endoscopic procedures, and apply conservative as well as surgical management for gastro-oesophageal reflux, reflux oesophagitis, dysphagia, motility disorders, achalasia cardia, diverticula, strictures, and benign and malignant neoplasms of the oesophagus under supervision.	3	Practical Training 17.4	PSY-GUD	Shows-how	CD,CBL
CO4,CO8	Perform and adapt skills in diagnosis, endoscopic procedures, and conservative as well as surgical management of GERD, reflux oesophagitis, dysphagia, motility disorders, achalasia cardia, diverticula, strictures, and oesophageal neoplasms, and demonstrate application	2	Experiential-Learning 17.3	PSY-ADT	Shows-how	LRI,CBL

CO4,CO6,CO8	Arrange and utilize the facility and environment for experiential learning, adapt skills in prompt diagnosis, conservative and surgical management of oesophageal disorders, and perform post-operative follow-up	3	Experiential-Learning 17.4	PSY-ADT	Shows-how	D,SIM
CO4,CO6,CO8	Diagnose the case and choose appropriate tretament among endoscopic procedure, conservative and surgical management in selected cases of Gastro-oesophageal reflux, reflux oesophagitis, dysphagia, oesophageal motility disorders, Achalasia cardia, oesophageal diverticula, stricture, benign and malignant neoplasm of oesophagus.	2	Experiential-Learning 17.5	PSY-ADT	Shows-how	CD,D,SIM,PBL

Practical Training Activity

Practical Training 17.1 : Diagnosis and application of conservative and surgical management of oral ulcer, stomatitis, submucosal fibrosis, leucoplakia, precancerous conditions, and oral cancer, including the use of Ayurvedic drugs and procedures under supervision.

Activity Details
• Bedside demonstration of oral lesion cases.
• Teacher shows clinical exam and management steps.
• Students practice exam, record findings, and present diagnosis with management.
Teacher's Role
• Select cases and demonstrate exam.
• Guide interpretation and management.
Students' Role
• Examine patients under supervision.
• Record findings and suggest diagnosis.
• Propose management with Ayurvedic options.
TL Methods Used – Demonstration Bedside, Case Diagnosis, Early Clinical Exposure, Peer Assisted Learning

Practical Training 17.2 : Interpretion of clinical findings and performing diagnostic and endoscopic procedures, and application and adaption of conservative as well as surgical management for gastro-oesophageal disorders under supervision.

Activity Details
• Demonstration of diagnosis and management of gastro-oesophageal disorders on cases/models.
• Students practice conservative and surgical steps under supervision.

Teacher's Role
• Present cases, demonstrate endoscopic procedures, and guide practice.
Students' Role
• Interpret findings, suggest management, and perform steps on models/ patients
TL Methods Used – Case-Based Learning, Demonstration, Demonstration on Model, Practical

Practical Training 17.3 : Interpretation of diagnosis and discuss conservative and perform surgical management of lip tumours, mucosal cysts, tongue ulcers, tongue tie, tongue neoplasms, nasopharyngeal cancer, and demonstrate reconstructive surgery of cleft lip and cleft palate under supervision.

Practical (Teacher-led)
Activity Details
• Demonstration of diagnosis, conservative, and surgical steps for listed oral and nasopharyngeal conditions.
• Students practice surgical techniques on models/prosections under supervision.
Teacher's Role
• Demonstrate stepwise diagnosis and management.
• Guide and correct students' surgical handling.
Students' Role
• Interpret cases, perform conservative methods.
• Practice surgical steps on models/prosections.
TL Methods Used – Demonstration, Demonstration on Model, Prosection, Practical

Practical Training 17.4 : DemonstratIon of diagnostic skills, perform endoscopic procedures, and apply conservative as well as surgical management for gastro-oesophageal reflux, reflux oesophagitis, dysphagia, motility disorders, achalasia cardia, diverticula, strictures, and benign and malignant neoplasms of the oesophagus under supervision.

Activity Details
• Teacher demonstrates diagnostic approach and endoscopic procedures for oesophageal disorders.
• Conservative and surgical management steps shown using models/simulation.
• Students practice endoscopy techniques and management steps under supervision.
Teacher's Role
• Demonstrate case interpretation, endoscopy, and surgical steps.
• Supervise and correct students' performance.

Students' Role
• Practice diagnostic interpretation, endoscopic handling, and management steps.
• Apply conservative and surgical approaches on models/simulation/ patients.
TL Methods Used – Demonstration, Demonstration on Model, Simulation, Practical

Experiential learning Activity

Experiential-Learning 17.1 : Assistance in surgical procedures for oral cavity and oesophageal disorders, perform oral examinations using diagnostic tools, and apply treatment options including lifestyle modifications and surgical interventions under supervision

- Students, in small groups, observe an ongoing surgical procedure for an oral cavity/oesophageal disorder.

• Each student sequentially assists the surgical team under supervision (instrument handling, retraction, suctioning).
• Students perform focused oral examinations on simulated patients/models using diagnostic tools.
• Groups discuss possible treatment options (lifestyle, medical, surgical) and present to peers.
Teacher's Role
• Arrange supervised OT exposure.
• Demonstrate instrument use/exam steps.
• Guide assistance and moderate discussions.
Students' Role
• Assist in surgical steps.
• Conduct oral exams using tools.
• Record findings and present treatment plans.
TL Methods Used – Early Clinical Exposure, Demonstration Bedside, Simulation, Case-Based Learning, Co-Learning, Discussions

Experiential-Learning 17.2 : Assisting in surgical procedures for lip, nasopharyngeal, and tongue disorders, including collecting biopsy samples and performing post-operative follow-up under supervision.

Experiential (Student-led)
Activity Details
• Students assist in surgical procedures, practice biopsy collection on models/simulation/ patient, and perform post-operative follow-up in clinical setup.
Teacher's Role

• Demonstrate key assisting steps and supervise biopsy and post-op follow-up activities.
Students' Role
• Assist in surgery, collect biopsy samples, and conduct post-op monitoring under guidance.
TL Methods Used – Early Clinical Exposure, Demonstration Bedside, Real-Life Experience, Co-Learning

Experiential-Learning 17.3 : PerformIng and adaption of skills in diagnosis, endoscopic procedures, and conservative as well as surgical management of GERD, reflux oesophagitis, dysphagia, motility disorders, achalasia cardia, diverticula, strictures, and oesophageal neoplasms, and demonstrate application

Activity Details
• Students participate in supervised endoscopic procedures and diagnostic evaluation of oesophageal disorders.
• Practice conservative and surgical management in clinical or simulated settings.
• Engage in post-procedure observation, case discussion, and application of management strategies.
Teacher's Role
• Demonstrate key steps, supervise procedures, and guide management decisions.
Students' Role
• Assist in endoscopy, interpret findings, and apply conservative and surgical management.
TL Methods Used – Early Clinical Exposure, Demonstration Bedside, Real-Life Experience, Co-Learning

Experiential-Learning 17.4 : Arrangement and utilization of the facility and environment for experiential learning, adapt skills in prompt diagnosis, conservative and surgical management of oesophageal disorders, and perform post-operative follow-up

Experiential (Student-led)
Activity Details
• Students set up the clinical/simulation environment and perform diagnostics, management, and post-op follow-up for oesophageal disorders.
Teacher's Role
• Demonstrate workflow, supervise procedures, and guide follow-up.

- Demonstrate role of the Ayurvedic drugs in the management of oesophageal disorders.

Students' Role
• Arrange facility, perform diagnostics and management, and document post-op outcomes.
TL Methods Used – Real-Life Experience, Early Clinical Exposure, Demonstration Bedside, Co-Learning

Experiential-Learning 17.5 : Diagnosis the case and choose the appropriate appropriate tretament protocol among endoscopic procedure, conservative and surgical management in selected cases of Gastro-oesophageal reflux, reflux oesophagitis, dysphagia, oesophageal motility disorders, Achalasia cardia, oesophageal diverticula, stricture, benign and malignant neoplasm of oesophagus.

Experiential
Activity Details
• Students diagnose oesophageal cases and apply conservative, endoscopic, or surgical management under supervision.
Teacher's Role
• Present cases, demonstrate decision-making, and supervise procedures.
Students' Role
• Assess cases, choose management, and perform procedures under guidance.
TL Methods Used – Real-Life Experience, Early Clinical Exposure, Co-Learning, Demonstration Bedside

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 25 marks. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table **6 C.** Select any one or two methods for the asssessment. 1. Theory Open Book Test Conduct theory open book test for 25 marks which will contain 5 SAQ of 5 marks each. OR Presentation on any unit contents 10 marks on different diseases of oral cavity, oesophageal disorders and and Viva of 15 marks which includes identification of insruments,clinical examination, different investigations, operative steps etc. or Practical demonstration of Surgical skills like Biopsy, Mucosal cyst removal, observe and explain steps of oesophagoscopy and biopsy OR Any practical in converted form can be taken for assessment (15 Marks) and Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment.(10 Marks)	2

Module 18 : Amashayagata, Grahanigata and Kshudrantragata Vyadhi (Diseases of Stomach, Duodenum and Small Intestine)

Module Learning Objectives
(At the end of the module, the students should be able to)

- Analyze the pathophysiology and clinical manifestations of common diseases, including peptic ulcer disease and its complications, pyloric stenosis, and perforations and obstructions of the small bowel.
- Identify risk factors, apply diagnostic criteria, and interpret appropriate laboratory tests for assessing diseases of the stomach, duodenum, and small intestine.
- Formulate and execute rational management strategies for patients with peptic ulcer disease and its complications, pyloric stenosis, and perforations and obstructions of the small bowel.

M 18 Unit 1 Diseases of Stomach Diagnosis and management of-

- Congenital and acquired pyloric stenosis,
- Gastritis,
- Gastric ulcer, and its complications,
- Acute gastric dilatation and
- Neoplastic diseases of stomach.

References: 5,7,8,9,10,11,12,13

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the congenital and acquired pyloric stenosis, Gastritis, Gastric ulcer with their complications such as acute gastric dilatation and neoplastic diseases of stomach.	1	Lecture	CC	Knows-how	L&PPT
CO4,CO8	Describe the congenital and acquired pyloric stenosis, Gastritis, Gastric ulcer with their complications such as acute gastric dilatation and neoplastic diseases of stomach.	1	Lecture	CC	Knows-how	L&PPT

CO4,CO8	Describe the congenital and acquired pyloric stenosis, Gastritis, Gastric ulcer with their complications such as acute gastric dilatation and neoplastic diseases of stomach.	1	Lecture	CC	Shows-how	L&PPT
CO4,CO6,CO8	Diagnose pyloric stenosis,Gastritis, Gastric ulcer and other disorders of stomach and demonstrate suitable surgical procedures e.g. gastric bypass procedure-Gastrojejunostomy etc. under supervision.	2	Practical Training 18.1	PSY-GUD	Shows-how	SIM,L&PPT ,L_VC,D
CO4,CO6,CO8	Diagnose and observe surgical procedures for the management of pyloric stenosis and gastric bypass (e.g., gastrojejunostomy) under supervision	2	Practical Training 18.2	PSY-GUD	Shows-how	D,SIM
CO4,CO6,CO8	Interprete the diagnosis of pyloric stenosis and observe surgical procedure of gastric bypass (e.g., gastrojejunostomy) for it.	2	Practical Training 18.3	PSY-GUD	Shows-how	CBL,CD, SIM,D
CO4,CO6,CO8	Assist and observe the surgical procedures of Gastric disorders, practice the anastomotic procedure on simulation. Discuss the case scenario and their outcome.	4	Experiential-Learning 18.1	PSY-GUD	Knows-how	CD
CO4,CO6,CO8	Assist and observe surgical procedures for gastric disorders and practice anastomotic techniques on simulation models under supervision.	2	Experiential-Learning 18.2	PSY-GUD	Shows-how	CBL

M 18 Unit 2 Diseases of Duodenum Diagnosis and management of-

- Duodenitis,
- Duodenal ulcer and its complications,
- Neoplastic diseases of duodenum.
- Upper GI endoscopy- Diagnostic and Therapeutic

References: 12,13,14,15

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the duodenitis, duodenal ulcer, perforation & bleeding peptic ulcer, neoplasm	1	Lecture	CK	Know	L&PPT

	of duodenum Session I					
CO4,CO8	Describe the duodenitis, duodenal ulcer, perforation & bleeding peptic ulcer, neoplasm of duodenum Session II	1	Lecture	CK	Know	L&PPT
CO4,CO8	Describe the duodenitis, duodenal ulcer, perforation & bleeding peptic ulcer, neoplasm of duodenum Session III	1	Lecture	CK	Know	L&PPT
CO4,CO6,CO8	Diagnose duodenitis, duodenal ulcer, perforated and bleeding peptic ulcer, and duodenal neoplasms and demonstrate their conservative and surgical management e.g. Upper GI endoscopy under supervision.	2	Practical Training 18.4	PSY-GUD	Shows-how	SIM,D,LRI,CBL
CO4,CO6,CO8	Assist and observe the surgical procedures of duodenal disorders, operative procedure of duodenal perforation on simulation or experimental model. Discuss the case scenario and their outcome.	4	Experiential-Learning 18.3	PSY-GUD	Knows-how	SIM
CO4,CO6,CO8	Interprete diagnosis, and apply conservative and surgical management of duodenitis, duodenal ulcer, perforated and bleeding peptic ulcer, and neoplasm of the duodenum using live/operative videos, and demonstrate Upper GI endoscopy under supervision.	2	Practical Training 18.5	PSY-GUD	Shows-how	LRI,CBL,D

M 18 Unit 3 Amashayagat Roga Nidan Panchaka, Chikitsa and Upadrava of-

- Parinam Shool,
- Annadrava Shool,
- Amlapitta

References: 12,13,14,15

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the Nidanpanchak and chikitsa of Parinam Shool, Annadrava Shool and Ammlapitta	1	Lecture	CK	Know	L&PPT
CO4,CO8	Describe the Nidanpanchak and chikitsa of Parinam Shool, Annadrava Shool and	1	Lecture	CK	Know	L&PPT

	Ammlapitta - Lecture II					
CO4,CO6,CO8	Diagnose Parinam Shool and Annadrava Shool, advise suitable investigations and demonstrate the application of Ayurvedic formulations their management	2	Practical Training 18.6	PSY-GUD	Shows-how	CBL,D,LRI,CD
CO4,CO6,CO8	Diagnose Parinam Shool and Annadrava Shool., advice suitable investigations and demonstrate the application of Ayurvedic formulations for its management.	2	Practical Training 18.7	PSY-GUD	Shows-how	D,CBL,CD,D-M
CO4,CO6,CO8	Interprete the diagnosis enlist related investigations and demonstrate the application of appropriate Ayurvedic formulations for Parinamshool and Annadrava Shool.	2	Practical Training 18.8	PSY-GUD	Shows-how	D-BED,CBL,D
CO4,CO6,CO8	Apply Ayurvedic formulations for Amlapitta and Parinamshool disorders.	4	Experiential-Learning 18.4	PSY-GUD	Shows-how	D-BED,RLE,CBL
CO4,CO6,CO8	Select appropriate Ayurvedic formulations in Amlapitta and Parinamshool disorder and justify their role in these conditions.	2	Experiential-Learning 18.5	PSY-GUD	Shows-how	CBL

M 18 Unit 4 Diseases of Small Intestine Diagnosis and management of-

- Congenital anomalies,
- Inflammatory disorders,
- Ulcer,
- Diverticuli,
- Stricture,
- Obstruction (Baddhagudodar),
- Perforation (Chidrodar) and
- Neoplasm of Small Intestine

References: 5,6,7,8,9,10

3A	3B	3C	3D	3E	3F	3G

CO4,CO8	Describe the clinical features, diagnosis, and management of Congenital anomalies, Inflammatory disorders, Ulcer, Diverticuli, Stricture, Obstruction (Baddhagudodar), Perforation (Chidrodar) and Neoplasm of Small Intestine.- Lecture !	1	Lecture	CK	Know	L&PPT
CO4,CO8	Describe the clinical features, diagnosis, and management of Congenital anomalies, Inflammatory disorders, Ulcer, Diverticuli, Stricture, Obstruction (Baddhagudodar), Perforation (Chidrodar) and Neoplasm of Small Intestine.- Lecture !I	1	Lecture	CK	Know	L&PPT
CO4,CO8	Describe the clinical features, diagnosis, and management of Congenital anomalies, Inflammatory disorders, Ulcer, Diverticuli, Stricture, Obstruction (Baddhagudodar), Perforation (Chidrodar) and Neoplasm of Small Intestine.- Lecture !II	1	Lecture	CK	Know	L&PPT
CO4,CO6,CO8	Diagnose and apply conservative and surgical management of intestinal obstruction, perforation, and resection anastomosis using live or operative videos under supervision.	2	Practical Training 18.9	PSY-GUD	Shows-how	X-Ray,D, D-M,LRI, CBL
CO4,CO8	Diagnose and apply conservative and surgical management of intestinal obstruction, perforation, and resection anastomosis using live or operative videos under supervision.	2	Practical Training 18.10	PSY-GUD	Shows-how	CBL,LRI
CO4,CO6,CO8	Diagnose and apply conservative and surgical management of intestinal obstruction, perforation, and resection anastomosis using live or operative videos under supervision.	2	Practical Training 18.11	PSY-GUD	Shows-how	CBL,LRI
CO4,CO6,CO8	Perform the procedure of anastomosis In experimental model/ simulation for on intestinal disorders.	4	Experiential-Learning 18.6	PSY-GUD	Shows-how	SIM,CBL
CO4,CO6,CO8	Perform the procedure of anastomosis in experimental model/ simulation for intestinal disorders.	4	Experiential-Learning 18.7	PSY-GUD	Shows-how	SIM,D,CBL
CO4,CO6,CO8	Perform the procedure of anastomosis in experimental model/ simulation related to intestinal disorders..	2	Experiential-Learning 18.	PSY-GUD	Shows-how	CBL,D,SIM

			8			

M 18 Unit 5 Abdominal Tuberculosis

- Diagnosis of Abdominal Tuberculosis.
- Management of Abdominal Tuberculosis.

References: 8,9,10,11

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the clinical features, diagnosis, and treatment of abdominal tuberculosis with respect to the small intestine-	1	Lecture	CK	Know	L&PPT
CO4,CO8	Describe the clinical features, diagnosis, and treatment of abdominal tuberculosis with respect to small intestine.	1	Lecture	CK	Know	L&PPT
CO4,CO6,CO8	Interpret radiology and histopathology findings in abdominal tuberculosis complications, including intraperitoneal abscess, stricture, intestinal obstruction, and perforation and perform their surgical management under supervision..	2	Practical Training 18.12	PSY-GUD	Shows-how	X-Ray,SIM,LRI,D,PBL
CO4,CO6,CO8	Observe and assist the surgical management of abdominal tuberculosis, including management of intestinal strictures, obstruction, perforation and abscesses by exploratory laparotomy and needful surgical procedure. EL-I	3	Experiential-Learning 18.9	PSY-GUD	Knows-how	CBL,LRI
CO4,CO6,CO8	Assist the surgical management of abdominal tuberculosis, including intestinal strictures, obstruction, perforation, and abscesses, through exploratory laparotomy and related surgical procedures under supervision.	2	Experiential-Learning 18.10	PSY-GUD	Shows-how	CBL,D
CO4,CO6,CO8	Interprete diagnostic evaluations, including radiology and histopathology, and perform surgical management of complications of abdominal tuberculosis such as intraperitoneal abscess, stricture, intestinal obstruction, and perforation under supervision	2	Practical Training 18.13	PSY-GUD	Shows-how	LRI,CBL
CO4,CO6,CO7	Observe and assist in the surgical management of abdominal tuberculosis, including	2	Experiential-	PSY-	Shows-	CBL,LRI

,CO8	intestinal strictures, obstruction, perforation, and abscesses, through exploratory laparotomy (Udarpatan) and related procedures.		Learning 18.11	GUD	how	

M 18 Unit 6 Urdhvag Raktapitta Upper Gastrointestinal Bleeding-Urdhvag Raktapitta

- Diagnosis of Upper Gastrointestinal Bleeding
- Management of Upper Gastrointestinal Bleeding
- Urdhvag Raktapitta

References: 1,2,3,6,7,9,12,13

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the etiology, pathophysiology, investigations, and management of haematemesis, Malaena, Haemohiilia.	1	Lecture	CK	Know	L,L&PPT
CO4,CO8	Describe etiology, pathophysiology, investigations, and management of haematemesis, Malaena, Haemophilia	1	Lecture	CK	Knows-how	L&GD,L&PPT ,L
CO4,CO8	Interpret diagnostic evaluations, including endoscopy findings, USG, and CT scans to assess gastrointestinal bleeding. Manage these condition by surgical intervention and also explore the Ayurvedic formulation for Raktstambhan.	2	Practical Training 18.14	AFT-RES	Knows-how	SIM,CBL
CO4,CO6,CO8	Interpret diagnostic evaluation of gastrointestinal bleeding through endoscopy, USG, and CT findings and perform its surgical management.	2	Practical Training 18.15	PSY-GUD	Shows-how	D,CBL,LRI
CO4,CO6,CO8	Demonstrate suitable surgical interventions for arresting the GI bleeding	3	Experiential-Learning 18.12	PSY-GUD	Shows-how	SIM,CBL
CO4,CO6,CO8	Diagnose gastrointestinal bleeding, and identify and perform suitable surgical techniques to arrest GI bleeding using simulation under supervision.	3	Experiential-Learning 18.13	PSY-GUD	Shows-how	CBL,LRI,D-M,L&PPT ,D-BED

Practical Training Activity

Practical Training 18.1 : Diagnosis of pyloric stenosis,Gastritis, Gastric ulcer and other disorders of stomach and demonstration of suitable surgical procedures e.g. gastric bypass procedure- Gastrojejunostomy etc. under supervision.

Activity Details
• Teacher demonstrates diagnosis of pyloric stenosis, gastritis, gastric ulcer, and other gastric disorders.
• Surgical procedures such as gastrojejunostomy shown on models/simulation/videos.
• Students practice diagnostic interpretation and surgical steps under supervision.
Teacher's Role
• Demonstrate diagnostic evaluation and surgical procedures stepwise.
• Supervise, guide, and correct students' performance., demonstrate Ayurvedic management of Gastritis, Gastric ulcer and other disorders of stomach
Students' Role
• Interpret clinical findings and perform diagnostic steps.
• Practice surgical procedures on models/simulation under guidance.
TL Methods Used – Demonstration, Demonstration on Model, Simulation, Practical
Arranging the practical classes for demonstration of Diagnosis, conservative and surgical management of pyloric stenosis, gastric bypass procedure- Gastrojejunostomy etc., Explore the Ayurvedic management of Gastritis, Gastric ulcer and other disorders of stomach and also by Ayurvedic drugs and demonstrating the cases in IP/Operative room procedures , group discussion L-VC, REC and BS and IBL

Practical Training 18.2 : Diagnosis, observation and assisting surgical procedures for the management of pyloric stenosis and gastric bypass (e.g., gastrojejunostomy) under supervision

Activity Details
• Teacher demonstrates diagnosis and surgical steps for pyloric stenosis and gastric bypass (gastrojejunostomy) on models/simulation.
• Students observe and practice key procedural steps under supervision.
Teacher's Role
• Demonstrate diagnostic evaluation and surgical workflow.
• Supervise and guide students during observation and hands-on practice.
Students' Role
• Observe surgical procedures, interpret findings, and practice steps on models/simulation under guidance.
TL Methods Used – Demonstration, Demonstration on Model, Simulation, Practical

Practical Training 18.3 : Interprete the diagnosis of pyloric stenosis and observation for surgical procedure of gastric bypass (e.g., gastrojejunostomy) for it.through live or video demonstrations
Activity Details • Teacher demonstrates diagnostic interpretation of pyloric stenosis and surgical steps of gastric bypass (gastrojejunostomy) on models/simulation. • Students observe and practice key steps under supervision. Teacher's Role • Demonstrate diagnostic evaluation and surgical procedure. • Supervise and guide students during observation and practice. Students' Role • Interpret diagnosis and observe surgical procedure. • Practice essential steps on models/simulation under guidance. TL Methods Used – Demonstration, Demonstration on Model, Simulation, Practical
Practical Training 18.4 : Diagnosis of duodenitis, duodenal ulcer, perforated and bleeding peptic ulcer, and duodenal neoplasms and demonstration of their conservative and surgical management e.g. Upper GI endoscopy under supervision.
Arranging the practical classes for demonstration of Diagnosis, conservative and surgical management of pyloric stenosis, gastric bypass procedure- Gastrojejunostomy etc., Explore the Ayurvedic management of Gastritis, Gastric ulcer and other disorders of stomach and also by Ayurvedic drugs and demonstrating the cases in IP/Operative room procedures , group discussion L-VC, REC and BS and IBL
Practical Training 18.5 : Interpretion of diagnosis, and application of conservative and surgical management of duodenitis, duodenal ulcer, perforated and bleeding peptic ulcer, and neoplasm of the duodenum using live/operative videos, and demonstration of Upper GI endoscopy under supervision.
Activity: Interpret diagnosis of duodenal disorders (duodenitis, ulcers, perforation, neoplasm) using live/operative videos and demonstrate upper GI endoscopy under supervision. Teacher Role: Demonstrate and guide diagnosis, management, and endoscopy steps. Student Role: Interpret, observe, and practice endoscopy under supervision.
Practical Training 18.6 : Interpretation of Diagnosis of Parinam Shool and Annadrava Shool, advise suitable investigations and demonstration of the application of Ayurvedic formulations their management

Activity Details
• Demonstrate diagnosis, investigations, and application of Ayurvedic formulations for Parinam Shool and Annadrava Shool.
• Students practice under supervision.
Teacher's Role
• Demonstrate procedures and guide practice.
Students' Role
• Diagnose, advise investigations, and apply formulations under guidance.
TL Methods Used – Demonstration, Practical, Demonstration on Model

Practical Training 18.7 : Diagnosis of Parinam Shool and Annadrava Shool., suggest suitable investigations and demonstration of the application of Ayurvedic formulations for its management.

Activity Details
• Demonstrate diagnosis, investigations, and application of Ayurvedic formulations for Parinam Shool and Annadrava Shool.
• Students practice assessment and formulation application under supervision.
Teacher's Role
• Demonstrate diagnostic steps, investigations, and therapeutic applications.
• Guide and supervise students' practice.
Students' Role
• Diagnose cases, suggest investigations, and apply Ayurvedic formulations under guidance.
TL Methods Used – Demonstration, Practical, Demonstration on Model

Practical Training 18.8 : Interpretion of the diagnosis enlisting related investigations and demonstrate the application of appropriate Ayurvedic formulations for Parinamshool and Annadrava Shool.

Activity Details
• Demonstrate diagnostic interpretation, relevant investigations, and application of Ayurvedic formulations for Parinam Shool and Annadrava Shool.
• Students practice diagnosis, investigation planning, and formulation application under supervision.
Teacher's Role
• Demonstrate diagnostic reasoning, investigations, and therapeutic application.
• Supervise and guide students' practice.
Students' Role
• Interpret diagnosis, plan investigations, and apply Ayurvedic formulations under guidance.

Practical Training 18.9 : Diagnosis and applyication of conservative and surgical management of intestinal obstruction, perforation, and resection anastomosis using live or operative videos under supervision.
Activity Details • Demonstrate diagnosis and management of intestinal obstruction, perforation, and resection-anastomosis via live cases or videos. • Students practice key steps on models/simulation. Teacher's Role • Demonstrate procedures and supervise practice. Students' Role • Interpret cases and practice management steps under guidance.
Practical Training 18.10 : Diagnosis and apply conservative and surgical management of intestinal obstruction, perforation, and resection anastomosis using live or operative videos under supervision.
Arranging the practical classes for demonstration of Diagnosis, Diagnosis, conservative and surgical management (Live/ Operative VDO) of intestinal obstruction, perforation and resection anastomosis and also, by Ayurvedic drugs and demonstrating the cases in IP/Operative room procedures, group discussion L-VC, REC and BS and IBL
Practical Training 18.11 : Diagnosis and application of conservative and surgical management of intestinal obstruction, perforation, and resection anastomosis using live or operative videos under supervision.
Activity Details • Demonstrate diagnosis and management of intestinal obstruction, perforation, and resection-anastomosis using live cases or operative videos. • Students practice key procedural steps on models/simulation under supervision. Teacher's Role • Demonstrate diagnostic evaluation and surgical procedures. • Supervise and guide students' practice. Students' Role • Interpret cases and perform conservative/surgical steps on models/simulation under guidance.
Practical Training 18.12 : Interpretion of radiology and histopathology findings and perform surgical management of abdominal tuberculosis complications, including

intraperitoneal abscess, stricture, intestinal obstruction, and perforation under supervision.

Activity Details
• Demonstrate interpretation of radiology and histopathology in abdominal TB complications and surgical management via models or videos.
• Students practice key diagnostic and surgical steps under supervision.
Teacher's Role
• Demonstrate procedures and supervise practice.
Students' Role
• Interpret findings and perform surgical steps on models/simulation under guidance.

Practical Training 18.13 : Interpretion of diagnostic evaluations, including radiology and histopathology, and performing surgical management of complications of abdominal tuberculosis such as intraperitoneal abscess, stricture, intestinal obstruction, and perforation under supervision

Activity Details
• Demonstrate interpretation of radiology and histopathology in abdominal tuberculosis complications.
• Show surgical management of intraperitoneal abscess, stricture, obstruction, and perforation on models/simulation.
• Students practice diagnostic interpretation and key procedural steps under supervision.
Teacher's Role
• Demonstrate diagnostic evaluation and surgical procedures.
• Supervise and guide students' practice.
Students' Role
• Interpret diagnostic findings and perform surgical steps on models/simulation under guidance.

Practical Training 18.14 : Diagnostic obervation and its interpretation for Urdhwag Rktapitta

Activity Details
• Demonstrate interpretation of diagnostics, surgical management, and Ayurvedic formulations for gastrointestinal bleeding.
• Students practice case discussion and management planning under supervision.
Teacher's Role
• Guide diagnostic interpretation, surgical options, and Ayurvedic management.
Students' Role
• Interpret findings of endoscopy, USG, and CT scans and propose management under guidance.

Practical Training 18.15 : Interpretion of diagnostic evaluation of gastrointestinal bleeding through endoscopy, USG, and CT findings and perform its surgical management.

Arranging the practical classes for Interpret diagnostic evaluations, including endoscopy findings, USG, and CT scans to assess gastrointestinal bleeding. Manage these condition by surgical intervention and also explore the Ayurvedic formulation for Raktstambhan and demonstrating the cases in IP/Operative room procedures, group discussion L-VC, REC and BS and IBL

Experiential learning Activity

Experiential-Learning 18.1 : EL- Surgical procedure of stomach

Activity Details
• Students assist and observe surgical procedures for gastric disorders.
• Practice anastomotic procedures on simulation models.
• Discuss case scenarios, management decisions, and outcomes with peers.
Teacher's Role
• Demonstrate key surgical steps and supervise assistance and simulation practice.
• Facilitate discussion on case outcomes and reasoning.
Students' Role
• Assist in surgeries under supervision and practice anastomosis on simulation models.
• Participate in discussion of case scenarios and outcomes.
TL Methods Used – Early Clinical Exposure, Simulation, Real-Life Experience, Co-Learning

Experiential-Learning 18.2 : Assistance and observation of surgical procedures for gastric disorders and practice anastomotic techniques on simulation models under supervision.

Activity: Assist and observe surgical procedures for gastric disorders; practice anastomotic techniques on simulation models under supervision.
Teacher Role: Demonstrate surgical steps and guide simulation practice.
Student Role: Assist, observe, and perform anastomotic techniques on models

Experiential-Learning 18.3 : EL- I Surgical procedure for Duodenum

Arranging the facility and environment for experiential learning for prompt Diagnosis, conservative and surgical management of duodenitis, duodenal ulcer, perforation & bleeding peptic ulcer, neoplasm of duodenum and also by Ayurvedic drugs under direct supervision of the peer and demonstrating the cases in IP/Operative room

procedures, group discussion. Exploring lifestyle modifications. L-VC, REC and BS and IBL

Experiential-Learning 18.4 : Advise Ayurvedic formulations for Amlapitta and Parinamshool disorders.

Activity Details
• Apply Ayurvedic formulations for Amlapitta and Parinam Shool in clinical/simulated cases and discuss outcomes.
Teacher's Role
• Demonstrate application and supervise practice.
Students' Role
• Apply formulations under guidance and participate in outcome discussion.

Experiential-Learning 18.5 : Appropriate selection of Ayurvedic formulations in surgical conditions like Amlapitta and Parinamshool and justify their surgical role in these conditions.

Activity: Select appropriate Ayurvedic formulations for Amlapitta and Parinamshool and justify their therapeutic role through case discussions and experiential practice.
Teacher Role: Present cases, explain formulations, and clarify rationale.
Student Role: Select, justify, and discuss appropriate formulations.

Experiential-Learning 18.6 : Operative procedures in Intestinal disorders- EL I

Activity Details
• Students perform intestinal anastomosis on experimental models or simulation setups.
• Practice stepwise technique and troubleshoot common procedural challenges.
Teacher's Role
• Demonstrate the anastomosis procedure and supervise practice.
• Provide guidance on technique, handling, and error correction.
Students' Role
• Perform anastomosis on models/simulation under supervision.
• Apply learned techniques and refine skills through repetition.

Experiential-Learning 18.7 : Procedure of anastomosis in experimental model/ simulation for intestinal disorders.

Arranging the facility and environment for experiential learning for prompt Diagnosis, conservative and surgical management of Congenital anomalies, Inflammatory disorders, Ulcer, Diverticuli, Stricture, Obstruction (Baddhagudodar), Perforation (Chidrodar) and Neoplasm of Small Intestine and also by Ayurvedic drugs under direct

supervision of the peer and demonstrating the cases in IP/Operative room procedures, group discussion. Exploring lifestyle modifications. L-VC, REC and BS and IBL

Experiential-Learning 18.8 : Performing the procedure of anastomosis in experimental model/ simulation related to intestinal disorders.

Activity Details
• Students perform intestinal anastomosis on experimental models or simulation setups under supervision.
Teacher's Role
• Demonstrate for prompt Diagnosis, conservative and surgical management of Congenital anomalies, Inflammatory disorders, Ulcer, Diverticuli, Stricture, Obstruction (Baddhagudodar), Perforation (Chidrodar) and Neoplasm of Small Intestine the procedure and supervise student practice.
• Guide technique, instrument handling, and correct errors.
Students' Role
• Perform anastomosis on models/simulation, applying guided techniques.

Experiential-Learning 18.9 : Observation of Cases on Intestinal Tuberculosis EL-I

Activity Details
• Students observe and assist in surgical management of abdominal tuberculosis, including strictures, obstruction, perforation, and abscesses via exploratory laparotomy.
• Participate in perioperative steps and post-operative care under supervision.
Teacher's Role
• Demonstrate key surgical steps and supervise student assistance.
• Guide students in decision-making, Xray diagnosis and procedural handling.
Students' Role
• Assist in surgeries, observe procedures, and participate in post-op care under guidance.
• Discuss observations and clinical reasoning with peers and teacher.

Experiential-Learning 18.10 : Observation and assistance in the surgical management of abdominal tuberculosis, including intestinal strictures, obstruction, perforation, and abscesses, through exploratory laparotomy and related surgical procedures under supervision.

Activity Details
• Students assist in surgical management of abdominal tuberculosis, including strictures, obstruction, perforation, and abscesses via exploratory laparotomy.
Teacher's Role
• Demonstrate key surgical steps and supervise student assistance.
• Guide procedural handling and decision-making during surgery.

Students' Role
• Assist in surgeries under supervision and observe critical steps.
• Participate in perioperative care and discuss observations with peers.

Experiential-Learning 18.11 : Observation and assistance in the surgical management of abdominal tuberculosis, including intestinal strictures, obstruction, perforation, and abscesses, through exploratory laparotomy and related procedure

Activity: Observe and assist in surgical management of abdominal tuberculosis (strictures, obstruction, perforation, abscess) via exploratory laparotomy (Udarpatan) and related procedures.
Teacher Role: Demonstrate surgical steps, provide supervision, and explain intraoperative findings.
Student Role: Observe actively, assist under guidance, and discuss case outcomes.

Experiential-Learning 18.12 : Demonstration of suitable surgical interventions for arresting the GI bleeding

Activity Details
• Students observe and assist in surgical interventions for arresting GI bleeding in clinical or simulated settings.
• Discuss rationale, outcomes, and ethical considerations of procedures.
Teacher's Role
• Demonstrate surgical interventions and supervise student participation.
• Facilitate discussion on outcomes and clinical reasoning.
Students' Role
• Assist in procedures, observe key steps, and engage in discussion on rationale and outcomes.

Experiential-Learning 18.13 : Diagnosis of gastrointestinal bleeding, and selection and performing suitable surgical techniques to arrest GI bleeding using simulation under supervision.

Activity Details
• Students diagnose gastrointestinal bleeding and practice surgical techniques to arrest bleeding on simulation models under supervision.
Teacher's Role
• Demonstrate diagnostic evaluation and surgical techniques.
• Supervise and guide students' simulation practice.
Students' Role
• Interpret diagnostic findings and perform surgical interventions on simulation models under guidance.

Modular Assessment	
Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 25 marks per credit, i.e., 75 marks. Keep a structured marking pattern. Keep a record of the structured pattern used for assessment. Calculate the Modular grade point as per Table 6 C. Select any one or two methods for the assessment. 1. Theory open Book test- 25 marks Conduct a theory open book test for 25 marks, which will contain either 1 ABQ or 1 SAQ. Viva of 25 marks and 25 marks for clinical examinations. OR 2. Viva -50 marks. Take questions from each unit and select 25 questions for the module. 2marks for each question can be allocated, and Practical demonstrations of 25 marks. Preparation**:** Create open-ended questions testing clinical knowledge, procedural steps, and reasoning. Execution: Conduct one-on-one or panel-based interviews. Evaluation**:** Assess knowledge depth, clarity, and application ability. And 25 marks for Demonstration of Clinical examination of patient, ability to diagnose and interpretation of investigations, demonstration of surgical skills like closure of abdomen, haemostrasis, stepwise demonstration of operative, etc. OR 3. DOPS (Direct Observation of Procedural Skills) - 25marks for each procedure. Select any two procedures for the Module Preparation: Identify critical procedures (e.g., Suturing techniques, Haemostasis, surgery assistance, Handling of Instruments, etc relevant to the module. Execution: Allow students to perform procedures under observation in a clinical or simulated environment. Observe key steps, techniques, and patient interaction. Evaluation: Evaluate the skill, technique, aseptic methods, and safety adherence followed during the procedure. 4. OSCE (Objective Structured Clinical Examination) -Plan 5 clinical examination stations carrying 75marks Preparation: Set up stations mimicking clinical scenarios focusing on diseases of the Stomach, Duodenum, Small intestine, differential diagnosis of acute abdomen, Management of emergencies, etc, communication, and decision-making at each station. Provide feedback immediately after the station or during review sessions. Evaluation: Assess clinical reasoning, procedural accuracy, and patient-centered approach during the task. OR 5. OSPE (Objective Structured Practical Examination) Preparation: Develop multiple stations covering practical and theoretical aspects (minimum 3) (Scenarios depicting Intestinal perforation, Intestinal	6

obstruction, Abdominal tuberculosis, etc).
Execution: Students rotate through stations within a set time frame. Station formats may include tasks, demonstrations, or written responses.
Evaluation: Evaluate based on knowledge, skill performance, and communication during the procedure.
OR
Any practical in converted form can be taken for assessment, and Any Experiential Learning as simulations, assist the surgeon, presentations, etc., can be taken as an assessment.

Semester No : 4

Module 19 : Manya Vikara (Neck Disorders)

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe- Different Diseases of the salivary gland, thyroid, thyroglossal cyst & thyroglossal fistula, branchial cyst & fistula, cystic hygroma, and lymphadenopathies of the neck.
- Conduct -Diagnosis, Pre- and post-operative management, Differential diagnosis of neck disorders
- Identify how to diagnose, observe, and perform the surgical procedures, and Ayurveda and conventional treatment.

M 19 Unit 1 Diagnosis of neck disorders Diagnosis of neck disorders e.g.

- Salivary glands,
- Thyroid,
- Thyroglossal cyst and Fistula,
- Branchial cyst and fistula,
- Cystic hygroma and
- Cervical Lymphadenopathies.

References: 7,8,9,10,11

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the clinical features and diagnostic procedures of Parotitis, parotid abscess, parotid fistula and salivary neoplasm.	1	Lecture	CK	Know	L&PPT
CO4,CO8	Describe the clinical features and diagnostic procedures of goitre, thyroid neoplasm, thyroglossal cyst and fistula	1	Lecture	CK	Know	L&PPT
CO4,CO8	Describe the clinical features and diagnostic procedures of Branchial cyst and fistula, Cystic hygroma and Lymphadenopathies of neck.	1	Lecture	CK	Know	L&PPT
CO4,CO6,CO8	Apply diagnostic tools for salivary gland disorders, thyroglossal cyst and fistula, branchial cyst and fistula, and cystic hygroma, and interpret thyroid function tests.	2	Practical Training 19.1	PSY-GUD	Shows-how	D-M,CD, CBL,D-BED,D
CO4,CO6,CO8	Apply diagnostic tools for salivary gland disorders, thyroglossal cyst and fistula, branchial cyst and fistula, and cystic hygroma, and interpret thyroid function tests.	2	Practical Training 19.2	PSY-GUD	Shows-how	CBL,CD, D-M
CO4,CO6,CO8	Apply knowledge of applied anatomy to analyze pathogenesis, diagnose salivary gland, thyroid gland, and neck disorders, interpret investigatory findings, and formulate a final diagnosis.	3	Experiential-Learning 19.1	PSY-GUD	Shows-how	D,CD,SIM,LRI,D-BED
CO4,CO6,CO8	Apply knowledge of applied anatomy to analyze pathogenesis, diagnose salivary gland, thyroid gland, and neck disorders, interpret investigatory findings, and formulate a final diagnosis.	3	Experiential-Learning 19.2	PSY-GUD	Shows-how	D,CBL,D-BED,SIM,CD

M 19 Unit 2 Management of neck disorders Management of neck disorders e.g.

- salivary glands,
- thyroid,
- Thyroglossal cyst and Fistula,
- Branchial cyst and fistula,
- Cystic hygroma and

- Cervical Lymphadenopathies
- Chedan Karma of Manyagat Granthi, and Arbuda

References: 5,7,8,9,10,11

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the Ayurvedic management e.g.Chhedan Karma for Manyagat Granthi, Arbuda,etc.and discuss different surgical procedures for the management of disorders of salivary glands, thyroid gland , thyroglossal cyst & fistula, branchial cyst, fistula and cystic hygroma.	1	Lecture	CAP	Knows-how	CBL,L,L &PPT
CO4,CO8	Describe the Ayurvedic management for Manyagat Granthi, and Arbuda and discuss different surgical procedures e.g. Chhedan Karma for the management of disorders of salivary glands , thyroid disorders, thyroglossal cyst & fistula, branchial cyst,,fistula and cystic hygroma.	1	Lecture	CAP	Knows-how	L&PPT
CO4,CO6,CO8	Demonstrate conventional surgical techniques for neck disorders and illustrate Chedan and other Ayurvedic procedures (Karma) for the management of Manyagat Granthi and Arbuda under supervision	2	Practical Training 19.3	PSY-GUD	Shows-how	D,CBL,LRI,CD
CO4,CO6,CO8	Demonstrate different conventional surgical techniques of neck disorders and also demonstrate the Chedan and other suitable Ayurvedic procedures (Karma) in Ayurveda for the management of Manyagat Granthi and Arbuda.	2	Practical Training 19.4	PSY-GUD	Shows-how	LRI,CBL
CO4,CO6,CO8	Demonstrate different conventional surgical techniques of neck disorders and also demonstrate the Chedan and other suitable Ayurvedic procedures (Karma) in Ayurveda for the management of Manyagat Granthi and Arbuda.	2	Practical Training 19.5	PSY-GUD	Shows-how	LRI,D,SIM,CBL
CO4,CO6,CO8	Observe and assist surgical management in diseases of salivary gland, thyroid gland, and other neck disorders under supervision.	4	Experiential-Learning 19.3	PSY-GUD	Shows-how	LRI,CBL
CO4,CO6,CO8	Observe and assist surgical management in diseases of salivary gland, thyroid gland, and other neck disorders under supervision.	3	Experiential-Learning 19.	PSY-GUD	Shows-how	D,CBL

			4			

Practical Training Activity

Practical Training 19.1 : Application ofdiagnostic tools for salivary gland disorders, thyroglossal cyst and fistula, branchial cyst and fistula, and cystic hygroma, and interpret thyroid function tests in practical settings.

Activity

- Demonstration of Applied anatomy of Salivary gland and thyroid and neck disorder using the horizontal alignment with the department of Sharir Rachana using the cadaveric lab, group discussion L-VC, REC and BS and IBL
- Arranging the practical classes for pathogenesis and able to diagnose, and interpretate the investigatory findings using the horizontal alignment with the department of Rog Nidan using the lab incorporating group discussion L-VC, REC and BS and IBL
- Teacher Role: Demonstrate, guide interpretation, facilitate discussion.
  Student Role: Observe, interpret findings, respond with reasoning.

Practical Training 19.2 : Application of diagnostic tools for salivary gland disorders, thyroglossal cyst and fistula, branchial cyst and fistula, and cystic hygroma, and interpret thyroid function tests in practical settings.

Activity Details
• Brief video-based lecture on diagnostic tools.
• Bedside demo of examination and diagnostic approaches.
• Interpretation of thyroid function test reports with case examples.
• Small-group case diagnosis and lab report exercises.
Teacher’s Role
• Demonstrate examination and diagnostic steps.
• Present and explain thyroid function test reports.
• Guide group discussion linking findings with investigations.
Students’ Role
• Observe and note diagnostic features.
• Practice case diagnosis in groups.

• Interpret test reports and share conclusions.

Practical Training 19.3 : Demonstration of different conventional surgical techniques of neck disorders and illustration of the Chedan and other suitable Ayurvedic procedures (Karma) in Ayurveda for the management of Manyagat Granthi and Arbuda under supervision

Activity Details
• Demonstration of conventional surgical techniques for neck disorders.
• Stepwise illustration of Chedan and other Ayurvedic procedures on models/prosections.
• Students observe closely and later practice guided steps under supervision.
Teacher's Role
• Demonstrate surgical and Ayurvedic procedures systematically.
• Explain indications, instruments, and steps during demonstration.
• Supervise student practice and correct technique.
Students' Role
• Observe procedures with focus on sequence and precision.
• Practice guided steps of Chedan and related Karma on models/prosections.
• Clarify doubts through discussion with teacher.

Practical Training 19.4 : Demonstration of different conventional surgical techniques of neck disorders and demonstration of the Chedan and other suitable Ayurvedic procedures (Karma) in Ayurveda for the management of Manyagat Granthi and Arbuda.

Activity Details
• Demonstration of conventional surgical techniques for neck disorders.
• Stepwise illustration of Chedan and other Ayurvedic procedures on models/prosections.
• Students observe closely and later practice guided steps under supervision.
Teacher's Role
• Demonstrate surgical and Ayurvedic procedures systematically.
• Explain indications, instruments, and steps during demonstration.
• Supervise student practice and correct technique.
Students' Role
• Observe procedures with focus on sequence and precision.
• Practice guided steps of Chedan and related Karma on models/prosections.

• Clarify doubts through discussion with teacher.

Practical Training 19.5 : Demonstration of different conventional surgical techniques of neck disorders and demonstration of the Chedan and other suitable Ayurvedic procedures (Karma) in Ayurveda for the management of Manyagat Granthi and Arbuda.

Activity Details
• Stepwise demonstration of conventional surgical techniques for neck disorders.
• Demonstration of Chedan and other Ayurvedic Karma on models/prosections.
• Students practice selected steps under supervision.
Teacher's Role
• Demonstrate and explain each surgical and Ayurvedic procedure.
• Highlight indications, instruments, and precautions.
• Guide and correct students during practice.
Students' Role
• Observe demonstrations carefully.
• Practice steps of Chedan and Karma under guidance.
• Engage in brief discussion for clarification.

Experiential learning Activity

Experiential-Learning 19.1 : Application of knowledge of applied anatomy to analyze pathogenesis, diagnose salivary gland, thyroid gland, and neck disorders, interpret investigatory findings, and formulate a final diagnosis.

Activity Details
• Groups work on case scenarios of salivary/thyroid disorders.
• Map applied anatomy on models/prosections.
• Correlate pathogenesis with case data and investigations.
• Present final diagnosis to peers.
Teacher's Role
• Provide cases, models, and reports.
• Guide during anatomy mapping and diagnosis.
• Facilitate peer discussion.
Students' Role
• Perform anatomy correlation.

• Analyze pathogenesis and investigations.
• Derive and present final diagnosis.

Experiential-Learning 19.2 : Application of knowledge of applied anatomy to analyze pathogenesis, diagnose salivary gland, thyroid gland, and neck disorders, interpret investigatory findings, and formulate a final diagnosis.

Experiential (Student-led)
Activity Details
• Students divided into groups, each given a case scenario on salivary or thyroid disorders.
• Perform applied anatomical mapping on models/prosections.
• Work through case diagnosis by identifying pathogenesis, correlating anatomy, and interpreting investigation reports.
• Present final diagnosis to peers for discussion.
Teacher's Role
• Provide case scenarios, models/prosections, and investigation data.
• Guide students during anatomical mapping and diagnosis steps.
• Facilitate peer discussion and ensure accuracy in clinical reasoning.
Students' Role
• Perform anatomical correlation on models/prosections.
• Analyze case data to identify pathogenesis.
• Interpret investigation findings and arrive at a final diagnosis.
• Present and justify diagnostic reasoning to peers.

Experiential-Learning 19.3 : Observation and assistance in surgical management in diseases of salivary gland, thyroid gland, and other neck disorders under supervision.

Activity Details
• Students posted in OT/clinical area to observe live surgical management of salivary gland, thyroid, and neck disorders.
• Assist surgeon in basic steps (instrument handling, retraction, suction) under supervision.
• Post-procedure group discussion on observed techniques and rationale.
Teacher's Role
• Facilitate student placement in OT.
• Demonstrate key intraoperative steps and safe assisting practices.
• Supervise and guide students during assistance.
Students' Role

• Observe surgical steps attentively.
• Assist in minor tasks as directed.
• Participate in post-procedure discussion linking observation to theory.

Experiential-Learning 19.4 : Observation and assistance in surgical management in diseases of salivary gland, thyroid gland, and other neck disorders under supervision

Activity Details
• Students observe live surgical management of salivary gland, thyroid, and neck disorders in OT.
• Assist surgeon in basic steps such as retraction, suction, and instrument handling under guidance.
• Small-group reflection and discussion on intraoperative findings and techniques.
Teacher's Role
• Arrange OT exposure and assign assisting roles.
• Demonstrate safe assisting techniques.
• Facilitate post-surgery discussion to consolidate learning.
Students' Role
• Observe operative steps systematically.
• Perform assigned assisting tasks under supervision.
• Share observations and correlate with theoretical knowledge in group discussion.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 25 marks. Keep a structured marking pattern. Keep a record of the structured pattern used for assessment. Calculate the Modular grade point as per Table **6 C.** Select any one or two methods for the assessment. 1. Presentation on any unit contents, 10 marks on diseases of the salivary gland, thyroid gland disorders, thyroglossal cyst and fistula, branchial cyst and fistula, cervical lymphadenopathy, and Viva of 15 marks, which includes identification of instruments, clinical examination, different investigations, operative steps, etc. or 2. Practical demonstration of any of the Surgical skills like Biopsy, FNAC, diagnosis and investigations of the diseases of salivary gland, thyroid gland, thyroglossal cyst and fistula, branchial cyst and fistula, cervical lymph node biops, etc, for 15 marks, along with stepwise description of any one procedure 10 marks. OR 3. Any practical in converted form can be taken for assessment (15 Marks), and Any Experiential Learning on mannequin presentations of surgical	2

procedures, etc, can be taken as an assessment. (10 Marks)

Module 20 : Yakrit, Pittashaya, Pittanalika evam Pleeha Vyadhi (Diseases of Hepatobiliary System and Spleen)

Module Learning Objectives
(At the end of the module, the students should be able to)

- Analyze the applied anatomy, physiology, and pathophysiology of diseases of the liver, gall bladder, biliary tree, pancreas, and spleen.
- Identify clinical manifestations, apply diagnostic criteria, and interpret laboratory tests for evaluating diseases of the hepatobiliary system and spleen.
- Formulate and execute conservative and surgical management strategies for hepatobiliary, pancreatic, and splenic disorders, incorporating laparoscopic and robotic skills.

M 20 Unit 1 Investigations in Hepatobiliary diseases

- Radiological investigations for hepatobiliary diseases- ERCP, MRCP, etc
- Laboratory investigations for hepatobiliary diseases

References: 5,6,7,8,9,10,11,12,13,15,16,17

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the Liver abscess, hydatid cyst, Primary and Secondary malignant tumours of liver.	1	Lecture	CK	Know	L&PPT
CO4,CO8	Describe the Liver abscess, hydatid cyst, Primary and Secondary malignant tumours of liver.	1	Lecture	CK	Know	L&PPT
CO4,CO6,CO8	Interpret the diagnosis of Liver abscess, hydatid cyst, Primary and Secondary malignant	2	Practical	PSY-	Shows-	D-BED,D

	tumours of liver and illustrate their conservative and surgical management.		Training 20.1	GUD	how	,CD,CBL, X-Ray
CO4,CO6,CO8	Interpret the diagnosis of Liver abscess, hydatid cyst, Primary and Secondary malignant tumours of liver and illustrate their conservative and surgical management.	2	Practical Training 20.2	PSY-GUD	Shows-how	X-Ray,LRI,CD,CBL
CO4,CO6,CO8	Interpret the diagnosis of Secondary malignant tumours of liver and illustrate their conservative and surgical management.	2	Practical Training 20.3	PSY-GUD	Shows-how	LRI,CBL,D,D-BED,CD
CO4,CO6,CO8	Assist and observe the conservative and surgical procedures of Liver abscess, hydatid cyst, Primary and Secondary malignant tumours of liver. Discuss the case scenario and their outcome	2	Experiential-Learning 20.1	PSY-GUD	Knows-how	CBL,LRI

M 20 Unit 2 Plihavikara (Diseases of Spleen) Diagnosis and management of

- Splenomegaly.
- Splenic Injury.
- Neoplasm of spleen.

References: 5,7,8,9,10,11,12

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe Yakritodara- Portal Hypertension and Budd-Chiari Syndrome etc._ Lecture-1	1	Lecture	CK	Knows-how	LRI,CD
CO4,CO6,CO8	Describe Yakritodara- Portal Hypertension and Budd-Chiari Syndrome etc.- Lecture II	1	Lecture	CK	Knows-how	LRI,CD

CO4,CO6,CO8	Assist and observe the conservative and surgical procedures of Yakritodara- Portal Hypertension and Budd-Chiari Syndrome etc. Discuss the case scenario and their outcome	3	Experiential-Learning 20.2	PSY-GUD	Knows-how	LRI,CD
CO4,CO6,CO8	Assist and observe the conservative and surgical procedures of Yakritodara- Portal Hypertension and Budd-Chiari Syndrome etc. Discuss the case scenario and their outcome.	2	Experiential-Learning 20.3	PSY-GUD	Knows-how	CD,LRI
CO4,CO6,CO8	Interpret the diagnosis of Yakritodara (Portal Hypertension and Budd-Chiari Syndrome etc.) and illustrate their conservative and surgical management.	2	Practical Training 20.4	PSY-GUD	Shows-how	CD,LRI, D,CBL,X-Ray

M 20 Unit 3 Agnyashaya Vikara (Diseases of Pancreas) Diagnosis and management of

- Agnyashaya Shoth (Pancreatitis).
- Cyst of pancreas.
- Calculous of pancreas
- Neoplasm of pancreas

References: 5,7,8,9,10,11,12

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe Congenital anomalies of Gall bladder, Bile duct and vascular.	1	Lecture	CK	Know	L&PPT
CO4,CO6,CO8	Interprete the differential diagnosis of Congenital anomalies of Gall bladder, Bile duct and vascular.and illustrate their conservative and surgical management.	2	Practical Training 20.5	PSY-GUD	Shows-how	CD,D-BED,D,LRI, X-Ray
CO4,CO6,CO8	Assist and observe the conservative and surgical procedures of Congenital anomalies of Gall bladder, Bile duct and vascular. Discuss the case scenario and their outcome.	2	Experiential-Learning 20.4	PSY-GUD	Knows-how	CD,LRI

M 20 Unit 4 Cholangitis & other Diagnosis and management of

- Cholangitis
- Stenosis
- Choledocholithiasis
- Choledochal Cyst
- Neoplasm of biliary tree.

References: 7,8,9,10,11,12,13,15

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe Acute and Chronic Cholecystitis, Cholelithiasis and neoplasm of Gall Bladder.-Lecture-I	1	Lecture	CK	Know	L&PPT
CO4,CO8	Describe Acute and Chronic Cholecystitis, Cholelithiasis and neoplasm of Gall Bladder.-Lecture-II	1	Lecture	CK	Know	L&PPT
CO4,CO8	Describe Acute and Chronic Cholecystitis, Cholelithiasis and neoplasm of Gall Bladder.-Lecture-III	1	Lecture	CK	Know	L&PPT
CO4,CO6,CO8	Interprete the differential diagnosis of Acute and Chronic Cholecystitis, Cholelithiasis and neoplasm of Gall Bladder and illustrate their conservative and surgical management,e,g, Cholecystectomy-Open, Laparoscopic with recent advancements	2	Practical Training 20.6	PSY-GUD	Shows-how	CD,X-Ray,D-BED,D,LRI
CO4,CO6,CO8	Interprete the diagnosis of Acute and Chronic Cholecystitis, Cholelithiasis and neoplasm of Gall Bladder and illustrate their conservative and surgical management,e,g, Cholecystectomy-Open, Laparoscopic with recent advancements	2	Practical Training 20.7	PSY-GUD	Shows-how	CD,CBL,X-Ray,D-BED,D
CO4,CO6,CO8	Interprete the differential diagnosis of Acute and Chronic Cholecystitis, Cholelithiasis and neoplasm of Gall Bladder and illustrate their conservative and surgical management e.g. Cholecystectomy, Open, Laparoscopic with recent surgical advancements	2	Practical Training 20.8	PSY-GUD	Shows-how	LRI,CBL,D,SIM,D-BED

CO4,CO6,CO8	Assist and observe the conservative and surgical procedures Acute and Chronic Cholecystitis, Cholelithiasis and neoplasm of Gall Bladder, Cholecystectomy-Open, Laparoscopic and other advancements. Discuss the case scenario and their outcome.	4	Experiential-Learning 20.5	PSY-GUD	Knows-how	LRI,CD,CBL
CO4,CO6,CO8	Assist and observe the conservative and surgical procedures Acute and Chronic Cholecystitis, Cholelithiasis and neoplasm of Gall Bladder, Cholecystectomy-Open, Laparoscopic and other advancements. Discuss the case scenario and their outcome.-EL-II	4	Experiential-Learning 20.6	PSY-GUD	Knows-how	LRI,CBL,CD
CO4,CO6,CO8	Assist and observe the conservative and surgical procedures Acute and Chronic Cholecystitis, Cholelithiasis and neoplasm of Gall Bladder, Cholecystectomy-Open, Laparoscopic and other advancements. Discuss the case scenario and their outcome.-EL-III	2	Experiential-Learning 20.7	PSY-GUD	Knows-how	CBL,LRI,CD

M 20 Unit 5 Pittashaya Vikara (Diseases of Gall Bladder) Diagnosis and management of

- Acute and Chronic Cholecystitis
- Pittashmari (Cholelithiasis)
- Neoplasm of Gall Bladder.
- Pittashaya Nirharan-Chhedan Shastra Karma (Cholecystectomy-Open, Laparoscopic, robotic and other advancements)

References: 8,9,10,11,12,13

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe Cholangitis, Stenosis, Choledocholithiasis, Choledochal Cyst and neoplasm of biliary tree.- Lecture-I	1	Lecture	CK	Know	L&PPT
CO4,CO8	Describe Cholangitis, Stenosis, Choledocholithiasis, Choledochal Cyst and neoplasm of biliary tree.- Lecture -II	1	Lecture	CK	Know	L&PPT
CO4,CO6,CO8	Interprete the differential diagnsis of Cholangitis, Stenosis, Choledocholithiasis, Choledochal Cyst and neoplasm of biliary tree and illustrate their specific conservative	2	Practical Training 20.9	PSY-GUD	Shows-how	SIM,CD,D-BED,X-

	and surgical management with recent advancements.					Ray,CBL
CO4,CO6,CO8	Interprete the differenttial diagnosis of Cholangitis, Stenosis, Choledocholithiasis, Choledochal Cyst and neoplasm of biliary tree and illustrate their conservative and surgical management with recent advancements	2	Practical Training 20.10	PSY-GUD	Shows-how	D,CBL,CD,D-M,D-BED
CO4,CO6,CO8	Assist and observe the conservative and surgical Cholangitis, Stenosis, Choledocholithiasis, Choledochal Cyst and neoplasm of biliary tree and other advancements Discuss the case scenario and their outcome.	4	Experiential-Learning 20.8	PSY-GUD	Knows-how	CD,LRI
CO4,CO6,CO8	Assist and observe the conservative and surgical Cholangitis, Stenosis, Choledocholithiasis, Choledochal Cyst and neoplasm of biliary tree and other advancements Discuss the case scenario and their outcome.	2	Experiential-Learning 20.9	PSY-GUD	Knows-how	CBL,LRI,CD

M 20 Unit 6 Congenital Anomalies of Biliary Tract

- Diagnosis and management of Congenital anomalies of
  - Gall bladder
  - Bile duct
  - Vascular.

References: 7,9,10,11,12,13,15,16,17

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe Pancreatitis, cyst, calculous and neoplasm of pancreas and analyze the findings of suitable investigations in their diagnosis.	1	Lecture	CAN	Knows-how	L&PPT,L
CO4,CO8	Describe Pancreatitis, cyst, calculous and neoplasm of pancreas.and compare their differential diagnosis.	1	Lecture	CAN	Knows-how	L&PPT
CO4,CO8	Describe Pancreatitis, cyst, calculous and neoplasm of pancreas.	1	Lecture	CK	Know	L,L&PPT
CO4,CO6,CO8	Interpret differential diagnosis of Pancreatitis, cyst, calculous and neoplasm of pancreas	2	Practical	PSY-	Shows-	LRI,D-B

	and illlustrate their specific conservative and surgical management.		Training 20.11	GUD	how	ED,D,X-Ray,D-M
CO4,CO6,CO8	Interpret the diagnosis of Pancreatitis, cyst, calculous and neoplasm of pancreas through case based scenarios and differentiate their conservative and surgical management.	2	Practical Training 20.12	PSY-GUD	Shows-how	D-M,D-BED,D,CBL,SIM
CO4,CO6,CO8	Assist and observe the conservative and surgical management of Pancreatitis, cyst, calculous and neoplasm of pancreas. Discuss the case scenario and their outcome.	3	Experiential-Learning 20.10	PSY-GUD	Knows-how	CD,CBL,LRI
CO4,CO6,CO8	Interpret the conservative mangement of Pancreatitis, cyst, calculous and neoplasm of pancreas and assist in their surgical management.	3	Experiential-Learning 20.11	PSY-GUD	Shows-how	CBL,D-M,LRI,X-Ray,D-BED

M 20 Unit 7 Yakriddalyodara Yakritodara-

- Portal Hypertension
- Budd-Chiari Syndrome etc.

References: 5,8,9,10

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe Splenomegaly, Splenic Injury and neoplasm of spleen.	1	Lecture	CK	Know	L&PPT
CO4,CO6,CO8	Interpret the diagnosis of Splenomegaly, Splenic Injury and neoplasm of spleen with their appropriate differential diagnosis and illustrate their conservative and surgical management.	2	Practical Training 20.13	PSY-GUD	Shows-how	D-M,CBL,X-Ray,D-BED,LRI
CO4,CO6,CO8	Observe and assist the conservative and surgical management of Splenomegaly, Splenic Injury and neoplasm of spleen. and illustrate Discuss their outcomes in different case	4	Experiential-Learning 20.	PSY-GUD	Shows-how	D,D-M,D-BED,X-

	scenarios		12			Ray,SIM

M 20 Unit 8 Granthi & Arbud of Yakrit

- Diagnosis and Management of
  - Yakrit vidradhi (Liver Abscess),
  - Cyst - Hydatid cyst,
  - Granthi,
  - Yakrit Arbuda (Primary and Secondary malignant tumours)

References: 8,9,10,11,12

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe Radiological - ERCP, MRCP, etc and laboratory investigations for hepatobiliary diseases.	1	Lecture	CK	Knows-how	CBL,L&PPT
CO4,CO6,CO8	Observe Radiological - ERCP, MRCP, etc and laboratory investigations for hepatobiliary diseases	2	Practical Training 20.14	AFT-RES	Knows-how	LRI,CD,CBL
CO4,CO6,CO8	Perform Radiological - ERCP, MRCP, etc and laboratory investigations for hepatobiliary diseases-Practical-II	2	Practical Training 20.15	PSY-GUD	Knows-how	LRI,CD,CBL
CO4,CO6,CO8	Interpretate the investigatory findings through observation of the Radiological - ERCP, MRCP and laboratory investigations for the diagnosis of hepatobiliary diseases.	4	Experiential-Learning 20.13	PSY-GUD	Shows-how	D,LRI,CBL,CD

Practical Training Activity

Practical Training 20.1 : Interpretion of the diagnosis of Liver abscess, hydatid cyst, Primary and Secondary malignant tumours of liver and illustration of their conservative and surgical management..

Activity Details

• Presentation of case files and imaging (USG/CT) of liver abscess, hydatid cyst, and liver tumors.
• Demonstration of diagnostic interpretation using lab and imaging reports.
• Illustration of conservative and surgical management approaches with models/video clips.
Teacher's Role
• Provide case materials and reports for interpretation.
• Demonstrate stepwise approach to diagnosis and management.
• Explain key surgical procedures with models or videos.
Students' Role
• Interpret lab and imaging findings from provided cases.
• Identify differential and final diagnosis.
• Observe and note steps of surgical management.

Practical Training 20.2 : Interpretion of the diagnosis of Liver abscess, hydatid cyst, Primary and Secondary malignant tumours of liver and illustration of their conservative and surgical management.

ctivity Details
• Presentation of cases with clinical features and imaging of liver abscess and hydatid cyst.
• Interpretation of lab and imaging reports to reach diagnosis.
• Demonstration of conservative and surgical management using models/video clips.
Teacher's Role
• Provide case data and reports for interpretation.
• Demonstrate diagnostic approach and management steps.
• Explain surgical techniques with model/video support.
Students' Role
• Analyze case data and interpret findings.
• Derive differential and final diagnosis.
• Observe and note conservative and surgical management methods.

Practical Training 20.3 : Interpretion of the diagnosis of Secondary malignant tumours of liver and illustration of their conservative and surgical management.

Activity Details
• Presentation of case scenarios with clinical features and imaging of primary and secondary liver malignancies.
• Interpretation of lab reports and imaging to establish diagnosis.

• Demonstration of conservative and surgical management through models/video clips.
Teacher's Role
• Provide case data, lab reports, and imaging for interpretation.
• Demonstrate diagnostic reasoning and management steps.
• Explain surgical approaches with model/video support.
Students' Role
• Interpret case data to identify malignancy type.
• Derive differential and final diagnosis.
• Observe and record conservative and surgical management methods.

Practical Training 20.4 : Interpretion of the diagnosis of Yakritodara (Portal Hypertension and Budd-Chiari Syndrome etc.) and illustration of their conservative and surgical management.

Activity Details
• Present case scenarios with clinical features, lab reports, and imaging of portal hypertension and Budd-Chiari syndrome.
• Demonstrate interpretation of diagnostic findings to reach a diagnosis.
• Illustrate conservative and surgical management using models or video clips.
Teacher's Role
• Provide case data, lab reports, and imaging.
• Demonstrate diagnostic reasoning and management strategies.
• Explain key steps of surgical procedures using models/videos.
Students' Role
• Analyze case data and interpret findings.
• Identify differential and final diagnosis.
• Observe and note management approaches.

Practical Training 20.5 : Interpretion of the differential diagnosis of Congenital anomalies of Gall bladder, Bile duct and vascular.and illustration of their conservative and surgical management.

Activity Details
• Present case scenarios with clinical features, imaging, and lab reports of congenital anomalies of gallbladder, bile ducts, and vascular structures.
• Demonstrate interpretation of differential diagnosis from the data.
• Illustrate conservative and surgical management using models or video clips.

Teacher’s Role
• Provide case data, imaging, and reports.
• Demonstrate diagnostic reasoning and management strategies.
• Explain surgical procedures using models/videos.
Students’ Role
• Analyze case data and imaging to identify differential diagnoses.
• Derive final diagnosis.
• Observe and note conservative and surgical management approaches.

Practical Training 20.6 : Interpretion of the differential diagnosis of Acute and Chronic Cholecystitis, Cholelithiasis and neoplasm of Gall Bladder and illustration of their conservative and surgical management,e,g, Cholecystectomy-Open, Laparoscopic with recent advancements

Activity Details
• Present cases of cholecystitis, cholelithiasis, and gallbladder neoplasms.
• Interpret differential diagnoses from lab and imaging data.
• Demonstrate conservative and surgical management (Open/Laparoscopic Cholecystectomy) with recent advancements.
Teacher’s Role
• Provide cases and reports.
• Demonstrate diagnosis and management steps.
• Explain surgical techniques using models/videos.
Students’ Role
• Analyze data and determine differential diagnoses.
• Derive final diagnosis.
• Observe management approaches.

Practical Training 20.7 : Interpretion of the diagnosis of Acute and Chronic Cholecystitis, Cholelithiasis and neoplasm of Gall Bladder and illustration of their conservative and surgical management,e,g, Cholecystectomy-Open, Laparoscopic with recent advancements

Activity Details
• Divide students into small groups and assign each group a case (acute/chronic cholecystitis, cholelithiasis, or gallbladder neoplasm).
• Students review patient history, lab reports, and imaging.
• Hands-on demonstration of key surgical steps on models or simulators.
• Group discussion on choice of management (conservative vs surgical) and recent advancements.

Teacher’s Role
• Provide cases, lab reports, and imaging for group analysis.
• Demonstrate surgical techniques on models/simulators.
• Facilitate group discussion and guide reasoning on management strategies.
Students’ Role
• Review case history and analyze lab/imaging findings.
• Participate in hands-on practice on models/simulators.
• Engage in group discussion to justify management decisions.

Practical Training 20.8 : Interpretion of the differential diagnosis of Acute and Chronic Cholecystitis, Cholelithiasis and neoplasm of Gall Bladder and illustration of their conservative and surgical management e.g. Cholecystectomy, Open, Laparoscopic with recent surgical advancements

Activity Details
• Use laparoscopic simulators or models to practice key surgical steps.
• Students interpret imaging/lab reports before performing simulated procedures.
• Group discussion on when to choose conservative vs surgical management.
Teacher’s Role
• Supervise simulator practice and provide stepwise guidance.
• Correct technique and clarify decision-making.
Students’ Role
• Analyze case data and decide management strategy.
• Perform procedures on simulators under supervision.
• Discuss outcomes and rationale in groups.

Practical Training 20.9 : Interpretion of the differential diagnsis of Cholangitis, Stenosis, Choledocholithiasis, Choledochal Cyst and neoplasm of biliary tree with illustration of their specific conservative and surgical management and recent advancements.

Activity Details
• Present case scenarios of cholangitis, biliary stenosis, choledocholithiasis, choledochal cyst, and biliary neoplasms with clinical features, lab reports, and imaging.
• Demonstrate interpretation of differential diagnosis from the data.
• Illustrate conservative and surgical management, including recent advancements, using models or video clips.
Teacher’s Role
• Provide case data, lab reports, and imaging.

• Demonstrate diagnostic reasoning and management strategies.
• Explain surgical procedures using models/videos highlighting recent advancements.
Students' Role
• Analyze case data and imaging to determine differential diagnoses.
• Derive final diagnosis.
• Observe and note conservative and surgical management methods.

Practical Training 20.10 : Interpretion of the differenttial diagnosis of Cholangitis, Stenosis, Choledocholithiasis, Choledochal Cyst and neoplasm of biliary tree with illustration of their conservative and surgical management with recent advancements.

Activity Details
• Divide students into small groups; each group receives a case of cholangitis, choledocholithiasis, choledochal cyst, biliary stenosis, or biliary neoplasm.
• Students review history, lab reports, and imaging to propose differential diagnosis.
• Teacher demonstrates conservative and surgical management (including recent advancements) using models/simulators or video clips.
• Groups discuss and compare their proposed management with the demonstration.
Teacher's Role
• Provide cases, reports, and imaging.
• Demonstrate management approaches stepwise on models/simulators.
• Facilitate group discussion and clarify differences between approaches.
Students' Role
• Analyze case data to identify differential diagnoses.
• Compare proposed management plan with demonstration.
• Participate in discussion and note key surgical/conservative steps.

Practical Training 20.11 : Interpretion of differential diagnsosis of Pancreatitis, cyst, calculous and neoplasm of pancreas and illlustration of their specific conservative and surgical management.

Activity Details
• Teacher presents clinical cases with history, labs, and imaging of pancreatitis, cyst, calculous, and pancreatic neoplasm.
• Stepwise demonstration of differential diagnosis and interpretation of findings.
• Illustration of conservative and surgical management options with recent advancements using models, surgical videos, or case records.
Teacher's Role
• Present representative case materials and imaging.

• Demonstrate diagnostic reasoning and management planning.
• Highlight indications for conservative vs surgical interventions.
Students' Role
• Interpret clinical and imaging data to suggest differential diagnosis.
• Participate in guided discussion on case outcomes.
• Record key diagnostic and management steps for each condition.

Practical Training 20.12 : Interpretion of the diagnosis of Pancreatitis, cyst, calculous and neoplasm of pancreas through case based scenarios and differentiate their conservative and surgical management.

Activity Details
• Bedside demonstration of pancreatic disorder cases.
• Interpretation of lab and imaging findings.
• Illustration of surgical approaches using models/diagrams.
Teacher's Role
• Present cases and demonstrate findings.
• Explain diagnostic reasoning and management options.
Students' Role
• Assist in examination.
• Interpret data and suggest differential diagnosis.
• Summarize management plan.

Practical Training 20.13 : Interpretion of the diagnosis of Splenomegaly, Splenic Injury and neoplasm of spleen wiith their appropriate differential diagnosis and illustration of their conservative and surgical management.

Activity Details
• Teacher presents cases of splenomegaly, splenic injury, and splenic neoplasm with clinical, lab, and imaging data.
• Stepwise demonstration of differential diagnosis.
• Illustration of conservative and surgical management, including splenectomy, using diagrams/models/videos.
Teacher's Role
• Provide case materials and explain diagnostic approach.
• Demonstrate interpretation of findings.
• Illustrate management strategies with models/videos.

Students' Role
• Analyze case data to suggest differential diagnosis.
• Participate in guided discussion on management.
• Record steps for conservative and surgical treatment.

Practical Training 20.14 : Diagnostic procedure for hepatobiliary diseases-Practical-I

Activity Details
• Teacher demonstrates radiological investigations (ERCP, MRCP, USG, CT) and relevant lab reports for hepatobiliary diseases.
• Stepwise explanation of findings and their clinical significance.
• Students observe, note, and discuss interpretation under guidance.
Teacher's Role
• Present imaging and lab data.
• Demonstrate key interpretive points.
• Facilitate short discussion linking findings to diagnosis.
Students' Role
• Observe investigations attentively.
• Record important diagnostic features.
• Participate in guided discussion on relevance.

Practical Training 20.15 : Diagnostic procedure for hepatobiliary diseases-Practical-II

Activity Details
• Teacher demonstrates radiological investigations (ERCP, MRCP, USG, CT) and relevant lab reports for hepatobiliary diseases.
• Stepwise explanation of findings and their clinical significance.
• Students observe, note, and discuss interpretation under guidance.
Teacher's Role
• Present imaging and lab data.
• Demonstrate key interpretive points.
• Facilitate short discussion linking findings to diagnosis.
Students' Role
• Observe investigations attentively.
• Record important diagnostic features.

• Participate in guided discussion on relevance.

Experiential learning Activity

Experiential-Learning 20.1 : surgical procedures of Liver disorders

Activity Details
• Students work in groups on case scenarios of primary and secondary liver malignancies.
• Analyze lab reports and imaging to reach diagnosis.
• Plan and discuss conservative and surgical management strategies, presenting findings to peers.
Teacher's Role
• Provide case scenarios, lab reports, and imaging.
• Guide groups in diagnostic reasoning and management planning.
• Facilitate discussion and clarify doubts.
Students' Role
• Interpret lab and imaging data to determine diagnosis.
• Correlate findings with management options.
• Present diagnostic reasoning and management plan to peers.

Experiential-Learning 20.2 : onservative and surgical procedures of Yakritodara

Activity Details
• Students observe conservative and surgical procedures for portal hypertension and Budd-Chiari syndrome in OT/clinical setup.
• Assist in basic procedural tasks under supervision.
• Discuss case scenarios and patient outcomes in small groups post-procedure.
Teacher's Role
• Facilitate OT exposure and assign assisting roles.
• Demonstrate key procedural steps and supervise student assistance.
• Guide discussion on case outcomes and clinical reasoning.
Students' Role
• Observe procedural steps attentively.
• Assist in minor tasks under supervision.
• Analyze and discuss case scenarios and outcomes with peers.

Experiential-Learning 20.3 : conservative and surgical procedures of Yakritodara.
Activity Details • Groups observe conservative and surgical procedures for portal hypertension and Budd-Chiari syndrome. • Students assist with minor procedural tasks under supervision. • Review and discuss the case scenario, management rationale, and patient outcomes. Teacher’s Role • Provide clinical exposure and guide student assistance. • Explain procedural steps and clinical considerations. • Moderate discussion on cases and outcomes. Students’ Role • Observe and note procedural steps. • Assist under supervision. • Analyze and present case scenarios and outcomes to peers.
Experiential-Learning 20.4 : Congenital anomalies of Gall bladder, Bile duct and vascular.
Activity Details • Students observe conservative and surgical procedures for congenital anomalies of gallbladder, bile ducts, and vascular structures. • Assist in selected procedural steps under supervision. • Conduct post-procedure discussion on case scenarios, management rationale, and patient outcomes. Teacher’s Role • Arrange clinical/OT exposure and assign assisting tasks. • Demonstrate key procedural steps and supervise student participation. • Facilitate discussion on cases, outcomes, and clinical reasoning. Students’ Role • Observe procedures carefully. • Assist under supervision in minor procedural tasks. • Analyze and discuss case scenarios and patient outcomes with peers.
Experiential-Learning 20.5 : conservative and surgical procedures of Gall Bladder Disorders
Activity Details

• Groups analyze cases of cholecystitis, cholelithiasis, or gallbladder neoplasm.
• Determine differential diagnosis from history, labs, and imaging.
• Plan and discuss conservative vs surgical management (Open/Laparoscopic Cholecystectomy) including recent advancements.
• Present findings to peers; optional hands-on practice on models/simulators.
Teacher's Role
• Provide cases, reports, and imaging.
• Facilitate discussion and guide reasoning.
• Demonstrate surgical steps on models/simulators.
Students' Role
• Analyze data and establish differential diagnosis.
• Discuss and justify management plans.
• Present findings and practice on models/simulators.

Experiential-Learning 20.6 : conservative and surgical procedures of Gall Bladder Disorders

Activity Details
• Students practice key surgical steps on laparoscopic or open models/simulators.
• After practice, students teach peers the procedure steps and reasoning.
• Discuss recent advancements and decision-making in management.
Teacher's Role
• Supervise simulation and ensure correct technique.
• Provide guidance on teaching strategies and clarify doubts.
Students' Role
• Perform procedures on simulators under supervision.
• Teach peers procedural steps and reasoning.
• Discuss clinical application and recent advancements.

Experiential-Learning 20.7 : conservative and surgical procedures of Gall Bladder Disorders- EL-III

Activity Details
• Students observe live cases of cholecystitis, cholelithiasis, or gallbladder neoplasms in OT/clinic.
• Assist in minor procedural tasks under supervision.
• Post-procedure discussion on differential diagnosis, management decisions, and patient outcomes.

Teacher’s Role
• Facilitate OT exposure and assign assisting roles.
• Demonstrate key procedural steps and management rationale.
• Lead discussion on clinical reasoning and outcomes.
Students’ Role
• Observe procedures carefully.
• Assist in minor tasks under supervision.
• Analyze and discuss case findings and outcomes with peers.

Experiential-Learning 20.8 : conservative and surgical management of Billiary tree disorders

Activity Details
• Students observe conservative and surgical management of cholangitis, biliary stenosis, choledocholithiasis, choledochal cyst, and biliary neoplasms in OT/clinical setup.
• Assist in selected procedural steps under supervision.
• Conduct post-procedure group discussion on case scenario, management decisions, and patient outcomes, including recent advancements.
Teacher’s Role
• Arrange OT/clinical exposure and assign assisting roles.
• Demonstrate key procedural steps and supervise student participation.
• Facilitate discussion on case outcomes and clinical reasoning.
Students’ Role
• Observe procedures attentively.
• Assist in minor procedural tasks under supervision.
• Analyze and discuss case findings, management rationale, and outcomes with peers.

Experiential-Learning 20.9 : conservative and surgical management of Billiary tree disorders-

Activity Details
• Students observe live biliary procedures in OT and take notes on key steps.
• Groups prepare a short peer-teaching session on one procedure (e.g., choledocholithiasis management).
• Conduct group discussion on case scenarios, management decisions, and patient outcomes including recent advancements.
Teacher’s Role
• Assign observing and teaching roles.

• Guide students in procedural understanding and peer-teaching.
• Moderate discussion and clarify clinical reasoning.
Students' Role
• Observe live procedures attentively.
• Prepare and teach peers the procedural steps and rationale.
• Participate in discussion on outcomes and advancements.

Experiential-Learning 20.10 : conservative management of Pancreatic disorders-EL-I

Activity Details
• Students observe conservative and surgical management of pancreatic cases in ward/OT.
• Small groups review case notes, labs, and imaging.
• Group discussion on diagnosis, management steps, and outcomes.
Teacher's Role
• Facilitate observation in ward/OT.
• Provide case records and guide discussion.
Students' Role
• Observe procedures and note management steps.
• Analyze case data and present findings.
• Discuss outcomes and recent advancements.

Experiential-Learning 20.11 : Interpretion of the conservative mangement of Pancreatitis, cyst, calculous and neoplasm of pancreas and assistance in their surgical management.

• Observe conservative & surgical management in ward/OT.
• Review case notes, labs, imaging.
• Simulation/model practice of diagnostic & surgical steps.
• Group presentations on diagnosis, management & outcomes with recent advancements.
Teacher's Role
• Arrange OT/ward exposure and case files.
• Provide simulation support.
• Guide and moderate presentations.
Students' Role

• Observe and document procedures.
• Analyze data & interpret findings.
• Practice on models.
• Present and discuss case outcomes.

Experiential-Learning 20.12 : Observion and assistance in the conservative and surgical management of Splenomegaly, Splenic Injury and neoplasm of spleen. with illustration of their outcomes in different case scenarios.

Activity Details
• Students observe splenic disorder cases (splenomegaly, injury, neoplasm) in ward/OT. or recieve clinical scenario
• Small groups review case records, labs, and imaging to frame differential diagnosis.
• Each group discusses management strategies (conservative vs surgical) and shares outcomes.
Teacher's Role
• Select suitable cases and enable ward/OT observation. or Prepare realistic case scenarios with supporting investigations.
• Provide case materials/ models/simulation material and guide interpretation.
• Facilitate group discussion and correct misconceptions.
Students' Role
• Observe patient management steps or analyze scenario data.
• Analyze data to build differential diagnosis.
• Present management plan and outcomes in discussion.

Experiential-Learning 20.13 : Interpretate the investigatory findings through observation of the Radiological - ERCP, MRCP and laboratory investigations for the diagnosis of hepatobiliary diseases.

Activity Details
• Students divided into groups; each group reviews case files with ERCP, MRCP, and lab results of hepatobiliary diseases.
• Groups interpret findings, link them to possible diagnoses, and discuss outcomes.
• Peer sharing of interpretations followed by joint discussion.
Teacher's Role
• Provide case records, imaging, and lab data.
• Guide interpretation and correct errors.
• Summarize key diagnostic points.
Students' Role

• Analyze investigations in groups.
• Present interpretations and possible diagnoses.
• Engage in peer and group discussion.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 25 marks per credit i.e. 75 marks. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment. 1. Theory open Book test- 25 marks Conduct theory open book test for 25 marks which will contain either 1 ABQ or 1 SAQ. viva of 25 marks and 25 marks for clinical examinations. OR 2. Viva -50 marks Take questions from each Units and select 25 questions for the module. 2marks for each question can be allocated and Practical demonstrations of 25 marks. Preparation**:** Create open-ended questions testing clinical knowledge, procedural steps, and reasoning. Execution: Conduct one-on-one or panel-based interviews. Evaluation**:** Assess knowledge depth, clarity, and application ability. And 25 marks for Demontsration of Clinical examination, demonstration of surgical skills like closure of abdomen, haemostrasis, stepwise demonstration of operative etc. OR 3. DOPS (Direct Observation of Procedural Skills) - 25marks for each procedure . Select any two procedures for the Module Preparation: Identify critical procedures (e.g., Suturing techniques, Haemostasis, surgery assistance, Handeling of Insruments etc relevant to the module. Execution: Allow students to perform procedures under observation in a clinical or simulated environment. Observe key steps, technique, and patient interaction. Evaluation: Evaluate the skill, technique, aseptic methods, and safety adherence followed during the procedure. 4. OSCE (Objective Structured Clinical Examination) -Plan 5 clinical examination stations carrying 75marks Preparation: Set up stations mimicking clinical scenarios focusing diseases of Liver, Gall Bladder, Biliary Tree, Pancreas and Spleen Execution: Allow students to demonstrate clinical skills, like Murphys sign, Scoring of pancreatitis, differntial diagnosis of acute abdomen etc, communication, and decision-making at each station. Provide feedback immediately after the station or during review sessions. Evaluation: Assess clinical reasoning, procedural accuracy, and patient-centered approach during the task. OR	6

5. OSPE (Objective Structured Practical Examination)
Preparation: Develop multiple stations covering practical and theoretical aspects (minimum 3) (Scenarios depicting acute cholecystitis, Acute pancreatitis, hepatic abscess etc).
Execution: Students rotate through stations within a set time frame. Station formats may include tasks, demonstrations, or written responses.
Evaluation: Evaluate based on knowledge, skill performance, communication during the procedure.
OR
Any practical in converted form can be taken for assessment and Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment.

Semester No : 5

Module 21 : Diseases of Peritoneum, Omentum, Mesentery, Retroperitoneal Space and Abdominal Mass

Module Learning Objectives
(At the end of the module, the students should be able to)

- Analyze the pathophysiology and clinical manifestations of diseases of the peritoneum, omentum, mesentery, retroperitoneal space, and abdominal masses.
- Identify key clinical signs, interpret diagnostic imaging findings, and evaluate risk factors associated with conditions such as peritonitis, mesenteric ischemia, mesenteric thrombosis, and abdominal masses.
- Formulate and execute clinical management plans, including surgical and non-surgical interventions, for patients with diseases of the peritoneum, omentum, mesentery, retroperitoneal space, and abdominal masses.

M 21 Unit 1 Retroperitoneal disorders Diagnosis and Management of-

- Swelling of Retroperitoneal space
- Fibrosis of Retroperitoneal space
- Tumours of Retroperitoneal space

- Psoas Abscess

References: 7,8,9,10,11,12

3A	3B	3C	3D	3E	3F	3G
CO8	Describe peritoneal disorders—including peritonitis with its types, pelvic and subphrenic abscess, and malignancy—and omental disorders—including cyst, torsion, and tumour.	1	Lecture	CK	Know	L&PPT ,L
CO8	Diagnose and evaluate conservative and surgical management of peritoneal disorders—including peritonitis, pelvic abscess, subphrenic abscess, and malignancy—and omental disorders—including cyst, torsion, and tumour.	2	Practical Training 21.1	AFT-RES	Shows-how	D,D-BED,SIM
CO8	Assist in and observe conservative and surgical procedures of peritoneal and omental disorders—including peritonitis, pelvic and subphrenic abscess, malignancy, cyst, torsion, and tumour and analyze related case scenarios with their outcomes	2	Experiential-Learning 21. 1	PSY-GUD	Shows-how	SIM,CD, CBL
CO8	Assist in and observe conservative and surgical procedures of peritoneal and omental disorders—including peritonitis, pelvic and subphrenic abscess, malignancy, cyst, torsion, and tumour and analyze related case scenarios with their outcomes	1	Experiential-Learning 21. 2	PSY-GUD	Shows-how	SIM,CBL ,LRI

M 21 Unit 2 Gulma

- Gulma roga-nidan panchak and chikitsa

References: 1,2,3

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the mesenteric cyst, torsion of mesentery, mesenteric trauma, mesenteric lymphadenitis, mesenteric malignancy and thrombosis of mesenteric vessels and analyze their differential diagnosis.	1	Lecture	CAN	Knows-how	L,L&PPT
CO4,CO8	Describe the mesenteric cyst, torsion of mesentery, mesenteric trauma, mesenteric	1	Lecture	CAN	Knows-	L&PPT

	lymphadenitis, mesenteric malignancy and thrombosis of mesenteric vessels.and analyze their differential diagnosis.				how	,L
CO4,CO8	Diagnose and evaluate conservative and surgical management of mesenteric disorders—including cyst, torsion, trauma, lymphadenitis, malignancy, and vascular thrombosis.	2	Practical Training 21.2	AFT-RES	Shows-how	CD,CBL,D
CO4,CO8	Diagnose and evaluate conservative and surgical management of mesenteric disorders—including cyst, torsion, trauma, lymphadenitis, malignancy, and vascular thrombosis.	2	Practical Training 21.3	AFT-RES	Shows-how	D,D-M,CBL,CD
CO4,CO8	Assist in and observe conservative and surgical procedures of mesenteric disorders—including trauma, lymphadenitis, malignancy, and vascular thrombosis—and analyze case scenarios with their outcomes for experiential learning.	2	Experiential-Learning 21.3	PSY-GUD	Shows-how	PBL,CBL,CD
CO4,CO8	Assist in and observe conservative and surgical procedures of mesenteric disorders—including trauma, lymphadenitis, malignancy, and vascular thrombosis—and analyze case scenarios with their outcomes	2	Experiential-Learning 21.4	PSY-GUD	Shows-how	CD,CBL,PBL
CO4,CO8	Assist in and observe conservative and surgical procedures of mesenteric disorders—including trauma, lymphadenitis, malignancy, and vascular thrombosis—and analyze case scenarios with their outcomes	2	Experiential-Learning 21.5	PSY-GUD	Shows-how	PBL,CBL,CD
M 21 Unit 3 Abdominal Mass Differential Diagnosis, Investigations and Management of Abdominal mass. **References:** 5,6,7,8,9,10,11,12						
3A	**3B**	**3C**	**3D**	**3E**	**3F**	**3G**
CO4,CO8	Discuss the Samprapti, types, Nidan Panchak, Lakshan of Udar Rogas.	1	Lecture	CE	Knows-how	L,L&PPT
CO4,CO8	Observe/ Perform and evaluate therapeutic outcomes of Udar Patan/Exploratory Laparotomy in practical sessions.	2	Practical Training 21.4	PSY-GUD	Shows-how	CBL,CD,D-BED,D
CO4,CO8	Assist in and observe conservative and surgical procedures of Udar Roga, and analyze	2	Experiential-	PSY-	Shows-	SIM,SDL,

	case scenarios with their outcomes.		Learning 21.6	GUD	how	CD,CBL
CO4,CO8	Assist in and observe conservative and surgical procedures of Udar Roga, and analyze case scenarios with their outcomes.	2	Experiential-Learning 21.7	PSY-GUD	Shows-how	SIM,CBL,CD
CO4,CO8	Assist in and observe conservative and surgical procedures of Udar Roga, and analyze case scenarios with their outcomes.	2	Experiential-Learning 21.8	PSY-GUD	Shows-how	SIM,CD,CBL
CO4,CO8	Assist in and observe conservative and surgical procedures of Udar Roga, and analyze case scenarios with their outcomes.	2	Experiential-Learning 21.9	PSY-GUD	Shows-how	CD,SIM,CBL
CO4,CO8	Describe the Samprapti, types, Nidan panchak, Lakshan of Udar Rogas.	1	Lecture	CK	Know	L&PPT,L

M 21 Unit 4 Laparotomy

- Udar Roga, Nidan Panchak and Chikitsa - Udar patan, Exploratory Laparotomy

References: 1,2,3,7,8,9,10,12

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the etiopathogenesis, symptoms, differential diagnosis of Abdominal mass.	1	Lecture	CE	Knows-how	L&PPT,L
CO4,CO8	Describe the etiopathogenesis, symptoms, differential diagnosis of Abdominal mass.	1	Lecture	CAN	Shows-how	L,L&PPT
CO4,CO8	Perform examination and investigation and evaluate surgical management of abdominal mass	2	Practical Training 21.5	PSY-GUD	Shows-how	D,CD,CBL,LRI,X-

						Ray
CO4,CO8	Perform examination and investigation and evaluate surgical management of abdominal mass.	2	Practical Training 21.6	PSY-GUD	Shows-how	CBL,D-BED,LRI,D,SIM
CO4,CO8	Assist in and observe conservative and surgical procedures of abdominal mass, and analyze related case scenarios with their outcomes.	2	Experiential-Learning 21.10	PSY-GUD	Shows-how	D,CD,CBL,SIM,D-BED
CO4,CO8	Assist in and observe conservative and surgical procedures of abdominal mass, and analyze related case scenarios with their outcomes.	2	Experiential-Learning 21.11	PSY-GUD	Shows-how	D,SIM,CD,LRI,CBL
CO4,CO8	Assist in and observe conservative and surgical procedures of abdominal mass, and analyze related case scenarios with their outcomes.	1	Experiential-Learning 21.12	PSY-GUD	Shows-how	CD,CBL,SIM,D-BED,LRI

M 21 Unit 5 Mesentric diseases

- Mesenteric cyst,
- Torsion of mesentery,
- Mesenteric Lymphadenitis,
- Mesenteric Malignancy and
- Vascular thrombosis,
- Retroperitoneal cyst and
- Fibrosis.

References: 8,9,10,11,12,13

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the Samprapti, Nidan panchak, Lakshan of Gulma	1	Lecture	CK	Know	L,L&PPT

CO4,CO8	Demonstrate the clinical examination of Gulma with respect to its contemporary correlation and illustrate its surgical management.	2	Practical Training 21.7	PSY-GUD	Shows-how	LRI,CBL,D,D-BED,CD
CO4,CO8	Demonstrate the clinical examiniation of Gulma with respect to its contemoporary corelation and illustrate its surgical management.	2	Practical Training 21.8	PSY-GUD	Shows-how	D-BED,CBL,CD,D,LRI
CO4,CO8	Compare the differential diagnosis of various types of Gulma. and differentiate their conservative and surgical management.	1	Experiential-Learning 21.13	PSY-GUD	Shows-how	X-Ray,CBL,LRI,CD,D-BED

M 21 Unit 6 Diseases of Peritoneum

- Diagnosis and Management of-
  - Peritonitis,
  - Peritoneal abscess,
  - Neoplasms of peritoneum

References: 8,9,10,12,13

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the etiopathogenesis, symptoms of retroperitoneal fibrosis, retroperitoneal swelling, retroperitoneal tumour and psoas abscess -L1	1	Lecture	CK	Know	L&PPT
CO4,CO8	Discuss the etiopathogenesis, symptoms of retroperitoneal fibrosis, retroperitoneal swelling, retroperitoneal tumour and psoas abscess.	1	Lecture	CK	Know	L,L&PPT
CO4,CO8	Demonstrate the conservative and surgical management of retroperitoneal fibrosis, retroperitoneal swelling, retroperitoneal tumour and psoas abscess .	2	Practical Training 21.9	PSY-GUD	Shows-how	DG,D,X-Ray,CD,D-BED
CO4,CO8	Demonstrate the conservative and surgical management of retroperitoneal fibrosis,	2	Practical	PSY-	Shows-	L&PPT ,

	retroperitoneal swelling, retroperitoneal tumour and psoas abscess .		Training 21.10	GUD	how	X-Ray,CBL,LRI,CD
CO4,CO8	Interpret the diagnosis of retroperitoneal fibrosis, retroperitoneal swelling, retroperitoneal tumour and psoas abscess and illustrate their conservative and surgical management.	2	Experiential-Learning 21.14	PSY-GUD	Shows-how	LRI,CBL,CD
CO4,CO8	Interpret the diagnosis of retroperitoneal fibrosis, retroperitoneal swelling, retroperitoneal tumour and psoas abscess wiith their appropriate differential diagnosis and illustrate their conservative and surgical management. with therapeutic outcomes	1	Experiential-Learning 21.15	PSY-GUD	Shows-how	X-Ray,CBL,D-BED,D-M,D

Practical Training Activity

Practical Training 21.1 : Diagnosis and evaluation of conservative and surgical management of peritoneal disorders—including peritonitis, pelvic abscess, subphrenic abscess, and malignancy—and omental disorders—including cyst, torsion, and tumour—in practical sessions.

Activity Details
• Teacher presents representative cases of peritoneal and omental disorders with history, clinical findings, labs, and imaging.
• Demonstration of diagnostic reasoning and evaluation of conservative vs surgical management approaches.
• Students observe case-based illustrations, operative videos, and specimen/models where relevant.
Teacher’s Role
• Present structured case material and demonstrate diagnostic steps.
• Explain rationale of management options.
• Use models/videos to illustrate surgical approaches.
Students’ Role
• Observe and note diagnostic features.
• Participate in discussion of conservative vs surgical plans.
• Summarize key learning points for each disorder.

Practical Training 21.2 : Diagnosis and evaluation of conservative and surgical management of mesenteric disorders—including cyst, torsion, trauma, lymphadenitis, malignancy, and vascular thrombosis—in practical sessions.

Activity Details
• Teacher presents cases / scenario of mesenteric disorders (cyst, torsion, trauma, lymphadenitis, malignancy, vascular thrombosis) with history, labs, and imaging.
• Demonstrate diagnostic reasoning and evaluation of conservative vs surgical management.
• Use models, diagrams, or operative videos to illustrate key steps.
Teacher's Role
• Present case materials and demonstrate diagnostic and management approaches.
• Highlight indications for conservative vs surgical interventions.
• Facilitate short discussion on patient outcomes.
Students' Role
• Observe diagnostic reasoning and management demonstration.
• Participate in discussion and note key learning points.
• Summarize differential diagnosis and treatment approaches.

Practical Training 21.3 : Diagnosis and evaluation of conservative and surgical management of mesenteric disorders—including cyst, torsion, trauma, lymphadenitis, malignancy, and vascular thrombosis—in practical sessions.

Activity Details
• Teacher presents cases of mesenteric disorders (cyst, torsion, trauma, lymphadenitis, malignancy, vascular thrombosis) with history, labs, and imaging.
• Demonstrate diagnostic reasoning and evaluation of conservative vs surgical management.
• Use models, diagrams, or operative videos to illustrate key steps.
Teacher's Role
• Present case materials and demonstrate diagnostic and management approaches.
• Highlight indications for conservative vs surgical interventions.
• Facilitate short discussion on patient outcomes.
Students' Role
• Observe diagnostic reasoning and management demonstration.
• Participate in discussion and note key learning points.
• Summarize differential diagnosis and treatment approaches.

Practical Training 21.4 : Performing and evaluating therapeutic outcomes of Udar Patan/Exploratory Laparotomy in practical sessions through Live/ VDO demonstration

Activity Details

• Teacher demonstrates steps of exploratory laparotomy (Udar Patan) using models, videos, or live OT observation.
• Students observe or assist in selected steps under supervision.
• Discussion on post-operative care and evaluation of therapeutic outcomes.
Teacher's Role
• Demonstrate procedural steps and explain rationale.
• Guide students during observation/assistance.
• Highlight key points for evaluating outcomes.
Students' Role
• Observe or assist in laparotomy procedure.
• Note procedural steps and post-operative management.
• Discuss therapeutic outcomes with peers.

Practical Training 21.5 : Performing examination and investigation with evaluation of live or video-demonstrated surgical management of abdominal mass in practical sessions

Activity Details
• Teacher demonstrates systematic abdominal examination and relevant investigations for an abdominal mass (USG, CT, lab tests).
• Stepwise demonstration of evaluation and planning of coservative/ surgical management.
• Use of models, diagrams, or case videos to illustrate key surgical approaches.
Teacher's Role
• Demonstrate abdominal examination and interpretation of investigation findings.
• Explain indications for conservative vs surgical management.
• Highlight procedural steps using models/videos.
Students' Role
• Observe and perform supervised abdominal examination.
• Interpret investigation results and discuss possible surgical plans.
• Note key diagnostic and management steps.

Practical Training 21.6 : Performing examination and investigation and evaluation of live or video-demonstrated surgical management of abdominal mass in practical sessions.

Activity Details
• Teacher demonstrates systematic abdominal examination and relevant investigations for an abdominal mass (USG, CT, lab tests).

• Stepwise demonstration of evaluation and planning of conservative/ surgical management.
• Use of models, diagrams, or case videos to illustrate key surgical approaches.
Teacher's Role
• Demonstrate abdominal examination and interpretation of investigation findings.
• Explain indications for conservative vs surgical management.
• Highlight procedural steps using models/videos.
Students' Role
• Observe and perform supervised abdominal examination.
• Interpret investigation results and discuss possible surgical plans.
• Note key diagnostic and management steps.

Practical Training 21.7 : Demonstration of the clinical examiniation of Gulma with respect to its contemoporary corelation and illustration of its surgical management.

Activity Details
• Teacher demonstrates systematic clinical examination of Gulma (abdominal lump) correlating with modern pathology (hepatic, splenic, mesenteric, or ovarian masses).
• Stepwise demonstration of surgical management principles using models, diagrams, or videos.
• Discussion on indications for conservative vs surgical intervention.
Teacher's Role
• Demonstrate examination technique and interpretation of findings.
• Explain surgical approaches and decision-making rationale.
• Highlight key steps using models/videos.
Students' Role
• Observe and perform supervised examination.
• Correlate clinical findings with contemporary diagnosis.
• Note steps for surgical management and indications.

Practical Training 21.8 : Demonstration of the clinical examiniation of Gulma with respect to its contemoporary corelation and illustration of its surgical management.

Activity Details
• Teacher demonstrates systematic clinical examination of Gulma (abdominal lump) correlating with modern pathology (hepatic, splenic, mesenteric, or ovarian masses).
• Stepwise demonstration of surgical management principles using models, diagrams, or videos.
• Discussion on indications for conservative vs surgical intervention.
Teacher's Role

• Demonstrate examination technique and interpretation of findings.
• Explain surgical approaches and decision-making rationale.
• Highlight key steps using models/videos.
Students' Role
• Observe and perform supervised examination.
• Correlate clinical findings with contemporary diagnosis.
• Note steps for surgical management and indications.

Practical Training 21.9 : Demonstration of the conservative and surgical management of retroperitoneal fibrosis, retroperitoneal swelling, retroperitoneal tumour and psoas abscess .

Activity Details
• Teacher demonstrates evaluation and management of retroperitoneal disorders (fibrosis, swelling, tumour, psoas abscess) using case examples, imaging, and lab data.
• Stepwise demonstration of conservative management (drainage, antibiotics, pharmacotherapy) and surgical approaches using models, diagrams, or videos.
• Discussion of indications for each approach and expected outcomes.
Teacher's Role
• Present cases with imaging and lab results.
• Demonstrate conservative and surgical management techniques.
• Highlight decision-making and key procedural steps using models/videos.
Students' Role
• Observe and note diagnostic and management steps.
• Participate in discussion on indications for conservative vs surgical approaches.
• Correlate findings with patient outcomes.

Practical Training 21.10 : Demonstration of the conservative and surgical management of retroperitoneal fibrosis, retroperitoneal swelling, retroperitoneal tumour and psoas abscess .

Activity Details
• Teacher demonstrates evaluation and management of retroperitoneal disorders (fibrosis, swelling, tumour, psoas abscess) using case examples, imaging, and lab data.
• Stepwise demonstration of conservative management (drainage, antibiotics, pharmacotherapy) and surgical approaches using models, diagrams, or videos.
• Discussion of indications for each approach and expected outcomes.
Teacher's Role

• Present cases with imaging and lab results.
• Demonstrate conservative and surgical management techniques.
• Highlight decision-making and key procedural steps using models/videos.
Students' Role
• Observe and note diagnostic and management steps.
• Participate in discussion on indications for conservative vs surgical approaches.
• Correlate findings with patient outcomes.

Experiential learning Activity

Experiential-Learning 21.1 : Assistance and observation of conservative and surgical procedures of peritoneal and omental disorders—including peritonitis, pelvic and subphrenic abscess, malignancy, cyst, torsion, and tumour—on simulation, and analyze related case scenarios with their outcomes for experiential learning.

Activity Details
• Students observe conservative and surgical management of peritoneal and omental disorders in ward/OT. or recieve case scenario
• Groups review case sheets, labs, and imaging.
• Students analyze scenarios, compare approaches, and discuss outcomes.
Teacher's Role
• Facilitate ward/OT exposure and provide case materials/ case scenaroio
• Guide students in correlating observations with diagnosis and management.
• Moderate group analysis and discussion.
Students' Role
• Observe procedures and document key steps/ Interpret data and suggest diagnosis.
• Analyze case data to understand management decisions/ Demonstrate management on models.
• Present outcome analysis and discuss with peers.

Experiential-Learning 21.2 : Assistance and observation of conservative and surgical procedures of peritoneal and omental disorders—including peritonitis, pelvic and subphrenic abscess, malignancy, cyst, torsion, and tumour—on simulation, and analyze related case scenarios with their outcomes for experiential learning.

Activity

- Demonstration & Case Review: Teacher presents real case notes, radiology (USG/CT), and operative findings of selected peritoneal/omental disorders.

- Student Role: Observe, identify diagnosis, compare conservative vs surgical management, and participate in guided discussion.
- Teacher Role: Facilitate interpretation, highlight key decision-making points, encourage reflection on patient outcome.

Experiential-Learning 21.3 : Assistance in and observation of conservative and surgical procedures of mesenteric disorders—including trauma, lymphadenitis, malignancy, and vascular thrombosis—with analysis of case scenarios with their outcomes for experiential learning.

Activity Details
• Students observe conservative and surgical management of mesenteric disorders (trauma, lymphadenitis, malignancy, vascular thrombosis) in ward/OT.
• Groups review case notes, lab reports, and imaging.
• Analyze management decisions, discuss outcomes, and compare conservative vs surgical approaches.
Teacher's Role
• Facilitate ward/OT exposure and provide case materials.
• Guide students in correlating observations with diagnosis and management rationale.
• Moderate group analysis and discussion.
Students' Role
• Observe procedures and document key steps.
• Analyze case data to understand management decisions.
• Present outcome analysis and discuss with peers.

Experiential-Learning 21.4 : Assistance in and observation of conservative and surgical procedures of mesenteric disorders—including trauma, lymphadenitis, malignancy, and vascular thrombosis—with analysis of case scenarios with their outcomes for experiential learning.

Activity Details
• Groups receive clinical scenarios (trauma, lymphadenitis, malignancy, vascular thrombosis).
• Analyze history, labs, and imaging to form differential diagnosis.
• Demonstrate management (conservative/surgical) on models/videos.
• Present findings, rationale, and outcomes in peer discussion.
Teacher's Role
• Provide scenarios, investigations, and models.

• Guide interpretation and supervise demonstrations.
• Facilitate discussion and clarify reasoning.
Students' Role
• Analyze case data and establish differential diagnosis.
• Demonstrate management on models/videos.
• Present outcomes and engage in peer discussion.

Experiential-Learning 21.5 : Assistance in and observation of conservative and surgical procedures of mesenteric disorders—including trauma, lymphadenitis, malignancy, and vascular thrombosis—and analysis of case scenarios with their outcomes

Activity Details
• Groups receive clinical scenarios/ cases (trauma, lymphadenitis, malignancy, vascular thrombosis)
• Analyze history, labs, and imaging to form differential diagnosis.
• Demonstrate management (conservative/surgical) on models/videos/ Patient.
• Present findings, rationale, and outcomes in peer discussion.
Teacher's Role
• Provide case scenarios/ cases, investigations, and models.
• Guide interpretation and supervise demonstrations.
• Facilitate discussion and clarify reasoning.
Students' Role
• Analyze case data and establish differential diagnosis.
• Demonstrate management on models/videos.
• Present outcomes and engage in peer discussion.

Experiential-Learning 21.6 : Assistance and observation for conservative and surgical procedures of Udar Roga, and analysis case scenarios with their outcomes.

Activity Details
• Students divided into small groups; each group receives a case scenario requiring exploratory laparotomy (Udar Patan).
• Groups analyze history, labs, and imaging to plan surgical steps.
• Using models or simulators, students perform/illustrate laparotomy and discuss post-operative care.
• Present therapeutic outcomes and rationale to peers.
Teacher's Role
• Provide case scenarios, investigation data, and simulation models.

• Supervise student performance and guide interpretation.
• Facilitate peer discussion and highlight key learning points.
Students' Role
• Analyze case data and plan surgical approach.
• Perform/illustrate laparotomy on models under supervision.
• Present outcomes and engage in discussion with peers.

Experiential-Learning 21.7 : Assistance and observation for conservative and surgical procedures of Udar Roga, and analysis case scenarios with their outcomes.

Activity Details
• Students divided into small groups; each group receives a case scenario requiring exploratory laparotomy (Udar Patan).
• Groups analyze history, labs, and imaging to plan surgical steps.
• Using models or simulators, students perform/illustrate laparotomy and discuss post-operative care.
• Present therapeutic outcomes and rationale to peers.
Teacher's Role
• Provide case scenarios, investigation data, and simulation models.
• Supervise student performance and guide interpretation.
• Facilitate peer discussion and highlight key learning points.
Students' Role
• Analyze case data and plan surgical approach.
• Perform/illustrate laparotomy on models under supervision.
• Present outcomes and engage in discussion with peers.

Experiential-Learning 21.8 : Assistance and observation for conservative and surgical procedures of Udar Roga, and analysis case scenarios with their outcomes.

Activity Details
• Students divided into small groups; each group is assigned a real or simulated OT case requiring exploratory laparotomy (peritonitis, trauma, abdominal abscess, or suspected malignancy).
• Observe the procedure in OT, focusing on key surgical steps, asepsis, and intraoperative decision-making.
• Post-procedure, review patient records, labs, and imaging to evaluate therapeutic outcomes and post-operative care.
• Groups present findings and discuss rationale for conservative vs surgical interventions.
Teacher's Role
• Select suitable OT cases and supervise student observation.

• Guide students in correlating intraoperative findings with diagnosis and management.
• Moderate post-procedure discussion on outcomes and decision-making.
Students' Role
• Observe OT procedure carefully and take structured notes.
• Analyze case data to assess management effectiveness.
• Present findings and discuss outcomes in groups.

Experiential-Learning 21.9 : Assistance and observation for conservative and surgical procedures of Udar Roga, and analysis case scenarios with their outcomes.

Activity Details
• Students divided into small groups; each group is assigned a real or simulated OT case requiring exploratory laparotomy (peritonitis, trauma, abdominal abscess, or suspected malignancy).
• Observe the procedure in OT, focusing on key surgical steps, asepsis, and intraoperative decision-making.
• Post-procedure, review patient records, labs, and imaging to evaluate therapeutic outcomes and post-operative care.
• Groups present findings and discuss rationale for conservative vs surgical interventions.
Teacher's Role
• Select suitable OT cases and supervise student observation.
• Guide students in correlating intraoperative findings with diagnosis and management.
• Moderate post-procedure discussion on outcomes and decision-making.
Students' Role
• Observe OT procedure carefully and take structured notes.
• Analyze case data to assess management effectiveness.
• Present findings and discuss outcomes in groups.

Experiential-Learning 21.10 : Assistance and observation for conservative and surgical procedures of abdominal mass, and analysis of related case scenarios with their outcomes

Activity Details
• Students divided into small groups; each group receives a clinical scenario of an abdominal mass (e.g., hepatic, splenic, mesenteric, ovarian).
• Groups perform abdominal examination on models or peers under supervision and analyze provided lab and imaging data.
• Using models/videos, students illustrate surgical management steps and discuss outcomes.
• Present findings, differential diagnosis, and management rationale to peers.
Teacher's Role

• Provide case scenarios, investigation data, and simulation models.
• Supervise examination and model-based practice.
• Facilitate discussion and clarify reasoning.
Students' Role
• Perform supervised abdominal examination.
• Analyze lab/imaging data to form differential diagnosis.
• Demonstrate surgical management on models/videos.
• Present outcomes and engage in peer discussion.

Experiential-Learning 21.11 : Assistance and observation for conservative and surgical procedures of abdominal mass, and analysis of related case scenarios with their outcomes.

Activity Details
• Students receives a clinical case/ case scenario of an abdominal mass (e.g., hepatic, splenic, mesenteric, ovarian).
• Groups perform abdominal examination on models or peers under supervision and analyze provided lab and imaging data.
• Using models/videos, students illustrate surgical management steps and discuss outcomes.
• Present findings, differential diagnosis, and management rationale to peers.
Teacher's Role
• Provide case scenarios, investigation data, and simulation models.
• Supervise examination and model-based practice.
• Facilitate discussion and clarify reasoning.
Students' Role
• Perform supervised abdominal examination.
• Analyze lab/imaging data to form differential diagnosis.
• Demonstrate surgical management on models/videos.
• Present outcomes and engage in peer discussion.

Experiential-Learning 21.12 : Assistance and observation for conservative and surgical procedures of abdominal mass, and analysis of related case scenarios with their outcomes.

Activity Details
• Students divided into small groups; each group receives a clinical scenario of an abdominal mass (e.g., hepatic, splenic, mesenteric, ovarian).
• Groups perform abdominal examination on models or peers under supervision and analyze provided lab and imaging data.

• Using models/videos, students illustrate surgical management steps and discuss outcomes.
• Present findings, differential diagnosis, and management rationale to peers.
Teacher's Role
• Provide case scenarios, investigation data, and simulation models.
• Supervise examination and model-based practice.
• Facilitate discussion and clarify reasoning.
Students' Role
• Perform supervised abdominal examination.
• Analyze lab/imaging data to form differential diagnosis.
• Demonstrate surgical management on models/videos.
• Present outcomes and engage in peer discussion.

Experiential-Learning 21.13 : Comparision of the differential diagnosis of various types of Gulma. and differentiation between their conservative and surgical management.

Activity Details
• Students are divided into small groups; each group receives a case scenario of Gulma (e.g., hepatic, splenic, mesenteric, or ovarian lump).
• Perform supervised clinical examination on peers or models.
• Analyze lab and imaging data to correlate with contemporary diagnosis.
• Present findings, differential diagnosis, and management rationale to peers.
Teacher's Role
• Provide case scenarios, investigation data, and simulation models.
• Supervise examination and model-based practice.
• Facilitate discussion and clarify clinical reasoning.
Students' Role
• Perform supervised examination and correlate findings with modern pathology.
• Present case analysis and discuss outcomes with peers.

Experiential-Learning 21.14 : Interpretion of the diagnosis of retroperitoneal fibrosis, retroperitoneal swelling, retroperitoneal tumour and psoas abscess and illustration of their conservative and surgical management.

Activity Details
• Students receive a case scenario of retroperitoneal disorders (fibrosis, swelling, tumour, psoas abscess).

• Groups analyze history, labs, and imaging to plan management.
• Using models/videos/simulators, students demonstrate conservative and surgical management steps.
• Present findings, management rationale, and expected outcomes to peers.
Teacher’s Role
• Provide realistic case scenarios with investigation data and models/simulators.
• Supervise student practice and guide interpretation.
• Facilitate discussion on management decisions and outcomes.
Students’ Role
• Analyze scenario data and formulate management plan.
• Demonstrate conservative and surgical procedures on models/videos.
• Present outcomes and discuss lessons learned with peers.

Experiential-Learning 21.15 : Interpretion of the diagnosis of retroperitoneal fibrosis, retroperitoneal swelling, retroperitoneal tumour and psoas abscess wiith their appropriate differential diagnosis and illustration of their conservative and surgical management. with therapeutic outcomes

Activity Details
• Students receive a case scenario of retroperitoneal disorders (fibrosis, swelling, tumour, psoas abscess).
• Groups analyze history, labs, and imaging to plan management.
• Using models/videos/simulators, students demonstrate conservative and surgical management steps.
• Present findings, management rationale, and expected outcomes to peers.
Teacher’s Role
• Provide realistic case scenarios with investigation data and models/simulators.
• Supervise student practice and guide interpretation.
• Facilitate discussion on management decisions and outcomes.
Students’ Role
• Analyze scenario data and formulate management plan.
• Demonstrate conservative and surgical procedures on models/videos.
• Present outcomes and discuss lessons learned with peers.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 25 marks per credit, i.e., 50 marks. Keep a structured marking pattern.	4

Keep a record of the structured pattern used for assessment. Calculate the Modular grade point as per Table 6 C. Select any one or two methods for the assessment.
1. Conduct a theory open-book test for 25 marks, which will contain either 2 LAQ of 10 marks each and 1 SAQ of 5 marks. Along with a score of 25 marks
OR
2. Viva -50 marks.. Take questions from each unit and select 25 questions for the module. 2marks for each question can be allocated
Preparation**:** Create open-ended questions testing clinical knowledge, procedural steps, and reasoning, identify instruments, X-rays, CT, MRI Films, etc
Execution: Conduct one-on-one or panel-based interviews.
Evaluation**:** Assess knowledge depth, clarity, and application ability.
OR
3. DOPS (Direct Observation of Procedural Skills) - 25marks for each procedure. Select any two procedures for the Module
Preparation: Identify diagnostic methods, investigations of Peritoneal, Omental, Mesenteric, Retroperitoneal Space, and Abdominal masses, Laparotomy, etc
Execution: Allow students to diagnose the case and observe clinical examinations in a clinical or simulated environment. Observe key steps, techniques, and patient interaction.
Evaluation: Evaluate the skill and technique of clinical examinations and differential diagnosis.
OR
4. OSCE (Objective Structured Clinical Examination) -Plan 5 clinical examination stations carrying 50 marks
Preparation: Set up stations mimicking clinical scenarios, focusing on unit contents. Execution: Allow students to demonstrate clinical skills, differential diagnosis of acute abdomen, Examination of abdominal mass, communication with patient, and decision-making at each station. Provide feedback immediately after the station or during review sessions.
Evaluation: Assess clinical reasoning, procedural accuracy, and patient-centered approach during the task.
OR
OSPE (Objective Structured Practical Examination)
Preparation: Develop multiple stations covering practical and theoretical aspects (minimum 3). Execution: Students rotate through stations within a set time frame. Station formats may include tasks, demonstrations, or written responses.
Evaluation: Evaluate based on knowledge, skill performance, and communication during the procedure.
OR
Any practical in converted form can be taken for assessment (25 Marks), and Any Experiential Learning on mannequin presentations of surgical procedures, etc, can be taken as an assessment. (25 Marks)

Module 22 : Unduk, Unduk Puchha and Brihadantragata Vyadhi (Diseases of Caecum and Vermiform Appendix and Large Intestine)

Module Learning Objectives
(At the end of the module, the students should be able to)

- Analyze the anatomical structures, physiological functions, and common pathologies such as appendicitis, colorectal cancer, and inflammatory bowel disease.
- Identify clinical symptoms, apply diagnostic tests, and interpret imaging studies for the assessment of diseases affecting the caecum, appendix, and large intestine.
- Formulate and execute treatment plans, including surgical interventions, for managing patients with conditions of the caecum, vermiform appendix, and large intestine.

M 22 Unit 1 Caecum & large intestine

- Diagnosis and Management of-
  - Congenital anomalies,
  - Inflammation,
  - Ulcers,
  - Stenosis,
  - Injuries,
  - Foreign bodies,
  - Diverticuli,
  - Faecal fistula,
  - Amoebiasis,
  - Familial polyposis coli and
  - Neoplasm of caecum and large intestine.

References: 5,8,11

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the Congenital anomalies, Inflammation, Ulcers, Stenosis, Injuries, Foreign bodies, Diverticula, obstruction and perforation, Faecal fistula, Amoebiasis, Familial polyposis coli and Neoplasm of caecum and large intestine.	1	Lecture	CC	Know	L,L&PPT
CO4,CO8	Describe the Congenital anomalies, Inflammation, Ulcers, Stenosis, Injuries, Foreign bodies, Diverticula, obstruction and perforation, Faecal fistula, Amoebiasis, Familial polyposis coli and Neoplasm of caecum and large intestine.	1	Lecture	CC	Know	L,L&PPT
CO4,CO8	Diagnose and evaluate conservative and surgical management of caecal and large intestinal disorders—including congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, and neoplasms	2	Practical Training 22.1	PSY-GUD	Shows-how	D,DIS,SIM,CBL,LRI
CO4,CO8	Diagnose and evaluate conservative and surgical management of caecal and large intestinal disorders—including congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, and neoplasms.	2	Practical Training 22.2	PSY-GUD	Shows-how	CD,D,D-M,CBL,L&PPT
CO4,CO8	Assist in and observe conservative and surgical procedures for caecal and large intestinal disorders—including congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, and neoplasms—and analyze case scenarios with their outcomes.	2	Experiential-Learning 22.1	PSY-GUD	Shows-how	SIM,CBL,D
CO4,CO8	Assist in and observe conservative and surgical procedures for caecal and large intestinal disorders—including congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, and neoplasms—and analyze case scenarios with their outcomes.	2	Experiential-Learning 22.2	PSY-GUD	Shows-how	CBL,CD,LRI,SY
CO4,CO8	Assist in and observe conservative and surgical procedures for caecal and large intestinal disorders—including congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, and neoplasms—and analyze case scenarios with their outcomes.	2	Experiential-Learning 22.3	PSY-GUD	Shows-how	CBL,SIM,CD

M 22 Unit 2 Emergencies of colon & grahani and their management

- Ulcerative colitis/ Grahani,
- Ileostomy,
- colostomy,
- Resection anastomosis in emergency.

References: 5,6,7,8,12

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the Ulcerative colitis with respect to Grahani in Ayurveda.	1	Lecture	CC	Knows-how	L,L&PPT
CO4,CO8	Describe the Ulcerative colitis with respect to Grahani in Ayurveda.	1	Lecture	CAN	Knows-how	L&PPT ,L
CO4,CO8	Diagnose and evaluate conservative and surgical management of ulcerative colitis (Grahani), ileostomy, colostomy, and emergency resection anastomosis.	2	Practical Training 22.3	PSY-GUD	Shows-how	D-M,D-BED,CD,CBL,D
CO4,CO8	Diagnose and evaluate conservative and surgical management of ulcerative colitis (Grahani), ileostomy, colostomy, and emergency resection anastomosis.	2	Practical Training 22.4	PSY-GUD	Shows-how	CBL,D-BED,CD,D
CO4,CO8	Assist in and observe conservative and surgical procedures of ulcerative colitis (Grahani), ileostomy, colostomy, and resection anastomosis in emergency, and analyze case scenarios with their outcomes.	2	Experiential-Learning 22.4	PSY-GUD	Shows-how	SIM,CBL ,CD
CO4,CO8	Assist in and observe conservative and surgical procedures of ulcerative colitis (Grahani), ileostomy, colostomy, and resection anastomosis in emergency, and analyze case scenarios with their outcomes.	2	Experiential-Learning 22.5	PSY-GUD	Shows-how	CBL,CD, SIM
CO4,CO8	Assist in and observe conservative and surgical procedures of ulcerative colitis (Grahani), ileostomy, colostomy, and resection anastomosis in emergency, and analyze	2	Experiential-Learning 22.	PSY-GUD	Shows-how	CBL,SIM ,CD

	case scenarios with their outcomes.		6			

M 22 Unit 3 Therapeutics of scopies

- Diagnostic and Therapeutic applications of-
  - colonoscopy
  - Laparoscopy
  - Sigmoidoscopy.

References: 77,78

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the Diagnostic and Therapeutic applications of colonoscopy, Laparoscopy, Sigmoidoscopy.	1	Lecture	CC	Knows-how	L&PPT,L,L_VC
CO4,CO8	Describe the diagnostic and Therapeutic applications of colonoscopy, Laparoscopy, Sigmoidoscopy.	1	Lecture	CC	Knows-how	L_VC,L,L&PPT
CO4,CO8	Evaluate live or video-demonstrated colonoscopy, laparoscopy, and sigmoidoscopy procedures.	2	Practical Training 22.5	AFT-VAL	Shows-how	CBL,D-M,SIM,L_VC,CD
CO4,CO8	Evaluate live or video-demonstrated colonoscopy, laparoscopy, and sigmoidoscopy procedures.	2	Practical Training 22.6	AFT-RES	Shows-how	D-M,D,L_VC,SIM,RLE
CO4,CO8	Observe colonoscopy, laparoscopy, and sigmoidoscopy procedures, and analyze case scenarios with their outcomes.	2	Experiential-Learning 22.7	PSY-GUD	Shows-how	CBL,D-M,SIM,CD
CO4,CO8	Observe colonoscopy, laparoscopy, and sigmoidoscopy procedures, and analyze case scenarios with their outcomes.	2	Experiential-Learning 22.8	PSY-GUD	Shows-how	D-M,CD,CBL,SIM

M 22 Unit 4 Diagnosis and management of Undukpuchhagat disorders

- Diagnosis and management of-
  - Unddukpuchha Shoth (Appendicitis),
  - Vedhan-Visravan of Abhyantar Vidradhi (appendicular abscess),
  - Appendicular mass,
  - Appendicular Perforation,
  - Carcinoid Tumour and
- Other Neoplasms of Appendix. Appendicectomy (Open, Laparoscopic) and other advances in surgical management.

References: 1,5

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the etiopathogenesis, clinical features, and differential diagnosis of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms.	1	Lecture	CC	Knows-how	L,L&PPT
CO4,CO8	Describe the etiopathogenesis, clinical features, and differential diagnosis of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms	1	Lecture	CC	Knows-how	L&PPT ,L
CO4,CO8	Describe the etiopathogenesis, clinical features, and differential diagnosis of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms	1	Lecture	CC	Knows-how	L&PPT ,L
CO4,CO8	Describe the etiopathogenesis, clinical features, and differential diagnosis of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms	1	Lecture	CC	Knows-how	L,L&PPT
CO4,CO8	Diagnose and evaluate conservative and surgical management of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms.	2	Practical Training 22.7	PSY-GUD	Shows-how	D-M,CBL ,CD,D,D-BED

CO4,CO8	Diagnose and evaluate conservative and surgical management of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms.	2	Practical Training 22.8	PSY-GUD	Shows-how	D-BED,D,D-M,CD,CBL
CO4,CO8	Diagnose and evaluate conservative and surgical management of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms.	2	Practical Training 22.9	PSY-GUD	Shows-how	D-M,LRI,D,CD,CBL
CO4,CO8	Diagnose and evaluate conservative and surgical management of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms.	2	Practical Training 22.10	PSY-GUD	Shows-how	D,CD,CBL,D-M,D-BED
CO4,CO8	Assist in and observe conservative and surgical procedures of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—and analyze case scenarios with their outcomes.	2	Experiential-Learning 22.9	PSY-GUD	Shows-how	CBL,CD,SIM
CO4,CO8	Assist in and observe conservative and surgical procedures of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—and analyze case scenarios with their outcomes.	2	Experiential-Learning 22.10	PSY-GUD	Shows-how	SIM,CD,CBL,D-BED
CO4,CO8	Assist in and observe conservative and surgical procedures of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—and analyze case scenarios with their outcomes.	2	Experiential-Learning 22.11	PSY-GUD	Shows-how	CD,D-BED,SIM,CBL
CO4,CO8	Assist in and observe conservative and surgical procedures of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—and analyze case scenarios with their outcomes.	2	Experiential-Learning 22.12	PSY-GUD	Shows-how	CBL,CD,SIM,D-BED
CO4,CO8	Assist in and observe conservative and surgical procedures of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—and analyze case scenarios with their outcomes.	2	Experiential-Learning 22.13	PSY-GUD	Shows-how	CD,D,CBL,SIM,D-BED
Practical Training Activity						

Practical Training 22.1 : Recent advancements in the managements Burn injury with Scope for Ayurveda Treatment
Activity Details • Demonstration of burn care and complication identification on model. • Students practice dressing and plan long-term interventions. Teacher’s Role • Demonstrate, provide cases, supervise. Students’ Role • Perform care, identify complications, plan surgical/rehab/psychological measures.
Practical Training 22.2 : Diagnosis and evaluation of conservative and surgical management of caecal and large intestinal disorders—including congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, and neoplasms—in practical sessions.
Activity Details • Teacher presents cases of caecal and large intestinal disorders (congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, neoplasms) using history, labs, and imaging. • Demonstrate differential diagnosis and stepwise evaluation. • Illustrate conservative and surgical management approaches using diagrams, models, or operative videos. • Discuss indications for each approach and expected outcomes. Teacher’s Role • Present structured case material and explain diagnostic reasoning. • Demonstrate conservative and surgical management techniques. • Facilitate discussion linking diagnosis to management outcomes. Students’ Role • Observe diagnostic evaluation and management demonstration. • Note key features, indications, and procedural steps. • Participate in discussion on management rationale and outcomes.
Practical Training 22.3 : Diagnosis and evaluation of conservative and surgical management of caecal and large intestinal disorders—including congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, and neoplasms—in practical sessions.

Activity Details
• Teacher presents cases of caecal and large intestinal disorders (congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, neoplasms) using history, labs, and imaging.
• Demonstrate differential diagnosis and stepwise evaluation.
• Illustrate conservative and surgical management approaches using diagrams, models, or operative videos.
• Discuss indications for each approach and expected outcomes.
Teacher's Role
• Present structured case material and explain diagnostic reasoning.
• Demonstrate conservative and surgical management techniques.
• Facilitate discussion linking diagnosis to management outcomes.
Students' Role
• Observe diagnostic evaluation and management demonstration.
• Note key features, indications, and procedural steps.
• Participate in discussion on management rationale and outcomes.

Practical Training 22.4 : Diagnosis and evaluation of conservative and surgical management of ulcerative colitis (Grahani), ileostomy, colostomy, and emergency resection anastomosis in practical sessions.

Arranging the practical classes for demonstration of Diagnosis, conservative and surgical management of Ulcerative colitis/ Grahani, Ileostomy, colostomy, Resection anastomosis in emergency and also by Ayurvedic drugs and demonstrating the cases in IP/Operative room procedures , group discussion L-VC, REC and BS and IBL

Practical Training 22.5 : Diagnosis and evaluation of conservative and surgical management of ulcerative colitis (Grahani), ileostomy, colostomy, and emergency resection anastomosis in practical sessions.

Activity Details
• Teacher presents cases of ulcerative colitis (Grahani), ileostomy, colostomy, and emergency resection-anastomosis using history, labs, imaging, and operative videos.
• Demonstrate diagnostic reasoning and stepwise evaluation.
• Illustrate conservative and surgical management approaches using models, diagrams, or videos.
• Discuss indications for each approach and expected outcomes.
Teacher's Role
• Present structured case material and explain diagnostic reasoning.
• Demonstrate surgical techniques and conservative management principles.
• Facilitate discussion linking diagnosis to management outcomes.

Students' Role
• Observe diagnostic evaluation and management demonstration.
• Note key diagnostic features, procedural steps, and indications.
• Participate in discussion on management rationale and outcomes.

Practical Training 22.6 : Evaluation of ive or video-demonstrated colonoscopy, laparoscopy, and sigmoidoscopy procedures in practical sessions.

Activity Details
• Teacher demonstrates colonoscopy, laparoscopy, and sigmoidoscopy procedures via live session or videos.
• Stepwise explanation of indications, technique, and findings.
• Discussion on evaluation of therapeutic outcomes and procedural complications.
Teacher's Role
• Present live procedures or high-quality video demonstrations.
• Explain procedural steps, clinical significance, and interpretation of findings.
• Facilitate discussion on patient outcomes and key observations.
Students' Role
• Observe procedures attentively and take structured notes.
• Identify diagnostic features and management steps.
• Participate in discussion on outcomes, indications, and procedural considerations.

Practical Training 22.7 : Evaluation of live or video-demonstrated colonoscopy, laparoscopy, and sigmoidoscopy procedures in practical sessions.

Activity Details
• Teacher demonstrates colonoscopy, laparoscopy, and sigmoidoscopy procedures via live session or videos.
• Stepwise explanation of indications, technique, and findings.
• Discussion on evaluation of therapeutic outcomes and procedural complications.
Teacher's Role
• Present live procedures or high-quality video demonstrations.
• Explain procedural steps, clinical significance, and interpretation of findings.
• Facilitate discussion on patient outcomes and key observations.
Students' Role
• Observe procedures attentively and take structured notes.
• Identify diagnostic features and management steps.

• Participate in discussion on outcomes, indications, and procedural considerations.
Practical Training 22.8 : Diagnosis and evaluation of conservative and surgical management of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—in practical sessions.
Activity Details • Teacher presents cases of appendicular disorders (appendicitis, abscess, mass, perforation, carcinoid tumour, other neoplasms) with history, labs, imaging, and intraoperative findings. • Demonstrate differential diagnosis and evaluation. • Illustrate conservative and surgical management (e.g., antibiotics, appendectomy – open/laparoscopic, abscess drainage) using models, diagrams, or videos. • Discuss indications, steps, and expected outcomes. Teacher's Role • Present structured case material with diagnostic pathway. • Demonstrate conservative and surgical approaches. • Highlight decision-making criteria and expected outcomes. Students' Role • Observe diagnostic evaluation and management steps. • Note indications, procedures, and variations. • Participate in discussion correlating diagnosis with management outcomes.
Practical Training 22.9 : Diagnosis and evaluation of conservative and surgical management of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—in practical sessions.
Activity Details • Teacher presents cases of appendicular disorders (appendicitis, abscess, mass, perforation, carcinoid tumour, other neoplasms) with history, labs, imaging, and intraoperative findings. • Demonstrate differential diagnosis and evaluation. • Illustrate conservative and surgical management (e.g., antibiotics, appendectomy – open/laparoscopic, abscess drainage) using models, diagrams, or videos. • Discuss indications, steps, and expected outcomes. Teacher's Role • Present structured case material with diagnostic pathway. • Demonstrate conservative and surgical approaches. • Highlight decision-making criteria and expected outcomes.

Students' Role
• Observe diagnostic evaluation and management steps.
• Note indications, procedures, and variations.
• Participate in discussion correlating diagnosis with management outcomes.

Practical Training 22.10 : Diagnosis and evaluation of conservative and surgical management of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—in practical sessions

Activity Details
• Teacher presents cases of appendicular disorders (appendicitis, abscess, mass, perforation, carcinoid tumour, other neoplasms) with history, labs, imaging, and intraoperative findings.
• Demonstrate differential diagnosis and evaluation.
• Illustrate conservative and surgical management (e.g., antibiotics, appendectomy – open/laparoscopic, abscess drainage) using models, diagrams, or videos.
• Discuss indications, steps, and expected outcomes.
Teacher's Role
• Present structured case material with diagnostic pathway.
• Demonstrate conservative and surgical approaches.
• Highlight decision-making criteria and expected outcomes.
Students' Role
• Observe diagnostic evaluation and management steps.
• Note indications, procedures, and variations.
• Participate in discussion correlating diagnosis with management outcomes.

Practical Training 22.11 : Diagnosis and evaluation of conservative and surgical management of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—in practical sessions.

Activity Details
• Teacher presents cases of appendicular disorders (appendicitis, abscess, mass, perforation, carcinoid tumour, other neoplasms) with history, labs, imaging, and intraoperative findings.
• Demonstrate differential diagnosis and evaluation.
• Illustrate conservative and surgical management (e.g., antibiotics, appendectomy – open/laparoscopic, abscess drainage) using models, diagrams, or videos.
• Discuss indications, steps, and expected outcomes.
Teacher's Role

• Present structured case material with diagnostic pathway.
• Demonstrate conservative and surgical approaches.
• Highlight decision-making criteria and expected outcomes.
Students' Role
• Observe diagnostic evaluation and management steps.
• Note indications, procedures, and variations.
• Participate in discussion correlating diagnosis with management outcomes.

Experiential learning Activity

Experiential-Learning 22.1 : Assistance and observation of conservative and surgical procedures for caecal and large intestinal disorders—including congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, and neoplasm with analysis of case scenarios with their outcomes for experiential learning.

Activity Details
• Students divided into small groups; each group receives a case scenario of caecal or large intestinal disorders (e.g., obstruction, perforation, diverticulitis, faecal fistula, neoplasm).
• Analyze history, lab reports, and imaging to formulate differential diagnosis.
• Using models, simulators, or videos, demonstrate conservative and surgical management steps.
• Present findings, management rationale, and expected outcomes to peers.
Teacher's Role
• Provide case scenarios, investigation data, and models/simulators.
• Supervise scenario analysis and demonstration of procedures.
• Facilitate discussion on diagnosis, management, and outcomes.
Students' Role
• Analyze scenario data to establish differential diagnosis.
• Demonstrate conservative and surgical management on models/videos.
• Present case outcomes and discuss lessons learned with peers.

Experiential-Learning 22.2 : Assistance and observation of conservative and surgical procedures for caecal and large intestinal disorders—including congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, and neoplasm with analysis of case scenarios with their outcomes for experiential learning.

Activity Details

• Students divided into small groups; each group receives a case scenario of caecal or large intestinal disorders (e.g., obstruction, perforation, diverticulitis, faecal fistula, neoplasm).
• Analyze history, lab reports, and imaging to formulate differential diagnosis.
• Using models, simulators, or videos, demonstrate conservative and surgical management steps.
• Present findings, management rationale, and expected outcomes to peers.
Teacher's Role
• Provide case scenarios, investigation data, and models/simulators.
• Supervise scenario analysis and demonstration of procedures.
• Facilitate discussion on diagnosis, management, and outcomes.
Students' Role
• Analyze scenario data to establish differential diagnosis.
• Demonstrate conservative and surgical management on models/videos.
• Present case outcomes and discuss lessons learned with peers.

Experiential-Learning 22.3 : Assistance and observation of conservative and surgical procedures for caecal and large intestinal disorders—including congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, and neoplasm with analysis of case scenarios with their outcomes for experiential learning.

Activity Details
• Students divided into small groups; each group receives a case scenario of caecal or large intestinal disorders (e.g., obstruction, perforation, diverticulitis, faecal fistula, neoplasm).
• Analyze history, lab reports, and imaging to formulate differential diagnosis.
• Using models, simulators, or videos, demonstrate conservative and surgical management steps.
• Present findings, management rationale, and expected outcomes to peers.
Teacher's Role
• Provide case scenarios, investigation data, and models/simulators.
• Supervise scenario analysis and demonstration of procedures.
• Facilitate discussion on diagnosis, management, and outcomes.
Students' Role
• Analyze scenario data to establish differential diagnosis.
• Demonstrate conservative and surgical management on models/videos.
• Present case outcomes and discuss lessons learned with peers.

Experiential-Learning 22.4 : Assistance and observation of conservative and surgical procedures of ulcerative colitis (Grahani), ileostomy, colostomy, and resection anastomosis in emergency, with analysis of case scenarios with their outcomes for experiential learning.

Activity Details
• Students observe conservative and surgical management of ulcerative colitis (Grahani), ileostomy, colostomy, and emergency resection-anastomosis in ward/OT or via video.
• Groups analyze case histories, labs, imaging, and operative findings.
• Discuss management decisions, outcomes, and indications for conservative vs surgical approaches.
• Present findings and rationale to peers.
Teacher's Role
• Facilitate OT/ward observation or provide video demonstrations.
• Provide case materials and guide analysis.
• Moderate discussion and highlight key learning points.
Students' Role
• Observe procedures and document important steps.
• Analyze case data to understand management rationale.
• Present outcomes and participate in peer discussion.

Experiential-Learning 22.5 : Assistance and observation of conservative and surgical procedures of ulcerative colitis (Grahani), ileostomy, colostomy, and resection anastomosis in emergency, with analysis of case scenarios with their outcomes for experiential learning.

Activity Details
• Students observe conservative and surgical management of ulcerative colitis (Grahani), ileostomy, colostomy, and emergency resection-anastomosis in ward/OT or via video.
• Groups analyze case histories, labs, imaging, and operative findings.
• Discuss management decisions, outcomes, and indications for conservative vs surgical approaches.
• Present findings and rationale to peers.
Teacher's Role
• Facilitate OT/ward observation or provide video demonstrations.
• Provide case materials and guide analysis.
• Moderate discussion and highlight key learning points.
Students' Role
• Observe procedures and document important steps.

• Analyze case data to understand management rationale.
• Present outcomes and participate in peer discussion.

Experiential-Learning 22.6 : Assistane and observation of conservative and surgical procedures of ulcerative colitis (Grahani), ileostomy, colostomy, and resection anastomosis in emergency, with analysis of case scenarios with their outcomes for experiential learning.

Activity Details
• Students observe conservative and surgical management of ulcerative colitis (Grahani), ileostomy, colostomy, and emergency resection-anastomosis in ward/OT or via video.
• Groups analyze case histories, labs, imaging, and operative findings.
• Discuss management decisions, outcomes, and indications for conservative vs surgical approaches.
• Present findings and rationale to peers.
Teacher's Role
• Facilitate OT/ward observation or provide video demonstrations.
• Provide case materials and guide analysis.
• Moderate discussion and highlight key learning points.
Students' Role
• Observe procedures and document important steps.
• Analyze case data to understand management rationale.
• Present outcomes and participate in peer discussion.

Experiential-Learning 22.7 : Observation of colonoscopy, laparoscopy, and sigmoidoscopy procedures, and analysis of case scenarios with their outcomes for experiential learning.

Activity Details
• Students observe colonoscopy, laparoscopy, and sigmoidoscopy procedures live in OT/endoscopy unit or via recorded videos.
• Groups receive case scenarios with patient history, labs, and imaging linked to the observed procedure.
• Students analyze findings, discuss indications, complications, and outcomes.
• Each group presents conclusions and management rationale.
Teacher's Role
• Facilitate observation of procedures or provide video demonstrations.
• Provide structured case scenarios and guide analysis.
• Moderate group discussion and clarify key learning points.

Students' Role
• Observe procedures attentively and document critical steps.
• Analyze case data and correlate with procedural findings.
• Present case outcomes and participate in peer discussions.

Experiential-Learning 22.8 : Observation of colonoscopy, laparoscopy, and sigmoidoscopy procedures, and analysis of case scenarios with their outcomes for experiential learning.

Activity Details
• Students observe colonoscopy, laparoscopy, and sigmoidoscopy procedures live in OT/endoscopy unit or via recorded videos.
• Groups receive case scenarios with patient history, labs, and imaging linked to the observed procedure.
• Students analyze findings, discuss indications, complications, and outcomes.
• Each group presents conclusions and management rationale.
Teacher's Role
• Facilitate observation of procedures or provide video demonstrations.
• Provide structured case scenarios and guide analysis.
• Moderate group discussion and clarify key learning points.
Students' Role
• Observe procedures attentively and document critical steps.
• Analyze case data and correlate with procedural findings.
• Present case outcomes and participate in peer discussions.

Experiential-Learning 22.9 : Assistance in and observation of conservative and surgical procedures of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—with analysis of case scenarios with their outcomes for experiential learning

Activity Details
• Students are divided into small groups and given scenario cards (e.g., acute appendicitis, appendicular abscess, appendicular mass, perforation, carcinoid tumour).
• Each group interprets history, clinical findings, labs, and imaging.
• They decide on diagnosis and outline conservative vs surgical management.
• Groups present their management plan and expected outcomes to peers.
Teacher's Role
• Provide realistic case scenarios and guide discussion.
• Clarify diagnostic reasoning and surgical indications.

• Give feedback on students' management decisions.
Students' Role
• Actively analyze cases, justify diagnosis, and propose management.
• Compare different approaches across groups.
• Reflect on outcomes and possible complications.

Experiential-Learning 22.10 : Assistance in and observation of conservative and surgical procedures of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—with analysis of case scenarios with their outcomes for experiential learning

Activity Details
• Students are divided into small groups and given scenario cards (e.g., acute appendicitis, appendicular abscess, appendicular mass, perforation, carcinoid tumour).
• Each group interprets history, clinical findings, labs, and imaging.
• They decide on diagnosis and outline conservative vs surgical management.
• Groups present their management plan and expected outcomes to peers.
Teacher's Role
• Provide realistic case scenarios and guide discussion.
• Clarify diagnostic reasoning and surgical indications.
• Give feedback on students' management decisions.
Students' Role
• Actively analyze cases, justify diagnosis, and propose management.
• Compare different approaches across groups.
• Reflect on outcomes and possible complications.

Experiential-Learning 22.11 : Assistance in and observation of conservative and surgical procedures of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—with analysis of case scenarios with their outcomes for experiential learning

Activity Details
• Students are divided into small groups and given scenario cards (e.g., acute appendicitis, appendicular abscess, appendicular mass, perforation, carcinoid tumour).
• Each group interprets history, clinical findings, labs, and imaging.
• They decide on diagnosis and outline conservative vs surgical management.
• Groups present their management plan and expected outcomes to peers.
Teacher's Role
• Provide realistic case scenarios and guide discussion.

• Clarify diagnostic reasoning and surgical indications.
• Give feedback on students' management decisions.
Students' Role
• Actively analyze cases, justify diagnosis, and propose management.
• Compare different approaches across groups.
• Reflect on outcomes and possible complications.

Experiential-Learning 22.12 : Assistance in and observation of conservative and surgical procedures of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—with analysis of case scenarios with their outcomes for experiential learning

Activity Details
• Students are divided into small groups and given scenario cards (e.g., acute appendicitis, appendicular abscess, appendicular mass, perforation, carcinoid tumour).
• Each group interprets history, clinical findings, labs, and imaging.
• They decide on diagnosis and outline conservative vs surgical management.
• Groups present their management plan and expected outcomes to peers.
Teacher's Role
• Provide realistic case scenarios and guide discussion.
• Clarify diagnostic reasoning and surgical indications.
• Give feedback on students' management decisions.
Students' Role
• Actively analyze cases, justify diagnosis, and propose management.
• Compare different approaches across groups.
• Reflect on outcomes and possible complications.

Experiential-Learning 22.13 : Assistance in and observation of conservative and surgical procedures of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—with analysis of case scenarios with their outcomes for experiential learning

Activity Details
• Students are divided into small groups and given scenario cards (e.g., acute appendicitis, appendicular abscess, appendicular mass, perforation, carcinoid tumour).
• Each group interprets history, clinical findings, labs, and imaging.
• They decide on diagnosis and outline conservative vs surgical management.
• Groups present their management plan and expected outcomes to peers.

Teacher's Role
• Provide realistic case scenarios and guide discussion.
• Clarify diagnostic reasoning and surgical indications.
• Give feedback on students' management decisions.
Students' Role
• Actively analyze cases, justify diagnosis, and propose management.
• Compare different approaches across groups.
• Reflect on outcomes and possible complications.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 25 marks per credit i.e. 50 marks. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment. 1. Conduct theory open book test for 25 marks which will contain either 2 LAQ of 10 marks each and 1 SAQ of 5 marks. along with viva of 25 marks OR 2. Viva -50 marks Take questions from each Units and select 25 questions for the module. 2marks for each question can be allocated Preparation**:** Create open-ended questions testing clinical knowledge, procedural steps, and reasoning, indentify Insruments, X-rays, CT, MRI Films etc Execution: Conduct one-on-one or panel-based interviews. Evaluation**:** Assess knowledge depth, clarity, and application ability. OR 3. DOPS (Direct Observation of Procedural Skills) - 25marks for each procedure . Select any two procedures for the Module Preparation: Identify clinical examinations, diagnostic methods, investigations of diseases of Caecum and Vermiform appendix and large intestine, Laparotomy, Laparoscopic procedures etc. Execution: Allow students to diagnose the case and observe clinical examinations in a clinical or simulated environment. Observe key steps, technique and patient interaction. Evaluation: Evaluate the skill, technique, of clinical examinations, differential diagnosis and surgical skills. OR 4. OSCE (Objective Structured Clinical Examination) -Plan 5 clinical examination stations carrying 50 marks Preparation: Set up stations mimicking clinical scenarios focusing on unit contents. Execution: Allow students to demonstrate clinical skills, differntial diagnosis of acute abdomen, Examination of abdomen, communication with patient and decision-making at each station. Provide feedback immediately after the station or during review sessions.	4

Evaluation: Assess clinical reasoning, procedural accuracy, and patient-centered approach during the task.
OR
OSPE (Objective Structured Practical Examination)
Plan 5 clinical examination stations carrying 10 marks each.
Preparation: Develop multiple stations covering practical and theoretical aspects.
e..g. Interpreting Imaging:
Focus:
Analyzing CT scans or other imaging modalities (e.g., ultrasound, MRI) to identify signs of appendicitis, diverticulitis, or other diseases of the cecum and large intestine.
Skills Assessed:
Ability to recognize normal and abnormal findings on imaging, interpret findings in the context of clinical presentation, and formulate differential diagnoses.
Example Question:
"Identify the findings on this CT scan that are suggestive of appendicitis and explain your reasoning."
e.g. Surgical Skills and Procedures:
Focus:
Demonstrating knowledge of surgical techniques for appendectomy, colectomy, or other procedures related to the cecum and large intestine.
Skills Assessed:
Understanding of surgical approaches, anatomical landmarks, and potential complications.
Example Question:
"Describe the steps involved in performing an appendectomy, including the surgical approach, ligation of vessels, and closure of the abdominal wall."

OR
Any practical in converted form can be taken for assessment (25 Marks) and Any Experiential Learning on mannequin presentations of surgical procedures etc can be taken as an assessment.(25 Marks)

Semester No : 6

Module 23 : Gudagat Roga (Diseases of Rectum and Anal Canal)

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe the applied anatomy and different diseases of the Rectum and Anal canal effectively.
- Conduct a thorough assessment by using various clinical examinations and diagnostic tools to know the different Diseases of the Rectum and Anal Canal.
- Identify and manage the Emergency conditions of diseases of the Rectum and Anal canal.
- Perform or assist in different surgical procedures by using Ayurveda Principles and newer technologies. and handle post-operative management and surgical complications.

M 23 Unit 1 Diagnosis and Management of Adhog Raktapitta

- Diagnosis and Management of Adhog Raktapitta (Lower Gastrointestinal bleeding).

References: 1,5,9

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe various causes of bleeding per anum, along with differential diagnosis and management.	1	Lecture	CAN	Knows-how	L&PPT ,L
CO4,CO8	Present cases of bleeding per anus (Adjog Raktpitta) with differential diagnoses and critically appraise related journal articles	2	Practical Training 23.1	PSY-MEC	Shows-how	CBL,CD, L_VC,IBL,JC
CO4,CO8	Perform hands-on proctoscopy and colonoscopy to identify sources of bleeding, observe and assist in surgical procedures for bleeding per anus (Adhog Raktpitta), and analyze related case scenarios	2	Experiential-Learning 23.1	PSY-GUD	Shows-how	D-BED,D-M,SIM,CBL
CO4,CO8	Perform hands-on proctoscopy and colonoscopy to identify sources of bleeding, observe and assist in surgical procedures for bleeding per anum, and analyze related case scenarios	2	Experiential-Learning 23.2	PSY-GUD	Shows-how	SIM,CD, D-M,CBL ,D-BED

M 23 Unit 2 Congenital Anomalies of Rectum

- Diagnosis and Management of-

- Congenital Anomalies,
- Inflammation,
- Ulcer,
- Stenosis,
- Neoplasm of Rectum.

References: 1,7,8

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe congenital anomalies, Inflammation, Ulcer, Stenosis, Neoplasm of Rectum.	1	Lecture	CC	Know	L&PPT ,L
CO4,CO8	Describe congenital anomalies, Inflammation, Ulcer, Stenosis, Neoplasm of Rectum.	1	Lecture	CC	Know	L,L&PPT
CO4,CO8	Interpret radiological investigations and present cases of congenital anomalies, ulcers, neoplasms, and other rectal conditions	2	Practical Training 23.2	PSY-GUD	Shows-how	CBL,D-BED
CO4,CO8	Interpret radiological investigations and present cases of congenital anomalies, ulcers, neoplasms, and other rectal conditions	2	Practical Training 23.3	PSY-GUD	Shows-how	D,X-Ray, CD,D-BED,CBL
CO4,CO8	Observe surgical procedures—such as anoplasty and tumor resections—assist as appropriate, and analyze pre- and post-operative care and case scenarios	2	Experiential-Learning 23.3	PSY-GUD	Shows-how	D-M,CBL ,D,SIM
CO4,CO8	Observe surgical procedures—such as anoplasty and tumor resections—assist as appropriate, and analyze pre- and post-operative care and case scenarios	2	Experiential-Learning 23.4	PSY-GUD	Shows-how	SIM,CD, CBL,D

M 23 Unit 3 Nidanpanchak and Chikitsa of Arsha (Haemorrhoids)

- Nidanpanchak and Chikitsa of Arsha.

- Diagnosis and Management of Haemorrhoids
    - Various methods of haemorrhoidectomy.
    - Rubber band Ligation.
    - Sclerotherapy.
    - IRC, Radio frequency / Laser ablation.
    - Stapler, etc. and new advances

References: 1,2,3,4,5,71,72

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the causes, diagnosis, and traditional Ayurvedic management of Arsha (Hemorrhoids).	1	Lecture	CK	Know	L&PPT
CO4,CO8	Observe/ assist different surgical procedures, identify different insruments and equipments, discuss their usage in Arsha (haemorrhoids)	2	Practical Training 23.4	PSY-GUD	Shows-how	SIM,D,CBL,CD
CO4,CO8	Observe/ assist different surgical procedures, identify different insruments and equipments, discuss their usage in Arsha (haemorrhoids)	2	Practical Training 23.5	PSY-GUD	Shows-how	SIM,CBL,D,CD
CO4,CO8	Observe/ assist different surgical procedures and discuss their usage in Arsha (haemorrhoids)	1	Practical Training 23.6	PSY-GUD	Shows-how	D,SIM,PBL,L_VC,CBL
CO4,CO8	Demonstrate techniques of haemorrhoidectomy, observe and assist in surgical procedures, and evaluate management of complications	2	Experiential-Learning 23.5	PSY-GUD	Shows-how	D,D-BED,SIM
CO4,CO8	Demonstrate techniques of haemorrhoidectomy, observe and assist in surgical procedures, and evaluate management of complications	2	Experiential-Learning 23.6	PSY-GUD	Shows-how	SIM,D
CO4,CO8	Demonstrate techniques of haemorrhoidectomy, observe and assist in surgical procedures, and evaluate management of complications	1	Experiential-Learning 23.	PSY-GUD	Shows-how	SIM,D-BED

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M 23 Unit 4 Diagnosis and management of Bhagandara (Fistula-in-ano)

- Nidanpanchak and Chikitsa of Bhagandara.
- Diagnosis and management of Fistula-in-ano.
    - LIFT,
    - Laser therapy,
    - Core fistulectomy,
    - VAFT and
    - other recent advancement s like IFTAK and MIKST in the management of Fistula in ano.

References: 1,7,8,46,71,72

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the causes, diagnosis, and management of Bhagandara (Fistula-in-ano) including recent advancements.	1	Lecture	CC	Knows-how	L,L&PPT
CO4,CO8	Describe the causes, diagnosis, and management of Bhagandara (Fistula-in-ano) including recent advancements.	1	Lecture	CE	Knows-how	L&PPT ,L
CO4,CO8	Illustrate case taking and clinical examination for fistula management, identify indications for techniques such as LIFT (ligation of intersphincteric fistula tract), core fistulectomy, and K??ras?tra, and present related cases	2	Practical Training 23.7	PSY-GUD	Knows-how	CD,D-BED,CBL
CO4,CO8	Illustrate case taking and clinical examination for fistula management, identify indications for techniques such as LIFT (ligation of intersphincteric fistula tract), core fistulectomy, and K??ras?tra, and present related cases	2	Practical Training 23.8	PSY-GUD	Shows-how	CD,D-BED,D,CBL
CO4,CO8	Illustrate case taking and clinical examination for fistula management, identify indications for techniques such as LIFT (ligation of intersphincteric fistula tract), core fistulectomy, and K??ras?tra, and present related cases	1	Practical Training 23.9	PSY-GUD	Shows-how	CBL,L_VC,CD,D-BED
CO4,CO8	Observe advanced surgical procedures for Arsha (haemorrhoids), and assist as	2	Experiential-	PSY-	Shows-	SIM,D

	appropriate, and analyze related case scenarios.		Learning 23.8	GUD	how	
CO4,CO8	Observe advanced surgical procedures for Arsha (haemorrhoids), and assist as appropriate, and analyze related case scenarios.	2	Experiential-Learning 23.9	PSY-GUD	Shows-how	D,SIM
CO4,CO8	Observe advanced surgical procedures for Arsha (haemorrhoids), and assist as appropriate, and analyze related case scenarios.	2	Experiential-Learning 23.10	PSY-GUD	Shows-how	D,SIM
CO4,CO8	Observe advanced surgical procedures for Arsha (haemorrhoids), and assist as appropriate, and analyze related case scenarios.	2	Experiential-Learning 23.11	PSY-GUD	Shows-how	SIM,D

M 23 Unit 5 Ksharsutra & Ksharkarma

- Ksharsutra and Ksharkarma and its advancement, and its usage in anorectal disorders.

References: 1,2,3,46,69,70,71,72,85

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the preparation of K??ra and K??ras?tra, and discuss K??rakarma along with its advancements in anorectal disorders	1	Lecture	CC	Knows-how	L&PPT,L
CO4,CO8	Apply clinical reasoning to identify suitable and unsuitable cases for Ksharasutra Chikits? by evaluating its indications and contraindications	2	Practical Training 23.10	PSY-MEC	Shows-how	D-M,D
CO4,CO8	Perform hands-on application of Ksharasutra in Bhagandara and apply of kshara in Arsha	2	Experiential-Learning 23.12	PSY-GUD	Shows-how	D-M,SIM
CO4,CO8	Perform hands-on application of Ksharasutra in Bhagandara and apply of Kshara in	2	Experiential-	PSY-	Shows-	SIM,D

	Arsha		Learning 23.13	GUD	how	

M 23 Unit 6 Nidanpanchak and Chikitsa of Parikartika (Fissure-in ano)

- Nidanpanchak and Chikitsa of-
  - Parikartika (Fissure-in-ano)
  - Sannirudha Guda (Anal Stenosis and stricture),
  - Gudavidradhi (Perianal Abscess),
  - Faecal Incontinence,
  - Anorectal Injuries,
  - Foreign bodies.
- Reconstructive procedure for Anal Stricture.

References: 1,46

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the pathology of Parikartika (Fissure-in-ano) Sannirudha Guda (Anal Stenosis and stricture), Gudavidradhi (Perianal Abscess), Faecal Incontinence, Anorectal Injuries, Foreign bodies.	1	Lecture	CK	Knows-how	L,L&PPT
CO4,CO8	Describe the pathology of Parikartika (Fissure-in-ano) Sannirudha Guda (Anal Stenosis and stricture), Gudavidradhi (Perianal Abscess), Faecal Incontinence, Anorectal Injuries, Foreign bodies.-L2	1	Lecture	CK	Know	L&PPT
CO4,CO8	Describe the pathology of Parikartika (Fissure-in-ano) ,Sannirudha Guda (Anal Stenosis and stricture), Gudavidradhi (Perianal Abscess), Faecal Incontinence, Anorectal Injuries, Foreign bodies.	1	Lecture	CC	Knows-how	L&PPT ,L
CO4,CO8	Conduct clinical examination, formulate differential diagnoses, and develop treatment plans—including medical and surgical management—for anorectal disorders such as Parikartika (fissure-in-ano), Sannirudha Guda (anal stenosis and stricture), Gudavidradhi (perianal abscess), faecal incontinence, anorectal injuries, and foreign bodies	2	Practical Training 23.11	PSY-MEC	Shows-how	D,CD,CBL

CO4,CO8	Conduct clinical examination, formulate differential diagnoses, and develop treatment plans—including medical and surgical management—for anorectal disorders such as Parikartika (fissure-in-ano), Sannirudha Guda (anal stenosis and stricture), Gudavidradhi (perianal abscess), faecal incontinence, anorectal injuries, and foreign bodies in practical sessions.	2	Practical Training 23.12	PSY-GUD	Shows-how	CD,D-BED,D-M,CBL,D
CO4,CO8	Observe surgical procedures for anorectal disorders—including Parikartika (fissure-in-ano), Sannirudha Guda (anal stenosis and stricture), Gudavidradhi (perianal abscess), faecal incontinence, anorectal injuries, and foreign bodies—assist as appropriate, and analyze case scenarios with their outcomes	2	Experiential-Learning 23.14	PSY-GUD	Shows-how	D,SIM
CO4,CO8	Observe surgical procedures for anorectal disorders—including Parikartika (fissure-in-ano), Sannirudha Guda (anal stenosis and stricture), Gudavidradhi (perianal abscess), faecal incontinence, anorectal injuries, and foreign bodies—assist as appropriate, and analyze related case scenarios	2	Experiential-Learning 23.15	PSY-GUD	Shows-how	D,SIM
CO4,CO8	Observe surgical procedures for anorectal disorders—including Parikartika (fissure-in-ano), Sannirudha Guda (anal stenosis and stricture), Gudavidradhi (perianal abscess), faecal incontinence, anorectal injuries, and foreign bodies—assist as appropriate, and analyze related case scenarios	2	Experiential-Learning 23.16	PSY-GUD	Shows-how	D,SIM

M 23 Unit 7 Diagnosis and Management of Pilonidal Sinus

- Diagnosis and management of Pilonidal sinus
  - Nadivrana – Chedana,
  - Z-Plasty,
  - Rhomboid Flap,
  - VAFT
  - MIKKT etc. and
  - recent advances

References: 1,4,5,7,8

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe the etiology and treatment of pilonidal sinus, including recent advances like Z-plasty and Rhomboid flap.	1	Lecture	CC	Knows-how	L&PPT ,L
CO4,CO8	Describe the etiology and treatment of pilonidal sinus, including recent advances like Z-plasty and Rhomboid flap.	1	Lecture	CC	Knows-how	L,L&PPT
CO4,CO8	Describe the etiology and treatment of pilonidal sinus, including recent advances like Z-plasty and Rhomboid flap.	1	Lecture	CC	Knows-how	L&PPT ,L
CO4,CO8	Conduct diagnosis and observe indications of different surgical techniques for pilonidal sinus, identify their complications, and present related cases in practical sessions	2	Practical Training 23.13	PSY-MEC	Shows-how	CD,CBL, D-M,D,D-BED
CO4,CO8	Conduct diagnosis and observe indications of different surgical techniques for pilonidal sinus, identify their complications, and present related cases in practical sessions	2	Practical Training 23.14	PSY-MEC	Shows-how	D-M,CD, CBL,D-BED,D
CO4,CO8	Observe live or video-demonstrated surgical procedures—such as Z-plasty and flap techniques—for pilonidal sinus management, assist as appropriate, and analyze related case scenarios.	2	Experiential-Learning 23.17	PSY-GUD	Shows-how	D,SIM
CO4,CO8	Observe live or video-demonstrated surgical procedures—such as Z-plasty and flap techniques—for pilonidal sinus management, assist as appropriate, and analyze related case scenarios.	2	Experiential-Learning 23.18	PSY-GUD	Shows-how	D,SIM

M 23 Unit 8 Nidanpanchak and Chikitsa of Gudabransha (Prolapse of Rectum)

- Nidanpanchak and Chikitsa of Gudabransha (Prolapse of rectum-
- Advance Surgical Procedures like
    - Abdominal Rectopexy, (Open and Laparoscopic)
    - Suture and mesh rectopexy,
    - Transanal Suture Rectopexy,
    - pelvic floor repair and

- other recent advances in the management of rectal prolapse.

References: 1,2,5,6,7,70,71,72

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Discuss Nidan Panchaka of Gudabransha (rectal prolapse), along with its etiopathology, types, symptoms, clinical examinations, and differential diagnosis	1	Lecture	CAN	Knows-how	L,L&PPT
CO4,CO8	Discuss Nidan Panchaka of Gudabransha (rectal prolapse), along with its etiopathology, types, symptoms, clinical examinations, and differential diagnosis	1	Lecture	CAN	Knows-how	L&PPT ,L
CO4,CO8	Perform clinical and local examinations—including proctoscopy and sphincterotone assessment.	2	Practical Training 23.15	PSY-MEC	Shows-how	D,D-M,CBL,D-BED
CO4,CO8	Perform clinical and local examinations—including proctoscopy and sphincterotone assessment.	2	Practical Training 23.16	PSY-MEC	Shows-how	D-BED,D ,D-M
CO4,CO8	Observe surgical procedures of Gudabransha (prolapse rectum), assist as appropriate, and analyze related case scenarios	2	Experiential-Learning 23.19	PSY-GUD	Shows-how	CBL,SIM ,CD,D
CO4,CO8	Observe surgical procedures of Gudabransha (prolapse rectum), assist as appropriate, and analyze related case scenarios	2	Experiential-Learning 23.20	PSY-GUD	Shows-how	D,SIM

Practical Training Activity

Practical Training 23.1 : Present cases of bleeding per anum with differential diagnoses and critically appraise related journal articles

Activity Details
• Students prepare and present clinical cases of bleeding per anus (Adjog Raktpitta).
• Each case is discussed with differential diagnoses (e.g., hemorrhoids, fissure, polyp, malignancy, IBD).

• Students select and critically appraise journal articles relevant to the case (diagnosis/management).
• Peer discussion and faculty feedback follow.
Teacher's Role
• Facilitate case presentation and guide critical analysis.
• Provide appraisal framework for research articles.
• Clarify diagnostic approaches and management.
Students' Role
• Collect case data, prepare presentation with differentials.
• Appraise assigned/relevant research articles.
• Present findings, engage in discussion, and reflect on outcomes.

Practical Training 23.2 : Interpret radiological investigations and present cases of congenital anomalies, ulcers, neoplasms, and other rectal conditions

Activity Details
• Students review radiological investigations (X-ray, USG, CT, MRI, Barium enema) of rectal conditions.
• Small groups are assigned cases of congenital anomalies, ulcers, neoplasms, and other rectal disorders.
• Each group interprets findings, prepares a short case presentation, and correlates with clinical features and management options.
• Peer and teacher discussion on accuracy of interpretation and clinical relevance.
Teacher's Role
• Provide selected radiological images/case files.
• Guide interpretation, clarify key findings, and connect with surgical management.
• Moderate presentations and provide structured feedback.
Students' Role
• Analyze radiological findings in assigned cases.
• Prepare and deliver presentations with differential diagnosis.
• Engage in peer discussion and apply feedback.

Practical Training 23.3 : Interpretion of radiological investigations and presentation of cases of congenital anomalies, ulcers, neoplasms, and other rectal conditions

Activity Details
• Students review radiological investigations (X-ray, USG, CT, MRI, Barium enema) of rectal conditions.
• Small groups are assigned cases of congenital anomalies, ulcers, neoplasms, and other rectal disorders.
• Each group interprets findings, prepares a short case presentation, and correlates with clinical features and management options.
• Peer and teacher discussion on accuracy of interpretation and clinical relevance.
Teacher's Role
• Provide selected radiological images/case files.
• Guide interpretation, clarify key findings, and connect with surgical management.
• Moderate presentations and provide structured feedback.
Students' Role
• Analyze radiological findings in assigned cases.
• Prepare and deliver presentations with differential diagnosis.
• Engage in peer discussion and apply feedback.

Practical Training 23.4 : Perform apprpriate surgical procedures and discuss their indications for Ar?a (haemorrhoids)

Activity Details
• Students observe/assist in surgical procedures for *Arsha* (haemorrhoids)—open, closed, stapler, or Ksharasutra.
• Identify surgical instruments and equipment (proctoscope, artery forceps, stapler device, Ksharasutra set, cautery, etc.).
• Discuss indications, usage, and handling techniques in context of haemorrhoid surgery.
Teacher's Role
• Demonstration of Different Surgical Instruments, Demonstration of Function of Different New Technologies like Laser, IRC, DGHAL Etc. and explain their role in different techniques.
• Supervise students during OT observation/assisting.
• Facilitate discussion linking surgical steps with instrument use.
Students' Role
• Observe/assist procedures attentively.
• Identify and note instruments/equipment with their specific usage.
• Participate in guided discussion and clarify doubts.

Practical Training 23.5 : Performing apprpriate surgical procedures and discussion on their indications for Ar?a (haemorrhoids)

Activity Details
• Students are provided with a structured OT checklist listing surgical instruments/equipment used in *Arsha* (haemorrhoids) management (e.g., proctoscope, artery forceps, cautery, stapler, Ksharasutra kit).
• During live procedure observation/assisting, students tick instruments as they are used and note their specific role.
• Post-OT, students present their checklist findings and discuss rationale for instrument selection in different techniques (open, closed, stapler, Ksharasutra).
Teacher's Role
• Prepare and distribute the instrument/equipment checklist.
• Guide students in completing and interpreting it during OT.
• Summarize by correlating instrument use with surgical technique.
Students' Role
• Actively use checklist during OT observation/assisting.
• Identify and match instruments with their function.
• Share findings and clarify doubts in group discussion.

Practical Training 23.6 : Perform surgical procedures and discuss their indications for Ar?a (haemorrhoids)

Activity Details

- Students observe or assist in surgical procedures for *Arsha* (open/closed hemorrhoidectomy, stapler, Ksharasutra).
- Note instruments, steps, and role of each technique.
- Post-observation, students participate in a short group discussion on procedure selection, benefits, and limitations.

Teacher's Role

- Demonstrate and guide observation/assisting.
- Facilitate discussion linking modern and Ayurvedic approaches.

Students' Role

- Actively observe/assist procedures.
- Record key findings.
- Share observations during discussion.

Practical Training 23.7 : Illustration of case taking and clinical examination for fistula management, identifications of indications for techniques such as LIFT (ligation of intersphincteric fistula tract), core fistulectomy, and K??ras?tra, and presention of related cases in practical sessions.

Activity Details

- Students perform case taking and clinical examination for fistula patients under supervision.
- Identify indications and suitability for different techniques (LIFT, core fistulectomy, K??ras?tra).
- Present selected cases with diagnostic findings and management plan in small groups.

Teacher's Role

- Demonstrate systematic case taking and clinical exam methods.
- Guide students in correlating findings with indications for each surgical technique.

- Facilitate case presentations and provide clarifications.

Students' Role

- Conduct history-taking and examination in real/assigned cases.
- Discuss and map findings to specific treatment techniques.
- Present case summaries with justified management choices.

Practical Training 23.8 : Illustration of case taking and clinical examination for fistula management, identifications of indications for techniques such as LIFT (ligation of intersphincteric fistula tract), core fistulectomy, and K??ras?tra, and presention of related cases in practical sessions.

- Students practice case taking and clinical examination of fistula patients in OPD/bedside.
- Identify indications for LIFT, core fistulectomy, and K??ras?tra from examination findings.
- Present selected cases with management options in a brief summary.

Teacher's Role

- Demonstrate correct approach to case taking and perianal examination.

- Highlight key clinical findings that guide choice of technique.
- Supervise case presentations and provide input.

Students' Role

- Perform history taking and systematic examination.
- Note indications for surgical techniques.
- Present cases concisely with justified treatment choice.

Practical Training 23.9 : Illustration of case taking and clinical examination for fistula management, identifications of indications for techniques such as LIFT (ligation of intersphincteric fistula tract), core fistulectomy, and K??ras?tra, and presention of related cases in practical sessions.

- Students practice case taking and clinical examination of fistula patients in OPD/bedside.
- Identify indications for LIFT, core fistulectomy, and K??ras?tra from examination findings.
- Present selected cases with management options in a brief summary.

Teacher's Role

- Demonstrate correct approach to case taking and perianal examination.

- Highlight key clinical findings that guide choice of technique.
- Supervise case presentations and provide input.

Students' Role

- Perform history taking and systematic examination.
- Note indications for surgical techniques.
- Present cases concisely with justified treatment choice.

Practical Training 23.10 : Application of clinical reasoning to identify suitable and unsuitable cases for K??ras?tra Chikits? by evaluating its indications and contraindications during practical sessions.

Activity Details

- Students are given real/assigned cases of fistula, piles, or other ano-rectal conditions.
- Apply clinical reasoning to identify whether Ksharasutra is indicated or contraindicated.
- Present findings with justification for suitability/unsuitability.

Teacher's Role

- Demonstrate case evaluation process (history, examination, risk factors).
- Provide case records or live patients for assessment.
- Guide students in correlating clinical features with indications/contraindications.
- Demonstrate Ksharasutra Changing

Students' Role

- Perform case evaluation (history & clinical notes review).
- Apply reasoning to decide suitability for Ksharasutra
- Present decision and defend reasoning in group discussion.

Practical Training 23.11 : Conduction of clinical examination, formulatation of differential diagnoses, and develop treatment plans—including medical and surgical management—for anorectal disorders such as Parikartika (fissure-in-ano), Sannirudha Guda (anal stenosis and stricture), Gudavidradhi (perianal abscess), faecal incontinence, anorectal injuries, and foreign bodies in practical sessions.

Activity Details

- Students conduct clinical examination of patients with anorectal disorders (fissure-in-ano, anal stenosis/stricture, perianal abscess, faecal incontinence, injuries, foreign bodies).
- Formulate differential diagnoses based on history, examination, and available investigations.

- Develop treatment plans incorporating medical and surgical options.
- Present cases in small groups for discussion of rationale and management outcomes.

Teacher’s Role

- Demonstrate systematic examination techniques.
- Guide students in differential diagnosis formulation.
- Facilitate discussion on treatment planning and surgical indications.

Students’ Role

- Perform structured history-taking and clinical examination.
- Identify differential diagnoses and propose suitable management.
- Present case findings and participate in group discussion.

Practical Training 23.12 : Conduct clinical examination, formulate differential diagnoses, and develop treatment plans—including medical and surgical management—for anorectal disorders such as Parikartika (fissure-in-ano), Sannirudha Guda (anal stenosis and stricture), Gudavidradhi (perianal abscess), faecal incontinence, anorectal injuries, and foreign bodies in practical sessions.

Activity Details

- Students conduct clinical examination of patients with anorectal disorders (fissure-in-ano, anal stenosis/stricture, perianal abscess, faecal incontinence, injuries, foreign bodies).
- Formulate differential diagnoses based on history, examination, and available investigations.
- Develop treatment plans incorporating medical and surgical options.
- Present cases in small groups for discussion of rationale and management outcomes.

Teacher’s Role

- Demonstrate systematic examination techniques.
- Guide students in differential diagnosis formulation.
- Facilitate discussion on treatment planning and surgical indications.

Students’ Role

- Perform structured history-taking and clinical examination.
- Identify differential diagnoses and propose suitable management.
- Present case findings and participate in group discussion.

Practical Training 23.13 : Conduction of diagnosis and observation of indications of different surgical techniques for pilonidal sinus, identification of their complications, and presentation of related cases in practical sessions

Activity Details

- Students conduct clinical evaluation and diagnosis of pilonidal sinus cases.
- Observe indications for different surgical techniques (e.g., excision with primary closure, flap techniques, minimally invasive procedures).
- Identify potential complications (infection, recurrence, delayed healing).
- Present cases in small groups with discussion on diagnosis, technique selection, and complication management.

Teacher's Role

- Demonstrate clinical evaluation and explain surgical options with indications.
- Highlight common complications and preventive strategies.
- Guide case presentations and clarify queries.

Students' Role

- Perform clinical examination and document findings.
- Observe surgical indications and techniques.

- Present cases with rationale for technique choice and complication analysis.

Practical Training 23.14 : Conduction of diagnosis and observation of indications of different surgical techniques for pilonidal sinus, identification of their complications, and presentation of related cases in practical sessions

Activity Details

- Students conduct clinical evaluation and diagnosis of pilonidal sinus cases.
- Observe indications for different surgical techniques (e.g., excision with primary closure, flap techniques, minimally invasive procedures).
- Identify potential complications (infection, recurrence, delayed healing).
- Present cases in small groups with discussion on diagnosis, technique selection, and complication management.

Teacher’s Role

- Demonstrate clinical evaluation and explain surgical options with indications.
- Highlight common complications and preventive strategies.
- Guide case presentations and clarify queries.

Students’ Role

- Perform clinical examination and document findings.
- Observe surgical indications and techniques.
- Present cases with rationale for technique choice and complication analysis.

Practical Training 23.15 : Performing clinical and local examinations—including proctoscopy and sphincterotone assessment.

Activity Details

- Students perform clinical and local examinations of the anorectal region under supervision.
- Conduct proctoscopy and assess sphincter tone using standardized techniques.
- Document findings and correlate with possible anorectal disorders.

Teacher’s Role

- Demonstrate proper examination techniques and proctoscopy procedure.
- Supervise students during hands-on practice.
- Provide guidance on interpretation of findings.

Students’ Role

- Perform structured anorectal examinations on models or consenting patients.
- Practice proctoscopy and sphincter tone assessment.
- Record findings and discuss correlations with clinical conditions.

Practical Training 23.16 : Performing clinical and local examinations—including proctoscopy and sphincterotone assessment.

Activity Details

- Students perform clinical and local examinations of the anorectal region under supervision.
- Conduct proctoscopy and assess sphincter tone using standardized techniques.
- Document findings and correlate with possible anorectal disorders.

Teacher’s Role

- Demonstrate proper examination techniques and proctoscopy procedure.
- Supervise students during hands-on practice.
- Provide guidance on interpretation of findings.

Students’ Role

- Perform structured anorectal examinations on models or consenting patients.
- Practice proctoscopy and sphincter tone assessment.
- Record findings and discuss correlations with clinical conditions.

Experiential learning Activity

Experiential-Learning 23.1 : Perform hands-on proctoscopy and colonoscopy to identify sources of bleeding, observe and assist in surgical procedures for bleeding per anum, and analyze related case scenarios

Activity Details
• Students observe OPD/IPD cases of bleeding per anus (Adhog Raktpitta).
• Under supervision, they assist in clinical examination and correlate with differential diagnoses (e.g., hemorrhoids, fissure, malignancy).
• Students then present the case to peers and critically appraise related journal articles on diagnosis and management.
• Group discussion concludes with outcome analysis.
Teacher's Role
• Assign real cases and supervise examination.
• Guide students in formulating differential diagnoses.
• Facilitate journal appraisal discussion and provide feedback.
Students' Role
• Observe and assist in case examination.
• Prepare case presentations with differential diagnoses.
• Critically appraise assigned journal articles and discuss with peers.

Experiential-Learning 23.2 : Perform hands-on proctoscopy and colonoscopy to identify sources of bleeding, observe and assist in surgical procedures for bleeding per anum, and analyze related case scenarios

Activity Details
• Students observe OPD/IPD cases of bleeding per anus (Adhog Raktpitta).
• Under supervision, they assist in clinical examination and correlate with differential diagnoses (e.g., hemorrhoids, fissure, malignancy).

• Students then present the case to peers and critically appraise related journal articles on diagnosis and management.
• Group discussion concludes with outcome analysis.
Teacher’s Role
• Assign real cases and supervise examination.
• Guide students in formulating differential diagnoses.
• Facilitate journal appraisal discussion and provide feedback.
Students’ Role
• Observe and assist in case examination.
• Prepare case presentations with differential diagnoses.
• Critically appraise assigned journal articles and discuss with peers.

Experiential-Learning 23.3 : Observe surgical procedures—such as anoplasty and tumor resections—assist as appropriate, and analyze pre- and post-operative care and case scenarios

Activity Details
• Students observe live/recorded surgical procedures such as anoplasty and rectal tumor resections.
• Under supervision, they assist in minor intraoperative steps (retraction, suction, instrument handling).
• After surgery, students analyze pre- and post-operative care (wound care, antibiotics, diet, monitoring complications) and discuss case scenarios with outcomes.
Teacher’s Role
• Facilitate OT exposure and assign assisting roles.
• Demonstrate perioperative protocols and highlight key learning points.
• Guide reflective discussion and provide feedback.
Students’ Role
• Observe and assist in surgical steps as permitted.
• Record key observations about perioperative care.
• Participate in case-based discussion and outcome analysis.

Experiential-Learning 23.4 : Observe live or video-demonstrated surgical procedures—such as anoplasty and tumor resections—assist as appropriate, and analyze pre- and post-operative care and case scenarios for experiential learning.

Activity Details
• Students observe live/recorded surgical procedures such as anoplasty and rectal tumor resections.
• Under supervision, they assist in minor intraoperative steps (retraction, suction, instrument handling).

• After surgery, students analyze pre- and post-operative care (wound care, antibiotics, diet, monitoring complications) and discuss case scenarios with outcomes.
Teacher’s Role
• Facilitate OT exposure and assign assisting roles.
• Demonstrate perioperative protocols and highlight key learning points.
• Guide reflective discussion and provide feedback.
Students’ Role
• Observe and assist in surgical steps as permitted.
• Record key observations about perioperative care.
• Participate in case-based discussion and outcome analysis.

Experiential-Learning 23.5 : Demonstration of techniques of haemorrhoidectomy, observe and assist in surgical procedures, and evaluation of management of complications during experiential learning.

Activity Details

- Students observe a live/recorded haemorrhoidectomy (open, closed, stapler, Ksharasutra).
- Assist in OT under supervision (instrument handling, positioning, haemostasis support).
- Participate in complication-analysis workshop: review case scenarios of bleeding, infection, stricture, recurrence.
- Group discussion on preventive and corrective strategies.

Teacher’s Role

- Demonstrate surgical steps and guide assistance.
- Provide complication case scenarios for analysis.
- Facilitate group discussion linking theory to practice.

Students' Role

- Observe surgical techniques carefully.
- Assist with designated OT tasks under guidance.
- Analyze complications in groups and propose management strategies.

Experiential-Learning 23.6 : Demonstration of techniques of haemorrhoidectomy, observe and assist in surgical procedures, and evaluation of management of complications during experiential learning.

Activity Details

- Students practice stepwise haemorrhoidectomy techniques (ligation, excision, haemostasis, suturing) on models/simulators.
- Small groups rotate through simulation stations (open, closed, stapler, Ksharasutra).
- Post-simulation, analyze case vignettes of common complications (bleeding, anal stricture, recurrence) and discuss management strategies.

Teacher's Role

- Demonstrate each surgical step on models/simulators.
- Supervise and correct students' hand skills during simulation.

- Present complication scenarios and facilitate reflection.

Students' Role

- Perform hands-on practice on models/simulators.
- Rotate roles (surgeon, assistant, observer).
- Discuss complication scenarios and suggest preventive/management measures.

Experiential-Learning 23.7 : Demonstration of techniques of haemorrhoidectomy, observe and assist in surgical procedures, and evaluation of management of complications during experiential learning.

Activity Details

- Students practice stepwise haemorrhoidectomy techniques (ligation, excision, haemostasis, suturing) on models/simulators.
- Small groups rotate through simulation stations (open, closed, stapler, Ksharasutra).
- Post-simulation, analyze case vignettes of common complications (bleeding, anal stricture, recurrence) and discuss management strategies.

Teacher's Role

- Demonstrate each surgical step on models/simulators.

- Supervise and correct students' hand skills during simulation.
- Present complication scenarios and facilitate reflection.

Students' Role

- Perform hands-on practice on models/simulators.
- Rotate roles (surgeon, assistant, observer).
- Discuss complication scenarios and suggest preventive/management measures.

Experiential-Learning 23.8 : Observation of video or live-demonstrated advanced surgical procedures for Ar?a (haemorrhoids), assitstance as appropriate, with analysis of related case scenarios for experiential learning.

Activity Details

- Students observe advanced haemorrhoid procedures (e.g., stapler hemorrhoidectomy, Doppler-guided ligation, K??ras?tra).
- Assist in OT under supervision (instrument handling, patient positioning, haemostasis support).
- Analyze related case scenarios—preoperative findings, procedure chosen, and postoperative outcomes.

Teacher's Role

- Demonstrate surgical steps and highlight differences between advanced techniques.
- Guide students in OT assistance.
- Provide case scenarios and facilitate discussion on outcomes.

Students' Role

- Observe advanced surgical procedures attentively.
- Assist with designated OT tasks as guided.
- Participate in analysis and discussion of case scenarios.
- Kshara application, Laser, Manage Pre and Post-Operative care and able to identify and manage the complications of Surgical Treatment

Experiential-Learning 23.9 : Observation of video or live-demonstrated advanced surgical procedures for Ar?a (haemorrhoids), assitstance as appropriate, with analysis of related case scenarios for experiential learning.

Activity Details

- Students observe advanced surgical procedures for *Arsha* (stapler hemorrhoidectomy, Doppler-guided ligation, K??ras?tra).
- Assist in OT with supervised tasks (instrument handling, patient prep, haemostasis support).
- Analyze assigned case scenarios—indications, procedure performed, and outcomes.

Teacher’s Role

- Demonstrate and explain advanced surgical techniques during OT.
- Hands on training of Haemorrhoidectomy, Kshara application, Laser.
- Supervise students’ assistance in procedures.
- Provide structured case scenarios for analysis and guide discussion.

Students’ Role

- Observe procedures attentively and assist as instructed.
- Note key intraoperative steps and postoperative concerns.
- Discuss case scenarios in groups and present outcomes.
- Manage Pre and Post-Operative care and able to identify and manage the complications of Surgical Treatment

Experiential-Learning 23.10 : Observation of video or live-demonstrated advanced surgical procedures for Ar?a (haemorrhoids), assitstance as appropriate, with analysis of related case scenarios for experiential learning.

Activity Details

- Students observe advanced surgical procedures for *Arsha* (stapler hemorrhoidectomy, Doppler-guided ligation, K??ras?tra).

- Assist in OT with supervised tasks (instrument handling, patient prep, haemostasis support).
- Analyze assigned case scenarios—indications, procedure performed, and outcomes.

Teacher’s Role

- Demonstrate and explain advanced surgical techniques during OT.
- Supervise students’ assistance in procedures.
- Provide structured case scenarios for analysis and guide discussion.

Students’ Role

- Observe procedures attentively and assist as instructed.
- Note key intraoperative steps and postoperative concerns.
- Discuss case scenarios in groups and present outcomes.

Experiential-Learning 23.11 : Observation of video or live-demonstrated advanced surgical procedures for Ar?a (haemorrhoids), assitstance as appropriate, with analysis of related case scenarios for experiential learning.

Activity Details

- Students observe advanced surgical procedures for *Arsha* (stapler hemorrhoidectomy, Doppler-guided ligation, K??ras?tra).
- Assist in OT with supervised tasks (instrument handling, patient prep, haemostasis support).
- Analyze assigned case scenarios—indications, procedure performed, and outcomes.

Teacher's Role

- Demonstrate and explain advanced surgical techniques during OT.
- Supervise students' assistance in procedures.
- Provide structured case scenarios for analysis and guide discussion.

Students' Role

- Observe procedures attentively and assist as instructed.
- Note key intraoperative steps and postoperative concerns.
- Discuss case scenarios in groups and present outcomes.

Experiential-Learning 23.12 : Performing hands-on application of K??ras?tra in Bhagandara and application of K??ra in Ar?a during experiential learning sessions.

Activity Details

- Students perform hands-on application of Ksharasutra in *Bhagandara* on models/simulators or supervised patients.
- Practice application of Kshara in Arsha using demonstration models or live supervised cases.
- Rotate roles as operator, assistant, and observer for complete exposure.

Teacher’s Role

- Demonstrate stepwise procedure of K??ras?tra application and K??ra application.
- Supervise and correct students’ hand skills during practice.
- Ensure aseptic technique and patient safety in live cases.

Students’ Role

- Perform hands-on application under supervision.
- Assist peers during procedures and observe others’ techniques.
- Reflect on difficulties and outcomes in a brief discussion.

Experiential-Learning 23.13 : Performing hands-on application of Ksharasutra in Bhagandara and application of K?hara in Ar?a during experiential learning sessions.

Activity Details

- Students perform hands-on application of Ksharasutra in *Bhagandara* on models/simulators or supervised patients.
- Practice application of Kshara in Ar?a using demonstration models or live supervised cases.
- Rotate roles as operator, assistant, and observer for complete exposure.

Teacher’s Role

- Demonstrate stepwise procedure of Ksharasutra application and Kshara application.
- Supervise and correct students’ hand skills during practice.
- Ensure aseptic technique and patient safety in live cases.

Students’ Role

- Perform hands-on application under supervision.
- Assist peers during procedures and observe others’ techniques.
- Reflect on difficulties and outcomes in a brief discussion.

Experiential-Learning 23.14 : Observation of surgical procedures for anorectal disorders—including Parikartika (fissure-in-ano), Sannirudha Guda (anal stenosis and stricture), Gudavidradhi (perianal abscess), faecal incontinence, anorectal injuries, and foreign bodies—assistance as appropriate, with analysis case scenarios with their outcomes

Activity Details

- Students observe surgical procedures for anorectal disorders (fissure-in-ano, anal stenosis/stricture, perianal abscess, faecal incontinence, anorectal injuries, foreign bodies).
- Assist under supervision with OT tasks such as instrument handling, positioning, or suctioning.
- Analyze case scenarios including preoperative findings, chosen procedures, and postoperative outcomes.
- Present observations and outcomes in small group discussions.

Teacher’s Role

- Facilitate OT exposure and supervise assisting tasks.
- Highlight surgical decision-making, technique differences, and complication management.
- Provide structured case scenarios for reflective analysis.

Students’ Role

- Observe surgical procedures attentively.
- Assist in assigned OT tasks safely under guidance.
- Discuss case scenarios, link findings to management, and present outcomes.

Experiential-Learning 23.15 : Observation of live or video-demonstrated surgical procedures for anorectal disorders—including Parikartika (fissure-in-ano), Sannirudha Guda (anal stenosis and stricture), Gudavidradhi (perianal abscess), faecal incontinence, anorectal injuries, and foreign bodies—assisistance as appropriate, with analysis related case scenarios for experiential learning.

Activity Details

- Students observe surgical procedures for anorectal disorders (fissure-in-ano, anal stenosis/stricture, perianal abscess, faecal incontinence, anorectal injuries, foreign bodies).
- Assist under supervision with OT tasks such as instrument handling, positioning, or suctioning.
- Analyze case scenarios including preoperative findings, chosen procedures, and postoperative outcomes.
- Present observations and outcomes in small group discussions.

Teacher’s Role

- Facilitate OT exposure and supervise assisting tasks.
- Highlight surgical decision-making, technique differences, and complication management.
- Provide structured case scenarios for reflective analysis.

Students’ Role

- Observe surgical procedures attentively.

- Assist in assigned OT tasks safely under guidance.
- Discuss case scenarios, link findings to management, and present outcomes.

Experiential-Learning 23.16 : Observation of live or video-demonstrated surgical procedures for anorectal disorders—including Parikartika (fissure-in-ano), Sannirudha Guda (anal stenosis and stricture), Gudavidradhi (perianal abscess), faecal incontinence, anorectal injuries, and foreign bodies—assisistance as appropriate, with analysis related case scenarios for experiential learning.

Activity Details

- Students observe surgical procedures for anorectal disorders (fissure-in-ano, anal stenosis/stricture, perianal abscess, faecal incontinence, anorectal injuries, foreign bodies).
- Assist under supervision with OT tasks such as instrument handling, positioning, or suctioning.
- Analyze case scenarios including preoperative findings, chosen procedures, and postoperative outcomes.
- Present observations and outcomes in small group discussions.

Teacher’s Role

- Facilitate OT exposure and supervise assisting tasks.
- Highlight surgical decision-making, technique differences, and complication management.
- Provide structured case scenarios for reflective analysis.

Students' Role

- Observe surgical procedures attentively.
- Assist in assigned OT tasks safely under guidance.
- Discuss case scenarios, link findings to management, and present outcomes.

Experiential-Learning 23.17 : Observation of live or video-demonstrated surgical procedures—such as Z-plasty and flap techniques—for pilonidal sinus management, assist as appropriate, with analysis of related case scenarios for experiential learning.

Activity Details

- Students observe live or video demonstrations of pilonidal sinus surgeries (Z-plasty, flap techniques).
- Assist under supervision with OT tasks such as instrument handling, retraction, or haemostasis.
- Analyze case scenarios including preoperative findings, selected surgical technique, postoperative outcomes, and complications.
- Present observations and conclusions in group discussions.

Teacher's Role

- Demonstrate surgical steps and explain indications for each technique.

- Supervise assisting tasks and ensure safe participation.
- Provide case scenarios for reflective discussion on outcomes and complications.

Students' Role

- Observe procedures attentively and assist as instructed.
- Record key intraoperative steps and postoperative care measures.
- Participate in analysis and discussion of case scenarios.

Experiential-Learning 23.18 : Observation of live or video-demonstrated surgical procedures—such as Z-plasty and flap techniques—for pilonidal sinus management, assist as appropriate, with analysis of related case scenarios for experiential learning.

Activity Details

- Students observe live or video demonstrations of pilonidal sinus surgeries (Z-plasty, flap techniques).
- Assist under supervision with OT tasks such as instrument handling, retraction, or haemostasis.
- Analyze case scenarios including preoperative findings, selected surgical technique, postoperative outcomes, and complications.
- Present observations and conclusions in group discussions.

Teacher’s Role

- Demonstrate surgical steps and explain indications for each technique.
- Supervise assisting tasks and ensure safe participation.
- Provide case scenarios for reflective discussion on outcomes and complications.

Students’ Role

- Observe procedures attentively and assist as instructed.
- Record key intraoperative steps and postoperative care measures.
- Participate in analysis and discussion of case scenarios.

Experiential-Learning 23.19 : Observation of live or video-demonstrated surgical procedures of Gudabransha (prolapse rectum), assist as appropriate, and analyze related case scenarios for experiential learning.

Activity Details

- Students observe surgical procedures for Gudabransha (rectal prolapse), such as perineal or abdominal approaches.
- Assist in OT under supervision (instrument handling, retraction, suction).
- Analyze case scenarios including preoperative findings, chosen surgical technique, and postoperative outcomes.

- Present observations and discuss surgical rationale.

Teacher’s Role

- Demonstrate surgical steps and explain technique selection.
- Supervise assisting tasks and ensure patient safety.
- Facilitate discussion on outcomes and complication management.

Students’ Role

- Observe procedures attentively and assist as instructed.
- Record key intraoperative steps and postoperative care.
- Participate in case scenario analysis and group discussion.
- Pre and post operative management

Experiential-Learning 23.20 : Observation of live or video-demonstrated surgical procedures of Gudabransha (prolapse rectum), assist as appropriate, and analyze related case scenarios for experiential learning.

Activity Details

- Students observe surgical procedures for Gudabransha (rectal prolapse), such as perineal or abdominal approaches.
- Assist in OT under supervision (instrument handling, retraction, suction).
- Analyze case scenarios including preoperative findings, chosen surgical technique, and postoperative outcomes.
- Present observations and discuss surgical rationale in small groups.

Teacher’s Role

- Demonstrate surgical steps and explain technique selection.
- Supervise assisting tasks and ensure patient safety.
- Facilitate discussion on outcomes and complication management.

Students’ Role

- Observe procedures attentively and assist as instructed.
- Record key intraoperative steps and postoperative care.
- Participate in case scenario analysis and group discussion.

Modular Assessment

Assessment method	Hour
Instructions - Conduct a structured Modular assessment. Assessment will be for 25 marks per credit, i.e., 75 marks. Keep structured marking pattern. Keep a record of the structured pattern used for assessment. Calculate the Modular grade point as per Table 6 C. Select any one or two methods for the assessment. 1. Viva -25 marks. cover each unit and Practical demonstrations of 50 marks. Preparation**:** Create open-ended questions testing clinical knowledge, procedural steps, and reasoning. Execution: Conduct one-on-one or panel-based interviews. Evaluation**:** Assess knowledge depth, clarity, and application ability. And 50 marks for Demonstration of Clinical examination, demonstration of surgical skills like Haemorrhoidectomy (Arsha Chedan)/ Lateral Sphincterotomy, Ksharasutra Ligation, stepwise demonstration of different operative procedures, etc. OR 3. DOPS (Direct Observation of Procedural Skills) - 25marks for each procedure. Select any three procedures from the Module Preparation: Identify critical procedures (e.g., Suturing techniques, Haemostasis, surgery assistance, Handling of Instruments, etc.) relevant to the module. Execution: Allow students to perform procedures under observation in a clinical or simulated environment. Observe key steps, techniques, and patient interaction. Evaluation: Evaluate the skill, technique, aseptic methods, and safety adherence followed during the procedure. 4. OSCE (Objective Structured Clinical Examination) -Plan 5 clinical examination stations carrying 75marks Preparation: Set up stations mimicking a clinical scenario focusing on diseases of the anorectum. Execution: Allow students to demonstrate clinical skills, like examination of Bhagandara, Arsha. Provide feedback immediately after the station or during review sessions. Evaluation: Assess clinical reasoning, procedural accuracy, and patient-centered approach during the task. OR 5. OSPE (Objective Structured Practical Examination) Preparation: Develop multiple stations covering practical and theoretical aspects (minimum 3) (Scenarios/ patients suffering from diseases of the anal canal and rectum, etc). Execution: Students rotate through stations within a set time frame. Station formats may include tasks, demonstrations, or written responses. Evaluation: Evaluate based on knowledge, skill performance, and communication during the procedure. OR Any practical in converted form can be taken for assessment, and Any Experiential Learning as portfolio reflections/presentations can be taken as an assessment.	6

Module 24 : Urah Evam Udara Abhighat (Torso Trauma)

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe different types of injuries like blunt trauma, penetrating injuries, blast & crushed injuries of abdomen and thorax
- Conduct Assessment of the graveness, conservative and surgical management of abdominal and thoracic trauma
- Identify the ability of Student to diagnose, observe abdomen and thorax and manage this emergency condition by appropriate lifesaving first aid and able to triaging of patient and may refer to appropriate centre at right time.

M 24 Unit 1 Urahgat Bhinna Vrana Evam Chikitsa

- Diagnosis of Thoracic Injury and its management,
- Urahgat Bhinna Vrana Evam Chikitsa

References: 1,8

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe rib fractures, surgical emphysema, traumatic pneumothorax, haemothorax, crushing injury of the thorax, and traumatic rupture of the diaphragm	1	Lecture	CC	Knows-how	L,L&PPT
CO4,CO8	Apply assessment, diagnostic, conservative, and surgical management principles for thoracic injuries.	2	Practical Training 24.1	PSY-GUD	Shows-how	D-M,CD, D,CBL
CO4,CO8	Identify associated injuries in cases of thoracic trauma.	2	Experiential-Learning 24. 1	PSY-GUD	Shows-how	CD,LRI,CBL,SIM
CO4,CO8	Identify associated injuries in cases of thoracic trauma.	2	Experiential-Learning 24. 2	PSY-GUD	Shows-how	D-M,CBL ,CD,LRI, SIM

M 24 Unit 2 Udargat Bhinna Vrana Evam Chikitsa

- Diagnosis and management of abdominal injury,
- Udargat Bhinna Vrana Evam Chikitsa.

References: 1,5,6,7,8

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe blunt, blast, penetrating, crush, and bullet injuries of the abdomen.	1	Lecture	CC	Knows-how	L,L&PPT
CO4,CO8	Describe the Sadyovrana of Udar.	1	Lecture	CC	Knows-how	L,L&PPT
CO4,CO8	Apply diagnostic methods and principles of management for abdominal injuries.	2	Practical Training 24.2	PSY-GUD	Shows-how	CD,X-Ray,CBL,LRI,D-M
CO4,CO8	Apply Nidan and Chikitsa Sutra of Sadyovrana of Udar.	2	Practical Training 24.3	PSY-GUD	Shows-how	CD,D,CBL,SIM,D-M
CO4,CO8	Analyze case scenarios of abdominal trauma to interpret clinical findings and management options during experiential learning.	2	Experiential-Learning 24.3	PSY-GUD	Shows-how	CD,SIM,CBL
CO4,CO8	Analyze case scenarios of abdominal trauma to interpret clinical findings and management options during experiential learning.	2	Experiential-Learning 24.4	PSY-GUD	Shows-how	CD,SIM,D,CBL
CO4,CO8	Analyze case scenarios of abdominal trauma to interpret clinical findings and management options.	2	Experiential-Learning 24.5	PSY-GUD	Shows-how	CBL,CD,SIM

M 24 Unit 3 Diagnosis and Management of Koshthabhighat (Abdominal Injury)

- Diagnosis and management of individual organ Injury.
- Pelvic Injury.
- Emergency Laparotomy.

References: 1,5,7,8

3A	3B	3C	3D	3E	3F	3G
CO4,CO8	Describe gastro-duodenal, pancreatic, small bowel, colonic, liver, splenic, renal, urinary bladder, pelvic, and associated abdominal injuries, including Amashya, Antra, Yakrit, Pliha, Vrikka, and Mutrasayagat Aghata (Sadyovrana).	1	Lecture	CC	Knows-how	L,L&PPT
CO4,CO8	Describe gastro-duodenal, pancreatic, small bowel, colonic, liver, splenic, renal, urinary bladder, pelvic, and associated abdominal injuries, including Amashya, Antra, Yakrit, Pliha, Vrikka, and Mutrasayagat Aghata (Sadyovrana).	1	Lecture	CC	Knows-how	L&PPT ,L
CO4,CO8	Apply diagnostic and management principles, including Nidan and Chikitsa, for gastro-duodenal, pancreatic, small bowel, colonic, liver, splenic, renal, urinary bladder, and pelvic injuries, and determine appropriate conservative or surgical interventions.	2	Practical Training 24.4	PSY-GUD	Shows-how	LRI,D-BED,CD,D ,CBL
CO4,CO8	Apply diagnostic and management principles, including Nidan and Chikitsa, for gastro-duodenal, pancreatic, small bowel, colonic, liver, splenic, renal, urinary bladder, and pelvic injuries, and determine appropriate conservative or surgical interventions.	2	Practical Training 24.5	PSY-GUD	Shows-how	CD,CBL, D-BED,D ,SIM
CO4,CO8	Apply diagnostic procedures to case scenarios of abdominal organ injuries for differential diagnosis and determine the need for exploratory laparotomy in pelvic injuries.	2	Experiential-Learning 24.6	PSY-GUD	Shows-how	LRI,CBL, SIM,D,CD
CO4,CO8	Interpret case scenarios of abdominal organ and pelvic injuries to differentiate diagnostic procedures and determine the need for exploratory laparotomy.	1	Experiential-Learning 24.7	PSY-GUD	Shows-how	LRI,CD, D,CBL

Practical Training Activity
Practical Training 24.1 : Application of assessment, diagnostic, conservative, and surgical management principles for thoracic injuries in practical settings.
Activity: Assess, diagnose, and plan conservative/surgical management of thoracic injuries using simulations and case-based demonstrations. Teacher's Role: Demonstrate assessment/management steps, guide simulation, and facilitate case discussions. Students' Role: Perform assessments, suggest diagnoses, practice management approaches, and discuss cases.
Practical Training 24.2 : Application of diagnostic methods and principles of management for abdominal injuries in practical settings.
Activity: Diagnose abdominal injuries and apply management principles through case demonstrations and simulation-based practice. Teacher's Role: Demonstrate assessment/management steps and facilitate guided simulation. Students' Role: Participate in diagnosis, discuss management options, and practice in simulations.
Practical Training 24.3 : Application of Nidan and Chikitsa Sutra of Sadyovrana of Udar in practical settings.
Activity: Learn Nidan and Chikitsa Sutra of Sadyovran of Udar through demonstrations and case-based discussions. Teacher's Role: Explain concepts, demonstrate management steps, and guide case analysis. Students' Role: Observe, discuss Nidan and Chikitsa Sutra, and apply principles to cases.
Practical Training 24.4 : Application of diagnostic and management principles, including Nidan and Chikitsa, for gastro-duodenal, pancreatic, small bowel, colonic, liver, splenic, renal, urinary bladder, and pelvic injuries, and determinination of appropriate conservative or surgical interventions in practical settings
Activity: Explore diagnosis and management of abdominal organ and pelvic injuries through demonstrations and simulation-based practice. Teacher's Role: Demonstrate assessment/management, highlight key clinical features, and guide practice. Students' Role: Observe demonstrations, practice simulated scenarios, and discuss management principles.
Practical Training 24.5 : Application of diagnostic and management principles, including Nidan and Chikitsa, for gastro-duodenal, pancreatic, small bowel, colonic, liver, splenic, renal, urinary bladder, and pelvic injuries, and determinination of appropriate conservative or surgical interventions in practical settings
Activity: Demonstrate diagnosis and management of GI, hepatobiliary, renal, bladder, and pelvic injuries, integrating Ayurvedic Nidan–Chikitsa with modern approaches through case-based demonstrations and simulations. Teacher's Role: Demonstrate diagnostic steps, guide simulations, and explain modern–Ayurvedic correlations. Students' Role: Practice assessment, discuss Nidan–Chikitsa, and perform simulated management tasks.

Experiential learning Activity
Experiential-Learning 24.1 : Identification of associated injuries in cases of thoracic trauma during experiential learning
Activity: Identify associated injuries in thoracic trauma cases through supervised patient evaluation, imaging review, and case discussions. Teacher's Role: Guide clinical correlation, supervise evaluations, and facilitate discussions. Students' Role: Evaluate patients, interpret findings, identify associated injuries, and discuss management.
Experiential-Learning 24.2 : Identification of associated injuries in cases of thoracic trauma during experiential learning
Activity: Identify associated injuries in thoracic trauma by participating in real/simulated cases, performing guided assessments, and correlating with imaging findings. Teacher's Role: Supervise clinical/simulation activities, guide assessment steps, and validate findings. Students' Role: Perform assessments, interpret imaging, and recognize associated injuries under supervision.
Experiential-Learning 24.3 : Analysis of case scenarios of abdominal trauma to interpret clinical findings and management options during experiential learning.
Activity: Analyze abdominal trauma cases through supervised clinical discussions, assess findings, and propose management approaches. Teacher's Role: Present case scenarios, guide analysis, and correct reasoning. Students' Role: Evaluate cases, identify injuries, and suggest management under supervision.
Experiential-Learning 24.4 : Analysis of case scenarios of abdominal trauma to interpret clinical findings and management options during experiential learning.
Activity: Discuss abdominal trauma scenarios, correlate clinical signs with investigations, and propose management strategies under supervision. Teacher's Role: Facilitate case discussion, guide interpretation, and ensure clinical reasoning. Students' Role: Analyze cases, interpret findings, and present management plans.
Experiential-Learning 24.5 : Analysis of case scenarios of abdominal trauma to interpret clinical findings and management options during experiential learning.
Activity: Discuss abdominal trauma case scenarios, analyze clinical findings, and apply diagnostic reasoning to propose management strategies. Teacher's Role: Facilitate case-based discussion, guide interpretation, and provide feedback. Students' Role: Engage in scenario analysis, identify injuries, suggest management plans, and reflect on decisions.
Experiential-Learning 24.6 : Application of diagnostic procedures to case scenarios of abdominal organ injuries for differential diagnosis and determination of the need for exploratory laparotomy in pelvic injuries during experiential learning.
Activity: Discuss abdominal organ injury cases, interpret diagnostic procedures for differential diagnosis, and identify indications for exploratory laparotomy in pelvic

injury.
Teacher’s Role: Present cases, guide interpretation of diagnostics, and clarify surgical decision-making.
Students’ Role: Analyze cases, interpret investigations, and determine laparotomy need under supervision.

Experiential-Learning 24.7 : Interpretion of case scenarios of abdominal organ and pelvic injuries to differentiate diagnostic procedures and determination of the need for exploratory laparotomy.

Activity: Analyze abdominal trauma cases, interpret diagnostic tools for organ-specific injury differentiation, and recognize indications for exploratory laparotomy in pelvic injury.
Teacher’s Role: Provide clinical scenarios, supervise diagnostic reasoning, and validate laparotomy indications.
Students’ Role: Discuss cases, interpret results, and justify surgical decision-making under guidance.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 25 marks per credit i.e. 25 marks. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment. 1. Theory open Book test- 25 marks Conduct theory open book test for 25 marks which will contain either 1 ABQ 20 marks or 1 SAQ 5 or 5 SAQ marks. viva of 25 marks OR 2. Viva -25 marks Take questions from each Units and select 25 questions for the module. 1marks for each question can be allocated Preparation**:** Create open-ended questions testing clinical knowledge, procedural steps, and reasoning. Execution: Conduct one-on-one or panel-based interviews. Evaluation**:** Assess knowledge depth, clarity, and application ability. And 25 marks for Demontsration of Clinical examination, demonstration of surgical skills like closure of abdomen, Abdominal tapping, Pleural Tapping, Assist surgical procedure, proper investigations, reading of X-Rays etc, stepwise demonstration of operative etc. OR 3. DOPS (Direct Observation of Procedural Skills) - 25marks for each procedure . Select any one procedures for the Module Preparation: Identify critical procedures (e.g., Suturing techniques, Haemostasis, surgery assistance, Handeling of Insruments etc relevant to the module. Execution: Allow students to perform procedures under observation in a clinical or simulated environment. Observe key steps, technique, and patient interaction. Evaluation: Evaluate the skill, technique, aseptic methods, and safety adherence followed during the procedure.	2

4. OSCE (Objective Structured Clinical Examination) -Plan 1 clinical examination stations carrying 75marks Preparation: Set up station mimicking clinical scenarios focusing different clinical situations of Torsotruma Execution: Allow students to demonstrate clinical skills, like differntial diagnosis of acute abdomen, Truma etc, communication, and decision-making at each station. Provide feedback immediately after the station or during review sessions. Evaluation: Assess clinical reasoning, procedural accuracy, and patient-centered approach during the task. OR 5. OSPE (Objective Structured Practical Examination) Preparation: Develop multiple stations covering practical and theoretical aspects (minimum 3) (Scenarios/ Parients of Torso Truma) Execution: Students rotate through stations within a set time frame. Station formats may include tasks, demonstrations, or written responses. Evaluation: Evaluate based on knowledge, skill performance, communication during the procedure. OR Any practical in converted form can be taken for assessment and Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment.	

Paper No : 4 Anushastrakarma Evam Vishishta Shastrakarma (Parasurgical and Specialized Surgical Procedures)

Semester No : 3

Module 25 : Principles and Practice of Kshara Karma

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe the fundamental principles of Kshara Karma and Kshara Sutra as a part of Ayurvedic para-surgical procedures, its indications, contraindications, procedure and complications.
- Conduct a detailed patient assessment to determine suitability for Kshara Karma or Kshara Sutra therapy. Perform the Kshara Sutra procedure effectively and safely in a clinical setting and post-procedural care including follow-up and manage post-procedural complications of Kshara Karma and Kshara Sutra treatments to ensure optimal patient recovery.
- Identify appropriate clinical conditions, such as hemorrhoids, sinus, fistula, non-healing ulcers etc. for the application of Ksharakarma and Kshara Sutra; recognise different types of Kshara (alkali) used in Ksharakarma based on their properties and specific therapeutic uses. Identify the required instruments and materials for the preparation and application of Kshara Sutra ensuring adherence to procedural protocols.

M 25 Unit 1 Principles of Kshara and Kshara Sutra

- Preparation and standardization of different types of
  - Kshara.
  - Kshara Sutra.
- Sterilization of Kshara Sutra.

References: 1,2,3,4,5,35,36,37,38,46,49,71

3A	3B	3C	3D	3E	3F	3G
CO1,CO3,CO5	Apply validated sterilization protocols of Kshara Sutra in surgical practice to ensure asepsis, safety, and efficacy.	3	Experiential-Learning 25.	PSY-ADT	Shows-how	PSM,RLE,SDL,FV,

			1			W
CO1,CO3,CO5 ,CO6	Evaluate the role of sterilization of Kshara and Kshara Sutra in infection control, tissue healing, and surgical outcomes, with examples such as gamma-irradiated Apamarga Kshara Sutra in Bhagandara and sterile Arka Kshara in Arsha.	1	Lecture	CAP	Knows-how	FV,L&GD,BL,BS,L
CO1,CO3	Assess the preparation, standardization, and clinical applicability of different Kshara and Kshara Sutra in Shalya Tantra practice.	1	Lecture	CC	Knows-how	L_VC
CO1,CO3	Perform preparation and standardization of Kshara and Kshara Sutra, and apply appropriate formulations in clinical practice.	2	Practical Training 25.1	PSY-ADT	Shows-how	L_VC,D,TPW,W
CO1,CO3,CO5	Evaluate methods of Kshara Sutra sterilization and their significance in asepsis, infection prevention, and improved outcomes in conditions such as Bhagandara, Arsha, Nadi Vrana, Dushta Vrana, and Pilonidal sinus.	2	Practical Training 25.2	CE	Knows-how	DIS,DL,CBL,TBL
CO1,CO3,CO5	Perform validated sterilization protocols of Kshara Sutra to ensure asepsis, safety, and efficacy in surgical practice.	3	Experiential-Learning 25.2	PSY-ADT	Does	IBL,SIM,SDL

M 25 Unit 2 Application of Kshara

- Indications, Contra indications and pre operative evaluation for Kshara Karma.
- Mridu, Madhyama and Teekshna Kshara and their clinical application.
- Paneeya and Pratisarana Kshara.
- Indications & method of applications of Kshara Varthi, Kshara Thaila, Kshara pichu, Ksharodaka in surgical and non- surgical conditions
- Pratisaraneeya Kshara procedure.
- Complications of Kshara Karma and its management

References: 1,2,3,4,46,49,71,72

3A	3B	3C	3D	3E	3F	3G
CO1,CO6	Describe the clinical applications of Mridu, Madhyama, and Teekshna Kshara and analyze complications of Kshara Karma with their management.	1	Lecture	CS	Knows-how	DIS,BL,L&GD,L_

						VC,CBL
CO1,CO3,CO6	Describe Ksharakarma and review its preparations with their surgical and non-surgical applications.	1	Lecture	CC	Knows-how	DIS,BL,L_VC,L&GD
CO1,CO3,CO5	Identify clinical indications of Mridu, Madhyama, and Teekshna Kshara, and demonstrate correct application techniques with appropriate dosage, duration, site, and post-application care.	2	Practical Training 25.3	PSY-GUD	Shows-how	D,CBL,CD,D-M,SIM
CO1,CO3,CO5,CO6	Apply Kshara karma in conditions like Arsha, Bhagandara, and Dushta Vrana, assess patient fitness based on clinical parameters, and justify the rational selection of Kshara considering its type, concentration, and site of application.	3	Experiential-Learning 25.3	PSY-ADT	Does	CD,CBL,SIM,RLE
CO1,CO3,CO5	Formulate patient-appropriate use of different Kshara types with evaluation and complication management.	2	Practical Training 25.4	PSY-GUD	Shows-how	SIM,CBL,D
CO1,CO3,CO5	Manage complications of Pratisaraniya and Paneeya Kshara application by integrating indications, procedural principles, pathophysiology, and evidence-based Ayurvedic and contemporary strategies.	3	Experiential-Learning 25.4	PSY-ADT	Does	RLE,PBL,RP,SIM,CD

M 25 Unit 3 Application of Kshara Sutra.

- Indications, Contra indications and pre operative evaluation for Kshara Sutra application.
- Complications of Kshara Sutra and its management

References: 1,2,3,4,46,71

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Evaluate the indications and contraindications of Kshara Sutra application in various anorectal and non-anorectal conditions, with emphasis on patient selection and procedural safety; to ensure evidence-based, effective, and complication-free implementation of Kshara Sutra therapy in clinical practice.	1	Lecture	CE	Knows-how	CBL,L,DIS,L&PPT,L_VC

CO1,CO3,CO5,CO6	Assess accurately the indications, contraindications, and patient fitness for Kshara Sutra therapy by evaluating clinical cases such as Bhagandara, Nadi Vrana, and Arsha, thereby ensuring safe, effective, and individualized treatment planning.	3	Practical Training 25.5	PSY-GUD	Shows-how	RLE,CBL,D-M,PBL,D
CO1,CO3,CO5	Apply the indications and contraindications of Kshara Sutra ligation for safe and effective clinical practice.	2	Experiential-Learning 25.5	PSY-ADT	Does	RLE,CD,CBL
CO1,CO3,CO5	Assess patient fitness for Kshara Sutra ligation and justify safe, effective clinical decisions.	2	Experiential-Learning 25.6	PSY-ADT	Does	CBL
CO1,CO3,CO5,CO6	Evaluate sterilization methods of Kshara Sutra in ensuring asepsis and preventing complications.	3	Experiential-Learning 25.7	PSY-ADT	Does	CBL,RLE
CO1,CO3	Evaluate pre-operative clinical and diagnostic parameters to determine patient fitness for Kshara Sutra treatment, integrating contemporary surgical principles.	1	Lecture	CE	Knows-how	CBL,RP,DIS
CO1,CO3	Manage complications of Kshara Sutra application—including pain, bleeding, infection, allergy, and tissue injury—using evidence-based practices and advanced clinical reasoning.	1	Lecture	CC	Knows-how	CBL,DIS
CO1,CO3,CO5	Identify and manage complications of Kshara Sutra ligation to ensure safe and evidence-based postoperative care.	3	Practical Training 25.6	PSY-GUD	Shows-how	D,DIS,PER,D-M,SIM

M 25 Unit 4 Scientific advances in Kshara Karma and Kshara Sutra

- Recent researches, innovations and advanced techniques in indications, preparations and applications of
  - Different forms of Kshara.
  - Kshara Sutra.

References: 46

3A	3B	3C	3D	3E	3F	3G
CO1,CO5	Describe recent researches and innovations, evaluate advanced techniques, and analyze the evolving indications of different types of K??ra and K??ra Sutra in the context of modern Ayurvedic surgical practice.	1	Lecture	CC	Knows-how	SY,JC,LS,DIS
CO1,CO3,CO5,CO6	Prepare various forms of K??ra, identify their appropriate clinical indications based on recent research and innovations, and apply advanced techniques of K??ra application effectively in Ayurvedic surgical practice.	3	Practical Training 25.7	PSY-GUD	Shows-how	D-M,D,DL,SIM
CO1,CO3,CO5	Analyze innovative techniques, indications, preparations, and applications of Ksharakarma, identify types of Kshara with clinical relevance, and integrate them into contemporary Ayurvedic surgical practice.	4	Experiential-Learning 25.8	CAN	Does	Mnt,RLE
CO1,CO3,CO5	Appraise recent scientific advancements and evidence-based innovations in Kshara Sutra therapy and apply them in contemporary Ayurvedic surgical management.	3	Experiential-Learning 25.9	PSY-GUD	Does	Mnt,RLE
CO1,CO3,CO5	Prepare various forms of Kshara Sutra, determine their clinical indications from recent research, and implement advanced application techniques in Ayurvedic surgical practice.	3	Practical Training 25.8	PSY-GUD	Shows-how	D-M,D,DL
CO1,CO5	Describe recent researches and innovations, evaluate advanced techniques, and analyze the evolving indications of different types of K??ra and K??ra Sutra in the context of modern Ayurvedic surgical practice.	1	Lecture	CC	Knows-how	LS,JC,SY
CO1,CO3,CO5	Analyze advanced techniques and recent clinical applications of Kshara Karma, including innovations like endoscopic-guided ksharasutra insertion and its role in managing complex fistula-in-ano cases, application of kshara for oesophageal varices etc	1	Lecture	CE	Knows-how	SY,DIS,JC
Practical Training Activity						
Practical Training 25.1 : Preparation and standardisation of Kshara and Kshara sutra						
Activity Details • Teacher demonstrates stepwise preparation of Kshara and Kshara Sutra, including standardization techniques (pH, consistency, tensile strength).						

• Explains indications and selection of appropriate formulations for clinical use.
• Students practice preparation steps in lab setup, test standardization parameters, and simulate application in clinical context.
Teacher’s Role
• Demonstrate validated preparation and standardization methods.
• Provide lab materials, instruments, and guidelines.
• Supervise student practice and ensure correct technique.
Students’ Role
• Prepare Kshara and Kshara Sutra following demonstrated steps.
• Perform standardization checks (e.g., tensile strength, uniformity).
• Simulate clinical application of appropriate formulations

Practical Training 25.2 : Importance of sterilization of Ksharasutra

Activity Details
• Teacher demonstrates different sterilization methods of K?hara S?tra (traditional vs. modern).
• Students observe and compare protocols in terms of asepsis, infection control, and outcome relevance for Bhagandara, Ar?a, N?di Vra?a, Du??a Vra?a, and Pilonidal sinus.
• Groups discuss strengths, limitations, and clinical significance of each method.
Teacher’s Role
• Demonstrate sterilization methods step-by-step.
• Provide comparative data on outcomes.
• Facilitate group evaluation and guide conclusions.
Students’ Role
• Observe procedures carefully and record key differences.
• Evaluate methods in terms of asepsis, infection prevention, and safety.
• Participate in group discussion to identify best practice.

Practical Training 25.3 : Application of Kshara

- Activity Details
  • Teacher explains indications of Mridu, Madhyama, Teekshna Kshara and demonstrates application on models with dosage, duration, site, and post-care.

• Students practice application techniques on simulated models.
Teacher’s Role
• Demonstrate correct indications and techniques.
• Provide models and materials; supervise practice.
Students’ Role
• Select appropriate Kshara type for cases.
• Perform application with correct dosage and care.

- Simulated Application on Models: Students can practice Kshara application on anatomical models, allowing them to gain familiarity with handling Kshara, applying it in the correct dosages, and targeting specific tissues.

- Patient Case Demonstrations: Provide opportunities for students to observe Kshara application on actual patients under supervision, particularly for treating conditions like hemorrhoids or fistulas, and discuss the clinical indications and outcomes.

- Hands-On Application Practice: Under supervision, allow students to perform Kshara application on actual patients during clinical rotations, focusing on proper dosage, duration, and application technique for different conditions.

- Post-Application Monitoring: Train students to monitor the patient's response post-application, observing tissue reactions, healing progress, and any potential complications, ensuring they understand the follow-up care required.

- Case Discussions and Reflection: Conduct reflective sessions where students present and discuss the outcomes of Kshara applications they've witnessed or performed, analyzing factors like patient condition, Kshara type, and procedural success.

Practical Training 25.4 : Application of different types of Kshara and management of complications

Activity Details
• Teacher demonstrates selection and use of Mridu, Madhyama, Teekshna K?hara with evaluation and complication management.
• Students practice formulating applications on case scenarios/models.
Teacher’s Role
• Demonstrate techniques, provide cases, and guide management.

• Supervise and correct practice.
Students' Role
• Select appropriate K?hara, plan application, and manage complications.
• Practice under supervision.
1. Case-based Clinical Application
Students independently select 2–3 OPD/IPD cases suitable for K??ra karma (e.g., Ar?as, N??? Vra?a). For each, they assess clinical history, perform local examination, and decide the most appropriate K??ra type. They must document the rationale, expected benefits, and whether any contraindications exist. This activity helps integrate theoretical knowledge with practical clinical decision-making.
2. Pre-operative Fitness Evaluation
Each student performs complete pre-op evaluations of patients selected for K??ra karma. This includes systemic examination, relevant investigations (e.g., CBC, RBS), and documentation of ASA grading. A structured checklist is filled independently. This activity ensures that students can assess patient safety and readiness before surgical K??ra application.
3. Indication–Contraindication Table Creation
Students prepare a comparative chart matching various K??ra types (Tik??a, Madhyama, M?du) with their classical indications and contraindications. They include patient factors such as age, site of lesion, comorbidities, etc. This table is then validated through discussion with peers. The activity strengthens clinical reasoning regarding K??ra selection.
4. Simulated Complication Management Drill
Using pre-defined scenarios (e.g., excessive tissue necrosis, post-K??ra burning, bleeding), students are given role-play situations. They must identify the complication and independently write a stepwise management plan based on Ayurvedic principles (e.g., ??tala upakrama, Raktasthambhana). This enhances preparedness for handling real-time complications.
5. K??ra Karma Protocol Sheet Preparation
Students independently design a full treatment protocol for one K??ra procedure (e.g., Pratis?raniya K??ra in Ar?as), including patient selection, pre-op prep, procedural steps, post-op care, and complication management. This is later reviewed for peer feedback. The activity ensures readiness for real-world clinical application.

Practical Training 25.5 : Demonstration of applicability of Kshara sutra

1. Activity Details
   • Teacher presents case scenarios of Bhagandara, Nadi Vrana, and Arsha with clinical findings.
   • Demonstrates structured assessment of indications, contraindications, and patient fitness for Kshara Sutra therapy.
   • Students practice evaluating given cases, identifying suitability, and drafting individualized treatment plans.
   Teacher's Role

• Demonstrate systematic clinical assessment for Kshara Sutra therapy.
• Provide varied case records and guide interpretation.
• Supervise student practice and correct errors in decision-making.
Students' Role
• Analyze case details to assess patient fitness.
• Identify indications/contraindications and justify suitability for Kshara Sutra.
• Draft and present individualized treatment plans.

Practical Training 25.6 : identification and management of complications of Kshara Sutra

Activity Details
• Teacher demonstrates complications of K?hara S?tra ligation and management.
• Students identify complications in cases/models and plan postoperative care.
Teacher's Role
• Demonstrate scenarios, provide cases/models, and supervise.
Students' Role
• Recognize complications and practice management with safe care planning.
1. Demonstration of Post-Kshara Sutra Dressing Techniques

- Activity: Instructor-led demonstration of ideal postoperative dressing methods, use of *Jatyadi Taila*, *Triphala Kwatha*, etc.
- Clinical Example: Dressing a case of *Bhagandara* with signs of local irritation to prevent infection.
- Learning Point: Understand proper local care to avoid secondary infection or premature sloughing.

2. Identification of Complications Using Clinical Photographs or Case Videos

- Activity: Visual recognition of complications through image-based learning.
- Clinical Example: Photos showing excessive granulation in a *Nadi Vrana* case with delayed tract healing.
- Learning Point: Train in visual diagnosis and classification of Kshara Sutra complications.

3. Small Group Discussion on Complication Management Protocols

- Activity: Guided group discussion on stepwise management of different complications.
- Clinical Example: A case of *Arsha* where premature sloughing led to bleeding per rectum.
- Learning Point: Discuss when to reapply, remove, or support with internal medications.

4. Hands-on Simulation on Kshara Sutra Adjustment or Reinsertion

- Activity: Practice on models or cadaveric specimens to adjust or replace a loose or prematurely sloughed Kshara Sutra.
- Clinical Example: Simulated case of *Bhagandara* where the ligature has lost tension by day 7.
- Learning Point: Gain technical skill in reapplication and proper placement.

5. Presentation of Real/Prepared Case Sheets with Complication Management

- Activity: Present case records including treatment course, complication, and its management.

- Clinical Example: A complete documentation of a patient with *Nadi Vrana* complicated by secondary abscess.

- Learning Point: Learn clinical reasoning and record-keeping for audit and research.

Practical Training 25.7 : Scientific advances in Kshara karma -indications, preparations and procedure

Activity Details
• Teacher briefly explains forms of K??ra and standardization criteria.
• Demonstrates preparation, coating cycle, and storage of K??ra/K??ra Sutra.
• Students, in teams, prepare batches, check pH/tensile strength, and label per SOP.
• Teacher shows advanced application techniques; students practice on models.
• Quick journal-club: teams present one recent innovation and justify clinical choice.
Teacher's Role
• Demonstrate preparation, standardization, and application methods.
• Provide SOPs, materials, and guide troubleshooting.
• Moderate case-based journal-club discussion.
Students' Role
• Prepare and standardize K??ra/K??ra Sutra in teams.
• Practice application on models following asepsis.
• Present research-based justification for clinical use.

1. Demonstration of K??ra Preparation Techniques

- Teacher-led practical on preparation of Ap?m?rga and Arka K??ra using traditional and research-modified methods (e.g., pH testing, use of modern filtration).
- Students observe and take notes on each step, including innovations documented in recent studies.

2. Hands-on K??ra Preparation Practice

- Students prepare a batch of K??ra under supervision, following updated SOPs based on recent research findings.

- They are asked to document observations on consistency, pH, and physical properties.

3. Model-Based K??ra Application Practice

- Teacher demonstrates application techniques of Pratis?r??ya K??ra on anatomical models or dummies.
- Students practice the application technique, focusing on site selection, safety precautions, and exposure timing.

4. Case Simulation and Discussion

- Teacher presents simulated patient cases (e.g., internal hemorrhoids, chronic wounds).
- Students identify suitable type of K??ra, justify its use based on recent evidence, and describe the method of application.
- Group discussion follows to reinforce learning.

5. Observation of Preserved Specimens and Outcome Records

- Teacher shows documented cases (photos, videos, preserved specimens) demonstrating before-and-after results of K??ra application.
- Students analyze outcomes and relate them to the technique and innovations used.

Practical Training 25.8 : Scientific advances in Kshara Sutra preparation, indictaions and application

1. Activity Details
   • Teacher demonstrates preparation of different forms of K?hara S?tra with emphasis on standardization.
   • Explains clinical indications from recent research and advanced application techniques.
   • Students practice preparation and simulate application on models.
   Teacher’s Role
   • Demonstrate preparation and advanced techniques.
   • Provide materials, models, and relevant research insights.
   • Supervise and correct student performance.
   Students’ Role

• Prepare K?hara S?tra under guidance.
• Identify indications based on research.
• Practice advanced application techniques on models.

Experiential learning Activity

Experiential-Learning 25.1 : Preaparation and standardization of different types Kshara and Kshara sutra

Activity Details
• Students, in groups, are provided Kshara Sutra preparation setups and case scenarios requiring its surgical application.
• Each group applies validated sterilization protocols step by step (cleaning, chemical sterilization, storage, labeling).
• Students demonstrate maintaining asepsis during handling and simulate its surgical application on models.
• Groups present their protocol adherence and discuss challenges faced.
Teacher’s Role
• Provide standardized sterilization guidelines and required materials.
• Observe group performance, introduce practical challenges (e.g., contamination risks), and guide corrections.
• Facilitate reflection on safety and efficacy in practice.
Students’ Role
• Perform sterilization of Kshara Sutra using validated protocols.
• Maintain aseptic handling during preparation and simulated surgical use.
• Collaborate to identify errors, adapt procedures, and present findings.

Experiential-Learning 25.2 : Sterilzation of Kshara sutra

Activity Details
• Students perform validated K?hara S?tra sterilization protocols in groups.
• Compare steps with standards, document process, and reflect on surgical safety and efficacy.
Teacher’s Role
• Provide protocols, materials, and supervise safe execution.
• Guide corrections and facilitate reflection.
Students’ Role

• Execute sterilization with aseptic technique.
• Verify standards and record observations.
1. Self-Observation and Documentation
Students should independently visit the Ksharsutra preparation or sterilization unit, either in their department or a certified facility. They are expected to carefully observe the entire sterilization process and document each step in sequence. This includes understanding what methods are used (like UV, gamma irradiation, etc.) and why each step is necessary. They should then prepare a flowchart or summary that outlines these steps and highlights how each part contributes to asepsis in clinical use.
2. Simulated Practice in OT Setup
Students must independently practice handling of sterilized Ksharsutra using models or simulated OT trays. They should set up all instruments aseptically and simulate the process of applying Ksharsutra on a dummy model, such as a fistula tract replica. During this, they will complete a checklist to ensure all steps were followed to maintain sterility. This hands-on activity improves their ability to handle the material safely during actual surgery.
3. Independent Clinical Application
When dealing with an actual patient (e.g., with Bhagandara), the student will take complete responsibility for ensuring the Ksharsutra is sterile and properly handled. This includes verifying sterilization, ensuring proper documentation, and mentioning it during informed consent. After the procedure, they will reflect on how sterilization impacted the safety and success of the treatment. This connects theory directly to clinical decision-making.

Experiential-Learning 25.3 : Application of Kshara

Activity Details
• Students are divided into groups and provided with detailed case scenarios of Arsha, Bhagandara, and Dushta Vrana, including patient history, examination findings, and relevant clinical parameters.
• Each group evaluates patient fitness for Kshara karma, considering systemic condition, local factors, and contraindications.
• Based on analysis, students select the appropriate Kshara (Mridu, Madhyama, or Teekshna), determine correct concentration, dosage, and site of application.
• Groups perform simulated application of Kshara on anatomical models, following aseptic precautions and procedural steps.
• After simulation, groups present their rationale for Kshara selection, application technique, and outline post-procedure care.
Teacher’s Role
• Provide structured case scenarios with clinical variations to encourage decision-making.
• Supply models, Kshara samples, and materials for simulation.
• Supervise group activities, observe student technique, and pose situational challenges (e.g., sensitive site, recurrent lesion).
• Facilitate peer discussion and highlight best practices in rational selection and safe execution.
Students’ Role
• Analyze case details to assess patient fitness for Kshara karma.
• Select and justify appropriate type and concentration of Kshara.
• Perform simulated application on models with correct dosage, site, and aseptic measures.

• Collaborate within groups, adapt to challenges, and present their management rationale and post-care plan to peers.

Experiential-Learning 25.4 : Identification and management of complications of Kshara karma

Activity Details
• Groups work on complication cases of Pratisara??ya and P?n?ya K?hara.
• Analyze causes, apply principles, and propose Ayurvedic + modern management.
Teacher's Role
• Provide case data, supervise, and guide integration of evidence.
Students' Role
• Identify complications, plan strategies, and justify with principles/evidence.
1. Clinical Case-Based Learning (CBL)

- Activity: Analyze real or simulated patient cases involving Kshara complications.
- Clinical Example: A patient develops a deep ulcer with delayed healing after excessive application of Pratisaraniya Kshara in Arsha.
- Learning Outcome: Identify procedural error (excess quantity or duration), pathophysiology of tissue damage, and plan appropriate Shamana, Ropana, or Shodhana interventions.

2. Hands-on Practice on Simulated Models

- Activity: Perform mock Pratisaraniya Kshara application on synthetic models of piles, sinus tracts, or non-healing ulcers.
- Clinical Example: Practice applying appropriate Kshara thickness and timing on a model simulating a Grade II Arsha, avoiding spread to surrounding skin.
- Learning Outcome: Understand correct technique, indications, and complication prevention strategies.

3. Supervised Clinical Rotations

- Activity: Participate in OPD/IPD procedures and follow-up care.
- Clinical Example: Observe a patient treated with Paneeya Kshara for Amlapitta who develops gastritis or vomiting as a complication.
- Learning Outcome: Monitor systemic reactions, correlate with Kshara Matra, and decide on Ayurvedic or supportive interventions (e.g., Shunthi, Dadima Swarasa, or IV fluids if dehydrated).

4. Complication Management Audit

- Activity: Review and audit past Kshara procedures and identify complications and their root causes.
- Clinical Example: Compile cases where Pratisaraniya Kshara in Dushta Vrana led to necrosis or worsened wound.
- Learning Outcome: Recognize patterns of misuse (e.g., repeated applications), and propose standard protocols and preventive measures.

5. Simulation of Emergency Scenarios

- Activity: Role-play acute complication scenarios and develop response strategies.
- Clinical Example: Simulate a case where Paneeya Kshara ingestion causes signs of toxicity like burning sensation, nausea, or dizziness.
- Learning Outcome: Practice emergency Ayurvedic management (e.g., Madhura Dravya, Ksheera, Ghritha), and know when to refer for supportive modern care.

Experiential-Learning 25.5 : Pre-operative assessment for Kshara Sutra application

Activity Details
• Groups work on case vignettes with clinical data (history, vitals, lab results).
• Students assess patient fitness for K?hara S?tra ligation and decide suitability.
• Each group presents and justifies clinical decisions.
Teacher’s Role
• Provide structured case data.
• Guide reasoning and highlight safe decision-making.
Students’ Role
• Analyze patient parameters, identify fitness/risks, and propose decisions.
• Justify choices through group discussion and presentation.

Experiential-Learning 25.6 : Indications and contra indications of Kshara Sutra

Activity Details

• Groups analyze case scenarios for K?hara S?tra ligation.
• Assess indications/contraindications and perform ligation on models.
• Present rationale for suitability.
Teacher’s Role
• Provide cases and models; supervise and guide corrections.
• Facilitate discussion on safe practice.
Students’ Role
• Evaluate cases, perform ligation with asepsis, and justify decisions.

- Activity: Present real-life cases (Pateints with Arshas, Bhagandara, Naadivrana, Charma keela, ineter connecting ulcers, Granthi, Arbuda etc) along with diagnostic images, discharge summaries, or OPD/IPD records etc).
- Task: Identify if K??ra S?tra is indicated or contraindicated.
- Method: Examination and evaluation followed by group discussion followed by faculty debrief.

Example cases:

- Low anal fistula (indicated)
- High anal fistula with multiple tracts (relative contraindication)
- Crohn's disease fistula (absolute contraindication)
- Granthi
- Arbuda
- Naadi vrana

- Charma keela

Experiential-Learning 25.7 : Complications in Kshara Sutra application and management

Activity Details
• Groups review different sterilization methods of K?hara S?tra (traditional and modern).
• Perform simulation/observation of sterilization steps in lab/clinical setting.
• Compare efficacy, safety, and applicability, then present evaluation.
Teacher’s Role
• Provide access to sterilization setups and protocols.
• Facilitate observation, ensure safe handling, and guide evaluation.
Students’ Role
• Observe/perform sterilization techniques.
• Record differences in methods, analyze aseptic outcomes.
• Present conclusions on best practices for preventing complications.
Present students with detailed case scenarios depicting patients who have undergone K??ra S?tra therapy and developed specific complications. e.g. Delayed wound healing with signs of infection., Excessive pain and inflammation at the application site, Bleeding or discharge indicating possible tissue necrosis.
Student Task:

- Analyze each case to identify the complication.
- Differentiate between similar presentations (e.g., infection vs. inflammatory response).
- Discuss potential causes and contributing factors.

Arrange for students to observe real patients in the clinical setting who have experienced complications from K??ra S?tra therapy.
Student Task:

- Conduct supervised patient interviews focusing on symptomatology and history.
- Perform physical examinations to assess the complication.
- Document findings and compare with textbook presentations.

Facilitate a group discussion where students present their case analyses and management strategies.
Student Task:

- Share insights gained from clinical observations.
- Reflect on the effectiveness of different management approaches.
- Receive feedback from peers and instructors to refine clinical reasoning skills.

Experiential-Learning 25.8 : Scientific advances in the field of Kshara

Activity Details
• Groups review recent studies/cases on innovative K?h?ra karma.
• Analyze indications, preparations, applications, and K?h?ra types with clinical relevance.
• Compare traditional vs. modern approaches and present integrated strategies.
Teacher’s Role
• Provide research/case material and guide critical analysis.
• Facilitate synthesis of traditional and innovative practices.
Students’ Role
• Extract key points, identify relevant K?h?ra types, and propose applications.

• Collaborate, debate, and present justified strategies.
1. Clinical Shadowing of Evidence-Based Cases
Students will shadow senior Ayurvedic surgeons in OPDs and IPDs where K??ra Karma is practiced. They will observe how new research supports expanding indications—such as applying K??ra Sutra in conditions like pilonidal sinus or oral keloid—beyond traditional use in fistula-in-ano and Arsha.
They will also document how decisions regarding K??ra type and application technique are guided by recent clinical evidence. Case observations will be recorded with reference to supporting studies.
2. Involvement in Advanced K??ra Preparation Units
Students will participate in hands-on preparation of different types of K??ra (e.g., Ap?m?rga K??ra, Snuhi-K??ra combinations) in an institutional or GMP pharmacy. Emphasis will be placed on innovations such as pH standardization, modern filtration, and sterilization techniques. Students will be taught how such improvements enhance safety, shelf life, and therapeutic efficacy, as demonstrated in current research publications.
3. Real-Time Observation of Innovative K??ra Application Techniques
In procedural settings, students will assist or observe surgeries using updated methods, such as interval-based K??ra Sutra tightening or topical anesthetic-assisted Pratis?r??ya K??ra application in hemorrhoids. Faculty will explain how procedural variations are supported by evidence for improved patient comfort and outcomes. Students will note how modifications from classical techniques align with modern research.
4. Post-Procedure Follow-Up and Outcome Analysis
Students will conduct regular follow-ups of patients treated with innovative K??ra methods. They will assess healing rates, recurrence, and patient satisfaction. These outcomes will be compared to published data to evaluate the effectiveness of the newer approaches. Students will present findings in clinical discussions, demonstrating how scientific advances translate to improved clinical success.

Experiential-Learning 25.9 : Scientific advances in Kshara sutra

Activity Details
• Groups review research on K?hara S?tra innovations.
• Appraise advancements in preparation, sterilization, and application.
• Present strategies for integration into surgical practice.
Teacher’s Role
• Provide literature and guide appraisal.
• Facilitate discussion on applicability.
Students’ Role
• Critically analyze evidence, compare traditional vs. modern methods.
• Propose and justify clinical applications.
1. Clinical Shadowing with Focus on Evolving Indications
Students will accompany consultants in OPD/IPD and observe how K??ra Sutra is used not only in classical conditions like Bhagandara (fistula-in-ano), but also in newly

supported indications such as pilonidal sinus, sinuses of hidradenitis suppurativa, and recurrent abscesses. Faculty will highlight the evidence base behind such expanded use. Students will document each case, noting indication, tract assessment, and reason for choosing K??ra Sutra over surgical excision.
2. Participation in Standardized K??ra Sutra Preparation
Students will assist in the preparation of K??ra Sutra using newer techniques, such as the use of vacuum drying, multilayered coatings, pH-balanced K??ra solutions, and sterilization protocols compliant with research standards. They will also learn about innovations like turmeric-coated or antibiotic-impregnated K??ra Sutra as explored in recent studies. Emphasis will be on how these techniques improve consistency, reduce microbial contamination, and enhance therapeutic results.
3. Assisting in Procedures Using Modified Techniques
In procedural training, students will observe or assist in actual K??ra Sutra ligation surgeries where innovations are applied—for example, measuring tensile strength for tightening frequency, using imaging (USG/MRI) for tract mapping before application, or modified threading in complex/multiple fistula tracts. Faculty will explain how such practices are informed by published research or case series, ensuring students connect theoretical advancements to practical decision-making.
4. Post-Operative Follow-Up and Evidence-Linked Outcome Analysis
Students will track patients post-K??ra Sutra ligation, observing healing progression, sphincter preservation, recurrence, and complications. These observations will be compared with published clinical outcomes. Students will then present case reports or mini audits linking their observations to scientific evidence, reinforcing the clinical relevance of research-backed innovations.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment. Module Content Scope: • Principles of Kshara and Ksharasutra • Preparation, standardization, and sterilization techniques • Forms of Kshara (Mridu, Madhyama, Teekshna) • Application procedures and indications/contraindications • Preoperative evaluation and management of complications • Recent advances in preparation and application 1. DOAPS (Direct Observation of Procedural Skills) • This method is best suited to evaluate hands-on skills involved in the application of Kshara and Ksharasutra. Students perform selected procedures—such as Apamarga Kshara application in Arsha or Ksharasutra ligation in Bhagandara—in a real or simulated setting under faculty supervision. • The evaluator assesses technique, aseptic handling, patient interaction, and post-procedure care. Each of these aspects is allocated marks (e.g.,	4

Technique – 10, Asepsis – 5, Communication – 5, Post-care – 5), totaling 25 marks per procedure.
• Two such procedures are observed, constituting a total of 50 marks.
• This method directly reflects the student's procedural competence and clinical readiness. OR

2. OSCE (Objective Structured Clinical Examination)
• OSCE evaluates clinical knowledge, procedural reasoning, and decision-making through a station-based approach. For this module, five OSCE stations can be structured to cover:
• Standardization and sterilization protocols for Kshara and Ksharasutra
• Selection of appropriate form of Kshara based on clinical scenario
• Preoperative evaluation and case selection
• Complication management post Kshara application
• Recent advancements in Kshara Karma techniques
• Each station is evaluated out of 10 marks based on task performance, clinical reasoning, and communication, summing up to 50 marks in total. OSCE ensures structured, objective, and reproducible assessment aligned with the clinical expectations of the module. OR

3. S-LAQ (Structured Long Answer Questions)
• To assess theoretical depth and clinical integration, students answer two structured LAQs, each carrying 25 marks.
• These LAQs focus on core topics such as the mechanism of action and clinical applications of different forms of Kshara or the standardization and sterilization protocols of Ksharasutra.
• Each answer is evaluated based on conceptual clarity (10), organization and depth (10), and clinical correlation (5).
• This method ensures that students not only understand the theoretical principles but also link them with clinical applications. OR

4. Mini-CEX (Mini Clinical Evaluation Exercise)
• Mini-CEX focuses on real-time clinical performance in scenarios like preoperative evaluation of a Ksharasutra case or follow-up of a Dushta Vrana post-Kshara application.
• Faculty observe student interaction with the patient, history taking, selection of Kshara type, and overall decision-making.
• Scoring criteria may include communication (10), diagnostic judgment (15), procedural planning (10), professionalism (5), and feedback responsiveness (10), totaling 50 marks.
• This method bridges theory and practice while building student confidence and competence in clinical settings. OR

5. P-CASE (Practical Case Management Assessment)
• This method evaluates the student's ability to comprehensively manage a case requiring Kshara Karma.

• Students present a complete case—diagnosis, treatment planning, procedure selection (e.g., Mridu vs. Teekshna Kshara), intraoperative care, complication management, and follow-up.
• Evaluation is distributed as: diagnostic reasoning (10), procedural planning and execution (15), communication and consent (10), and postoperative care and complication handling (15), making a total of 50 marks.
• This format simulates actual clinical responsibility and emphasizes holistic case handling.

OR
Any practical in converted form can be taken for assessment (25 Marks) And
Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)

Module 26 : Principles and Practice of Agni Karma

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe the core principles, and Ayurvedic rationale behind Agnikarma as a form of Anushastra karma. Elaborate the therapeutic benefits of Agnikarma, focusing on its application in treating conditions such as Arshas, Bhagandara, charmakeela, kadara, gridhrisee, sandhigata vaata etc. Outline the types of instruments used in Agnikarma (such as Shalaka) and the different methods of heat application.
- Perform a step-by-step Agnikarma procedure with precision, ensuring proper selection and handling of instruments, temperature control, and correct application technique. Use modern thermal equipment like diathermy etc. safely in clinical practice, managing heat application sites and monitoring patient comfort throughout the procedure. Provide post-procedural care to ensure proper healing and address any complications that may arise, such as Agnidagdha Vrana.
- Identify appropriate clinical conditions suitable for Agnikarma, including pain-related disorders, joint stiffness, and skin conditions like corns and warts. Distinguish between the different types of Shalaka and other instruments used in Agnikarma based on the area of application and the condition being treated

M 26 Unit 1 Principles of Agnikarma

- Types of Agnikarma
- Various substances and Shalakas used for Agnikarma as per disease indications.

References: 1,2,3,4,49,71,72

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe the Ayurvedic rationale and therapeutic benefits of Agnikarma, and apply it in managing conditions such as *Arsha*, *Bhagandara*, *Charmakeela*, *Kadara*, *Gridhrasi*, and *Sandhigata Vata*.	1	Lecture	CC	Knows-how	JC,PER,DIS
CO1,CO3	Demonstrate Agnikarma techniques using appropriate Shalaka based on Dhatu involvement.	2	Practical Training 26.1	PSY-GUD	Shows-how	SIM,D
CO1,CO3	Perform Agnikarma using appropriate Shalakas and substances for disease- and Dhatu-specific interventions.	3	Experiential-Learning 26.1	PSY-ADT	Does	SIM,D-M,DIS,D
CO1,CO3	Describe Shalakas and substances used in Agnikarma and explain heat application methods for disease-specific conditions.	1	Lecture	CC	Knows-how	PER,DIS,C_L,JC
CO1,CO3	Perform Agnikarma using Shalakas and substances such as Kshoudra, Guda, and Lavana in conditions like Ardita, Granthi, Nadi Vrana, and Charmakeela.	2	Practical Training 26.2	CAP	Shows-how	D,DIS
CO1,CO3	Demonstrate Agnikarma using Shalakas (Suvarna, Rajata, Tamra, Tamra Nala) and substances (Kshoudra, Lavana) based on Dhatu-specific disease interventions.	3	Experiential-Learning 26.2	PSY-ADT	Does	SIM,D-M,CBL,DIS,BS

M 26 Unit 2 Application of Agnikarma

- Indications, Contra-indications and pre operative evaluation for Agnikarma.
- Agnikarma procedure, dagdha lakshana, management of dagdha vrana.
- Complications of Agnikarma and its management.

References: 1,2,3,4,49,71,72

3A	3B	3C	3D	3E	3F	3G

CO1,CO3,CO4,CO5	Describe the indications, contraindications, and pre-operative assessment of patients for Agnikarma to determine procedural fitness.	1	Lecture	CC	Knows-how	BL,L_VC,DIS,L&GD
CO1,CO3,CO4,CO5	Perform Agnikarma using appropriate *Dahanopakarana* (e.g., Panchadhatu or Agnikarma Shalaka), ensuring sterile technique, precise anatomical application, and implement post-procedural care to prevent complications	3	Practical Training 26.3	PSY-GUD	Shows-how	D,D-M,SIM
CO1,CO3,CO4,CO5,CO6	Assess patient suitability for Agnikarma and perform the procedure safely using aseptic protocols.	3	Experiential-Learning 26.3	PSY-ADT	Does	CBL,CD,SY,RLE,W
CO1,CO3,CO4,CO5	Evaluate clinical features of Dagdha Vrana, formulate stage-wise management with Ayurvedic and integrative approaches, and manage Agnikarma complications with evidence-based rationale.	1	Lecture	CE	Knows-how	CBL,DIS,L_VC,CD,L&GD
CO1,CO3,CO4,CO5	Identify Dagdha Vrana by degree and dosha-dushya involvement, apply Ayurvedic stage-wise management, and formulate integrative plans with modern burn care for safe healing and complication prevention.	2	Practical Training 26.4	PSY-GUD	Shows-how	CBL,D,DIS,PBL,SIM
CO1,CO3,CO4,CO5,CO6	Manage Dagdha Vrana using Ayurvedic stage-wise and integrative burn care approaches.	3	Experiential-Learning 26.4	PSY-ADT	Does	CD,CBL,RLE,PBL,D-BED

M 26 Unit 3 Agnikarma Karmukatva

- Mode of action (Agnikarma Karmukatva) of Agnikarma in different surgical conditions- as Dahana, Chedana and Vedana Shamak in relation to Hemostatic, surgical excisions and pain management in different conditions
- Advancements in Agnikarma Techniques and emerging research trends.
- Vidha Karma and Viddhagni karma.

References: 1,2,3,4,49,71,72

3A	3B	3C	3D	3E	3F	3G

CO1,CO3,CO5	Describe the mode of action of Agnikarma in Dahana, Chedana, and Vedanasamana by integrating Ayurvedic principles with modern physiology.	1	Lecture	CS	Knows-how	BL,DIS,L&PPT ,L_VC,L&GD
CO1,CO3,CO4 ,CO5	Demonstrate the mode of action of Agnikarma in surgical conditions by correlating Ayurvedic principles with modern mechanisms.	3	Practical Training 26.5	PSY-GUD	Shows-how	D,D-M,D-BED,SIM
CO1,CO3,CO4 ,CO5,CO6	Perform Bindu, Vilekha, and Valaya/Pracchana types of Agnikarma in tendon, muscle, and superficial growth conditions with precision, safe tissue interaction, and effective outcomes.	3	Experiential-Learning 26.5	PSY-ADT	Does	PBL,CBL,RLE,PL,SDL
CO1,CO3,CO5	Describe advances in Agnikarma (temperature-controlled *Shalakas*, infrared/laser cautery, deep-tissue protocols) and correlate evidence on mechanisms with clinical applications for safe, evidence-based practice	1	Lecture	CAP	Knows-how	L_VC,L&GD,JC,SY,DIS
CO1,CO3,CO4 ,CO5	Demonstrate advanced Agnikarma using regulated *Shalakas* or radiofrequency/infrared cautery in conditions like plantar fasciitis, tennis elbow, and warts, integrating classical *Dahana* methods with modern thermal strategies	2	Practical Training 26.6	PSY-GUD	Shows-how	CBL,D,D-M,SIM
CO1,CO3,CO4 ,CO5,CO6	Apply classical and contemporary Agnikarma techniques (e.g., RF ablation, laser cautery) with appropriate applicators (*Suvarna, Rajata, Tamra Shalakas* or probes) to ensure efficacy, safety, and clinical relevance in musculoskeletal and surgical conditions.	3	Experiential-Learning 26.6	PSY-ADT	Does	RLE,CBL,SIM

M 26 Unit 4 Advanced tools and techniques of Agnikarma.

- Knowledge and application of modern thermal equipment with their techniques and uses.
  - Diathermy,
  - Laser therapy,
  - Microwave,
  - Ultracision harmonic scalpel,
  - Vessel sealers etc.
- Indications, contraindications, complications and management - of modern thermal equipment.

References: 1,2,3,4,49,71,72

3A	3B	3C	3D	3E	3F	3G
CO1,CO5	Describe principles, operations, and applications of modern thermal tools (*diathermy, laser, microwave ablation, harmonic scalpel, vessel sealing devices*)—highlighting relevance, pros/cons, and scope in *Shalya Tantra*.	1	Lecture	CAP	Knows-how	DIS,L,BL,L&GD,L&PPT
CO1,CO3,CO4,CO5	Demonstrate clinical use of contemporary science's thermal tools	3	Practical Training 26.7	PSY-GUD	Shows-how	D,D-M,CBL,SIM
CO1,CO3,CO5,CO6	Perform modern thermal surgical techniques—diathermy, laser, microwave ablation, harmonic scalpel, and vessel sealing—to ensure safe and effective outcomes.	4	Experiential-Learning 26.7	PSY-ADT	Shows-how	FV,SIM,RLE,CBL,W
CO1,CO5	Describe principles, techniques, and applications of modern thermal surgical tools (*diathermy, laser, microwave ablation, harmonic scalpel, vessel sealing devices*) with focus on relevance, advantages, and limitations in *Shalya Tantra*	1	Lecture	CAP	Knows-how	BL,L&GD,L_VC,L&PPT,DIS
CO1,CO3,CO5	Assess clinical applications, preoperative, operative, and postoperative care using modern thermal tools in integrative surgical practice (e.g., *diathermy, laser, microwave ablation, harmonic scalpel, vessel sealing*).	1	Lecture	CAP	Knows-how	L&PPT , BL,L&GD,L_VC
CO3,CO5	Discuss indications, contraindications, and management strategies for modern thermal tools (*diathermy, laser, microwave ablation, harmonic scalpel, vessel sealing*) in integrative surgical practice.	1	Lecture	CAP	Knows-how	L&GD,BL,L_VC,L&PPT
CO1,CO3,CO4,CO5	Operate modern thermal equipment (diathermy, laser, microwave ablation, harmonic scalpel, vessel sealing devices) through hands-on use, observation, and integration into condition-specific surgical planning.	3	Practical Training 26.8	PSY-GUD	Shows-how	D-M,DL,D,SIM
CO1,CO3,CO4,CO5,CO6	Apply clinical judgment to select thermal tools, manage contraindications, and address complications under supervised practice.	4	Experiential-Learning 26.8	PSY-ADT	Shows-how	CBL,SIM,RLE,W,PER

Practical Training Activity

Practical Training 26.1 : Demonstration of types of Agnikarma

Activity Details
• Demonstration of Agnikarma with suitable *Shalaka* per Dhatu involvement on models.
• Students practice procedures stepwise.
Teacher's Role
• Demonstrate selection and technique, supervise, and stress safety.
Students' Role
• Select correct *Shalaka* and perform Agnikarma with precautions.

1. Demonstration by Instructor:
    1. Live or simulated demonstration of different types of Agnikarma (Twakgata, Mamsagata, and Asthigata) using models or cadaveric material.
    2. Explanation of heating methods and safe handling of Shalakas (Loha, Tamra, Rajata, etc.).
2. Instrument Identification & Handling:
    1. Hands-on session where students identify and handle various Shalakas (e.g., Bindu Shalaka, Patti Shalaka, Tamra Nala) and classify them based on indication.
3. Dhatu-wise Condition Mapping:
    1. Students map given surgical conditions (e.g., *Granthi*, *Vidradhi*, *Gridhrasi*) to the involved Dhatu and select appropriate Shalaka and Agnikarma method accordingly.
4. Role-play or Simulation:
    1. Simulation of patient-doctor interaction where students explain Agnikarma indications, procedures, and post-care to a mock patient.

5. Case-Based Discussion:

    1. Group discussion on clinical cases with focus on Dhatu involvement and rational selection of Agnikarma technique and instrument.

6. Documentation Practice:

    1. Students practice writing informed consent and procedural notes for an Agnikarma case, including Dhatu assessment and rationale.

7. MCQ/Spot Test:

    1. Quick quiz or spot identification of instruments and Dhatu-specific conditions for formative assessment.

Practical Training 26.2 : Demonstration of the materials used for Agnikarmama

- Activity Details
  • Demo of Agnikarma with Shalakas + Kshoudra, Guda, Lavana on models.
  • Student practice for Ardita, Granthi, Nadi Vrana, Charmakeela.
  • Short discussion on substance choice.
  Teacher’s Role
  • Demonstrate and explain indication-wise use.
  • Supervise and correct practice.
  Students’ Role
  • Observe, note correlations.
  • Perform procedures with guidance.
  • Join brief discussion.

- Introductory Briefing

- Overview of classical references (Su. Chi. 12) on Shalakas and substances used in Agnikarma based on Dhatu involvement.

- Demonstration
    - Faculty demonstrates various Shalakas (Suvarna, Rajata, Tamra, Loha, Tamra Nala) and substances (Kshoudra, Guda, Lavana) with relevant surgical indications.
- Condition–Shalaka Matching Activity
    - Students match given conditions (e.g., Ardita, Nadi Vrana, Granthi) with Dhatu involved and appropriate Shalaka or substance, with classical justification.
- Group Discussion
    - Small group analysis and presentation of selected case scenarios, explaining choice of Agnikarma material with textual support.
- Instrument Handling and Observation
    - Hands-on session with Shalakas to understand heat conduction, tip design, and Dhatu-specific application.
- Documentation Exercise
    - Students prepare a chart summarizing condition, Dhatu, Shalaka/substance used, and classical reference.

Practical Training 26.3 : Demonstration of Agnikarma procedure

Activity Details
• Demonstration of Agnikarma with *Dahanopakarana* (Panchadhatu/Shalaka), highlighting sterility, precision, and post-care.
• Students practice technique on models.
Teacher’s Role

• Demonstrate procedure, supervise, and correct errors.
Students' Role
• Perform Agnikarma with sterile, accurate technique and show post-care.
1. Demonstration of Agnikarma Instruments & Materials
The session begins with a focused demonstration of various instruments used in Agnikarma, such as Panchadhatu Shalaka, Loha Shalaka, and Tamra Shalaka, along with heating devices like spirit lamps or gas burners. The instructor explains how each Shalaka is chosen based on the nature and location of the condition — for example, a pointed tip for deep-seated neural conditions like Gridhrasi, and a flat or broad tip for surface lesions like Keloid. Additionally, students observe the Sita Kalpana (cooling agents) used post-procedure, including Aloe vera pulp, Shatadhauta Ghrita, and Jatyadi Ghrita. Contemporary parallels are drawn with modern electrocautery probes, RF ablation tools, and their specifications, helping students appreciate both the traditional and modern tools of thermal therapy.
2. Step-by-Step Demonstration on Dummy or Model
A complete stepwise Agnikarma procedure is then demonstrated by the faculty on a synthetic skin model or animal tissue (e.g., goat skin), allowing students to visualize the real-time execution of the technique. The demonstration includes proper anatomical positioning, skin marking, sterilization methods, and the precise application of heated Shalaka. Special attention is given to maintaining uniformity in depth and duration of contact, which is crucial in avoiding complications like over-burning or under-treatment. The instructor also shows post-procedure dressing using Sita Kalpana, bandaging, and patient instructions. This visual and practical exposure builds foundational confidence before hands-on practice.
3. Supervised Hands-on Practice by Students
Each student is given the opportunity to practice the Agnikarma technique under faculty supervision on safe models or inert biological materials. They learn to handle the Shalaka with confidence, adjust the pressure and contact angle, and time the application to produce the ideal therapeutic burn. Faculty members correct their hand posture, approach to the lesion, and communication with the "simulated patient" (or peer) during the process. This supervised practice emphasizes the tactile and thermal sensitivity required for successful Agnikarma, preparing students for clinical application on real patients.
4. Clinical Case Discussions & Differential Indication Mapping
After the procedural training, students engage in structured case-based discussions. They are presented with various clinical scenarios — for instance, a patient with chronic Gridhrasi, another with Tennis elbow (Lateral Epicondylitis), or a recurrent Umbilical Sinus. They are guided to differentiate between suitable and unsuitable cases for Agnikarma and justify the rationale behind their choices. For each case, they discuss the site of application, type of Shalaka, number of sittings, and post-procedural care, blending Ayurvedic diagnostic reasoning with modern pathophysiological insights.
5. Modern Correlation & Mechanism Review
In this integrative learning segment, students are divided into small groups to review the modern scientific basis of Agnikarma. They present topics such as the physiological effects of heat on tissues, denaturation of nociceptors, coagulation mechanisms, and comparison with electrocautery or radiofrequency ablation. These presentations help students correlate traditional concepts like Shoola-prashamana and Stambhana with modern understandings of thermal nerve ablation and anti-inflammatory effects, enriching their academic comprehension and future interdisciplinary dialogue.
6. Complication Management Simulation
The class is then introduced to simulated scenarios involving common Agnikarma complications — for example, an accidental second-degree burn over a bony prominence

or a localized infection post-procedure. Students are asked to identify the complication, assess its severity, and plan an appropriate management strategy. They are expected to suggest Ayurvedic treatments like Ropana dravyas (e.g., Jatyadi Taila, Durvadi Ghrita) alongside modern interventions like wound dressings, antiseptics, or antibiotics, if required. This fosters clinical foresight, safety consciousness, and integrative thinking.

7. Documentation & Consent Practice

Understanding the medico-legal aspects of surgical procedures, students are trained in the preparation of proper documentation. They are asked to draft informed consent forms, pre-procedural checklists, and post-procedure instructions. Additionally, they write sample operative notes describing the patient's indication, type of Shalaka used, area cauterized, number of burns given, and follow-up advice. Emphasis is placed on clarity, professionalism, and legal completeness, which are crucial in modern clinical settings.

8. Viva Voce & OSCE (Objective Structured Clinical Examination)

To conclude the practical module, students participate in a structured assessment that includes viva voce and OSCE stations. These stations test their ability to identify instruments, describe burn depth based on clinical images, list indications or contraindications for Agnikarma, and respond to complication scenarios. Through this evaluation, their theoretical grasp, procedural understanding, and critical reasoning are holistically assessed, ensuring readiness for independent practice in both Ayurvedic and integrative clinical environments.

Practical Training 26.4 : Demonstration of dagdha lakshana, complications of Agnikarma and their management

1. Clinical Identification and Classification of Dagdha

Teaching–Learning Method: Visual Case Analysis & Guided Discussion

The session begins with a visual case-based presentation of burn injuries (photographs, videos, or patient cases) depicting various degrees of Dagdha. Students are guided to identify classical Lakshanas (such as Raga, Toda, Daha, Sphota, Carbonization) and correlate them with modern classifications—first, second, and third-degree burns. They are asked to categorize burns based on dosha-dushya sammurchana and discuss how Pitta predominance, tissue depth, and Rasa-Rakta-Mamsa involvement influence healing and prognosis. This activity sharpens their diagnostic acumen and enhances understanding of traditional classification in clinical language.

2. Differentiation Between Samanya and Vishishta Lakshanas

Teaching–Learning Method: Small Group Activity & Case-Based Peer Presentation

Students participate in small-group discussions where different case scenarios are presented to distinguish Samanya Lakshanas (common features like Daha, Raga, Toda) from Vishishta Lakshanas (such as Sphota, Carbonization, or Paka Janya Gandha). Emphasis is placed on clinical judgment to identify complications early—e.g., how the presence of Mamsa Daha may indicate a deeper burn with delayed healing potential. Each group presents one case to justify their differentiation and clinical approach, fostering group-based critical reasoning.

3. Demonstration of Stage-wise Management of Dagdha Vrana

Teaching–Learning Method: Faculty Demonstration & Integrative Discussion

The instructor demonstrates the application of Shodhana and Ropana Chikitsa using classical preparations. Early-stage management using Sita Kalpana (e.g., Aloe vera pulp, Shatadhauta Ghrita, Triphala Phanta wash) is shown for fresh superficial burns, followed by Ropana Dravyas (e.g., Jatyadi Ghrita, Durvadi Taila) for later healing stages. Students observe how these are selected based on burn stage, dosha predominance, and wound characteristics. Modern sterile dressing techniques are integrated,

demonstrating hybrid protocols. This builds procedural clarity and confidence.
4. Hands-on Practice of Burn Dressing and Application of Ayurvedic Formulations
Teaching–Learning Method: Supervised Simulation-Based Skill Training
Each student practices cleaning and dressing a simulated burn wound on a dummy or inert animal model, applying Ayurvedic formulations under supervision. Emphasis is given to gentle debridement, uniform spreading of medicated ghrita/taila, and sterile bandaging techniques. Students rotate roles—practitioner, assistant, and observer—and receive feedback on technique, hygiene, and patient communication. This cultivates clinical discipline and procedural fluency.
5. Complication Mapping and Management Strategies
Teaching–Learning Method: Problem-Based Learning (PBL) with Case Vignettes
Using prepared case vignettes, students are introduced to various complications of Agnikarma such as Dushta Vrana, hypertrophic scars, pigmentation changes, delayed healing, and secondary infection. They are asked to analyze the case, identify the cause of the complication (e.g., excessive heat, poor aseptic technique), and prepare a comprehensive management plan. Plans must include Ayurvedic remedies (e.g., Pancha Valkala kwatha, Rakta-prasadaka drugs) as well as modern interventions (e.g., antibiotics, emollients, scar management gels). This activity enhances integrative clinical planning skills.
6. Correlation with Modern Burn Management
Teaching–Learning Method: Comparative Seminar & Reflective Discussion
A brief interactive session is conducted comparing Ayurvedic Dagdha Chikitsa with contemporary burn care principles. Topics include thermal injury pathophysiology, fluid-electrolyte balance in burns, infection control, and scar prevention. Students are encouraged to discuss how Ropana Dravyas relate to modern emollients and how Pitta-shamana drugs could support anti-inflammatory care. This discussion enhances their ability to communicate Ayurvedic practice in interdisciplinary clinical settings.
7. Post-Agnikarma Follow-up and Prognosis Documentation
Teaching–Learning Method: Clinical Documentation Drill & Instructor Feedback
Students are taught how to prepare a post-procedure follow-up chart that includes wound assessment parameters—such as granulation, epithelialization, pain score, and signs of infection. They also practice recording progress notes, patient feedback, and photographic documentation at regular intervals. Special attention is given to long-term outcomes such as scar formation and functional restoration, emphasizing the importance of prognosis evaluation and patient education.

Practical Training 26.5 : Demonstartion of mode of action in Agnikarma

Activity Details
• Teacher demonstrates Agnikarma on model with Ayurvedic–modern correlation.
• Students practice under supervision.
• Short group discussion on clinical indications.
Teacher’s Role
• Demonstrate procedure and explain correlations.
• Guide and correct student practice.

• Lead focused discussion.
Students' Role
• Observe demonstration with notes.
• Perform procedure on model with precision.
• Share one clinical application in discussion.
1. Hemostatic Action – D?hana Karma
Activity:
Observe and assist in Agnikarma performed on a case of bleeding piles, chronic granulating sinus, or post-biopsy ooze.
Assess bleeding control achieved by D?hana and record changes in bleeding, local temperature, and wound condition.
Objective:
To evaluate the hemostatic effect of Agnikarma through thermal coagulation and correlate with classical Stambhana and D?hana Karma principles.
Teaching–Learning Method:
Bedside demonstration
Supervised patient handling
Mini-CEX (clinical evaluation exercise)
2. Surgical Excision – Chedana Karma
Activity:
Perform Agnikarma under supervision for corn, plantar wart, or skin tag, using appropriate Shalaka or thermal cautery.
Document the excision depth, margin, healing pattern, and recurrence on follow-up.
Objective:
To apply Chedana effect of Agnikarma in surgically manageable minor growths and understand its tissue-destructive precision.
Teaching–Learning Method:
Hands-on procedure on actual patients
Case-based discussion
Checklist-based skill assessment
3. Pain Management – Vedan?-?hamaka Karma
Activity:
Identify trigger points in a patient with tennis elbow, lumbar spondylosis, or frozen shoulder.
Administer Agnikarma using Bindu D?hana technique.
Monitor pain relief (VAS scale) immediately and on follow-up.
Objective:
To understand the pain-modulatory effect of Agnikarma by evaluating thermal neurolysis and local circulatory enhancement.

Teaching–Learning Method:
Live patient demonstration
Pain scoring before and after treatment
Reflective logbook entry
Integration with Contemporary Understanding:
Each activity should include:
A short pre-briefing on biomedical mechanism (e.g., thermal denervation, vascular coagulation).
Post-procedure debriefing connecting Ayurvedic rationale (e.g., Dosha-vilayana, Srotoshodhana) with modern clinical outcomes.

Practical Training 26.6 : Advanced Agnikarma techniques.

Activity 1: Hands-on Demonstration of Advanced Agnikarma Devices
Teaching–Learning Method: Demonstration followed by Guided Practice (DOPS)
Students will be introduced to advanced Agnikarma instruments, such as temperature-controlled Shalakas, infrared cautery units, and radiofrequency devices. The instructor will demonstrate the safe operation, sterilization protocols, and procedural setup. Students will then practice the procedure on patients presenting with plantar fasciitis or calcaneal spur, under supervision, applying the Bindu Dahana technique at identified points of tenderness. Emphasis will be placed on temperature regulation, depth control, and aseptic technique.
Activity 2: Clinical Case Analysis and Protocol Selection
Teaching–Learning Method: Case-Based Learning (CBL)
Students will work in small groups to evaluate real patient cases such as chronic lateral epicondylitis, corn, or ganglion cyst, assessing the doshic profile, chronicity, tissue involvement, and anatomical site. Based on classical and contemporary criteria, each group will decide the suitable form of Agnikarma (e.g., Vilekha for tendinopathies, Valaya for fibroma), choosing the optimal device and protocol. The case discussion will be followed by a debrief focusing on the integration of Ayurvedic principles with modern procedural planning.
Activity 3: Outcome Assessment and Clinical Documentation
Teaching–Learning Method: Reflective Learning and Documentation Exercise
After performing Agnikarma procedures, students will record procedural details (Shalaka type, temperature, Dahana type), patient response, and post-procedure outcomes using standard proformas. They will assess pain relief using VAS, track inflammatory response, and note signs of healing. These observations will be reviewed in a feedback session to enhance analytical skills, procedural documentation, and clinical audit practices.
Activity 4: Interpretation of Contemporary Research and Evidence Synthesis
Teaching–Learning Method: Journal Club / Evidence-Based Discussion
Students will be assigned recent clinical trials, observational studies, or case reports on Agnikarma in conditions like osteoarthritis, frozen shoulder, or keloids. Each student will present a summary of one article, including methodology, outcome measures, and relevance to classical concepts. The discussion will foster critical thinking on how

emerging research aligns with or augments traditional knowledge and help formulate modern, evidence-informed Agnikarma protocols.
Activity 5: Thermal Mapping and Technology Integration
Teaching–Learning Method: Simulation-Based Learning with Real-Time Feedback
Students will utilize digital thermal imaging or infrared thermography, where available, to assess pre- and post-Agnikarma skin temperature and visualize heat dispersion. This activity enhances understanding of dosha-specific depth of heat penetration, justifying the choice of technique and Shalaka type. These findings will be compared with the subjective pain relief and observed tissue response, reinforcing the science behind thermal dosimetry in Agnikarma.

Practical Training 26.7 : Applicability of modern thermal equipment

Activity Details
• Groups perform Bindu, Vilekha, Valaya/Pracchana Agnikarma on models for tendon, muscle, and superficial growth.
• Peer observation, correction, and short outcome sharing.
Teacher's Role
• Provide setup and safety guidance.
• Monitor and ensure correct technique.
• Conclude with key refinements.
Students' Role
• Perform procedures with safe precision.
• Observe peers and suggest corrections.
• Share outcomes with brief rationale.
1. Case-Based Clinical Discussion:
Students are divided into small groups and presented with real or simulated cases like Arsha, Bhagandara, or Siraj Granthi. Each group discusses patient evaluation, identifies suitable thermal equipment (e.g., diathermy for Arsha), and justifies its selection based on both contemporary science criteria and Ayurvedic principles such as dhatu involvement and sthanika dosha. Faculty facilitates the discussion to ensure clarity and clinical relevance.
2. Demonstration of Equipment Use:
The instructor demonstrates the functioning, setup, and handling of various thermal devices—diathermy, laser units, harmonic scalpel, microwave ablation, and vessel sealers—on training models or in live procedures (if permitted). Students observe tissue effects, safety measures, and procedural steps to understand the equipment's role in specific surgical contexts.
3. Hands-On Simulation Practice:
Students practice using thermal equipment on synthetic models or animal tissue under supervision. Tasks include safe incision with diathermy, controlled ablation with laser, and sealing with vessel sealers. Emphasis is placed on technique, angulation, tissue response, and precision, simulating real-time decision-making in a controlled environment.
4. Preoperative & Intraoperative Protocol Drill:

Students perform a step-by-step rehearsal of preoperative planning, machine checks, sterile field setup, patient positioning, and intraoperative safety. They use checklists and role-play scenarios to ensure readiness and quick response to potential complications, promoting disciplined execution and protocol adherence.
5. Postoperative Care Practice:
Students observe and participate in immediate and follow-up wound care, dressing techniques, monitoring for complications, and patient education. Ayurvedic post-surgical practices like the use of Ropana Dravyas and diet advice are incorporated. Students are expected to correlate healing outcomes with both modern and Ayurvedic principles.
6. Reflective Logbook & Viva Interaction:
Each student maintains a brief log detailing the case, equipment used, decisions taken, and postoperative outcomes. In the concluding viva or group debrief, students reflect on their learning, clarify doubts, and receive faculty feedback, reinforcing their clinical reasoning and integrative approach.

Practical Training 26.8 : Modern thermal equipment

Activity Details

1. Preparation – Teacher briefs safety protocols, introduces diathermy, laser, microwave ablation, harmonic scalpel, and vessel sealing devices.
2. Demonstration – Teacher demonstrates equipment operation on models with condition-based applications.
3. Practice – Students operate each device under supervision, focusing on technique, safety, and precision.
4. Integration – Short group discussion on condition-specific surgical planning with each modality.

Teacher’s Role
• Demonstrate safe operation, explain indications.
• Supervise student use, correct technique.
• Lead integration discussion.
Students’ Role
• Observe demonstration with notes.
• Practice handling devices safely.
• Contribute to planning discussion.
1. Equipment Orientation and Demonstration
The session begins with a faculty-led demonstration of each thermal surgical device, including diathermy, laser therapy units, microwave ablation systems, ultrasonic

harmonic scalpel, and vessel sealing devices. Each device is introduced with its components, energy source, working mechanism, and safety features. Students observe how the machines are set up, operated, and maintained. Demonstrations are conducted on tissue models or using recorded surgical procedures (e.g., diathermy in hemorrhoidectomy, laser use in varicose veins).
2. Hands-On Practice with Simulation Models
Students are divided into small groups and rotate through stations where they get hands-on practice using the equipment on synthetic models or animal tissue (where ethically permitted). Each station includes guided tasks such as:

- Applying diathermy in cut and coagulation mode.
- Using a laser probe to simulate ablation of a sinus tract.
- Applying harmonic scalpel to practice precise tissue dissection.
- Sealing simulated vessels with a vessel sealer.

Each student receives immediate feedback on grip, angulation, duration of energy application, and safety compliance.
3. Clinical Scenario Mapping and Equipment Selection
Students are given brief clinical scenarios—e.g., a patient with Grade II hemorrhoids, a case of pilonidal sinus, or a thyroid swelling—and are asked to select the appropriate thermal device. They must justify their choice based on surgical need, tissue type, energy suitability, and expected outcomes. The activity sharpens decision-making and builds a connection between theoretical knowledge and practical application.
4. Troubleshooting and Safety Protocols
Students are introduced to common technical issues (e.g., grounding errors in diathermy, laser overheating, seal failure in vessel sealers). Through demonstration and guided discussion, they learn how to recognize errors and manage intraoperative complications. Safety drills include setting up sterile fields, using protective gear (e.g., laser goggles), and maintaining device hygiene.

Experiential learning Activity

Experiential-Learning 26.1 : Materials and methods of Agnikarma

Activity Details

- Groups handle disease- and Dhatu-specific cases, select *Shalaka*/substances, and perform Agnikarma on models.
- Students are engaged in a focused textual orientation, where the instructor guides them through key references from Sushruta Samhita.
- Emphasis is placed on the rationale for selection of Shalakas and Dahana Dravyas in relation to Dhatu involvement. For instance, Suvarna Shalaka is indicated in Ardita (due to its marmasthana association), Rajata Shalaka in Charmakeela (Twakgata), Tamra Nala in Nadi Vrana (Snayugata), and Loha Shalaka in Bhagandara (Mamsa-Asthigata).
- Substances like Kshoudra, Guda, and Lavana are discussed for their Dahana properties in superficial and deep-seated conditions.

Teacher's Role
• Provide scenarios/resources, supervise safely, and guide discussion.
Students' Role

- Following the theoretical foundation, students participate in a hands-on instrument orientation session.
- Here, original or model Shalakas made of different metals—Suvarna, Rajata, Tamra, Loha, and Tamra Nala—are provided for observation and handling.
- Students assess their structural features, thermal properties, and suitability for different tissue depths.
- This activity helps reinforce tactile familiarity and conceptual clarity in selecting the right tool for a given pathology.
- Perform Agnikarma with correct selections and critique peers.
- Students undertake a simulation-based practice using anatomical models or wax-based replicas of surgical lesions such as Arshas, Kadara, Nadi Vrana, and Bhagandara.
- Under supervision, they rehearse the steps of Agnikarma—assessing tissue type, heating technique, safe handling of the Shalaka, angle and depth of application, and post-procedural care—adhering closely to classical descriptions.
- The simulation mimics patient scenarios, encouraging correct procedural execution.

Experiential-Learning 26.2 : Materials and methods of Agnikarma

Activity Details
• Groups perform Agnikarma with Shalakas/substances on models for Dhatu-specific cases.
• Peer correction and quick rationale sharing.
Teacher's Role
• Provide setup, ensure safety, clarify points.
Students' Role

• Perform with precision, observe peers, justify choices.
Students engage in a clinical reasoning exercise wherein they prepare a comparative matrix of surgical conditions. For each, they analyze Dhatu involvement, classical indications, and select the appropriate Shalaka and Dahana Dravya. For example, they may list Kadara as a Twakgata condition requiring Rajata Shalaka and Lavana, or Nadi Vrana as Snayugata needing Tamra Nala and Kshoudra. This structured activity deepens analytical thinking and enhances textual integration.
Case-based group discussions form the next phase of experiential learning. Each group is assigned a classical condition—such as Gridhrasi, Charmakeela, or Vidradhi—and tasked with identifying Dhatu involvement, choosing the suitable Agnikarma tools and substances, and justifying their plan using textual references. Groups present their rationale, followed by peer questions and faculty feedback, promoting scholarly discourse and refinement of clinical judgment.
To consolidate learning, students are assigned to document a case scenario of Agnikarma from diagnosis to post-procedural care. The report includes Dhatu assessment, Shalaka and Dravya selection, classical justification, procedural steps, expected effects, and precautions. Additionally, students submit reflective notes on their decision-making process and learning outcomes.
The session concludes with a structured faculty-led feedback round. Faculty members review student activities, provide critical insights into accuracy of classical application, technical execution, and areas for improvement. Emphasis is laid on bridging classical knowledge with contemporary surgical thinking, equipping students for evidence-based application of Agnikarma in clinical settings.

Experiential-Learning 26.3 : Clincal evaluation of patient for Agnikarma and Agnikarma procedure

Activity Details
• Groups assess patient suitability for Agnikarma and perform it on models with aseptic protocols.
• Peers review technique and reflect.
Teacher’s Role
• Provide scenarios/resources, supervise, and guide discussion.
Students’ Role
• Assess suitability, perform Agnikarma safely, and critique peers.
1. Clinical Assessment Workshops
Teaching–Learning Method: Hands-on Clinical Examination & Facilitated Practice
Students will evaluate real patients presenting with conditions such as osteoarthritis knee, chronic lateral epicondylitis, or post-traumatic muscle stiffness to assess indications, contraindications, and fitness for Agnikarma.
2. Case-based Group Discussions
Teaching–Learning Method: Collaborative Learning & Problem-Based Learning (PBL)
Students will critically analyze real complex cases—such as a patient with psoriatic lesions near the treatment site or a patient with cardiovascular issues—to identify risks and contraindications for Agnikarma.
3. Performing Agnikarma Procedure on Indicated Patients
Teaching–Learning Method: Direct Patient Care & Supervised Procedural Training

Students will perform Agnikarma on clinically indicated patients.
4. Integration of Contemporary Safety Protocols
Teaching–Learning Method: Interactive Seminar & Bedside Teaching
Students will apply contemporary sciece's infection control measures, monitor vital parameters, and employ pain control methods during Agnikarma.
5. Reflection and Documentation
Teaching–Learning Method: Reflective Writing & Clinical Record Maintenance
Students will document patient evaluation, procedural details, and follow-up care in clinical records, emphasizing standardized formats used in modern healthcare settings.

Experiential-Learning 26.4 : Clinical identification and management of Dagdha vrana and complications of Agnikarma

Activity Details
• Groups manage Dagdha Vrana on models with Ayurvedic stage-wise + contemporary care.
• Present integrated plan.
Teacher’s Role
• Provide cases/models, ensure safety, guide integration.
Students’ Role
• Perform interventions, apply modern steps, share plan.
1. Patient Assessment and Burn Classification
Teaching–Learning Method: Hands-on Clinical Examination & Facilitated Practice
Students will evaluate patients presenting with various burn injuries—such as a patient with a superficial first-degree burn from a mild Agnikarma mishap or a deeper second-degree burn due to prolonged heat exposure. They will correlate classical Ayurvedic lakshanas (redness, pain, swelling) with modern burn severity grading, enabling precise classification and documentation.
2. Case Discussions on Integrative Wound Management
Teaching–Learning Method: Collaborative Learning & Problem-Based Learning (PBL)
Students will analyze cases like a patient with a fresh burn managed with Jatyadi Taila and sterile dressings, or a patient requiring additional antibiotics due to secondary infection. They will discuss Ayurvedic and modern treatment protocols, wound care principles, and individualized management plans that optimize healing.
3. Monitoring and Managing Agnikarma Complications in Real Patients
Teaching–Learning Method: Direct Patient Care & Supervised Clinical Management
Students will participate in bedside care of patients exhibiting complications such as hypertrophic scars, pigmentation changes, or contractures post-Agnikarma. Under guidance, they will apply treatments including topical Ropaka and Shothahara preparations, physiotherapy techniques to prevent contractures, and coordinate with dermatology or physiotherapy as needed.
4. Application of Contemporary Safety and Rehabilitation Protocols
Teaching–Learning Method: Interactive Seminar & Bedside Teaching

Students will learn to implement infection control, pain management, and rehabilitation strategies in real clinical settings. They will understand the importance of multidisciplinary approaches, including patient education on scar management and follow-up care to improve functional outcomes.
5. Documentation and Reflective Practice
Teaching–Learning Method: Reflective Writing & Clinical Record Maintenance
Students will record detailed burn assessments, treatment steps, and complication management in patient records, using formats aligned with hospital documentation standards. Reflective exercises will encourage evaluation of clinical decisions, challenges faced, and integration of Ayurvedic and contemporary evidence-based practices.

Experiential-Learning 26.5 : Agnikarma mode of action

Activity Details
• Groups perform Bindu, Vilekha, Valaya/Pracchana Agnikarma on models for tendon, muscle, and superficial growth.
• Peer observation, correction, and short outcome sharing.
Teacher's Role
• Provide setup and safety guidance.
• Monitor and ensure correct technique.
• Conclude with key refinements.
Students' Role
• Perform procedures with safe precision.
• Observe peers and suggest corrections.
• Share outcomes with brief rationale.
1. Clinical Case Identification and Need Assessment
Students will independently evaluate patients in OPD/IPD settings presenting with conditions like plantar fasciitis, tennis elbow, dushta vrana, warts, corns, or sinus tracts. Based on clinical findings, they must determine the primary therapeutic goal—whether pain relief (Vedan???maka), excision (Chedana), or hemostasis (Rakta-stambhana)—and document the indication for Agnikarma.
Example: A patient with bleeding from a non-healing sinus is selected for Rakta-stambhana using Valaya D?hana.
2. Planning and Instrument Selection for Agnikarma
Students will plan the procedure based on tissue involvement (Twak, Mamsa, Rakta, Snayu) and select the appropriate type of Agnikarma (Bindu, Vilekha, Valaya/Pracchana). They will choose suitable instruments (e.g., Panchadhatu Shalaka with pointed, flat, or round tips) and standardize the temperature and depth of application.
Example: For a superficial wart, the student selects a flat-edged Shalaka for Vilekha D?hana and ensures surface-level scraping without deep tissue damage.
3. Independent Performance of Agnikarma Procedure
Under supervision, students will independently perform the planned Agnikarma on the selected patient. They must ensure aseptic preparation, accurate localization, and correct technique to achieve the desired effect.

Example: The student performs Bindu D?hana at specific Mamsagata pain points in a patient with plantar fasciitis and notes immediate and follow-up pain relief.
4. Post-Procedure Care and Monitoring
Students will provide appropriate wound care using Ayurvedic Ropana and Rakta-stambhaka dravyas (e.g., Jatyadi Ghrita, Haridra churna) and monitor for therapeutic outcome and complications. Daily assessments include checking for signs of infection, eschar formation, wound size reduction, and pain scores.
Example: After Vilekha D?hana on a plantar corn, the student performs daily dressing and notes healthy granulation tissue by day 4.
5. Clinical Reflection and Comparative Analysis
Students will maintain detailed records of each patient case with documentation of diagnosis, procedure performed, pre- and post-intervention status, and outcomes. They will reflect on the Ayurvedic and biomedical rationale of the effect achieved—e.g., coagulation in bleeding control, nerve desensitization for pain relief, and excision of abnormal tissue.
Example: The student compares the effect of Valaya D?hana with electrocautery in bleeding wound control in terms of healing time, cost, and recurrence.

Experiential-Learning 26.6 : Clinical application of adavanced techniques of Agnikarma

Activity Details
• Groups manage Dagdha Vrana on models with Ayurvedic + modern care, then present plan.
Teacher’s Role
• Provide cases, ensure safety, guide integration.
Students’ Role
• Perform care, apply modern steps, present plan.

1. Preparation – Select suitable patients, assess Dhatu involvement, confirm with investigations; choose Shalaka/device; perform Snehana, Swedana, site marking, sterile setup, and counselling.

2. Procedure – Practice on models, then perform Agnikarma (Bindu, Rekha, etc.) under supervision with safe technique and correct burn depth.

3. Integration & Care – Apply post-procedure measures (Ghrita/Madhu, dressing, diet, follow-up); integrate modern support like physiotherapy or stool softeners.

4. Reflection – Document diagnosis, tool choice, outcomes; share in group discussions with peer/mentor feedback.

Experiential-Learning 26.7 : Clinical Application of Modern thermal equipment

Activity Details
• Student groups practice diathermy, laser, microwave ablation, harmonic scalpel, and vessel sealing on simulation/lab models.
• Compare safety, precision, and outcomes of each technique.
Teacher's Role
• Arrange instruments and simulation setup with safety briefing.
• Supervise, intervene only for critical corrections.
• Summarize comparative strengths and precautions.
Students' Role
• Operate each modality with safe technique and precision.
• Collaborate in groups to note differences in tissue response.
• Present short comparative findings.
1. Clinical Immersion & Surgical Shadowing
Students are attached to surgical units performing relevant procedures using thermal devices (e.g., hemorrhoidectomy with diathermy, varicose vein laser ablation, thyroidectomy using harmonic scalpel). They observe live procedures end-to-end—including patient prep, intraoperative decision-making, and postoperative care—while maintaining observation logs focusing on equipment use, technique, and patient response.
2. Condition-to-Technology Mapping Workshop
Through structured group activities, students engage in mapping specific clinical conditions (e.g., Arsha, Pilonidal sinus, thyroid swelling) to appropriate thermal equipment. They work through real-world case scenarios, justifying their choices based on pathology, tissue type, safety profile, and surgical outcome goals, integrating Ayurvedic diagnostic understanding (like dhatu or srotas involvement) with modern technology.
3. Problem-Solving Simulation Lab
Students participate in simulated intraoperative scenarios where complications arise—such as poor sealing with vessel sealer, unintended thermal damage, or equipment failure. They are expected to analyze the situation, troubleshoot in real-time, and propose a solution. This develops clinical agility and equipment literacy beyond routine familiarity.
4. Evidence-Informed Decision Exercise
In this research-based activity, students review current literature (classical and modern) on the efficacy and safety of thermal devices in specific surgical conditions. They then present a critical comparison between classical methods (e.g., Agnikarma) and modern thermal technologies in terms of outcomes, invasiveness, recovery time, and dosha/kala/kriyakalpa alignment.
5. Independent Hands-On Practice with Reflection
Each student performs selected steps of a thermal procedure (on a simulation model) independently under supervision—for instance, sealing a mock vessel, performing precision cuts with diathermy, or simulating laser ablation. Following the activity, they write a reflective narrative explaining their actions, technique choices, mistakes, and

how they improved.
6. Interdisciplinary Discussion with Surgical Experts
An interdisciplinary session with modern surgeons and Ayurvedic Shalya experts is arranged. Students interactively discuss integrative use cases, comparative safety, long-term benefits, and ethical considerations. They are encouraged to ask questions and reflect on how modern tools can be harmonized with Ayurvedic philosophies.
7. Capstone Case Presentation with Integrative Planning
Towards the end of the module, each student presents a comprehensive case report where they plan the surgical management of a condition using a modern thermal technique, justify its selection, integrate classical principles (such as sthanika dosha, dhatu gata involvement), and propose intra- and post-operative care—including both contemporary and Ayurvedic strategies.

Experiential-Learning 26.8 : Clinical judgement on the use of modern thermal equipment

Activity Details
• Groups choose thermal tools for cases, manage contraindications/complications in simulation, and present plan.
Teacher's Role
• Provide cases/tools, ensure safety, guide complication handling.
Students' Role
• Select tools, practice safely, manage scenarios, share strategies.
1. Independent Device Competency Certification
Each student must independently demonstrate safe and efficient handling of thermal equipment—diathermy, harmonic scalpel, laser, vessel sealer—on synthetic or animal tissue. Evaluation includes:

- Equipment setup
- Calibration
- Energy level adjustment
- Targeted tissue handling
  Performance is graded, and certification is awarded only after mastering safety, precision, and speed.

2. Structured Clinical Rotation with Reflection

PGs are placed in surgical units using modern thermal devices in real-time patient settings (e.g., laser proctology, laparoscopic surgery with vessel sealing). Each student:

- Observes multiple cases
- Engages in supervised assistance
- Records pre-op decisions, intra-op actions, and post-op outcomes
  They submit a reflective learning portfolio with Ayurvedic correlation (e.g., dhatu kshaya implications post-ablation, or use of lekhana/ropana therapies).

3. Evidence-Based Clinical Appraisal Assignment
Each student selects a surgical condition (e.g., pilonidal sinus) and performs a comparative analysis of classical Agnikarma techniques vs. modern laser/thermal methods. They present:

- Outcome data
- Complication profiles
- Cost-effectiveness
- Postoperative recovery
  They then propose a protocol integrating both classical and contemporary modalities suitable for their clinical setting.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks. Keep structured marking pattern. Keep record of the structured	4

pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment.
Module Content Scope:

- Principles of Agnikarma
- Application of Agnikarma
- Mode of action in Agnikarma
- Advanced tools and techniques (e.g., Diathermy, Laser, Microwave, Ultracision Harmonic Scalpel, Vessel Sealers)

1. DOAPS (Direct Observation of Procedural Skills)

- This assessment method evaluates students' technical and procedural competence in performing Agnikarma on real patients or simulators under direct faculty observation.
- Students undertake two distinct procedures: Classical Agnikarma using Panchadhatu Shalaka for pain management in cases such as Vaatakantaka, Kadara, Sandhigata vaata, Gridhrasi or Katigraha, emphasizing Vedana-shamana and Dahana actions.
- Modern thermal modality (e.g., diathermy or laser) in managing conditions like corn, pilonidal sinus or warts, demonstrating Chedana (excision)and Rakthasthambhana(hemostatic) functions.
- Each procedure is evaluated for: Technical execution (10 marks), aseptic technique (5), communication with patient (5), and post-procedure care including complication counseling (5), totaling 25 marks per case.
- Together, these two DOAPS assessments contribute 50 marks, effectively measuring both classical proficiency and modern skill translation. OR

2. OSCE (Objective Structured Clinical Examination)

- OSCE provides a structured, station-based evaluation format ideal for assessing theoretical application, decision-making, and procedural reasoning.
- Five OSCE stations are designed for this module, each carrying 10 marks:

- Comparison of Vidha Karma and Viddhagni Karma, with step-by-step differentiation and indications.
- Clinical scenario requiring choice between classical Agnikarma and modern tools—e.g., laser excision for a thyroglossal cyst versus thermal shalaka in a corn.
- Demonstration of sterilization and safety protocols for handling thermal instruments like vessel sealers and harmonic scalpels.
- Recognition and management of Agnikarma complications, such as blister formation or post-burn hyperpigmentation.
- Interpretation of Agnikarma Karmukatva (Chedana, Dahana, Vedana-shamana) in relation to tissue impact, doshic involvement, and case-based application.

- This method totals 50 marks and ensures broad exposure across both classical and technologically integrated Agnikarma domains. OR

3. S-LAQ (Structured Long Answer Questions)

• Structured LAQs assess in-depth understanding, integration of classical texts with clinical insights, and awareness of evolving technologies. Two LAQs are assigned:

• “Explain the mode of action (Agnikarma Karmukatva) with reference to Dahana, Chedana, and Vedana-shamana. Correlate with principles of diathermy, laser, and microwave technologies.”

• “Discuss the indications, contraindications, complications, and procedural details of Agnikarma using both classical shalaka and modern thermal tools like harmonic scalpel or vessel sealers.”

• Each LAQ is scored on conceptual clarity (10 marks), structured presentation and depth (10), and clinical correlation with examples (5). This method ensures PG students can integrate Ayurvedic principles with modern evidence-based surgical tools, totaling 50 marks. OR

4. Mini-CEX (Mini Clinical Evaluation Exercise)

• Mini-CEX provides real-time, patient-centric evaluation in clinical or simulated settings.

• Students manage conditions like Gridhrasi or Dushta Vrana where they demonstrate history-taking, doshic assessment, justification of Agnikarma indication, and tool selection—choosing either shalaka or a modern device based on condition and patient profile.

Evaluation criteria include:

• Communication and empathy (10 marks)

• Diagnostic and decision-making skills (15)

• Planning and safety in procedural steps (10)

• Professionalism and ethics (5)

• Feedback response and reflection (10)

Total marks: 50. This assessment bridges theory and live clinical application, focusing on bedside reasoning and patient interaction. OR

5. P-CASE (Practical Case Management Assessment)

• P-CASE assesses a student's ability to comprehensively manage a clinical case involving Agnikarma from end-to-end. Students present cases like:

• Non-healing sinus, where they demonstrate choice between Teekshna Agnikarma and modern thermal excision.

• Pain-dominant Gridhrasi, where Vedana-shamana is prioritized with classical methods.

The presentation includes:

• Diagnosis and rationale for Agnikarma (10 marks)

• Procedure planning with tool selection (15)

• Consent process, medico-legal awareness, and patient communication (10)
• Post-procedure care and complication management (15)
• This case-based assessment, worth 50 marks, reflects real-world clinical integration, simulates decision-making autonomy, and promotes accountability in managing diverse surgical scenarios using Agnikarma.

OR
Any practical in converted form can be taken for assessment (25 Marks) And
Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)

Semester No : 4

Module 27 : Principles and Practice of Raktamokshana

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe the core principles of Rakthamokshana and various methods of Rakthamokshana such as Pracchana (scarification), Siravyadha (venesection), Shringa, Alabu (cupping), and Jalaukavacharana (leech therapy), with detailed information on their indications, contraindications and benefits.
- Perform and practice Rakthamokshana using different techniques safely and effectively, ensuring proper aseptic practices and post-procedural care. Monitor the patient's condition during and after the procedure, handling any immediate or delayed complications, and providing guidance on post-procedural recovery.
- Identify the appropriate clinical conditions like skin conditions, vascular ailments, non-healing ulcers and joint disorders, that are suitable for different Rakthamokshana techniques and Jalaukavacharana. Recognize the contraindications for Rakthamokshana, including patient conditions where bloodletting is not advisable, such as anemia, hypotension clotting disorders etc.

M 27 Unit 1 Principles of Rakthamokshana

- Types of Rakthamokshana (Siravedha, Shringa, Jalauka, Alabhu and Prachhanna).
- Indications and contraindications of various rakthamokshana types.
- Pre operative evaluation and selection of Rakthamokshana technique as per indication.

References: 1,2,3,4,49,50,71,72

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Interpret classical principles of Raktamokshana, correlating patient fitness, disease-specific indications and contraindications, and selecting appropriate techniques (e.g., Jalaukavacharana, Siravyadha, Prachhana) for accurate clinical application.	1	Lecture	CC	Knows-how	L_VC,L&GD,PER,BS,JC
CO1,CO3,CO6	Demonstrate Raktamokshana by selecting appropriate indications, performing Ayurvedic and modern preoperative assessments, and applying aseptic protocols for safe and effective practice.	2	Practical Training 27.1	PSY-GUD	Shows-how	PER,DIS,LRI,D,CBL
CO1,CO3,CO5	Identify the appropriate clinical conditions like skin conditions, vascular ailments, non-healing ulcers and joint disorders, that are suitable for different Rakthamokshana techniques and Jalaukavacharana	3	Experiential-Learning 27.1	CE	Does	SIM,DIS,D-M,RP,SY
CO1,CO3	Interpret principles and types of Raktamokshana—Jalaukavacharana, Siravyadha, and Prachhana—by correlating patient fitness with disease-specific indications and contraindications for precise clinical application.	1	Lecture	CE	Knows-how	PER,BL,L&GD,L_VC,L&PPT
CO1,CO3,CO4	Demonstrate the evaluation of patient fitness and the selection of appropriate Raktamokshana procedure while applying safety protocols.	2	Practical Training 27.2	PSY-GUD	Shows-how	SIM,D,CBL
CO1,CO3	Identify the eligible patient for perticular type of Rakthamokshana taking care of the patient fitness and expected outcome	3	Experiential-Learning 27.2	PSY-ADT	Does	SIM,FV,DIS,CBL,RLE

M 27 Unit 2 Procedure of Raktamokshana

- Procedure of different types of Rakthamokshana.
- Complications of Rakthamokshana and its management.

References: 1,2,3,4,49,50,71,72

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe the procedure of conducting each type of Rakthamokshana	1	Lecture	CAP	Knows-how	L,L&GD,BS,BL,DIS
CO1,CO3	Demonstrate the step-by-step procedural techniques of various Rakthamokshana methods accurately and safely.	3	Practical Training 27.3	PSY-GUD	Shows-how	SIM,DL,D-M,RP,D
CO1,CO3,CO6	Demonstrate the indications, contraindications, procedural steps, complications, and initial management of Jalaukavacharana under guided supervision.	3	Experiential-Learning 27.3	PSY-ADT	Does	W,RLE,RP,CBL
CO1,CO3	Describe the Complications of Rakthamokshana and its management.	1	Lecture	CAP	Knows-how	DIS,BS,L&GD,L&PPT,L_VC
CO1,CO3	Demonstrate the procedural steps of Jalaukavacharana, manage intra-procedural events, and perform initial care of complications under guided supervision.	3	Practical Training 27.4	PSY-GUD	Shows-how	CBL,D-M,PAL,D,SIM
CO1,CO3,CO6	Demonstrate the procedural steps of Jalaukavacharana and perform initial management of complications under guided supervision.	3	Experiential-Learning 27.4	PSY-ADT	Shows-how	RLE,PBL,CBL,SIM

M 27 Unit 3 Jalaukavacharana(Leech therapy)

- Knowledge of leeches - Morphology, Anatomy, Physiology, Bio-chemical effects of various constituents present in the leech saliva.
- Identification, Collection, Preservation and Cultivation of medicinal leeches.
- Mode of action in leech therapy.
- Indications and contraindications for Jalaukavacharana.
- Jalaukavacharana vidhi, Complications and its management.

References: 1,2,3,4,49,50,71,72

3A	3B	3C	3D	3E	3F	3G
CO1,CO3,CO5	Illustrate the morphology, anatomy, physiology, and biochemical effects of constituents in leech saliva.	1	Lecture	CE	Knows-how	PER,L&GD,JC,BL,L&PPT
CO1,CO3,CO5	Identify medicinal leeches by morphological and anatomical features, explain their physiology and biochemical effects, and demonstrate techniques for collection, preservation, and cultivation under supervision.	3	Practical Training 27.5	PSY-GUD	Shows-how	D-M,SY,D,C_L,W
CO1,CO3,CO5 ,CO6	Identify, understand and preserve the medicinal leeches	4	Experiential-Learning 27.5	PSY-ADT	Does	RLE,DL,CBL,PBL,FV
CO1,CO3,CO5	Describe the collection, preservation, and cultivation of medicinal leeches with reference to classical texts and modern hygienic protocols.	1	Lecture	CC	Knows-how	IBL,L&GD,L_VC,BL
CO1,CO3,CO5	Analyze the mode of action of leech therapy, including mechanical, neural, and biochemical mechanisms involved in therapeutic outcomes	1	Lecture	CAP	Knows-how	BL,IBL,C_L,L&GD
CO1,CO3,CO5	Justify the indications and contraindications of Jalaukavacharana based on classical texts and contemporary clinical relevance	1	Lecture	CE	Knows-how	BL,C_L,DIS,L&GD
CO1,CO3,CO5	Describe the stepwise procedure (Vidhi) of Jalaukavacharana, identify potential complications, and explain their appropriate management, integrating classical guidelines with modern clinical practices.	1	Lecture	CS	Knows-how	DIS,BL,L&GD,C_L
CO1,CO3,CO5	Demonstrate the modes of action of leech therapy—mechanical, neural, and biochemical—through supervised observation and practice.	2	Practical Training 27.6	CS	Shows-how	C_L,D,D-M,RP

CO1,CO3,CO5,CO6	Demonstrate the procedural steps, complication management, and postoperative care of Jalaukavacharana under guided supervision.	3	Practical Training 27.7	PSY-GUD	Shows-how	D-M,CBL,RLE,SIM,D
CO1,CO3,CO5,CO6	Analyze the mechanical, neural, and biochemical modes of action, correlating them with patient responses and therapeutic outcomes in clinical settings.	2	Experiential-Learning 27.6	PSY-ADT	Does	W,CBL,RLE,TPW
CO1,CO3,CO5,CO6	Perform Jalaukavacharana independently by selecting appropriate patients based on indications and contraindications, ensuring fitness assessment, and managing complications.	4	Experiential-Learning 27.7	PSY-ADT	Does	RLE,CBL,CD

M 27 Unit 4 Recent advances.

- Recent innovations in Rakthamokshana including Jalaukavacharana.
- Recent research developments in Rakthamokshana including Jalaukavacharana

References: 1,2,3,4,49,50,71,72

3A	3B	3C	3D	3E	3F	3G
CO1,CO3,CO5	Describe recent innovations and research developments in Rakthamokshana, focusing on new techniques, tools, and clinical evidence supporting the efficacy and safety of Rakthamokshana in various health conditions.	1	Lecture	CC	Knows-how	W,PER,C_L,DIS,BS
CO1,CO3,CO5,CO6	Integrate Raktamokshana, particularly Jalaukavacharana, with modern medical therapies in wound management, vascular ailments, infections, and plastic surgery.	2	Practical Training 27.8	CAP	Shows-how	D,DIS,DL,C_L,BL
CO1,CO3,CO5,CO6	Integrate recent innovations and research-based advancements in Raktamokshana into evidence-based clinical practice.	4	Experiential-Learning 27.8	CE	Does	SIM,CBL,DIS,W

Practical Training Activity

Practical Training 27.1 : Selection of patients for Rakthamokshana

Activity Details
• Teacher explains indications/assessments, then demonstrates aseptic preparation and Raktamokshana on model.
• Students practice assessment, aseptic steps, and procedure.
• Short group discussion on technique and safety.
Teacher's Role
• Demonstrate assessment, aseptic protocol, and procedure.
• Supervise and correct student practice.
• Guide focused discussion.
Students' Role
• Identify indications/contraindications from case.
• Perform assessment, aseptic steps, and Raktamokshana on model.
• Join discussion for clarifications.
1. Case-Based Identification of Indications for Raktamokshana
Teaching–Learning Method: Clinical Case Discussion and Group Brainstorming
Students are divided into small groups and assigned classical or real-world clinical cases (e.g., Dushta Vrana, Gridhrasi). They analyze clinical features, discuss among peers, and identify the appropriate Raktamokshana modality (e.g., Jalaukavacharana, Siravyadha). A facilitator guides the discussion, ensuring correct linkage between classical references and disease-specific applications.
2. Classical Preoperative Assessment
Teaching–Learning Method: Supervised Clinical Demonstration and Peer Practice
Using real patients or standardized patient models, students practice Rogi bala, Rogabala, Prakriti, and Dosha evaluation under faculty supervision. The mentor provides immediate correction and feedback. Peer-to-peer practice helps reinforce consistency and confidence in Ayurvedic clinical examination.
3. Modern Preprocedural Safety Screening
Teaching–Learning Method: Hands-on Skill Training in Diagnostic Lab Setup
Students learn to perform and interpret basic lab tests (BT, CT, Hb%) in a simulated or real diagnostic setting. This is followed by guided interpretation sessions to correlate the lab findings with procedural eligibility for Raktamokshana. This activity ensures alignment with modern patient safety requirements.
4. Contraindication Evaluation and Documentation
Teaching–Learning Method: Checklist-Based Evaluation and Role Play
Students work in pairs where one plays the clinician and the other a patient, applying a structured checklist covering both classical (e.g., Pandu, Shosha, Garbhini) and contemporary (e.g., cardiac risk, diabetes) contraindications. They fill out a procedural fitness form and receive feedback from faculty on their clinical judgment and documentation accuracy.
5. Demonstration and Practice of Aseptic Protocols
Teaching–Learning Method: Simulation-Based Training and Faculty-Led Demonstration

A simulated OT environment is used to demonstrate instrument sterilization, hand hygiene, PPE use, and bio-waste disposal. Students then practice each aseptic step in sequence under observation. This hands-on repetition builds procedural discipline and meets modern clinical standards.
6. Faculty Feedback and Reflective Discussion
Teaching–Learning Method: Reflective Learning and Case Presentation
At the end of the session, students present their findings, justify the procedural choice, and reflect on challenges faced. Faculty members give targeted feedback, enabling deeper understanding and encouraging clinical reasoning. Reflective discussion enhances critical thinking and readiness for independent practice.

Practical Training 27.2 : Selection of patient and procedure for Rakthamokshana

Activity Details
• Teacher demonstrates patient fitness evaluation, safety checklist, and procedure selection.
• Students practice on case scenarios and discuss safety points.
Teacher's Role
• Demonstrate steps and supervise practice.
• Emphasize safety protocols.
Students' Role
• Evaluate cases, choose suitable procedure, and apply safety checklist.
• Participate in discussion.
1. Case-Based Discussions:
Students will engage in structured case-based discussions using real or hypothetical clinical scenarios involving surgical conditions such as Dushta Vrana, Arsha, and Bhagandara. Emphasis will be placed not only on identifying the indication for Rakta Mokshana but also on assessing patient suitability through safety considerations like hemoglobin levels, history of bleeding disorders, and infectious conditions. This will help students correlate the disease with the appropriate Rakta Mokshana technique while ensuring safe practice.
2. Pre-operative Assessment Practice:
In this activity, students will perform comprehensive pre-operative evaluations on patients. They will assess the patient's general condition, vital signs, Prakriti, and local examination findings. Particular focus will be given to checking bleeding time (BT), clotting time (CT), hemoglobin levels (preferably ?10 g/dL), and ruling out active infections (e.g., hepatitis, HIV, or septic conditions) before proceeding. This ensures that students are trained to identify risk factors and contraindications for Rakta Mokshana, promoting patient safety.
3. Technique Demonstration and Supervised Practice:
Faculty members will demonstrate Rakta Mokshana procedures—Siravyadha, Jalaukavacharana, and Prachchanna—while explaining the rationale behind technique selection and safety protocols. This includes proper site marking, maintaining aseptic conditions, monitoring the patient during and after the procedure, and managing potential complications like excessive bleeding or allergic reactions. Students will then perform the procedures under strict supervision with adherence to these safety measures.
4. Simulated Procedure Sessions:

Before performing on live patients, students will practice the procedures on simulation models or cadaveric specimens. These sessions provide a safe environment to learn sterile techniques, hand movements, and instrument handling without patient risk. Students will also rehearse pre-operative preparations such as donning sterile gloves, draping, and disinfecting the surgical site.
5. Documentation and Reflection:
Students will maintain a detailed logbook for each Rakta Mokshana case, including demographic details, diagnosis, type of procedure, pre-operative safety checks (e.g., BT/CT, hemoglobin, sterile checklist), intra-operative observations, and post-procedure outcomes. They will also write brief reflections on what was learned, challenges encountered, and areas for improvement. This promotes clinical accountability and critical self-assessment.
6. Peer Review and Feedback Sessions:
Students will present completed cases in peer review sessions for discussion and constructive feedback. Faculty will focus on the rationale behind the selection of Rakta Mokshana, adherence to safety protocols, and procedural technique. This fosters a culture of safety, evidence-based decision-making, and continuous improvement in clinical practice.

Practical Training 27.3 : Demonstration of Rakthamokshana procedure

Activity Details
• Teacher orients instruments, asepsis, and steps.
• Demonstrates siravedha, jalaukavacharana, pracchana, and cupping on simulators.
• Students rotate to practice each method with peer-checks.
• Session ends with safety-point recap.
Teacher’s Role
• Demonstrate procedures stepwise with emphasis on landmarks, asepsis, and safety.
• Supervise practice, correct errors, and highlight common pitfalls.
Students’ Role
• Set up trays, perform each technique on simulators, and apply aseptic steps.
• Use peer checklist feedback and refine performance.
• Share key safety measures in recap.

- Identification and Preparation of Instruments:
  Students will identify, clean, and arrange instruments used in different Rakthamokshana procedures (e.g., pricking needles, leeches alternatives, scarificators).

- Demonstration of Venipuncture Sites:
  Using anatomical models or diagrams, students will locate and mark suitable venipuncture sites for Rakthamokshana.

- Practice on Simulated Models:
  Students will perform the stepwise procedure of selected Rakthamokshana techniques (e.g., Siravedhana, Raktamokshana by prick and scarification) on mannequins or synthetic models.

- Sterilization and Aseptic Technique Practice:
  Students will demonstrate proper sterilization and aseptic techniques related to Rakthamokshana instruments and site preparation.

- Record Keeping and Documentation:
  Students will practice documenting the procedure details including method, site, instruments used, and precautions.

- Group Discussion on Indications and Contraindications:
  Brief group discussions summarizing when and why to use each Rakthamokshana method excluding Jalaukavacharana.

Practical Training 27.4 : Demonstartion of identification and managemnet of complications of Rakthamokshana

Activity Details
• Teacher demonstrates stepwise Jalaukavacharana on simulator, including asepsis, application, detachment, and dressing.
• Demonstrates handling of intra-procedural events and initial complication care.
• Students practice full procedure on models under supervision.
• Short recap of safety and complication management.
Teacher’s Role
• Demonstrate procedure and complication handling.
• Supervise student practice and correct errors.
• Reinforce safety measures.
Students’ Role
• Perform Jalaukavacharana stepwise on model.
• Practice managing intra-procedural events and initial complication care.
• Share key safety points in recap.

Practical Training 27.5 : Identification, collection and storage of medicinal leeches

Activity Details
• Teacher demonstrates leech identification, physiology link, and collection/preservation methods.
• Students practice identification, handling, and preservation under supervision.
• Brief discussion on biochemical effects.
Teacher's Role
• Demonstrate steps with safety emphasis.
• Supervise practice and correct technique.
Students' Role
• Identify leeches, practice collection/preservation, and join discussion.
1. Identification and Morphology
Students observe preserved specimens or models to identify key morphological features of medicinal leeches using microscopes and sketch diagrams under faculty supervision.
2. Anatomy and Physiology
Using models or specimens, the teacher guides students through internal anatomy and physiological functions like blood-sucking and saliva secretion, encouraging interactive discussion.
3. Biochemical Effects of Leech Saliva
The teacher explains the biochemical constituents of leech saliva and their pharmacological actions using visual aids, linking them to therapeutic effects.
4. Collection Techniques
Students observe and practice ethical methods of collecting leeches from natural or controlled habitats, emphasizing safe handling under supervision.
5. Preservation Methods
Students learn and practice preservation by maintaining leeches in controlled water environments, focusing on temperature, oxygenation, and stress reduction.
6. Cultivation and Maintenance
Under guidance, students set up and manage leech cultivation tanks, including water quality, feeding, and health monitoring for sustainable maintenance.
7. Group Reflection
A faculty-led discussion allows students to reflect on practical experiences, challenges, and clinical applications, reinforcing learning through dialogue.

Practical Training 27.6 : Demonstration of mode of action-leech therapy

Activity Details
• Teacher explains and demonstrates leech therapy showing mechanical, neural, and biochemical actions.
• Students observe, practice application on simulators, and link observations to modes of action.

• Conclude with brief synthesis discussion.
Teacher’s Role
• Explain, demonstrate, and supervise practice.
• Guide linking observations to mechanisms.
Students’ Role
• Practice leech application and identify effects.
• Share understanding in discussion.
1. Observation of Leech Attachment and Feeding Behaviour
Students observe live medicinal leeches attaching to simulated skin models or real patients under supervision. They note the mechanical action of the leech’s anterior sucker and its method of blood extraction.
2. Identification of Saliva Secretion and Its Effects
Students collect and examine leech saliva (where feasible) or review prepared biochemical samples to understand the presence and role of anticoagulants, anesthetics, and anti-inflammatory substances.
3. Simulation of Neural Reflexes Triggered by Leech Bite
Using case studies or simulated patient feedback, students analyze the neural mechanisms involved in pain modulation and local vasodilation triggered by leech bites.
4. Application of Leech Therapy on Simulators or Under Supervision on Patients
Under faculty supervision, students assist in applying leeches for therapy, observing patient responses and correlating them with the known mechanical and biochemical effects.
5. Group Discussion and Reflective Learning
Post-activity, students discuss their observations regarding the mode of action, share insights, and clarify doubts with faculty guidance.

Practical Training 27.7 : Demonstration of Jalaukavacharana

Activity Details
• Teacher demonstrates Jalaukavacharana steps, complication management, and post-care.
• Students practice full procedure on simulators with supervision.
• Brief recap on safety and care.
Teacher’s Role
• Demonstrate and supervise practice.
• Correct errors and stress safety.
Students’ Role
• Perform procedure with asepsis.
• Manage complications and apply post-care.

• Join safety recap.
1. Demonstration of the Procedure by the Teacher
The teacher performs the complete Jalaukavacharana procedure on a real patient or simulator, explaining each step in real time — from patient preparation and leech application to detachment and post-procedure care.
2. Guided Observation Checklist
Students are provided with a structured checklist to observe the procedure. They record observations regarding case selection, leech selection, site preparation, and hygiene measures.
3. Assisting the Procedure Under Supervision
Students assist in the preparation and support process (e.g., preparing materials, handling leeches, monitoring patient responses) under close faculty supervision without performing critical procedural steps themselves.
4. Interactive Case Discussion
Following the demonstration, the teacher leads a case-based discussion on the rationale behind choosing Jalaukavacharana for the patient, explaining the indication, any contraindications ruled out, and precautionary measures taken.
5. Complications and Management Brainstorming
The teacher presents possible complications (e.g., prolonged bleeding, allergic reactions, infection), and students discuss their early recognition and management strategies based on observed cases and classical references.
6. Reflective Logbook Entry
Students document their learning experience, observations, and any doubts or reflections in their logbooks, which are reviewed by the teacher for feedback.

Practical Training 27.8 : Recent advances in Rakthamokshana

Activity Details
• Teacher presents cases and demonstrates integration of Jalaukavacharana with modern therapies.
• Students apply integration steps to new cases in groups and present.
Teacher’s Role
• Explain integrated approaches with cases.
• Guide group work and correct errors.
Students’ Role
• Analyze cases, plan integration, and present.
• Engage in peer discussion.
1. Hands-On Simulation with Modern Rakthamokshana Tools and Techniques

- Activity: Provide students with various modern instruments used in Rakthamokshana (e.g., vacuum-assisted bloodletting cups, laser-assisted devices for controlled micro-incisions, sterile syringes for precise extraction in Siravyadha).
- Task: Each scholar practices handling, positioning, and using these instruments on simulation models, comparing them to traditional methods.
- Goal: Scholars gain direct experience with innovative tools, understanding the advantages in terms of control, precision, and safety.
- Outcome: Improved proficiency in using advanced tools and awareness of how modern methods enhance procedure accuracy.

2. Application and Analysis of Biochemical Monitoring in Leech Therapy (Jalaukavacharana)

- Activity: Demonstrate techniques to monitor biochemical changes in patients during and after Jalaukavacharana, emphasizing current methods like basic pH and bleeding time assessment, used in recent studies to assess treatment effectiveness.
- Task: Scholars independently perform biochemical tests on simulated blood samples and interpret findings relevant to leech therapy effectiveness and patient recovery monitoring.
- Goal: Gain hands-on experience in using simple biochemical markers to monitor patient response, as supported by recent research.
- Outcome: Practical understanding of patient monitoring techniques, enhancing confidence in data-driven patient care.

3. Case-Based Research Review and Skill Application

- Activity: Assign case studies based on recent clinical trials or research articles, each detailing a patient scenario with specific conditions (e.g., chronic inflammation, varicose veins) that benefited from innovative Rakthamokshana approaches.
- Task: Each scholar independently reviews their assigned case, identifies the research-based approach used, and simulates treatment planning, focusing on selecting the appropriate tool or method.
- Goal: Integrate knowledge of current research findings with real-world case applications.
- Outcome: Scholars demonstrate skill in case-based decision-making using research-backed Rakthamokshana approaches.

4. Peer Reflection and Discussion on Procedural Advancements

- Activity: Scholars discuss in pairs the advantages, limitations, and practical applicability of each innovative technique they practiced, reflecting on how modern

methods improve traditional Rakthamokshana.

- Task: Each pair presents a brief overview of their insights, discussing factors like patient suitability, procedural ease, and potential challenges.
- Goal: Encourage critical thinking and collaborative reflection on the integration of innovations in clinical practice.
- Outcome: Enhanced ability to critically assess and discuss the practical applications and benefits of recent innovations in Rakthamokshana.

Experiential learning Activity

Experiential-Learning 27.1 : Clinical assessment for Rakthamokshana

Activity Details
• Groups receive case vignettes of skin, vascular, ulcer, and joint disorders.
• Analyze and select suitable Raktamokshana/Jalaukavacharana technique.
• Present reasoning, followed by peer discussion.
Teacher's Role
• Provide cases and guide inquiry.
• Ensure correct technique-condition mapping.
• Summarize key points.
Students' Role
• Analyze cases and decide technique.
• Justify choices in presentations.
• Engage in peer discussion.

1. Case-Based Learning: Present diverse case scenarios (e.g., skin disorders, vascular issues, ulcers, joint disorders). Students analyze and identify the suitable Raktamokshana technique (Jalauka, Siravedha, etc.).

2. Symptom Analysis Workshops: In groups, students match clinical symptoms of conditions (like eczema, varicose veins, arthritis) with the appropriate Raktamokshana method based on Ayurvedic principles.

3. Patient Simulations: Simulate patient interactions where students assess symptoms and select the correct bloodletting technique.

Experiential-Learning 27.2 : Selction of patient and procedure of Rakthamokshana

Activity Details
• Groups receive patient case vignettes with varied conditions.
• Analyze fitness, indications, and expected outcomes to choose suitable Raktamokshana type.
• Present justification and compare with peers in discussion.
Teacher's Role
• Provide structured cases and guide inquiry.
• Observe group decisions and clarify misconceptions.
• Summarize correct patient–procedure mapping.
Students' Role
• Evaluate patient fitness and outcomes from case details.
• Select appropriate Raktamokshana type and justify choice.
• Present and engage in peer discussion.

1. Observation in Clinics: Students observe real-life cases in clinical settings where practitioners use Raktamokshana for conditions like non-healing ulcers and skin diseases.

2. Practical Hands-On Sessions: Under supervision, students perform specific Raktamokshana techniques on models or in controlled settings, with reflection on the indicated conditions.

3. Peer Review Discussions: Students present cases and decisions on Raktamokshana methods for conditions like gout or psoriasis, followed by peer feedback.

4. Field Study on Chronic Ailments: Visit Ayurvedic hospitals or clinics to observe the treatment of chronic conditions like joint disorders and non-healing wounds with different Raktamokshana techniques.

Experiential-Learning 27.3 : Clinical experience on Rakthamokshana

Activity Details
• Groups receive case vignettes and decide suitability for Jalaukavacharana.
• Role-play full procedure on simulator, including complication management.
• Present and discuss steps with peers.
Teacher’s Role
• Provide cases and simulation setup.
• Observe, ensure accuracy, and summarize key points.
Students’ Role
• Identify indications/contraindications.
• Perform procedure with asepsis and manage complications.
• Present and justify approach in discussion.
1. Case-Based Technique Selection

- Objective: Develop clinical decision-making skills for technique selection.
- Activity: Present real patient cases with specific conditions (e.g., chronic skin disorders, localized pain, or inflammatory conditions). Ask students to analyze the case, identify the appropriate Rakthamokshana method (Siravyadha, Jalaukavacharana, Shringa, Alabu, or Prachhanna), and explain their choice based on dosha imbalances, symptoms, and patient suitability.

2. Simulated Patient Interactions

- Objective: Practice patient interaction, consent, and explanation of procedures.
- Activity: Use trained actors or peers to role-play patients who present with conditions requiring Rakthamokshana. Students practice explaining the procedure, obtaining consent, identifying risks, and discussing expected outcomes in a patient-friendly manner, building skills in patient communication.

3. Guided Observation of Real Procedures

- Objective: Observe practical application and patient response in a clinical setting.
- Activity: Organize clinical observation sessions where students watch an expert performing Rakthamokshana. Students should identify each step, note hygiene and safety protocols, and observe patient reactions. Afterward, they can discuss with the practitioner the reasoning behind each choice, including indications,

complications, and aftercare.

4. Complication Management Workshop

- Objective: Recognize and address complications.
- Activity: Use real-life scenarios where complications arise (e.g., excessive bleeding, patient anxiety, or infection). In groups, students identify signs of these complications and simulate quick, appropriate responses, learning the steps for immediate intervention and patient reassurance.

5. Post-Procedure Case Follow-Up

- Objective: Understand the importance of post-care and outcome assessment.
- Activity: Assign students to follow up on real patients treated with Rakthamokshana. They assess recovery, identify any delayed complications, and document observations. This builds insight into the patient's experience and long-term outcomes, encouraging a holistic approach to care.

6. Reflective Practice Logs Based on Real Patient Cases

- Objective: Encourage critical reflection on clinical learning.
- Activity: After each patient interaction or observation, students write reflective logs detailing the chosen method, observed or performed steps, patient feedback, and self-assessment of their skills. This allows them to connect theory to real-life scenarios, improving confidence and competence in Rakthamokshana.

Experiential-Learning 27.4 : Management of complications of Rakthamokshana

Activity Details
• Groups role-play Jalaukavacharana on simulators with complication management.
• Present approaches and discuss with peers.
Teacher's Role
• Provide cases, observe, and correct errors.
• Summarize safety and best practices.

Students' Role
• Perform procedure with asepsis and manage complications.
• Share and justify approach in discussion.
1. Students will actively participate in the supervised management of complications arising during live Rakthamokshana procedures on real patients. Under close faculty supervision, students will recognize and respond to complications such as vasovagal syncope, prolonged bleeding, or localized inflammation. They will be expected to perform immediate management steps—such as placing the patient in the Trendelenburg position, applying direct pressure with sterile dressing, or initiating basic fluid resuscitation—ensuring procedural safety and clinical judgment in real-time.
2. To reinforce hands-on skills in a controlled environment, students will also undergo simulation-based experiential learning using skill station models. These stations are designed to mimic common complications. For example, one station will simulate a vasovagal episode during Siravyadha using a mannequin, where students manage airway and positioning. Another station will feature a bleeding synthetic limb model, enabling students to practice bleeding control techniques. A third station will simulate a scarification site infection, where students will clean, dress, and plan basic wound care. Each station will be monitored by faculty who provide immediate feedback and correction.
3. Additionally, students will participate in supervised emergency drill practices, where they are placed in time-sensitive simulated emergencies. In these drills, students respond in small teams to rapidly evolving situations such as sudden hypotension or uncontrolled bleeding. Faculty facilitators will observe, assess the students' responses, and offer real-time feedback, helping refine critical thinking and emergency handling skills.
4. Throughout the session, students are required to maintain a structured complication management logbook, recording details of complications observed or managed. Each entry will include the type of complication, the management steps taken, the outcome, and reflective notes. Faculty will review these entries, ensuring the students' responses align with best practices and helping them develop accurate and professional clinical documentation habits.
5. Finally, after all procedures and simulations, a faculty-led debriefing session will be conducted. This reflection-based activity allows students to discuss what they learned, the challenges they faced, and how they felt during the management of complications. It helps consolidate theoretical knowledge with practical experience and encourages students to internalize lessons learned through reflection and feedback.

Experiential-Learning 27.5 : Medicinal leeches

Activity Details
• Groups observe leeches in habitat/lab, identify features, and practice collection/preservation.
• Share observations and challenges in peer discussion.
Teacher's Role
• Arrange setup, ensure safety, and guide when needed.
• Summarize correct methods.
Students' Role
• Identify, collect, and preserve leeches in groups.
• Present findings and discuss challenges.

Session 1: Understanding Leech Morphology, Anatomy, Physiology, and Biochemical Effects (2 Hours)

1. Anatomy and Physiology Through Real Case Examples (1 Hour)
    - Activity: Students independently study preserved leeches and diagrams, focusing on identifying features essential for therapeutic use, such as suckers and salivary glands.
    - Scenario: A patient with a clotting disorder requires therapy. Students examine how the anticoagulant effects of leech saliva components (e.g., hirudin) would interact with such a condition.
    - Task: Create a diagram highlighting the anatomy and explain how each part functions during therapy.
2. Saliva Biochemistry for Therapeutic Effectiveness (1 Hour)
    - Activity: Review biochemical components of leech saliva and their medicinal effects.
    - Scenario: An inflammatory skin condition is presented. Students analyze how the anti-inflammatory and vasodilative properties of leech saliva would benefit this condition.
    - Task: Chart each component's effect (e.g., anti-inflammatory, anesthetic) and write a brief reflection on its role in patient healing.

Session 2: Collection, Preservation, and Cultivation of Medicinal Leeches (2 Hours)

1. Ethical Collection Simulation with Preservation Focus (1 Hour)
    - Activity: Students practice safe handling techniques and simulate the collection of leeches, focusing on avoiding harm and preserving the ecosystem.
    - Scenario: Students are assigned a location where they must ethically source leeches for future therapeutic use, taking into consideration seasonal changes and sustainability.
    - Task: Write a short protocol for safe and sustainable collection, explaining how seasonal factors and water quality impact leech health.
2. Setting Up a Preservation and Cultivation Environment (1 Hour)
    - Activity: Students independently set up a storage and cultivation container, practicing water changes and observing behavior.
    - Scenario: The leeches are needed for a clinic with regular use; students manage preservation conditions and create a maintenance schedule.
    - Task: Track and document changes in leech behavior and appearance over the session, adjusting water quality and conditions as needed.

Experiential-Learning 27.6 : Clinical reflection on mode of action in leech therapy

Activity Details

• Groups review clinical/recorded leech therapy cases.
• Correlate patient responses with mechanical, neural, and biochemical actions.
• Present outcomes and discuss.
Teacher’s Role
• Provide cases, guide analysis, and ensure accurate correlations.
• Summarize key points.
Students’ Role
• Analyze responses, link to modes of action, and present.
• Engage in peer discussion.
Session 3: Mode of Action in Leech Therapy Using Case Analysis (2 Hours)

1. Application of Mode of Action Based on Patient Cases (1 Hour)
    - Activity: Analyze cases like varicose veins, osteoarthritis, and inflammatory disorders to understand how leech therapy can benefit.
    - Scenario: A patient with arthritis is presented. Students identify how the bioactive compounds in saliva will work on inflamed joints, promoting healing and reducing pain.
    - Task: Create a written flowchart that explains the mechanism of action for each presented case, linking it with saliva components and healing effects.
2. Patient-Centric Mechanism Mapping (1 Hour)
    - Activity: Independently create a map of the treatment steps and how leech saliva impacts each stage of healing, from initial bloodletting to tissue recovery.
    - Scenario: Given a patient with chronic pain, students explore how the analgesic properties help manage pain.
    - Task: Present the mechanism map in pairs, detailing each saliva component's contribution to patient outcomes.

Experiential-Learning 27.7 : Clnical application of Jalaukavacharana

Activity Details
• Groups assess patient fitness, identify indications/contraindications, and perform Jalaukavacharana on simulator/clinical cases.
• Manage complications and present approach to peers.
Teacher’s Role
• Provide cases and setup, supervise, and ensure safety.
• Summarize best practices.
Students’ Role

• Evaluate patients, perform procedure with asepsis, and handle complications.
• Present and discuss approach.

Identifying Indications and Contraindications in Real-World Cases (2 Hours)

1. Case-Based Patient Assessment and Indication Analysis (1 Hour)
    - Activity: Review a variety of real-world cases, from circulatory disorders to chronic skin conditions, to determine when leech therapy is suitable.
    - Scenario: A patient with mild anemia and varicose veins comes in for therapy. Students decide if therapy should proceed based on potential risks.
    - Task: Document each case, including indications, contraindications, and a final decision with justifications, analyzing how contraindications affect treatment choice.
2. Contraindication Checklist Development (1 Hour)
    - Activity: Students develop a checklist for patient screening, noting risk factors and key assessment criteria.
    - Scenario: After examining multiple hypothetical cases, students refine the checklist to reflect real-world challenges, such as patients with complex histories.
    - Task: Use the checklist on sample patient profiles, identify potential risks, and discuss adjustments to the checklist based on findings.

Practical Application of Jalaukavacharana Vidhi and Complication Management (2 Hours)

1. Hands-On Jalaukavacharana Procedure on Simulation Models (1 Hour)
    - Activity: Independently perform the complete leech application process on a simulation model, from skin preparation to post-procedure care.
    - Scenario: A simulation patient has high anxiety about the procedure, so students practice explaining each step and ensuring comfort while performing the treatment.
    - Task: Document each step taken, including patient communication, leech placement, and removal, noting any difficulties encountered.
2. Complication Scenario and Management Exercise (1 Hour)
    - Activity: Analyze scenarios of common complications (e.g., excessive bleeding, allergic reaction) and determine response actions.
    - Scenario: During a procedure, a patient develops an unexpected reaction. Students practice emergency response techniques and document the steps.
    - Task: Write a reflection on managing complications and how pre-procedure screening could improve outcomes.

Experiential-Learning 27.8 : Clinical application of recent innovative technologies and latest research findings.

Activity Details

• Groups review recent research/innovations in Raktamokshana.
• Extract clinical relevance and present with peer Q&A.
Teacher’s Role
• Provide literature access and guide appraisal.
• Moderate and ensure clinical focus.
Students’ Role
• Analyze research, link to practice, and present.
• Engage in peer discussion.
1. Interactive Workshop on Innovations in Rakthamokshana Techniques

- Activity: Scholars participate in an interactive workshop introducing recent innovations in Rakthamokshana, including advanced tools like laser-assisted incisions, suction devices, and precision syringes.
- Task: Each scholar practices with the new tools on models or simulators, learning to identify key features, handling techniques, and the benefits over traditional tools.
- Outcome: Familiarity with modern instruments and techniques, allowing scholars to identify the latest procedural advancements.

2. Research-Based Case Study Analysis and Reflection

- Activity: Scholars analyze a set of case studies highlighting recent research on Rakthamokshana for various conditions (e.g., varicose veins, skin diseases).
- Task: In groups, scholars identify the treatment innovations used, noting outcomes and how innovations improved safety or efficacy.
- Outcome: Understanding of research-backed innovations, enhancing identification of when and how to apply them in clinical cases.

3. Comparative Practical Exercise: Traditional vs. Innovative Techniques

- Activity: Scholars conduct Rakthamokshana on simulation models, first using traditional techniques and then applying recent innovations like sterile syringes or vacuum devices.
- Task: They document differences in precision, ease of use, and observed outcomes between traditional and modern techniques.
- Outcome: Ability to identify procedural advantages of modern techniques, appreciating their role in clinical improvements.

4. Reflective Learning and Peer Discussion (1 Hour)

- Activity: Scholars gather in small groups to discuss their experiences, sharing insights from hands-on practice and case studies.
- Task: Each group presents findings on one innovation, discussing benefits, limitations, and clinical applicability.
- Outcome: Scholars critically reflect on each innovation's role in patient care, developing a nuanced understanding of recent developments and their impact on Rakthamokshana.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment. Module Content Scope: • Principles of Raktamokshana (including Srotovikara and Dosha-Dushya Sammurchana) • Procedure of Raktamokshana: Pracchana, Jalaukavacharana, Siravyadha, Alabu, Shringa • Jalaukavacharana: Medicinal leech identification, handling, indications, contraindications, precautions, procedure,complication management • Recent Advances and Research Updates in Raktamokshana and Jalaukavacharana 1. DOAPS (Direct Observation of Procedural Skills) • This method is best suited to evaluate hands-on skills involved in the execution of Raktamokshana procedures such as Jalaukavacharana and Siravyadha. • Students perform selected procedures in real or simulated settings under faculty supervision. • The evaluator assesses four domains: patient preparation and informed consent (5 marks), aseptic handling and application (10 marks), procedural accuracy (5 marks), and post-application care and complication management (5 marks), totaling 25 marks per procedure. • Two such procedures are observed (e.g., Jalaukavacharana in Siraagata vaata or Sira granthi and Siravyadha in Shotha), contributing to a total of 50 marks. • This method ensures that students acquire stepwise competency and execute the procedures safely and effectively in clinical settings. OR 2. OSPE (Objective Structured Practical Examination)	4

• OSPE evaluates procedural reasoning, knowledge of instruments, and protocol adherence through a station-based assessment.
• For this module, four OSPE stations are suggested: 1) identification and justification of medicinal vs. non-medicinal leeches, 2) listing contraindications and precautions in Jalaukavacharana, 3) simulated performance of leech application and removal, and 4) filling a complication checklist and outlining immediate management.
• Each station is scored out of 5 marks based on task performance, reasoning, and clarity, summing up to 20 marks in total.
• OSPE provides objective, structured, and repeatable evaluation aligned with procedural expectations of Raktamokshana. OR

3. S-LAQ (Structured Long Answer Questions)
• To assess theoretical understanding and clinical integration, students answer two structured long-answer questions, each carrying 25 marks.
• These may include topics such as the “mode of action and therapeutic role of Jalaukavacharana in inflammatory conditions” or the “stepwise technique and complication management in Siravyadha.”
• Each answer is evaluated for conceptual clarity (10), content depth and organization (10), and clinical application (5).
• This method ensures comprehensive evaluation of knowledge with relevance to clinical decision-making and Ayurvedic reasoning. OR

4. Mini-CEX (Mini Clinical Evaluation Exercise)
• Mini-CEX emphasizes real-time clinical skills during the evaluation of a Raktamokshana case. Scenarios like post-burn dushta vrana or chronic shotha are used.
• Faculty observe the student’s ability in clinical history taking and case selection (10 marks), justification for using Jalaukavacharana or Siravyadha (10 marks), patient communication and informed consent (5 marks), and procedural planning along with professionalism (5 marks).
• This method bridges theoretical knowledge with applied patient-centered clinical practice and builds clinical reasoning capacity. OR

5. P-CASE (Practical Case Management Assessment)
• This method evaluates the student's ability to comprehensively manage a clinical condition requiring Raktamokshana.
• Students present a full case including history, indication, choice of method (e.g., Jalaukavacharana vs. Siravyadha), procedural technique, postoperative care, and follow-up. Marks are distributed as: diagnostic reasoning (10), procedural planning and technical steps (15), communication and consent (10), and post-care and complication handling (15), totaling 50 marks.
• This method simulates authentic clinical responsibilities and emphasizes integration of theory into complete patient care.

OR
Any practical in converted form can be taken for assessment (25 Marks) And
Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)

Module 28 : Stana Roga (Breast Diseases)

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe the applied anatomy, pathological conditions of the breast, including both benign and malignant diseases. Explain the risk factors, clinical presentations, and treatment options for various breast disorders.
- Conduct thorough clinical examination and assess patients for abnormalities. Perform or assist in appropriate diagnostic evaluations, such as imaging techniques and biopsies, under supervision and independently. Practice surgical intervention in abscess, cysts and tumours etc. of the breast.
- Identify early signs and symptoms of breast diseases, including distinguishing between benign and malignant conditions. Recognize appropriate treatment options and referrals for breast diseases, emphasizing early detection and patient-cantered care.

M 28 Unit 1 Anatomy

- Surgical anatomy of Breast.

References: 1,2,5,7,9,10,11,15,41,61,74

3A	3B	3C	3D	3E	3F	3G
CO1	Describe applied anatomy of breast, its lymphatic drainage and its surgical relevance.	1	Lecture	CAP	Knows-how	L_VC,BL,L&PPT
CO1,CO4,CO5,CO8	Identify aberrations in breast anatomy and surgical conditions diagnosis.	1	Practical Training 28.1	CAP	Shows-how	CBL,D-M,SIM,X-Ray

M 28 Unit 2 Nidana and Chikitsa of Stana Roga

- Nidana panchaka, lakshana evam Chikitsa of Stana Roga.

References: 1,2,3,4,5,7,8,9,10,11,15,44,74

3A	3B	3C	3D	3E	3F	3G
CO1,CO7,CO8	Describe Nidana Panchaka, Lakshana, and Chikitsa of Stana Roga.	1	Lecture	CC	Knows-how	DIS,L&GD
CO1,CO4,CO6,CO8	Demonstrate the nidana (etiological factors), purvaroopa (primordial symptoms), roopa (signs and symptoms), upashaya (like and dislike) and samprati (etiopathogensis) along with upadrava and chikitsa of Stanaroga like Shopha, Vidridhi, Granthi, Naadivrana and Arbuda	2	Practical Training 28.2	PSY-GUD	Shows-how	C_L,SIM,D-M,CBL,D
CO1,CO4,CO8	Assess Stana Roga using Nidana Panchaka, identify doshic involvement and type of disorder, and formulate an appropriate Ayurvedic treatment plan including Shamana, Shodhana, or Shalya Chikitsa as per classical guidelines	3	Experiential-Learning 28.1	PSY-ADT	Does	SDL,SY,RLE,DIS,D-BED
CO1,CO7,CO8	Demonstrate nidana panchaka, lakshana, and chikitsa of Stana Roga.	1	Lecture	CC	Knows-how	L&GD,DIS
CO1,CO4,CO8	Plan treatment protocol for Stanaroga as per Ayurvedic modalities of treatment.	2	Practical Training 28.3	CAP	Knows-how	DIS,SIM,RP
CO1,CO4,CO6,CO7,CO8	Assess Stana Roga using Nidana Panchaka, identify doshic involvement and type of disorder, and formulate an appropriate Ayurvedic treatment plan including Shamana, Shodhana, or Shalya Chikitsa as per classical guidelines.	3	Experiential-Learning 28.2	PSY-ADT	Does	CBL,RP,SDL,RLE

M 28 Unit 3 Diagnosis and management of inflammatory and benign breast diseases

- Etiopathogenesis, clinical features, investigations, conservative and surgical management of - Fibroadenosis.
- Etiopathogenesis, clinical features, investigations, conservative and surgical management of fibroadenoma.
- Etiopathogenesis, clinical features, investigations, conservative and surgical management of duct ectasia.

References: 5,7,8,9,10,15,74

3A	3B	3C	3D	3E	3F	3G

CO1,CO4,CO6,CO8	Describe the etiopathogenesis and clinical features of inflammatory and benign breast conditions	1	Lecture	CC	Knows-how	L,L&GD,DIS
CO1,CO4,CO5,CO6	Conduct thorough clinical examination and assess patients for abnormalities and assist in appropriate diagnostic evaluations, such as imaging techniques and biopsies under supervision.	3	Practical Training 28.4	PSY-GUD	Shows-how	X-Ray,SIM,D,D-M,LRI
CO1,CO4,CO5,CO6,CO7,CO8	Identify early signs and symptoms of breast diseases, including distinguishing between benign and malignant conditions, treatment options and referrals for breast diseases, emphasizing early detection and patient-cantered care.	4	Experiential-Learning 28.3	PSY-ADT	Does	RLE,CBL,SIM
CO1,CO4,CO5,CO8	Describe the investigations and various diagnostic techniques of breast diseases	1	Lecture	CC	Knows-how	L&GD,L
CO1,CO4,CO5,CO8	Describe the etiology, clinical features, diagnostic approach, and modern conservative and surgical management of benign breast diseases such as fibroadenosis, fibroadenoma, and duct ectasia.	1	Lecture	CAP	Knows-how	L&GD,DIS
CO1,CO5,CO6,CO7,CO8	Demonstrate surgical intervention in abscess, cysts and tumours etc. of the breast	3	Practical Training 28.5	PSY-GUD	Shows-how	DIS,RP,SDL,CBL,SIM
CO1,CO4,CO5,CO6,CO7,CO8	Develop clinical competence in the diagnosis and comprehensive management—both conservative and surgical (Chhedana and Bhedana)—of benign and inflammatory breast diseases.	3	Experiential-Learning 28.4	PSY-MEC	Does	SIM,CBL,RLE,D
CO1,CO4,CO6,CO7,CO8	Develop clinical competence in the diagnosis and comprehensive management—both conservative and surgical (Chhedana and Bhedana)—of benign and inflammatory breast diseases.	3	Experiential-Learning 28.5	PSY-MEC	Does	CBL,RLE,RP,D,SIM

M 28 Unit 4 Diagnosis and management of malignant breast diseases

- Etiopathogenesis, clinical features of Stanarbuda (carcinoma of breast.)
- Investigations, staging, spread of Stanarbuda (carcinoma of breast.)

- Medical (chemo and radio therapy) and surgical management of Stanarbuda (carcinoma of breast.)

References: 5,7,8,9,10,41,44,74

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO5	Describe the etiopathogenesis, clinical features and investigations in malignant breast diseases.	1	Lecture	CAP	Knows-how	CBL,X-Ray,L,L&GD,L&PPT
CO1,CO4,CO5,CO6,CO7,CO8	Evaluate malignant breast conditions by performing thorough examination and diagnostic work up, identifying disease stage and pattern of spread, and planning appropriate medical (chemotherapy, radiotherapy) and surgical management.	2	Practical Training 28.6	PSY-GUD	Shows-how	SIM,D-BED,CBL,D,D-M
CO1,CO4,CO5,CO6,CO7,CO8	Demonstrate the ability to plan and implement appropriate medical (chemotherapy, radiotherapy) and surgical interventions (such as modified radical mastectomy and breast-conserving surgery) in patients with malignant breast diseases and interpretation of staging and tumor marker profiles.	4	Experiential-Learning 28.6	PSY-MEC	Does	CBL,SIM,DIS,RP,RLE
CO1,CO4,CO5	Describe the staging systems and patterns of spread in breast malignancies, including local, regional, and distant metastasis, with emphasis on clinical relevance and diagnostic correlation, medical (chemo and radio therapy) and surgical management of carcinoma of breast.	1	Lecture	CAP	Knows-how	LRI,L_VC,L&PPT,L&GD,X-Ray
CO1,CO4,CO5	Describe the principles, indications and protocols of medical (chemotherapy and radiotherapy) and surgical management of carcinoma of the breast, along with their roles in comprehensive cancer care.	1	Lecture	CAP	Knows-how	L&GD,PER,CBL,L_VC,L&PPT
CO1,CO4,CO5,CO6	Evaluate malignant breast conditions by performing thorough examination and diagnostic work up, identifying disease stage and pattern of spread, and planning appropriate medical (chemotherapy, radiotherapy) and surgical management.	2	Practical Training 28.7	PSY-GUD	Shows-how	SIM,DIS,D-M,D,DL
CO1,CO4,CO6	Evaluate malignant breast conditions by performing thorough examination and	3	Practical	PSY-	Shows-	SIM,PER,

,CO8	diagnostic work up, identifying disease stage and pattern of spread, and planning appropriate medical (chemotherapy, radiotherapy) and surgical management.		Training 28.8	GUD	how	PBL,PAL
CO1,CO4,CO5,CO6,CO7,CO8	Demonstrate the ability to plan and implement appropriate medical (chemotherapy, radiotherapy) and surgical interventions (such as modified radical mastectomy and breast-conserving surgery) in patients with malignant breast diseases and interpretation of staging and tumor marker profiles.	4	Experiential-Learning 28.7	PSY-MEC	Shows-how	SIM,SDL,CBL,RLE,DIS

M 28 Unit 5 Phyllodes tumor

- Etiopathogenesis, clinical features, investigations of phyllodes tumor.
- Management of phyllodes tumor.

References: 5,7,9,10,13,15,17,41,44,74

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO8	Describe the classification, pathology, and clinical presentation of Phyllodes tumors; identify key diagnostic and imaging findings; describe surgical management with emphasis on clear margins; recognize factors influencing recurrence and prognosis; differentiate from other breast lesions; and appraise the limited role of adjuvant therapies while highlighting the importance of multidisciplinary care in complex cases.	1	Lecture	CC	Knows-how	L&PPT , L&GD,BL,L,LRI
CO1,CO4,CO5,CO6,CO7,CO8	Demonstrate the ability to recognize clinical features, plan and interpret diagnostic investigations, perform surgical management with appropriate margins, and manage postoperative care and recurrence monitoring of Phyllodes tumors.	2	Practical Training 28.9	PSY-GUD	Shows-how	SIM,LRI,D-M,D-BED,D
CO1,CO4,CO6,CO7,CO8	Perform clinical evaluation, formulate differential diagnoses, interpret diagnostic findings, plan and execute surgical management, and provide comprehensive postoperative care and follow-up for Phyllodes tumors.	2	Experiential-Learning 28.8	PSY-MEC	Does	CD,CBL,Mnt,SIM,RLE

Practical Training Activity

Practical Training 28.1 : Breast applied anatomy

Activity Details
• Teacher shows normal vs. aberrant breast anatomy and surgical conditions via models/X-rays.
• Students analyze images/cases to identify aberrations and suggest diagnoses.
Teacher’s Role
• Demonstrate key anatomical and diagnostic features.
• Guide reasoning process.
Students’ Role
• Compare anatomy, spot aberrations, and propose diagnoses

1. 3D Model Identification
    - Activity: Identify key breast structures (lobes, ducts, ligaments) on 3D models.
    - Outcome: Build spatial understanding of internal breast anatomy.
2. Image Analysis of Ultrasound/Mammography
    - Activity: Examine imaging to locate anatomical landmarks and normal vs. abnormal features.
    - Outcome: Develop skills in reading breast imaging.
3. Clinical Correlation Discussion
    - Activity: Case-based discussion on anatomy's role in conditions like breast cancer and biopsies.
    - Outcome: Reinforce clinical relevance of breast anatomy.
4. Palpation Technique on Models
    - Activity: Practice palpation to identify anatomical areas and detect irregularities.
    - Outcome: Build tactile skills for clinical breast exams.

Practical Training 28.2 : Clinical identification of Nidana Panchaka of Stanaroga

Activity Details

• Teacher presents clinical cases of Stanaroga (Shopha, Vidridhi, Granthi, Naadivrana, Arbuda).
• Demonstrates identification of Nidana, Purvaroopa, Roopa, Upashaya, Samprapti, Upadrava, and Chikitsa through case analysis.
• Students practice analyzing new case vignettes and outline diagnosis with management.
Teacher's Role
• Demonstrate structured case analysis with emphasis on classical parameters.
• Guide students in applying the same framework to new cases.
Students' Role
• Apply classical framework to identify features and propose chikitsa in given cases.
• Share findings in group discussion.

Practical Training 28.3 : Stanaroga Chikitsa

Activity Details
• Teacher demonstrates formulation of Ayurvedic treatment plans for Stanaroga using classical references.
• Students practice preparing individualized plans for given case scenarios.
Teacher's Role
• Present cases, explain modalities (Shamana, Shodhana, Shalya), and guide plan preparation.
Students' Role
• Analyze cases, select suitable modality, and draft treatment plan.

Practical Training 28.4 : Diagnosis of inflammatory and benign breast diseases

Activity Details
• Teacher demonstrates breast exam and explains role of imaging/biopsy.
• Students practice exam on models/peers and assist in mock diagnostics.
Teacher's Role
• Demonstrate, supervise, and correct technique.
Students' Role
• Perform exam stepwise and assist in diagnostic steps.
• Discuss findings with peers.
Comprehensive Breast Examination Techniques
Teaching-Learning Method: Hands-on Clinical Skill Practice
Students will perform a systematic breast examination under faculty supervision or using clinical mannequins. This includes palpation of all quadrants, assessment of skin

changes, nipple discharge, and identification of tenderness, lumps, or nodules. Emphasis will be placed on proper patient positioning, communication, and technique. The activity aims to develop hands-on proficiency in detecting abnormalities and forming a preliminary clinical impression.
Documentation and Clinical Notes
Teaching-Learning Method: Structured Note-Writing Exercise
Learners will be trained to document their clinical findings using a structured format such as the SOAP (Subjective, Objective, Assessment, Plan) method. They will practice translating clinical examination into concise, accurate, and legible notes that align with both clinical and medicolegal standards. This will help develop consistency and clarity in patient documentation.
Introduction to Imaging Techniques
Teaching-Learning Method: Mini-Lecture with Case Image Discussion
Through guided case-based discussion, students will be introduced to standard imaging modalities like ultrasound, mammography, and MRI. Faculty will explain imaging signs of common benign conditions like fibroadenoma, duct ectasia, and fibroadenosis. Students will review selected real-case images and begin to differentiate between benign and suspicious findings, forming a foundation in diagnostic interpretation.
Biopsy Techniques
Teaching-Learning Method: Demonstration and Supervised Practice
Faculty will demonstrate the techniques of fine-needle aspiration (FNA) and core biopsy using models or simulation arms. Students will then practice the steps under supervision, including patient positioning, sterile precautions, and needle insertion. The goal is to provide initial exposure to biopsy skills while understanding the indications and patient care considerations during and after the procedure.

Practical Training 28.5 : Demonstration of surgical interventions in inflammatory and beningn breast conditions

Activity Details
• Teacher demonstrates surgical steps for breast abscess, cysts, and tumors on models/simulations.
• Students practice procedures under supervision.
Teacher’s Role
• Demonstrate, provide setup, and supervise.
Students’ Role
• Perform surgical steps, maintain asepsis, and refine technique.
Diagnostic Interpretation and Case Discussion
Teaching-Learning Method: Small Group Case-Based Learning
Students will interpret the findings from clinical examination, imaging, and biopsy reports. They will work in small groups to discuss differential diagnoses for various benign breast conditions and correlate the diagnostic elements with treatment needs. Faculty will facilitate discussion to develop reasoning and clinical decision-making skills.
Preparation for Surgical Interventions

Teaching-Learning Method: Demonstration and Role Assignment
Students will observe and participate in the setup for minor breast procedures. This includes preparing the surgical tray, observing aseptic techniques, draping, and preoperative planning. Faculty will assign specific roles to help students understand the importance of each step in surgical preparation and patient safety.
Practice of Incision and Drainage Techniques
Teaching-Learning Method: Hands-on Surgical Skill Practice
Under supervision, students will perform incision and drainage on models simulating breast abscesses. They will learn proper incision placement, drainage method, and wound care techniques. This session will enhance basic surgical confidence and skill in managing acute breast infections.
Cyst Excision and Tumor Biopsy Techniques
Teaching-Learning Method: Simulation-Based Practice with Faculty Feedback
Students will practice the excision of simple breast cysts and perform simulated tumor biopsies. This activity focuses on anatomical landmarks, gentle tissue handling, and minimal invasive technique. Faculty will provide stepwise feedback to reinforce surgical precision.
Postoperative Care and Complication Management
Teaching-Learning Method: Case Discussion and Role Play
Through role-play scenarios, students will discuss and manage common postoperative challenges such as infection, wound dehiscence, and seroma formation. Emphasis will be placed on wound care, patient communication, and early recognition of complications. This session fosters comprehensive understanding of surgical aftercare.
Simulated Patient Scenarios and Reflective Feedback
Teaching-Learning Method: Role Play and Group Reflection
Students will engage in simulated consultations where they conduct patient assessments, explain findings, and formulate treatment plans. Faculty and peers will provide feedback on communication, accuracy, and professionalism. This will be followed by group reflection to encourage self-assessment and identify areas for improvement.

Practical Training 28.6 : Diagnosis and management of malignant breast diseases

Activity Details
• Teacher demonstrates breast exam, staging, and diagnostic workup with cases.
• Students practice on models/cases and draft treatment plans.
Teacher’s Role
• Demonstrate, explain management options, and supervise practice.
Students’ Role
• Perform exam, identify stage/spread, and propose treatment.
• Share findings in discussion.
Clinical Understanding of Etiopathogenesis, Features, and Staging

1. Case-Based Group Discussion on Etiopathogenesis and Risk Factors
   TL Method: Case-Based Learning (CBL)
   Students will be divided into small groups and provided with diverse patient scenarios. Each group will identify etiological factors such as genetic predisposition (e.g., BRCA mutations), hormonal influences, and environmental triggers. They will present a brief etiopathogenesis summary and explain how it correlates with clinical presentation. Faculty will facilitate discussion and provide feedback.

2. Demonstration and Identification of Clinical Features
   TL Method: Clinical Demonstration & Supervised Hands-On Practice
   Using real or simulated patients, students will be guided to identify clinical features like breast lumps, skin dimpling, nipple retraction, or discharge. They will document their findings under supervision, with an emphasis on building confidence in clinical breast examination.

3. Staging Exercise using TNM Classification
   TL Method: Guided Worksheet and Interactive Discussion
   Faculty will provide students with case vignettes and imaging/pathology reports. Students will classify the stage of each case using the TNM system. Discussion will focus on the implications of each stage for prognosis and treatment planning.

Practical Training 28.7 : Diagnosis and management of malignant breast diseases

Activity Details
• Teacher demonstrates exam, staging, and workup of malignant breast cases.
• Students practice assessment and plan management.
Teacher’s Role
• Demonstrate, provide cases, and supervise.
Students’ Role
• Examine, stage, and draft treatment plans.
Investigative Modalities and Diagnostic Confirmation

4. Demonstration and Interpretation of Imaging Techniques
   TL Method: Hands-on Demonstration & Image-Based Learning

Students will be introduced to mammography, ultrasound, and MRI. Faculty will display real case images and guide students through interpretation. Students will be tasked with identifying key signs of malignancy and differentiating benign from suspicious lesions.

5. Biopsy Techniques: Observation and Simulation
   TL Method: Skills Lab / Simulation-Based Learning
   Students will observe or perform fine-needle aspiration (FNA) and core needle biopsy using mannequins or models. The focus will be on proper technique, instrument handling, aseptic precautions, and understanding the clinical indications for each type of biopsy.

6. Review of Histopathology and Tumor Marker Analysis
   TL Method: Slide Review and Small Group Discussion
   Faculty will show stained slides of common malignant pathologies (e.g., ductal carcinoma) and facilitate discussion on identifying cellular patterns. In small groups, students will analyze ER, PR, and HER2 reports and relate them to clinical decisions.

Practical Training 28.8 : Diagnosis and management of malignant breast diseases

Activity Details
• Teacher demonstrates exam, staging, and workup of malignant breast cases.
• Students practice assessment and plan management.
Teacher’s Role
• Demonstrate, provide cases, and supervise.
Students’ Role
• Examine, stage, and propose treatment plans.
Integrated Medical and Surgical Management

7. Seminar on Chemotherapy and Radiotherapy Protocols
   TL Method: Faculty-Guided Seminar & Peer Teaching
   A brief seminar will be followed by PG student presentations on chemotherapy regimens (e.g., AC-T, CMF), indications for radiotherapy, and managing side effects. Discussion will include personalized treatment approaches based on tumor biology.

8. Simulation of Surgical Procedures
   TL Method: Surgical Skill Simulation
   Under faculty supervision, students will observe and practice key steps in modified radical mastectomy and breast-conserving surgeries on surgical models or visual modules. Emphasis will be on marking incisions, tissue handling, and lymph node clearance.

9. Case Integration and Management Planning
   TL Method: Problem-Based Learning (PBL)
   Students will be presented with complete case scenarios, including examination findings, investigation results, and patient history. Working in groups, they will draft a comprehensive management plan integrating both surgical and adjuvant therapies. Each group will present and defend their plan to faculty for critique and suggestions.

Practical Training 28.9 : Phyllodes Tumor: Hands-on Diagnosis and Management

Activity Details
• Teacher demonstrates clinical features, investigations, surgical excision with margins, and post-op care for Phyllodes tumor.
• Students practice examination, simulate surgery on models, and role-play post-op care/monitoring.
Teacher's Role
• Demonstrate steps and supervise simulations/role-plays.
Students' Role
• Identify features, plan investigations, perform simulated surgery, and role-play care.
1. Understanding Etiopathogenesis of Phyllodes Tumor
Interactive seminar using visual aids (3D breast models, histopathology slides) to explain the fibroepithelial origin, benign-to-malignant spectrum, and recurrence potential of phyllodes tumors
2. Identifying Clinical Features and Differentiation from Fibroadenoma
Simulation-based role play using standardized patients or mannequins to demonstrate clinical signs like rapid growth, non-tender mass, and overlying skin stretching.
3. Planning and Interpretation of Diagnostic Investigations
Hands-on interpretation of imaging (ultrasound, mammography) and FNAC reports using virtual case simulators and multimedia projection.
4. Surgical Management on Simulators
Students perform wide local excision or simulate mastectomy procedure on high-fidelity surgical models under supervision, focusing on margins and breast reconstruction principles.

5. Postoperative Care and Recurrence Monitoring
Role-play and mannequin-based practice for drain care, wound inspection, and scheduling follow-ups, emphasizing recurrence surveillance.

Experiential learning Activity

Experiential-Learning 28.1 : Clinical application of Ayurvedic principles in the management of Stanaroga

Activity Details
• Groups assess a real Stana Roga patient using Nidana Panchaka.
• Identify doshic involvement, disorder type, and draft treatment plan (Shamana/Shodhana/Shalya).
• Present and discuss with peers.
Teacher's Role
• Arrange patient exposure, ensure ethics and safety.
• Supervise assessments and refine reasoning.
• Summarize key classical guidelines.
Students' Role
• Conduct history/exam with Nidana Panchaka.
• Identify doshic type and propose treatment plan.
• Share and justify approach in discussion.
1. Real Patient Case-Taking and Documentation
Teaching-Learning Method: Bedside Clinical Learning, Case-Based Learning (CBL)
Students will individually examine real patients with breast disorders in IPD/OPD. Under supervision, they will take detailed history using Nidana Panchaka: Hetu, Purvarupa, Rupa, Upashaya-Anupashaya, and Samprapti. They will also identify Dosha involvement and Dushya vitiation. Students must record their observations in a structured Ayurvedic case sheet and discuss with faculty for validation. This sharpens diagnostic thinking and clinical reasoning using classical Ayurvedic principles.
2. Clinical Examination of Breast (Stana Pariksha)
Teaching-Learning Method: Demonstration and Return Demonstration (DoRD)
Faculty first demonstrates proper Stana Pariksha techniques: inspection, palpation, identification of Granthi, Shopha, Vidradhi features. Then, students perform examination on actual patients under guidance. Emphasis is laid on identifying Dosha-dominant features (e.g., rukshata in Vatika, daha in Paittika). Return demonstration ensures skill acquisition and patient-sensitive handling, especially in female cases.
3. Ayurvedic Diagnosis and Chikitsa Planning Workshop
Teaching-Learning Method: Small Group Discussion (SGD)
Students, in small groups, will present their real patient findings and collectively arrive at an Ayurvedic diagnosis. They will then design a treatment plan based on stage and Dosha, choosing appropriate Shamana, Shodhana, or Shalya Karma. Each plan must include internal medicines, local applications, Panchakarma procedures (if indicated),

and pathya-apathya. Faculty moderates the discussion, correcting misconceptions and promoting rational decision-making.

Experiential-Learning 28.2 : Clinical application of Ayurvedic principles in the management of Stanaroga

Activity Details
• Students clinically examine real patients of Stana Roga using Nidana Panchaka.
• Identify doshic involvement, classify disorder, and formulate treatment plan (Shamana, Shodhana, Shalya).
• Present plans for peer discussion.
Teacher's Role
• Facilitate patient access, supervise assessments, and guide clinical reasoning.
Students' Role
• Perform assessment, analyze doshic basis, draft treatment plan, and present findings.

1. Hands-On Exposure to Minor Procedures (Shalya Karma)

Teaching-Learning Method: Supervised Clinical Skill Training
Students assist in or perform minor surgical procedures such as Vidradhi Bhedana (incision and drainage of breast abscess) or wound management (e.g., lepa, vrana prakshalana). This hands-on training happens under direct faculty observation in minor OT or procedure room. It builds competence in Ayurvedic surgical protocols, sterile practice, and post-operative care using Ayurvedic formulations like Jatyadi Taila or Triphala Kashaya.

2. Patient Counseling on Pathya-Apathya and Follow-Up

Teaching-Learning Method: Role Play and Bedside Counseling
Students interact directly with their assigned patients, explaining the nature of the disease, the role of doshas, and the importance of diet and lifestyle modifications. They advise Pathya-Apathya specific to Vata, Pitta, or Kapha-related Stana Roga. Faculty observes and gives feedback on communication clarity, cultural sensitivity, and patient understanding. This activity promotes confidence in explaining Ayurvedic concepts in simple, relatable language.

3. Reflective Case Summary and Outcome Monitoring

Teaching-Learning Method: Reflective Learning & Self-Directed Learning

After the patient's discharge or follow-up, each student writes a case summary detailing initial presentation, diagnosis, treatment given, outcome, and personal learning. They reflect on what worked, what could have been improved, and how classical principles applied in real-life settings. These summaries are reviewed by faculty to track student progress and encourage critical thinking.

Experiential-Learning 28.3 : Diagnosis and management of inflammatory and benign breast diseases

Activity Details
• Groups work on patient cases to identify early signs, differentiate benign vs. malignant, and suggest treatment/referrals.
• Present and discuss approaches with peers.
Teacher’s Role
• Provide cases, supervise reasoning, and ensure accuracy.
• Summarize key diagnostic and referral points.
Students’ Role
• Analyze cases, classify condition, and propose management/referrals.
• Share and justify approach in discussion.
Diagnostic Evaluation of Benign and Inflammatory Breast Diseases
Students will perform systematic breast examinations under faculty supervision or using anatomical models. They will practice inspection and palpation techniques for identifying lumps, nodules, tenderness, skin changes, or nipple discharge. The activity emphasizes accurate localization, consistency in method, and sensitivity to patient comfort.
Teaching-Learning Method: Hands-on Clinical Skills Practice with Supervised Guidance
Following the clinical examination, students will independently document their findings using a structured clinical note format. This promotes clarity, accuracy, and the ability to link physical findings with differential diagnosis. Students will receive peer and faculty feedback on the quality and completeness of their documentation.
Teaching-Learning Method: Structured Clinical Documentation and Peer Review
Subsequently, students will engage in guided interpretation of breast imaging modalities like ultrasound, mammography, and MRI. Faculty will present real or simulated case images, and students will be trained to identify typical patterns of benign lesions such as fibroadenomas or duct ectasia.
Teaching-Learning Method: Case-Based Image Review and Interactive Discussion
In the final diagnostic component, students will observe and practice biopsy techniques such as fine-needle aspiration and core needle biopsy using simulation models. The emphasis is on sterile technique, patient positioning, and post-procedure care, enabling early exposure to interventional diagnostic tools.
Teaching-Learning Method: Simulation-Based Biopsy Skill Training

Experiential-Learning 28.4 : Clinical competence in breast disease management

Activity Details

• Students assess breast disease cases, plan management, simulate interventions, and role-play follow-up.
Teacher’s Role
• Provide cases, supervise, and guide reasoning/technique.
Students’ Role
• Evaluate, plan, simulate management, and present strategies.
Planning and Performing Management
Students will begin by analyzing real or simulated case scenarios to identify appropriate treatment pathways. They will decide between conservative management, surgical options such as Chhedana or Bhedana, and referral criteria based on the nature of the lesion. This sharpens clinical reasoning and decision-making aligned with both Ayurvedic and modern practices.
Teaching-Learning Method: Individual Case-Based Management Planning
They will then observe and participate in preparation for minor surgical procedures, including the setup of sterile trays, surgical area preparation, and patient positioning. This introduces learners to surgical discipline, teamwork, and the importance of protocol adherence.
Teaching-Learning Method: Demonstration and Hands-On Surgical Setup Practice
Next, students will practice incision and drainage techniques for breast abscesses using models or simulators. Emphasis is placed on appropriate incision placement, drainage principles, and dressing application. This provides a foundation for managing acute inflammatory breast conditions surgically.
Teaching-Learning Method: Supervised Surgical Simulation and Skills Practice

Experiential-Learning 28.5 : Clinical comptence in mangement of beningn and malignant breast diseases

Activity Details
• Students assess benign/inflammatory breast disease cases, plan conservative or surgical (Chhedana/Bhedana) care, and practice on models/simulations.
Teacher’s Role
• Provide patients/models, supervise, and guide reasoning.
Students’ Role
• Evaluate cases, plan management, simulate procedures, and present approaches.
Communication, Advanced Procedures and Postoperative Care
This session begins with simulated surgical exercises where students practice minor procedures like cyst excision or superficial tumor biopsy on models. Feedback is provided on technique, tissue handling, and completion of the procedure. This activity reinforces core skills needed for benign tumor management.
Teaching-Learning Method: Simulation-Based Surgical Skills with Feedback
Postoperative care is addressed through clinical case scenarios where students identify common complications such as wound infections or hematoma. They discuss postoperative instructions, wound care, and complication management strategies, integrating both modern and Ayurvedic perspectives.
Teaching-Learning Method: Role-Play and Problem-Solving Discussion
Students then engage in role-play with simulated patients to explain diagnosis, procedure details, and post-treatment advice. The focus is on empathetic communication,

informed consent, and managing patient concerns effectively in breast disease cases.
Teaching-Learning Method: Communication Skills Practice through Simulated Patient Interactions
Finally, the session includes reflective learning where students review their diagnostic and procedural experiences, identify areas of strength and improvement, and receive feedback from peers and faculty. A written reflection is submitted as part of skill tracking.
Teaching-Learning Method: Guided Reflective Practice and Faculty Feedback

Experiential-Learning 28.6 : Management of malignant breast diseases

Activity Details
• Groups analyze breast cancer cases with staging/tumor markers.
• Plan appropriate medical/surgical intervention and role-play implementation.
• Present and justify plans in peer discussion.
Teacher's Role
• Provide cases and simulation setup.
• Supervise reasoning, correct errors, and summarize best practices.
Students' Role
• Interpret staging/markers, plan interventions, and role-play.
• Share and defend approach in discussion.
Medical and Surgical Management Planning
1. Case-Based Clinical Reasoning on Real Patients
Teaching-Learning Method: Case-Based Learning (CBL)
Students will be assigned real patients diagnosed with breast carcinoma at different stages. Each student will review the complete history, examination findings, investigation reports (including biopsy and imaging), and TNM staging. Under faculty guidance, they will propose an individualized management plan, justifying the selection of chemotherapy, radiotherapy, hormone therapy, or targeted therapy as applicable. This activity sharpens diagnostic integration and decision-making based on real clinical data.
2. Tumor Marker Interpretation and Treatment Protocol Mapping
Teaching-Learning Method: Small Group Discussion
Using actual patient laboratory reports, students will interpret ER, PR, and HER2 statuses and correlate them with prognosis and medical therapy (e.g., Trastuzumab in HER2-positive cases). Groups will compare different molecular profiles and draft treatment algorithms, guided by current oncological protocols. This helps bridge molecular diagnostics with Ayurvedic and modern intervention strategies.
3. Treatment Counseling and Consent Simulation
Teaching-Learning Method: Role Play / Simulated Patient Interaction
Students will conduct mock counseling sessions with simulated patients or volunteers. They will explain the diagnosis, treatment options, potential complications, and obtain

informed consent. The faculty will observe and provide feedback on clarity, empathy, and communication effectiveness—essential skills for holistic cancer care.

Experiential-Learning 28.7 : Management of malignant breast diseases

Activity Details
• Students analyze malignant breast cases with staging/markers, plan interventions, and role-play implementation.
• Present and justify plans in discussion.
Teacher's Role
• Provide cases, guide simulations, and supervise.
Students' Role
• Interpret findings, plan/role-play interventions, and defend decisions.
Surgical Management and Postoperative Care
4. Simulation-Based Surgical Skill Development
Teaching-Learning Method: Skill Lab / Simulation
Students will practice incision planning, tissue handling, and lymph node clearance on breast surgery simulators or anatomical models under supervision. The focus will be on basic steps of breast-conserving surgery and modified radical mastectomy. Aseptic technique, intra-operative safety, and handling of surgical instruments will be emphasized. Faculty will provide hands-on demonstration followed by supervised repetition.
5. Postoperative Care and Complication Management
Teaching-Learning Method: Case-Based Role Play + Reflective Discussion
Using real or simulated postoperative cases, students will manage wound care, recognize signs of infection, and address common complications such as seroma or lymphoedema. They will also practice patient education on drain care and arm exercises. Group reflection sessions will follow, encouraging critical thinking and improvement planning.
6. Integrative Management Planning with Ayurveda
Teaching-Learning Method: Integrated Clinical Discussion
Students will identify areas where Ayurvedic supportive therapies (e.g., Rasayana, Vrana Chikitsa post-surgery) can be integrated for patient recovery and quality of life improvement. They will design a post-treatment care plan combining Shalya Tantra principles with modern oncology follow-up. This emphasizes holistic, patient-centered care.

Experiential-Learning 28.8 : Phyllodes tumour - Diagnostic workup and management strategy

Activity Details
• Students assess Phyllodes tumor cases, form differentials, interpret findings, plan surgery on models, and role-play post-op care/follow-up.
Teacher's Role

• Provide cases/models, supervise, and guide reasoning and techniques.
Students' Role
• Evaluate, plan, simulate surgery, and role-play care/follow-up.
1. History Taking and Clinical Examination
Student independently takes detailed clinical history and performs breast examination on patients presenting with breast lumps, identifying features suggestive of phyllodes tumor.
2. Formulating Differential Diagnosis and Ordering Investigations
Student evaluates clinical findings, formulates a differential diagnosis (e.g., fibroadenoma vs. phyllodes tumor), and independently selects appropriate imaging (ultrasound, mammography) and FNAC.
3. Interpreting Radiological and Histopathological Reports
Student independently reviews investigation reports, correlates findings with clinical diagnosis, and identifies features suggestive of phyllodes tumor.
4. Planning Surgical Management
Student independently drafts a surgical plan (e.g., wide local excision or mastectomy), discusses it with the supervisor, and obtains informed consent from the patient.
5. Assisting and Independently Performing Surgery (Under Supervision)
Student assists and then independently performs the surgical procedure under supervision, maintaining sterile technique and observing oncological principles of tumor removal.
6. Postoperative Care and Follow-Up Planning
Student manages postoperative care (pain control, drain management), observes for complications, and independently schedules follow-ups with surveillance plan for recurrence.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment. Module Content Scope • Surgical Anatomy of the Breast • Nidana and Chikitsa of Stana Roga • Diagnosis and Management of Inflammatory and Benign Breast Diseases • Diagnosis and Management of Malignant Breast Diseases • Clinical evaluation and planning in Phyllodes Tumor	4

1. OSCE (Objective Structured Clinical Examination)

• OSCE is ideal for evaluating the clinical reasoning, procedural understanding, and communication skills necessary for managing Stana Roga. Five OSCE stations are designed for this module:

• Identification of surgical anatomy of the breast (axillary tail, lymph nodes) using anatomical models
• Clinical reasoning in differential diagnosis of a breast lump (fibroadenoma vs phyllodes vs carcinoma)
• TNM staging and formulation of treatment plan in a carcinoma case
• Patient counseling for FNAC/biopsy with emphasis on communication and ethics
• Postoperative complication identification and basic management (e.g., seroma or wound infection)

• Each station is assessed out of 10 marks, with a structured checklist focusing on task completion, clinical accuracy, and communication skills. OR

2. DOAP (Demonstration–Observation–Assistance–Performance)

• DOAP method is used to evaluate technical and patient-care skills in real or simulated settings. Two key procedures are observed:
• Procedure 1: Systematic breast examination with axillary node palpation – assessed for approach, technique, patient interaction, and interpretation
• Procedure 2: Demonstration of FNAC (Fine Needle Aspiration Cytology) technique – assessed for preparation, asepsis, needle handling, and post-procedure care
• Each procedure is assessed using a structured rubric (25 marks each) under domains like technique, asepsis, communication, and patient safety. OR

3. Mini-CEX (Mini Clinical Evaluation Exercise)

• Mini-CEX is used to assess live clinical performance in OPD/IPD. Suitable cases include patients with inflammatory mastitis or follow-up of malignancies. Faculty observe:
• History taking and physical examination (10 marks)
• Clinical judgment and differential formulation (10 marks)
• Procedural planning (10 marks)
• Communication and empathy (10 marks)
• Professional behavior and self-reflection (10 marks)
• The holistic approach ensures assessment of knowledge, behavior, and decision-making. OR

4. S-LAQ (Structured Long Answer Questions)

• Structured LAQs test integrated theoretical and clinical understanding. Two LAQs may be asked:
• Ayurvedic Nidana and Chikitsa of Stana Roga

• Multimodal management of malignant breast diseases including Ayurvedic support
• Each LAQ is scored as follows: conceptual clarity (10 marks), organization and structure (10 marks), clinical integration (5 marks). OR

5. Supporting Assessments
• 360-Degree Feedback (Formative use): For evaluation of soft skills, professionalism, and interprofessional conduct
• Log Book: Entries must reflect a minimum of: 10 breast case evaluations, 5 clinical examinations, 2 procedural assistances
• DOPS (Direct Observation of Procedural Skills): Focused on real-time performance in tasks like FNAC, dressing, wound drainage
• CBA (Case-Based Audit): Structured audit of documented clinical cases to evaluate reasoning and planning OR

OR
Any practical in converted form can be taken for assessment (25 Marks) And
Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)

Semester No : 5

Module 29 : Vriddhi Roga - Hernia, Diseases of Abdominal Wall and Umbilicus.

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe Ayurvedic concept of Vriddhi Roga and etiopathology of the surgical conditions pertaining to abdominal wall and umbilicus. Explain various types of hernias including their causes and clinical presentations.
- Conduct thorough clinical examinations for diagnosing hernias and abdominal wall disorders, perform and assist in surgical procedures - surgical interventions (sandhana karma-herniotomy, herniorrhaphy, hernioplasty) including laparoscopic techniques.
- Identify the symptoms and complications of hernias and abdominal wall conditions, and differentiate between various types of hernias (inguinal, umbilical, femoral etc). Recognize the appropriate treatment and referral pathways for managing these conditions

M 29 Unit 1 Vriddhi Roga

- Nidana panchaka, bheda, lakshana evam chikista of

- Vriddhi roga.

References: 1,2,3,4,7,9,10

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO5,CO6,CO7,CO8	Prepare the surgical case of Antra Vridhi pre-operatively, execute initial surgical steps including incision, dissection, and sac handling, and demonstrate adherence to OT protocols and aseptic techniques.	3	Experiential-Learning 29.1	PSY-ADT	Does	CBL,D
CO1,CO5,CO8	Analyze Nidana Panchaka, Bheda, Upadrava evam Chikista of Vriddhi roga	1	Lecture	CAN	Knows-how	DIS,L&GD
CO1,CO4,CO8	Perform detailed clinical examination and investigations to arrive at diagnosis and Surgical intervention in Antra vridhi (Abdominal herniae).	2	Practical Training 29.1	PSY-GUD	Shows-how	D,SIM,D-M
CO1,CO5	Differentiate Vriddhi and its types based on their nidana, lakshana, and chikitsa with reference to classical texts	1	Lecture	CAN	Knows-how	CBL,L&GD
CO1,CO4,CO5,CO6,CO7,CO8	Prepare the surgical case pre-operatively, execute initial surgical steps including incision, dissection, and sac handling, and demonstrate adherence to OT protocols and aseptic techniques under supervision.	3	Experiential-Learning 29.2	PSY-ADT	Does	SIM,CBL,RLE

M 29 Unit 2 Abdominal wall hernia

- Causes, Pathophysiology, investigations and surgical management(Sandhana Karma - Herniotomy, herniorrhaphy and hernioplasty) and laparoscopic procedures of –
  - Inguinal hernia
  - Femoral hernia
  - Ventral Hernia – Primary - Umbilical, Epigastric, Spigelian, Lumbar, Traumatic; and Secondary -Incisional, parastomal.
  - Others – Obturator, Perineal, Gluteal and sciatic hernias.

References: 1,2,4,5,8,9,10,12,13,15,44,74

3A	3B	3C	3D	3E	3F	3G

CO1	Describe the causes and pathophysiology of Abdominal wall herniae	1	Lecture	CC	Knows-how	L&GD,DIS
CO1,CO4,CO6,CO7,CO8	Conduct thorough clinical examinations for diagnosing hernias and abdominal wall disorders, perform and assist in treatment procedures - surgical interventions (sandhana karma-herniotomy, herniorrhaphy, hernioplasty) including laparoscopic techniques	3	Practical Training 29.2	PSY-GUD	Shows-how	CD,D-M,SIM,D,D-BED
CO1,CO4,CO6,CO7,CO8	Identify the symptoms and complications of hernias and abdominal wall conditions, and differentiate between various types of hernias (inguinal, umbilical, femoral) along with the appropriate treatment and referral pathways for managing these conditions	3	Experiential-Learning 29.3	PSY-ADT	Does	SDL,D-M,RLE,D-BED,D
CO1,CO4,CO5	Discuss the clinical examinations and investigations in abdominal wall herniae	1	Lecture	CC	Knows-how	L_VC,L&GD
CO1,CO4,CO6,CO8	Discuss the principle of surgical management (Herniotomy, herniorrhaphy and hernioplasty) in abdominal wall hernia.	1	Lecture	CC	Knows-how	BL,L_VC,L&GD
CO1,CO4,CO6,CO8	Describe the surgical and laparoscopic procedures in the management of Inguinal hernia, Femoral hernia.	1	Lecture	CC	Knows-how	L_VC,BL,L&GD
CO1,CO4,CO5,CO8	Discuss Ventral Hernia: Primary - Umbilical, Epigastric, Spigelian, Lumbar, Traumatic; and Secondary - Incisional, parastomal.	1	Lecture	CAN	Knows-how	L&GD,CD
CO1,CO4	Differentiate Obturator, Perineal, Gluteal and Sciatic hernias.	1	Lecture	CAN	Knows-how	CD,PER,L&GD
CO1,CO4,CO8	Conduct thorough clinical examinations for diagnosing hernias and abdominal wall disorders, perform and assist in treatment procedures - surgical interventions (sandhana karma-herniotomy, herniorrhaphy, hernioplasty) including laparoscopic techniques	3	Practical Training 29.3	PSY-GUD	Shows-how	CBL,RLE,D-M,SIM
CO1,CO4,CO8	Conduct thorough clinical examinations for diagnosing hernias and abdominal wall disorders, perform and assist in treatment procedures - surgical interventions (sandhana karma-herniotomy, herniorrhaphy, hernioplasty) including laparoscopic techniques	3	Practical Training 29.4	PSY-GUD	Shows-how	D-M,DL,D,SIM

CO1,CO4,CO6,CO7,CO8	Identify the symptoms and complications of hernias and abdominal wall conditions, and differentiate between various types of hernias (inguinal, umbilical, femoral) along with the appropriate treatment and referral pathways for managing these conditions	4	Experiential-Learning 29.4	PSY-ADT	Does	CBL,SIM,RLE
CO1,CO4,CO6,CO7,CO8	Identify the symptoms and complications of hernias and abdominal wall conditions, and differentiate between various types of hernias (inguinal, umbilical, femoral) along with the appropriate treatment and referral pathways for managing these conditions.	3	Experiential-Learning 29.5	PSY-ADT	Does	SDL,CBL,SIM,RLE

M 29 Unit 3 Umbilicus and abdominal wall conditions

- Congenital anomalies, Umbilical infections, Sinus, and Neoplasms with their surgical management.
- Abdominal wall conditions and their surgical management.
- General Infections
- Synergistic gangrene
- Cutaneous fistula
- Abdominal compartment syndrome
- Neoplasm of the abdominal wall-Desmoid tumor etc.

References: 1,5,7,8,9,10,12,13,15,74

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO5,CO8	Identify the congenital anomalies, umbilical infections, sinus, and neoplasms, and outline their respective surgical management based on Ayurvedic and modern principles.	1	Lecture	CAN	Knows-how	DIS,CBL,L&PPT ,L_VC,L&GD
CO1,CO4,CO6,CO7,CO8	Identify, debride, and manage abdominal wall infections and synergistic gangrene using aseptic techniques and appropriate surgical interventions.	3	Practical Training 29.5	PSY-GUD	Shows-how	SIM,CBL,PAL,L&GD
CO1,CO4,CO6	Evaluate, plan, and surgically manage congenital abdominal wall anomalies and	3	Experiential-	PSY-	Does	W,SIM,R

,CO7,CO8	umbilical infections.		Learning 29.6	MEC		P,RLE,SDL
CO1,CO4,CO5,CO8	Classify abdominal wall conditions and formulate appropriate surgical management strategies by integrating Ayurvedic and modern principles.	1	Lecture	CC	Knows-how	L&GD,L_VC,L&PPT ,CBL
CO1,CO4,CO6,CO7,CO8	Diagnose and surgically manage cutaneous fistulas of the abdominal wall	2	Practical Training 29.6	PSY-GUD	Shows-how	L&GD,CBL,D
CO1,CO4,CO6,CO7,CO8	Identify abdominal compartment syndrome and perform timely surgical decompression for emergency management.	2	Practical Training 29.7	PSY-GUD	Shows-how	CBL,SIM,PBL
CO1,CO4,CO6,CO7,CO8	Perform surgical excision of abdominal wall tumors with emphasis on achieving oncologically safe margins and implementing strategies to prevent recurrence	2	Practical Training 29.8	PSY-GUD	Shows-how	L_VC,D,SIM,L&PPT ,CBL
CO1,CO4,CO6,CO7,CO8	Diagnose, surgically excise, and provide postoperative care for abdominal wall sinuses and soft tissue neoplasms.	3	Experiential-Learning 29.7	PSY-ADT	Does	CBL,D-BED,RLE
CO1,CO4,CO6,CO7,CO8	Perform clinical evaluation, surgical planning, operative procedures, and postoperative management of abdominal wall conditions—including infections, synergistic gangrene, cutaneous fistulas, abdominal compartment syndrome, and neoplasms.	4	Experiential-Learning 29.8	PSY-ADT	Does	SIM,RLE,CBL

Practical Training Activity

Practical Training 29.1 : Diagnosis and Mangement of Vriddhi roga in Ayurveda.

Activity Details
• Teacher demonstrates exam, diagnosis, and surgical steps for Antravridhi.
• Students practice exams and assist in simulated surgeries.
Teacher’s Role
• Demonstrate, provide models, and supervise.
Students’ Role

• Perform exams, interpret findings, and assist surgically.

1. The session will begin with Orientation and Objective Setting, which includes a briefing session using interactive discussion and PowerPoint presentations to explain the session goals, anatomical relevance, procedural steps, and clinical importance of Mutravridhi (Hydrocele) and Antravriddhi (Hernia) surgeries.
2. Following this, there will be a Demonstration of Surgical Instruments, where a live demonstration of instruments will be conducted on a sterile table. This will be followed by a hands-on identification session using dummy kits to enhance familiarity with the instruments.
3. This will be followed by a Simulation of Hernia Repair (Antravriddhi) Procedure, wherein students will perform a step-wise inguinal hernia repair on a high-fidelity simulator. The procedure will include identification of the hernial sac, its reduction, and mesh placement.
4. During the Peer Observation and Reflective Feedback segment, students will observe their peers and record performance using a structured peer-review checklist. This will be followed by a group reflection session to facilitate mutual learning.
5. A Case-Based Scenario Discussion will take place, involving clinical scenarios related to hydrocele and hernia. These cases will be presented after the practical session to stimulate group discussion on possible complications and post-operative care.
6. Towards the end, a Summative Simulation Assessment will be conducted, where students are required to perform the full procedure on a model from start to end with minimal prompts, simulating a real-time operation theatre environment.
7. Finally, students will complete their Logbook and Skill Sheet Entry, documenting each step they learned and performed. This documentation will be submitted for faculty verification to ensure proper recording of skill acquisition.

Practical Training 29.2 : Demonstration of diagnosis and management of abdominal wall hernia

Activity Details
• Teacher demonstrates exam and surgical steps for hernias (herniotomy, herniorrhaphy, hernioplasty, laparoscopic hernia repair).
• Students practice exams and assist in simulated procedures.
Teacher’s Role
• Demonstrate, provide models, and supervise.
Students’ Role
• Perform exams, assist, and practice surgical steps.
Clinical Examination & Diagnosis

1. Introduction to Abdominal Wall Disorders: Teacher gives an Overview of common hernias and abdominal wall issues.

2. Inspection Techniques: Teach visual examination of abdominal wall for bulges, scars, and asymmetry.
3. Palpation Skills: Demonstrate palpation methods to locate and assess hernias (e.g., cough impulse).
4. Special Tests for Hernia: Students Practice tests like the invagination and deep ring occlusion tests.
5. Differentiating Hernia Types: Teacher takes practical session on identifying inguinal, femoral, umbilical hernias.
6. Case-Based Simulations: Use case scenarios to practice diagnosis and differential diagnosis.
7. Documentation Skills: Guide on accurately recording findings and diagnosing hernias.

Practical Training 29.3 : Demonstration of diagnosis and management of abdominal wall hernia

Activity Details
• Teacher demonstrates clinical exam for hernias/abdominal wall disorders and surgical steps (herniotomy, herniorrhaphy, hernioplasty, laparoscopy).
• Students practice examinations and assist in simulated surgeries.
Teacher's Role
• Demonstrate procedures, provide models, and supervise practice.
Students' Role
• Perform exams, assist, and practice surgical steps.
Performing & Assisting in Treatment Procedures

1. Preparation for Procedures: Demonstrate sterile setup, anesthesia, and patient positioning.
2. Sandhana Karma Overview: Introduce Ayurvedic principles relevant to hernia management.
3. Herniotomy Techniques: Practical steps in incision, hernia sac dissection, and excision.
4. Herniorrhaphy Practice: Teach suturing techniques for hernia repair; hands-on practice on models.
5. Assist in Hernioplasty: Demonstrate mesh placement technique for inguinal and ventral hernias.
6. Postoperative Care Instructions: Teach guidelines for wound care, infection prevention, and pain management.
7. Observation of Live Procedure: Observe a herniotomy/hernioplasty procedure to reinforce learning.

Practical Training 29.4 : Demonstration of diagnosis and management of abdominal wall hernia

Activity Details
• Teacher demonstrates exams and surgical steps for hernias (herniotomy, herniorrhaphy, hernioplasty, laparoscopic technique).
• Students practice exams and assist in simulations.
Teacher's Role
• Demonstrate, provide models, and supervise.
Students' Role
• Examine, assist, and practice surgical steps.
Advanced Techniques & Laparoscopic Procedures

1. Introduction to Laparoscopic Hernia Repair: Explain TAPP and TEP approaches and their indications.
2. Laparoscopic Instrument Familiarization: Demonstrate handling of laparoscopic instruments and ports.
3. Hands-on Simulator Practice: Practice laparoscopic movements, knotting, and mesh placement on simulators.
4. Laparoscopic Suturing Skills: Teach suturing techniques using laparoscopic instruments.
5. Role of Assistant in Laparoscopic Surgery: Guide on assisting roles, including port holding and camera handling.
6. Case-Based Discussion: Discuss patient selection, advantages, and risks of laparoscopic hernia repair.
7. Summary & Q&A: Review learning points, clarify doubts, and reinforce best practices in hernia surgery.

Practical Training 29.5 : Management strategy - Abdominal wall infections and synergistic gangrene

Activity Details
• Teacher demonstrates identification, debridement, and management of abdominal wall infections/gangrene.
• Students practice debridement on models/simulations with asepsis.
Teacher's Role
• Demonstrate, emphasize asepsis, and supervise.
Students' Role
• Identify, simulate debridement, and maintain asepsis.
Management of Abdominal Wall Infections and Synergistic Gangrene
Learning Activity: Hands-on Training in Infection Control and Debridement

- Introduction to Abdominal Wall Infections:
  The session begins with a review of common abdominal wall infections such as cellulitis and abscesses, focusing on clinical features and basic surgical approaches.

- Debridement Techniques:
  Participants will observe demonstrations and perform hands-on debridement of infected and necrotic tissue, learning the principles of effective wound bed preparation.

- Drain Placement in Infected Areas:
  Training includes techniques for inserting surgical drains, securing them, and maintaining proper function to support healing and prevent fluid accumulation.

- Synergistic Gangrene Management:
  A detailed explanation of the pathophysiology of synergistic gangrene is provided, followed by a demonstration of radical and aggressive debridement techniques.

- Case-Based Hands-on Practice:
  Simulated or real case scenarios are used to practice infection management, from initial assessment to surgical intervention and postoperative care.

- Infection Control Measures:
  Emphasis is placed on strict aseptic techniques, wound care, and rational use of antibiotics to minimize complications and promote recovery.

Practical Training 29.6 : Management strategy for cuatneous fistilas of the abdominal wall

Activity Details
• Teacher demonstrates diagnosis and surgical steps for abdominal wall cutaneous fistulas.
• Students practice examination and assist in simulated surgery.
Teacher’s Role
• Demonstrate, explain steps, and supervise.
Students’ Role
• Perform diagnosis, assist, and practice surgical technique.
Cutaneous Fistulas and Their Surgical Management
Learning Activity: Surgical Skills Practice for Fistula Management

- Identification and Causes of Fistulas:
  The session starts with the classification of cutaneous fistulas and a discussion on their etiologies including iatrogenic, inflammatory, or neoplastic origins.

- Drainage and Stabilization:
  Participants will observe and practice the drainage of fistulas, focusing on methods for effective output control and minimizing infection risk.

- Fistula Repair Techniques:
  Hands-on training is provided on suturing small cutaneous fistulas using appropriate materials and methods, emphasizing tension-free closure and preservation of tissue integrity.

- Clinical Reasoning in Fistula Cases:
  Through guided discussions and case-based scenarios, students develop decision-making skills related to timing of surgery, nutritional support, and long-term follow-up.

Practical Training 29.7 : Management startegy for Abdominal compartment syndrome

Activity Details
• Teacher demonstrates diagnosis and management of abdominal compartment syndrome on models/simulations.
• Students practice assessment and assist in interventions.
Teacher’s Role
• Demonstrate, provide setup, and supervise.
Students’ Role
• Assess, assist, and practice steps.
Abdominal Compartment Syndrome – Diagnosis and Surgical Decompression
Learning Activity: Critical Care and Emergency Surgical Response

- Understanding Abdominal Compartment Syndrome (ACS):

An overview of ACS covers diagnostic criteria including intra-abdominal pressure monitoring, organ dysfunction signs, and progression of the syndrome.

- Complications and Risk Factors:
  Participants learn about contributing factors such as trauma, massive fluid resuscitation, and sepsis that may lead to increased abdominal pressure.

- Surgical Decompression Techniques:
  The session includes demonstrations of decompression via midline laparotomy and fasciotomy, highlighting indications, techniques, and postoperative management.

- Interactive Case Scenarios:
  Attendees engage in scenario-based learning to simulate emergency decision-making in ACS cases, including recognizing warning signs and determining the need for surgical intervention.

Practical Training 29.8 : Management strartegy for Abdominal wall neoplasms

Surgical Management of Abdominal Wall Neoplasms
Activity Details
• Teacher demonstrates tumor excision with safe margins and recurrence prevention.
• Students practice excision on models/simulations.
Teacher's Role
• Demonstrate, explain principles, and supervise.
Students' Role
• Perform simulated excision with oncological safety.
Learning Activity: Tumor Excision and Margin Control Techniques

- Overview of Abdominal Wall Tumors:
  The session begins with a review of abdominal wall neoplasms such as desmoid tumors, discussing their clinical features, imaging findings, and differential diagnoses.

- Wide Local Excision Techniques:

Participants will learn the step-by-step process of tumor excision with focus on achieving oncologically sound margins and preserving surrounding structures.

- Margin Assessment and Intraoperative Strategy:
  Techniques for assessing and ensuring negative margins are covered, including frozen section guidance and strategic planning of incision lines.

- Postoperative Monitoring and Recurrence Prevention:
  Emphasis is placed on close follow-up, wound care, and strategies to minimize recurrence, including adjuvant therapies where applicable.

- Simulated Tumor Excision & Q&A:
  The session ends with practical simulation on models and a comprehensive Q&A to reinforce key concepts and clarify any doubts.

Experiential learning Activity

Experiential-Learning 29.1 : Surgical management of Antra Vridhi

Activity Details
• Students prepare cases, follow OT protocols, and practice incision, dissection, and sac handling in simulations.
Teacher's Role
• Provide setup, supervise, and correct technique.
Students' Role
• Prepare, perform steps, maintain asepsis, and discuss.

1. Pre-operative Case Preparation and Consent
   Student independently prepares the patient by taking history, doing clinical examination, and explaining the procedure to obtain informed consent.
2. Surgical Planning and OT Protocol Execution
   Student organizes instruments, verifies sterility, and plans the sequence of steps for surgery, ensuring adherence to OT protocols.
3. Independent Incision and Layer-wise Dissection (Antravriddhi)
   Student performs skin incision and layer-by-layer dissection to expose the hydrocele sac or hernial sac under supervision, maintaining asepsis and anatomical precision.

4. Excision/Reduction (Hernia Respectively)
   Student performs excision or handles hernial sac with reduction or ligation as per case.
5. Mesh Placement and Layer-wise Closure (Hernia)
   Student performs mesh fixation in hernia repair and does closure of muscle, fascia, and skin independently under supervision.

Experiential-Learning 29.2 : Surgical Management of Mutra Vridhi and Antra Vridhi

Activity Details
• Students prepare surgical cases, follow OT protocols, and practice incision, dissection, and sac handling under supervision.
Teacher's Role
• Provide OT setup, supervise technique, and ensure asepsis.
Students' Role
• Prepare cases, perform steps, and maintain aseptic protocol.

1. Post-operative Care and Monitoring
   Student independently writes post-operative orders and monitors vitals, wound site, and early complications.
2. Case presentation and Reflection
   Student presents full case in a post-op review round, including rationale for surgical decisions and reflection on performance.
3. Documentation in Surgical Logbook: Student updates individual logbook with date, patient ID (confidential), procedure performed, and learning points.
4. Faculty Feedback and Self-assessment
   One-on-one feedback session with faculty after surgery; student submits self-assessment of performance.

Experiential-Learning 29.3 : Management of and Abdominal wall herniae

Activity Details
• Students assess hernia cases, identify symptoms/complications, differentiate types, and plan treatment/referral.
Teacher's Role
• Provide cases, supervise, and guide decisions.

Students' Role
• Examine, classify, plan management/referral, and discuss.

1. Independent Pre-operative Patient Workup

Teaching-Learning Method:
Student conducts complete clinical evaluation, diagnosis confirmation, lab workup, anesthesia fitness, and obtains informed consent.
Assessment Method:
Mini-CEX (Clinical Evaluation Exercise) based on accuracy of diagnosis, history-taking, examination technique, and completeness of documentation.

2. Pre-operative Surgical Planning

Teaching-Learning Method:
Student independently outlines the surgical plan including incision type, repair technique (e.g., Lichtenstein hernioplasty), mesh size, and post-op orders.
Assessment Method:
Case-based discussion (CbD) and planning checklist reviewed and approved by faculty preoperatively.

3. Performance of Open Herniotomy or Herniorrhaphy (Pediatric or Minor Hernias)

Teaching-Learning Method:
Student performs the full surgical procedure under supervision—focus on sac isolation, high ligation, and closure in pediatric or uncomplicated hernias.
Assessment Method:
DOPS (Direct Observation of Procedural Skills) with assessment of surgical flow, tissue handling, and closure technique.

Experiential-Learning 29.4 : Management of abdominal wall herniae

Activity Details
• Students assess hernia cases, identify symptoms/complications, differentiate types, and plan treatment/referral.
Teacher's Role
• Provide cases, supervise, and guide.

Students' Role
• Examine, classify, plan, and discuss.
1. Independent Inguinal Hernioplasty (Mesh Repair)
Teaching-Learning Method:
Student executes all procedural steps including dissection of inguinal canal, hernial sac reduction, mesh placement, and closure under faculty observation.
Assessment Method:
OSATS (Objective Structured Assessment of Technical Skills) evaluating incision, dissection, mesh handling, suturing, and overall aseptic conduct.
2. Laparoscopic Hernia Repair (TEP/TAPP) under Supervision
Teaching-Learning Method:
Student performs laparoscopic hernia repair with guidance—port insertion, camera navigation, sac reduction, and mesh fixation in live patient setup.
Assessment Method:
Laparoscopic skill rubric and performance evaluation by operating faculty with real-time verbal feedback.

Experiential-Learning 29.5 : Management of abdominal wall herniae

Activity Details
• Students assess hernia cases, plan management, and practice procedures in simulations.
Teacher's Role
• Provide cases/models, supervise, and guide.
Students' Role
• Evaluate, plan, simulate, and discuss.

1. Independent Femoral/Umbilical/Ventral Hernia Repair

Teaching-Learning Method:
Student independently operates on less complex femoral or umbilical hernias, executing dissection, sac management, and closure/mesh repair.
Assessment Method:
Checklist-based evaluation of procedural accuracy, mesh placement, and anatomical restoration.

2. Post-operative Monitoring and Management

Teaching-Learning Method:
Student writes post-operative orders and monitors patient recovery, analgesia, wound status, and early complication management.
Assessment Method:
Mini-CEX on post-op care and SOAP-based chart note review by faculty.

3. Case Presentation and Reflective Summary

Teaching-Learning Method:
Student presents completed surgical cases in clinical meetings, discussing pre-op findings, intra-op steps, and post-op outcomes.
Assessment Method:
Scored case presentation using presentation quality and decision-making rationale rubric; faculty questions assess depth of understanding.

4. Maintenance of Surgical Logbook and Reflective Learning Notes

Teaching-Learning Method:
Student logs all procedures performed, personal reflections, and clinical insights into a structured surgical logbook.
Assessment Method:
Periodic faculty review of logbook for quality, completeness, and reflective depth; signed and commented upon.

5. Final Supervisory Feedback and Self-Assessment

Teaching-Learning Method:
One-on-one review session between student and supervising surgeon to discuss performance, confidence, and improvement areas.
Assessment Method:
360-degree feedback (from faculty, nurses, and peers) plus structured self-assessment form to build clinical maturity.

Experiential-Learning 29.6 : Management of abdominal wall anomalies and umbilical infections

Activity Details
• Students evaluate cases of abdominal wall anomalies/umbilical infections, plan surgery, perform steps under supervision, and discuss aftercare.

Teacher’s Role
• Provide cases, supervise, and guide reasoning.
Students’ Role
• Assess, plan, perform, and discuss care.
Congenital Anomalies and Umbilical Infections
Focus: Clinical evaluation and surgical management of congenital and infective umbilical conditions.
1. Clinical Evaluation of Congenital Abdominal Wall Anomalies
Teaching-Learning Method: Supervised Clinical Case Evaluation
Students will perform independent history-taking and examination for conditions like omphalocele, umbilical hernia, or urachal anomalies.
Assessment Method: Mini-CEX (Mini Clinical Evaluation Exercise)
2. Preoperative Planning and Consent for Surgical Correction
Teaching-Learning Method: Role-play and Real-time Counseling
Students will independently conduct pre-op planning, prepare consent forms, and counsel patients/guardians regarding the surgery.
Assessment Method: Checklist-based faculty feedback on communication and documentation
3. Surgical Management of Umbilical Infections (e.g., Omphalitis, Umbilical Abscess)
Teaching-Learning Method: Minor OT Procedure under Supervision
Students will perform procedures like incision and drainage or local wound care for umbilical infections, maintaining aseptic technique.
Assessment Method: Procedure checklist and logbook verification
4. Excision of Umbilical Sinus or Patent Urachus
Teaching-Learning Method: Independent Surgical Performance in OT
Students will excise sinus tracts or urachal remnants under close supervision, performing complete dissection and wound closure.
Assessment Method: DOPS (Directly Observed Procedural Skills) with immediate feedback

Experiential-Learning 29.7 : Management of abdominal wall sinuses and soft tissue neoplasms

Activity Details
• Students diagnose, excise abdominal wall sinuses/soft tissue neoplasms, and manage post-op care under supervision.
Teacher’s Role
• Provide patients, supervise, and guide care.
Students’ Role
• Diagnose, perform surgery, manage post-op, and discuss.
Abdominal Wall Sinuses and Neoplasms
Evaluation and surgical handling of sinuses and soft tissue tumors of the abdominal wall.

1. Identification and Management of Abdominal Wall Neoplasms
Teaching-Learning Method: Real Patient-Based Workup
Students will assess patients presenting with swellings (e.g., desmoid tumors, lipomas), order relevant investigations, and propose a management plan.
Assessment Method: *Case-based viva and diagnostic reasoning assessment*
2. Surgical Excision of Soft Tissue Tumors of Abdominal Wall
Teaching-Learning Method: Major OT Surgical Participation
Students will perform tumor excision with focus on achieving negative margins, under the guidance of a surgical faculty.
Assessment Method: *DOPS and intraoperative observation feedback*
3. Postoperative Care and Follow-up Protocol Implementation
Teaching-Learning Method: Ward-based Patient Management
Students will monitor the post-op patient daily, manage dressings and drains, and provide discharge instructions.
Assessment Method: *Checklist evaluation, daily rounds feedback, and logbook record*
4. Bedside Teaching – Case Documentation and Reflection
Teaching-Learning Method: Reflective Case Writing and Bedside Discussion
Students will maintain structured case records and write reflections on learning outcomes and challenges faced.
Assessment Method: *Review of logbook and reflective writing by faculty*

Experiential-Learning 29.8 : Management of abdominal wall conditions—including infections, synergistic gangrene, cutaneous fistulas, abdominal compartment syndrome, and neoplasms

Activity: Manage abdominal wall conditions (infections, gangrene, fistulas, compartment syndrome, neoplasms) via cases and simulations.
Teacher's Role: Supervise, guide interventions.
Students' Role: Evaluate, plan, manage, and present cases.
1. Clinical Assessment of Abdominal Wall Infections and Gangrene
The student independently performs history-taking and physical examination of patients with cellulitis, abscess, or synergistic gangrene of the abdominal wall, assesses severity, and presents the management plan for confirmation under faculty supervision.
2. Debridement of Infected Tissues
The student independently performs surgical debridement of necrotic tissue in cases of localized or spreading infection, following aseptic protocol, under direct supervision in the minor or major OT.
3. Placement and Management of Drains in Infected Areas
The student independently selects, inserts, and secures appropriate surgical drains in infected areas and monitors postoperative drainage and wound condition under supervision.
4. Evaluation and Management Planning for Cutaneous Fistulas

The student independently evaluates cases of cutaneous fistulas, investigates the underlying cause, plans further diagnostic imaging, and proposes a surgical or conservative line of management under faculty oversight.
5. Surgical Excision and Repair of Cutaneous Fistula
The student performs independent excision of the fistulous tract and carries out appropriate closure or repair technique, with the supervising surgeon providing guidance as needed.
6. Clinical Diagnosis of Abdominal Compartment Syndrome (ACS)
The student independently assesses emergency cases for signs and symptoms of ACS, measures intra-abdominal pressure when indicated, and proposes decompression surgery based on clinical judgment under supervision.
7. Surgical Decompression for Abdominal Compartment Syndrome
The student independently assists in or performs surgical decompression, such as laparostomy or fasciotomy, in confirmed ACS cases, following emergency protocols under senior supervision.
8. Diagnostic Workup and Planning for Abdominal Wall Neoplasms
The student independently evaluates patients with suspected abdominal wall neoplasms (e.g., desmoid tumor), interprets FNAC/imaging reports, and outlines a surgical plan emphasizing safe margins and tissue preservation, discussed with the supervisor.
9. Surgical Excision of Abdominal Wall Tumors
The student independently performs wide local excision of soft tissue tumors under supervision, ensuring oncologic safety, hemostasis, and appropriate wound closure techniques.
10. Postoperative Care and Discharge Planning
The student independently monitors the patient postoperatively, manages dressings and drains, detects early complications, and prepares discharge summaries with instructions for recurrence prevention and follow-up.
11. Reflective Case Documentation and Clinical Log Maintenance
The student independently documents each case in a structured format, including diagnosis, procedures performed, intraoperative findings, outcomes, and a reflective note on learning and areas of improvement, reviewed periodically by faculty.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment. 1. OSPE (Objective Structured Practical Examination) • A 5-station OSPE evaluates practical skills. Stations may include hernia model examination, identification of sac layers, instrument recognition (mesh, herniotomy set), post-op wound care checklist, and bandaging techniques for hydrocele.	4

• Each station is scored using a structured rubric (10 marks per station) covering technique, accuracy, communication, and hygiene. OR

2. DOAP (Demonstration–Observation–Assistance–Performance)
• DOAP sessions assess skills in clinical examination of inguinal hernia and umbilical anomalies.
• Students assist and later perform steps such as cough impulse test, reduction techniques, consent taking, and patient counseling.
• Each skill is assessed under domains like asepsis, anatomical knowledge, communication, and procedural technique.
• Two procedures are chosen and marked out of 25 each. OR

3. Mini-CEX (Mini Clinical Evaluation Exercise)
• Students are assessed in real-time during clinical interactions for cases of abdominal wall, umbilical sinus or ventral hernia.
• The evaluation covers patient approach, differential diagnosis, surgical planning, and communication.
• Scoring includes clinical judgment (10), procedural planning (10), professionalism (10), patient communication (10), and execution (10). OR

4. S-LAQ (Structured Long Answer Questions)
• Two LAQs focus on integrating Ayurvedic and surgical perspectives.
• For example, “Explain the Ayurvedic understanding and management of Antravriddhi with clinical correlation to abdominal hernia,” or “Enumerate the causes and surgical procedures for ventral hernias with recent laparoscopic advancements.”
• Each LAQ is marked for conceptual clarity (10), structure (10), and clinical relevance (5). OR

5. Case-Based Assessment (CBA) and DOPS
• CBA requires students to manage a complete case including hydrocele(Mutra Vridhi) or umbilical hernia – from diagnosis to post-op care – integrating Ayurvedic diagnosis (Vriddhi bheda), treatment decisions, and modern surgical knowledge.
• DOPS involves direct observation of specific skills such as hernia palpation, identifying signs of strangulation, or postoperative dressing.
• DOPS is also recorded in the Log Book for competency tracking. OR

6. Additional Assessment Tools
• Log Book: Maintains record of 10 patient evaluations, 2 surgical assistances, and DOPS entries for all three units.
• VV (Viva-Voce): Conducted on anatomical pathways, procedural steps, and differential diagnosis of complex hernias.
• OSCE: Clinical reasoning and management of complication scenarios – such as obstructed hernia, or infected umbilical sinus – in structured stations.
• SP (Simulated Patient): Used for training and assessing communication and pre-op counseling.
• 360-Degree Feedback: Faculty, OT staff, and peers evaluate professionalism, teamwork, and patient care during rotations.
• O-QZ: Online quizzes test factual recall of hernia classification, laparoscopic approaches, and syndromic associations (e.g., Ehlers-Danlos in hernia).

• CHK: Checklist-based knowledge mapping ensures students meet predefined competency markers across all units.

OR
Any practical in converted form can be taken for assessment (25 Marks) And
Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)

Module 30 : Vrishana Evam Vrishanakoshagat Vyadhi - The Testes and Scrotum

Module Learning Objectives
(At the end of the module, the students should be able to)

- Explain common conditions affecting the scrotum and testes, such as hydrocele, varicocele, epididymitis, orchitis, testicular torsion, and testicular cancer, including their pathophysiology and clinical presentation.
- Conduct a thorough clinical examination of the scrotum and testes, identifying abnormalities. Perform or assist in diagnostic procedures, including ultrasound, and provide conservative and surgical management or referral care- for conditions like hydrocele and other cysts, varicocele, torsion testes, testicular etc.
- Identify the signs and symptoms of urgent conditions, such as testicular torsion, and initiate timely intervention. Recognize the appropriate treatment options for scrotal and testicular conditions, including when surgical intervention is necessary.

M 30 Unit 1 Congenital anomalies

- Diagnosis and surgical Management of Congenital Anomalies -Ectopic testes and undescended testes
- Orchidectomy and Orchidopexy techniques.

References: 1,5,7,9,10,12,15,17,44,54,74

3A	3B	3C	3D	3E	3F	3G
CO1,CO8	Describe clinical presentation and surgical management of congenital anomalies of the testes like undescended testes, testicular torsion, ectopic testes.	1	Lecture	CC	Knows-how	L&GD,TBL,L,BL,

						L&PPT
CO1,CO4,CO6,CO7,CO8	Perform a clinical examination and recommend appropriate diagnostic investigations, including imaging and laboratory tests, for diagnosing congenital anomalies of the testes and scrotum.	2	Practical Training 30.1	PSY-GUD	Shows-how	SIM,CBL,RP,D-M
CO1,CO4,CO6,CO7,CO8	Demonstrate the ability to independently evaluate, diagnose, counsel, assist in surgical management, and provide postoperative care for patients with ectopic and undescended testes.	3	Experiential-Learning 30.1	PSY-ADT	Does	SIM,CBL,SDL,RLE,D-BED
CO1,CO8	Describe the clinical presentation, diagnostic approach, and surgical management of congenital anomalies of the testes, including undescended testes, testicular torsion, and ectopic testes.	1	Lecture	CC	Knows-how	CD,L&GD,L_VC,L&PPT
CO1,CO4,CO6,CO7,CO8	Perform a thorough clinical examination and recommend appropriate diagnostic investigations, including imaging and laboratory tests, for diagnosing congenital anomalies of the testes and scrotum.	2	Practical Training 30.2	PSY-GUD	Shows-how	SIM,D-M,CBL,RP,W
CO1,CO4,CO6,CO7,CO8	Demonstrate the ability to independently evaluate, plan, counsel, assist in performing, and manage postoperative care for patients undergoing orchidectomy or orchidopexy	3	Experiential-Learning 30.2	PSY-MEC	Shows-how	SIM,CBL,RLE,D-BED,SDL

M 30 Unit 2 Scrotal cysts

- Diagnosis and surgical Management of-
  - Hydrocele (Mutravridhi) surgical management with Vedhana karma and Eversion of sac
  - Retention cysts (Spermatocele and Sebaceous cyst), congenital cyst (Epididymal cyst and Hydatid cyst of Morgagni) and Tubercular epididymoorchitis.
  - Spermatocele, Chylocele, Pyocele, Haematocele and management through Bhedana karma (drainage)
  - Varicocele and management using high ligation method.

References: 1,5,7,8,9,10,12,15,17,41,44,54,74

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO8	Describe etiopathology, classification and surgical management of scrotal cysts - including Mutravridhi (Hydrocele) and its management with Vedhana karma (Eversion of sac)	1	Lecture	CAN	Knows-how	CD,L_VC,L&GD,L&PPT
CO1,CO4,CO6,CO7,CO8	Examine the scrotum, use diagnostic techniques like transillumination, and order appropriate imaging studies such as ultrasound to evaluate scrotal cysts and operate wherever required like Eversion of sac, Excision of sac in hydrocele, pyocele, chylocele and drainage in spermatocele, high ligation & different procedures in varicocele.	2	Practical Training 30.3	PSY-GUD	Shows-how	D,L_VC,TBL,D-M,SIM
CO1,CO4,CO6,CO7,CO8	Perform clinical evaluation, differentiate scrotal cysts including emergencies, interpret relevant imaging, plan and execute appropriate management including surgical excision, provide postoperative care integrating Ayurvedic and modern principles, and document and reflect on the entire clinical process.	4	Experiential-Learning 30.3	PSY-MEC	Does	D,RLE,CBL,RP,SIM
CO1,CO4,CO8	Describe etiopathology, classification and surgical management of scrotal cysts - including Retention cysts (Spermatocele and Sebaceous cyst), congenital cyst (Epididymal cyst and Hydatid cyst of Morgagni) and Tubercular epididymoorchitis.	1	Lecture	CS	Knows-how	L&GD,L_VC,L&PPT ,CD
CO1,CO4,CO8	Describe etiopathology, classification and surgical management of scrotal cysts - including Hydrocele, Spematocele, Chylocele, Pyocele, Haematocele and management through drainage	1	Lecture	CS	Knows-how	L_VC,L&PPT ,CD,L&GD
CO1,CO4,CO8	Describe etiopathology, classification and surgical management of scrotal cysts - including Varicocele and management using high ligation method.	1	Lecture	CS	Knows-how	L&PPT ,L&GD,CD,L_VC
CO1,CO4,CO6,CO7,CO8	Differentiate, and manage various scrotal and testicular cysts through clinical evaluation, interpretation of imaging, performance of minor surgical procedures, and application of postoperative care using both Ayurvedic and modern approaches.	2	Practical Training 30.4	PSY-GUD	Shows-how	D-M,SIM,TBL,CBL
CO1,CO4,CO6	Diagnose, and manage scrotal fluid collections such as Hydrocele, Pyocele, Chylocele,	2	Practical	PSY-	Shows-	SIM,CBL

,CO7,CO8	and Haematocele through clinical assessment, interpretation of investigations, performance of Bhedana Karma on simulators, and application of postoperative Ayurvedic wound care.		Training 30.5	GUD	how	,D-M
CO1,CO4,CO6 ,CO7,CO8	Perform clinical diagnosis, interpret investigations, plan and execute simulated surgical management of varicocele, and apply both Ayurvedic and modern postoperative care principles under supervision.	2	Practical Training 30.6	CAP	Shows-how	D-M,RP, SIM,CBL
CO1,CO4,CO6 ,CO7,CO8	Perform independently clinical evaluation, differentiate scrotal cysts including emergencies, interpret relevant imaging, plan and execute appropriate management including surgical excision, provide postoperative care integrating Ayurvedic and modern principles, and document and reflect on the entire clinical process.	3	Experiential-Learning 30.4	PSY-ADT	Shows-how	D,RLE,CBL
CO1,CO4,CO6 ,CO7,CO8	Perform clinical evaluation, differentiate scrotal cysts including emergencies, interpret relevant imaging, plan and execute appropriate management including surgical excision, provide postoperative care integrating Ayurvedic and modern principles, and document and reflect on the entire clinical process	3	Experiential-Learning 30.5	PSY-ADT	Shows-how	CBL,TBL ,SIM,RLE ,DIS

M 30 Unit 3 The Testes

- Clinical presentation, investigations, diagnosis and conservative and surgical Management of-
  - Torsion of testes,
  - Epididymo-orchitis.
  - Orchitis.
  - Testicular trauma,
  - Benign and malignant tumors of testes.
  - Diseases of Scrotum
    - Fourniers Gangrene etc.

References: 5,7,8,9,10,12,13,15,17,41,44,74

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO8	Describe clinical presentation, investigations, and diagnosis of torsion of testes,	1	Lecture	CC	Knows-	L&PPT ,P

	testicular trauma, Fournier’s gangrene, and benign and malignant tumours of the testes				how	ER,CD,L_VC,L&GD
CO1,CO4,CO5,CO6,CO7,CO8	Examine the scrotum and testes to identify acute and chronic pathologies, interpret diagnostic tools, and initiate or assist in conservative, surgical, or emergency management of torsion, trauma, Fournier’s gangrene, and testicular tumours.	2	Practical Training 30.7	PSY-GUD	Shows-how	D-M,CBL,RP,LRI,SIM
CO1,CO4,CO5,CO6,CO7,CO8	Identify the signs and symptoms of urgent testicular conditions and appropriate treatment options, including when surgical intervention is required.	4	Experiential-Learning 30.6	PSY-ADT	Does	SDL,RLE,RP,DIS,CBL
CO1,CO4,CO8	Describe the clinical presentation, investigations, diagnosis of Torsion of testes, testicular trauma, Fournier’s gangrene, benign and malignant tumours of testes	1	Lecture	CC	Knows-how	L&GD,L_VC,CD,L&PPT
CO1,CO4,CO8	Describe conservative and surgical management of torsion of testes, testicular trauma, Fournier’s gangrene, benign and malignant tumours of testes.	1	Lecture	CAP	Knows-how	L&PPT ,CD,L_VC,L&GD
CO1,CO4,CO8	Describe conservative and surgical management of torsion of testes, testicular trauma, Fournier’s gangrene, benign and malignant tumours of testes.	1	Lecture	CAP	Knows-how	L&GD,L_VC,CBL,PER,L&PPT
CO1,CO4,CO6,CO7,CO8	Perform examination systematically the scrotum and testes, accurately identify clinical signs of acute and chronic pathologies, interpret relevant diagnostic tools (e.g., ultrasound), and independently initiate or assist in the appropriate conservative, surgical, or emergency management of conditions such as testicular torsion, trauma, Fournier’s gangrene, and testicular tumors.	2	Practical Training 30.8	PSY-GUD	Shows-how	CBL,D-M,RP,SDL,SIM
CO1,CO4,CO6,CO7,CO8	Perform examination of the scrotum and testes, identify clinical signs of acute and chronic pathologies, interpret relevant diagnostic tools (e.g., ultrasound), and independently initiate or assist in the appropriate conservative, surgical, or emergency	2	Practical Training 30.9	PSY-GUD	Shows-how	SDL,DIS,CBL,RP,PAL

	management of conditions such as testicular torsion, trauma, Fournier's gangrene, and testicular tumors.					
CO1,CO4,CO6 ,CO7,CO8	Conduct systematic examination of the scrotum and testes, interpret diagnostic investigations, and participate in the management of torsion, trauma, Fournier's gangrene, and testicular tumours, including creating a diagnostic and management profile.	2	Practical Training 30.1 0	PSY-GUD	Shows-how	PER,DIS, RP,D-M,SDL
CO1,CO4,CO6 ,CO7,CO8	Diagnose and manage benign testicular tumors, blending traditional surgical principles with modern urological practices.	3	Experiential-Learning 30. 7	PSY-GUD	Shows-how	RLE,SDL ,LRI,CBL ,RP
CO1,CO4,CO6 ,CO7,CO8	Assist oncologic testicular surgery, from initial presentation to long-term care, enhancing their confidence, surgical skills, and clinical decision-making.	3	Experiential-Learning 30. 8	PSY-GUD	Shows-how	TBL,RLE ,CBL,SD L,LRI

Practical Training Activity

Practical Training 30.1 : Congenital anamalies of scrotum and testes-diganostic and management profile

Activity Details
• Teacher demonstrates stepwise clinical exam for congenital anomalies of testes/scrotum.
• Students practice examination under supervision.
• Teacher leads discussion on selecting imaging and lab investigations.
Teacher's Role
• Demonstrate full examination technique.
• Guide and correct student practice.
• Explain rationale for investigations.
Students' Role
• Perform examination steps with supervision.
• Note key findings.
• Suggest appropriate investigations in discussion.
1. Clinical Case-Based Discussion (CBDE) – Diagnosis of Ectopic Testis
Students analyze a simulated case of a child with undescended testis, go through structured history-taking, examination, differential diagnosis (distinguishing ectopic from

retractile and undescended testis), and interpret relevant investigations like ultrasonography and hormonal tests.
2. Demonstration on Pelvic and Scrotal Models – Palpation Techniques
Faculty demonstrates palpation methods on high-fidelity pelvic models to locate ectopic testes in common locations (suprapubic, femoral, perineal). Students then practice identifying anatomical landmarks and simulate bimanual examination techniques.
3. Video Demonstration and Stepwise Breakdown of Diagnostic Process
Students watch a surgical video of orchidopexy for ectopic testis with pausing at key steps. The instructor explains each phase—incision, dissection, mobilization, and scrotal fixation—supplemented by anatomical diagrams and models.
4. Hands-On Practice – Orchidopexy on Surgical Simulators
Students perform orchidopexy independently on surgical task trainers or mannequins under supervision. They practice surgical steps including tissue handling, suture placement, mobilization of the testis, and maintaining hemostasis.
5. Role Play – Patient/Guardian Communication and Consent
In role-play format, students simulate a clinical setting where they communicate the diagnosis and explain the surgery to the guardian of a child. Emphasis is placed on building trust, empathetic communication, and ensuring informed consent.

Practical Training 30.2 : Congenital anamalies of scrotum and testes-diganostic and management profile

Activity Details
• Demo of clinical exam for congenital anomalies of testes/scrotum.
• Students practice exam and suggest imaging/lab tests.
Teacher’s Role
• Demonstrate exam, guide on investigations, supervise practice.
Students’ Role
• Perform exam, interpret findings, recommend diagnostics.
1. Case-Based Clinical Discussion: Identifying Undescended Testis
Students analyze a structured case of a child with suspected undescended testis. They independently interpret clinical history, differentiate palpable vs. non-palpable testes, and distinguish undescended from retractile and ectopic testis under guided discussion.
2. Demonstration and Practice on Pediatric Pelvic Models: Testicular Palpation
Faculty demonstrate standard testicular palpation methods (including cross-leg and warm-hand techniques) on pediatric models. Students then independently practice these techniques under supervision, focusing on anatomical accuracy.
3. Imaging Interpretation Workshop: Role of Ultrasound in Diagnosis
Students interpret ultrasound images showing inguinal or abdominal testes using anatomical overlays. They identify key findings independently, supported by peer discussion and guided faculty input.
4. Video Demonstration: Laparoscopic and Open Orchiopexy

Students observe surgical videos of laparoscopic and open orchiopexy with stepwise faculty explanation of anatomy, surgical approach, and decision-making based on testicular location.
5. Simulation-Based Surgical Practice: Orchiopexy on Task Trainers
Students perform orchiopexy on task trainers or laparoscopic simulators. Under direct supervision, they carry out all steps—incision, mobilization, creation of subdartos pouch, and testicular fixation.
6. Role Play: Explaining the Procedure and Obtaining Consent
Through role-play with standardized guardians, students independently explain the diagnosis, surgical plan, risks, and expected outcomes, building skills in informed consent and parental communication.

Practical Training 30.3 : Scrotal Cysts - Dignostic evaluation and management outline

Activity Details
• Demo of scrotal exam, transillumination, and imaging use.
• Students practice exam and propose investigations.
• Demo of operative steps (drainage, high ligation) on model/patient.
Teacher's Role
• Demonstrate, supervise, and correct techniques.
Students' Role
• Perform exam, suggest imaging, practice operative steps.
1. Clinical Diagnosis and Indications
Students begin by learning the clinical identification of hydrocoele through simulated patient assessments using anatomical models. They practice key examination techniques such as fluctuation, transillumination, and differentiation from other scrotal swellings. This is followed by small-group discussions using case vignettes to understand indications for Vedhana Karma or surgical intervention, integrating both Ayurvedic and modern clinical decision-making principles.
2. Vedhana Karma Demonstration and Practice
A step-by-step demonstration of Vedhana Karma is provided using patients / synthetic or animal models. Students observe the process, then perform the procedure under supervision, focusing on sterile technique, needle handling, and procedural precision in alignment with Ayurvedic guidelines.
3. Surgical Technique and Simulation
Students observe and then practice the eversion of the sac technique (e.g., Jaboulay's procedure) on patients/ simulators or cadaveric specimens, covering incision, dissection, eversion, and closure. Simulation scenarios present intraoperative challenges like infection or thick sac walls, where students are encouraged to make context-based decisions under faculty guidance.
4. Postoperative Management and Reflection
Postoperative care including scrotal dressing, drain management, and Ayurvedic protocols is taught using mannequins or task trainers. The session concludes with a structured reflective debrief where students evaluate their skills, receive faculty feedback, and document learning points in personal reflection logs.

Practical Training 30.4 : Clinical understanding of Scrotal and Tesetcular cysts

Activity Details

- Clinical Differentiation and Management of Scrotal and Testicular Cysts
- Demo of exam, imaging use, minor surgical steps, and postop care (Ayurvedic + modern).
- Students practice exam, interpretation, and selected procedures under supervision.

Teacher’s Role

- Demonstrate, guide, and correct.

Students’ Role

- Perform exam, interpret imaging, practice procedures, and apply postop care.

1. Clinical Examination and Imaging Correlation
Students perform focused physical examinations—inspection, palpation, and transillumination—on simulated models to identify cystic swellings such as spermatoceles and sebaceous cysts. This is followed by interpreting ultrasound and Doppler images to correlate clinical findings with diagnoses like epididymal or hydatid cysts.
2. Management Strategies: Ayurvedic and Modern Perspectives
Through interactive case discussions, students learn to plan medical or surgical management for various cysts, incorporating both Ayurvedic and contemporary principles. Special focus is given to conditions like tubercular epididymoorchitis and decision-making for aspiration, excision, or conservative care.
3. Surgical Skills Training and Simulation
Students observe and practice cyst excision techniques on synthetic models, emphasizing safe dissection and suturing. They also engage in simulated management of tubercular infections, including FNAC protocols and surgical planning under guided supervision.
4. Postoperative Care and Clinical Documentation
Training concludes with hands-on practice of wound dressing and Ayurvedic aftercare methods like prakshalana. Students document operative notes and discharge plans, blending both traditional and modern follow-up care, followed by peer review for feedback and improvement.

Practical Training 30.5 : Diagnosis and Management of Scrotal Fluid Collections

Activity Details : Diagnosis and Management of Scrotal Fluid Collections
• Demo of assessment, investigations, Bhedana Karma on simulators, and postop Ayurvedic care.
• Students practice exam, interpretation, procedure, and care under supervision.
Teacher's Role
• Demonstrate, guide, and correct.
Students' Role
• Examine, interpret, perform procedure, and apply care.
1. Clinical Examination and Investigation Interpretation
Students perform detailed clinical examinations on simulated scrotal models to differentiate spermatocele, chylocele, pyocele, and haematocele using transillumination, palpation, and fluctuation tests. They then review ultrasound, FNAC, and hematological reports to confirm diagnoses and correlate with clinical findings.
2. Demonstration and Performance of Bhedana Karma
Faculty demonstrate Bhedana Karma (incision and drainage) for Hydrocele, Pyocele, Chylocele, and Haematocele using anatomical simulators. Students then independently perform the procedure under supervision, focusing on aseptic technique, incision accuracy, fluid drainage, and wound care.
3. Post-Drainage Wound Care and Ayurvedic Integration
Students learn postoperative wound management, including Ayurvedic practices such as Triphala Kashaya Prakshalana and Jatyadi Taila application. Emphasis is placed on infection control, correct dressing methods, and explanation of care instructions.
4. Documentation and Reflective Practice
After completing the procedure, students document clinical notes including diagnosis, technique used, and aftercare plan. They also compose a reflective log to consolidate learning, with faculty providing feedback on both documentation and clinical performance.

Practical Training 30.6 : Varicocele Diagnosis and Operative Techniques

Activity Details : Diagnosis and Management of Varicocele
• Demo of clinical diagnosis, investigations, and simulated varicocele surgery.
• Students practice diagnostic steps, plan management, perform simulation, and apply Ayurvedic + modern postop care.
Teacher's Role
• Demonstrate diagnosis, simulation steps, and care.
• Supervise and correct student practice.
Students' Role
• Perform diagnosis, interpret findings, execute simulated surgery, and apply care.
1. Clinical Diagnosis of Varicocele

Students practice physical examination techniques on simulated groin-scrotal models to identify varicocele. They perform inspection, scrotal palpation, and the Valsalva maneuver to elicit the characteristic “bag of worms” feel and confirm diagnosis.
2. Interpretation of Diagnostic Tools (Doppler and Grading)
Students analyze Doppler ultrasound findings to identify dilated pampiniform plexus veins. They learn to classify varicocele into Grade I–III based on vein diameter, reflux, and clinical presentation, correlating imaging with clinical findings.
3. Surgical Planning and Indication Justification
Using structured clinical scenarios, students discuss indications for surgical intervention (e.g., high ligation via Palomo’s technique) versus conservative treatment. Ayurvedic reasoning based on Vata Dushti and Shotha Chikitsa is integrated with modern decision-making.
4. Demonstration and Student-Assisted High Ligation
Faculty demonstrates stepwise high ligation surgery on anatomical simulators, including incision, testicular vein identification, and ligation. Students perform each step under supervision, reinforcing anatomical orientation, dissection skills, and closure techniques.
5. Postoperative Management and Ayurvedic Protocols
Students simulate postoperative management including hygiene, pain control, activity restriction, and use of Ayurvedic medicines for wound healing. Emphasis is placed on holistic care and integration of traditional and modern protocols.
6. Operative Note Writing and Reflective Debrief
Students draft detailed operative notes including clinical findings, steps of the procedure, and postoperative plans. They engage in reflective discussions with faculty to share insights and challenges from the hands-on learning experience.

Practical Training 30.7 : Dignostic and management profile - Surgical conditions of Testes

Activity Details
• Demo of scrotal/testicular exam and diagnostics.
• Students practice exam, interpret findings.
• Demo of management for torsion, trauma, Fournier’s gangrene, tumours on models/cases.
Teacher’s Role
• Demonstrate, supervise, and guide management steps.
Students’ Role
• Perform exam, interpret results, practice management under guidance.
1. Simulated History-Taking and Clinical Examination
Students perform structured history-taking and physical examination on standardized patients or mannequins simulating acute scrotal conditions.
2. Simulation of Emergency Scrotal Examination
Hands-on practice of scrotal examination techniques—transillumination, cremasteric reflex testing, Prehn’s sign—on patients / anatomical models.
3. Interpretation of Diagnostic Investigations

Students interpret ultrasound Doppler images and lab reports to distinguish torsion from trauma, hydrocele, or epididymitis.
4. Surgical Steps for Detorsion and Orchidopexy on Simulators
Demonstration followed by student practice of surgical detorsion, fixation of testis, and exploration techniques on scrotal surgery simulators / patients.
5. Demonstration of Testicular Trauma Management
Students practice surgical exploration, hematoma evacuation, and tunica albuginea repair in patients / using synthetic tissue models or simulation software.
6. Conservative Management Planning and Documentation
Students prepare a treatment plan for minor trauma cases and subacute torsion including Ayurvedic modalities (e.g., Shotha hara, lepa, basti).
7. Team-based Simulation of Emergency Response
Scenario-based simulation of emergency handling—patient triage, quick diagnosis, surgical consent, and OR preparation.

Practical Training 30.8 : Dignostic and management profile - Surgical conditions of Testes

1. Simulated Case Scenario: Clinical Presentation & History-Taking
Students engage in a role-play scenario or simulation module showing early and advanced signs of Fournier's Gangrene. They perform focused history-taking and initial triage evaluation.
2. Physical Examination and Local Assessment on Models
Using anatomical models or mannequins with simulated gangrenous changes, students learn and perform step-wise local examination—palpation, odor recognition, demarcation of necrosis, and crepitus.
3. Interpretation of Investigations
Students review and interpret lab findings (e.g., leukocytosis, CRP), imaging (CT/MRI for extent), and culture reports in pre-designed case vignettes.
4. Simulation of Initial Resuscitation and Medical Management
Students are trained to initiate fluid resuscitation, administer broad-spectrum antibiotics, and prepare for surgical debridement using a simulation-based emergency setup.
5. Surgical Debridement Technique on Simulation Models:
Students assist and perform mock surgical debridement on patints / synthetic models representing necrotic scrotal tissue. Emphasis is placed on extent, layers, and margins of excision.
6. Wound Care, Ayurvedic Supportive Therapies, and Dressing Techniques
Students practice dressing techniques incorporating Ayurvedic principles—e.g., application of Triphala Kashaya Prakshalana, Jatyadi taila, and oral Rasayana support for tissue healing.
7. Documentation and Reflective Learning:
Students complete a mock operative note and submit a brief reflection outlining their decision-making process, management priorities, and integrative approach.

Practical Training 30.9 : Dignostic and management profile - Surgical conditions of Testes

Activity Details
• Demo of scrotal/testicular exam, ultrasound use, and management of torsion, trauma, Fournier’s gangrene, tumors on models/cases.
• Students practice exam, interpretation, and management steps under supervision.
Teacher’s Role
• Demonstrate, guide, correct.
Students’ Role
• Perform exam, interpret, and practice management.
1. Clinical Presentation and History-Taking Simulation
Students interact with standardized patients or case vignettes simulating testicular swelling, painlessness, and gradual onset—hallmarks of benign testicular tumors (e.g., Leydig cell tumor, dermoid cyst).
2. Physical Examination of Scrotal Mass Using Simulators
Students perform palpation techniques to differentiate intra- from extra-testicular masses using scrotal models or mannequins simulating testicular swellings..
3. Interpretation of Imaging and Laboratory Results
Students review ultrasound, tumor markers (AFP, ?-hCG, LDH), and FNAC/biopsy results to distinguish benign from malignant lesions through guided group discussion.
4. Surgical Planning and Simulation of Testis-Sparing Surgery
Students assist and simulate the steps of testis-sparing surgery (enucleation or local excision) on synthetic models, learning incision, exposure, tumor excision, and tissue preservation.
5. Conservative Management and Integrative Planning
Students prepare a management plan for benign cases that do not require surgery, integrating Ayurvedic therapies (e.g., Lekhana basti, Shotha-hara chikitsa) and follow-up protocols.
6. Postoperative Care and Counseling Practice
Students practice postoperative monitoring, wound care, and patient counseling for recurrence prevention and fertility considerations using role-play and dressing simulators.
7. Operative Note Writing and Case Reflection
Students draft an operative note and submit a structured reflection on the clinical reasoning, surgical steps, and decision-making involved.

Practical Training 30.10 : Dignostic and management profile - Surgical conditions of Testes

Activity Details
• Demo of exam, investigations, and management of torsion, trauma, Fournier’s gangrene, tumours on models/cases.
• Students practice exam, interpret results, and draft diagnostic/management profiles.
Teacher’s Role

• Demonstrate, guide, and correct.
Students' Role
• Perform exam, interpret, profile, and practice management.
1. Simulated Case-Based History-Taking and Clinical Presentation
Students interact with standardized case vignettes or simulation mannequins presenting with classical signs of testicular malignancy—painless lump, rapid growth, or gynecomastia.
2. Physical Examination on Scrotal Models
Students practice examining simulated scrotal models with embedded testicular masses to detect firmness, nodularity, and non-transilluminating swellings..
3. Diagnostic Workup and Staging Exercises
Students interpret ultrasound images, tumor marker results (AFP, ?-hCG, LDH), and CT scans for retroperitoneal lymph node involvement in small group tasks.
4. Simulated Radical Inguinal Orchiectomy
Using surgical simulators or organ models, students assist in performing a step-wise simulation of radical inguinal orchiectomy—highlighting cord clamping, tissue handling, and incision technique.
5. Postoperative and Adjuvant Management Planning
Students discuss postoperative steps and adjuvant options (chemotherapy/radiotherapy) in a mock tumor board format.
6. Counseling and Communication Role-Play
Role-play sessions are used for patient counseling on diagnosis, fertility issues (sperm preservation), prosthesis, and long-term prognosis.
7. Surgical Note Writing and Reflection
Students document the surgical steps, intraoperative findings, and postoperative plan based on simulated experience.

Experiential learning Activity

Experiential-Learning 30.1 : Congenital anomalies of Scrotum and Testes - Identify and manage emergencies

Activity Details
• Students evaluate, diagnose, counsel, assist surgery, and provide supervised postoperative care for ectopic/undescended testes.
Teacher's Role
• Provide patients, ensure supervision, guide key steps.
Students' Role
• Perform evaluation, counselling, surgical assistance, and postop care; share reflections
1. Clinical Evaluation of Ectopic and Undescended Testes
Students independently elicit detailed history and perform focused clinical examination on pediatric patients presenting with scrotal anomalies. They are trained to identify and differentiate ectopic testis, undescended testis, and other conditions through palpation and anatomical landmarks, enhancing their diagnostic clinical competence.

Teaching-Learning Method: Supervised clinical case handling in outpatient and inpatient departments.
2. Diagnostic Workup and Imaging Interpretation
Students review imaging investigations such as ultrasonography or MRI, correlate the findings with clinical examination, and formulate a diagnostic impression and provisional management plan. This activity supports integration of clinical and radiological data, a vital skill in surgical diagnosis.
Teaching-Learning Method: Case-based interpretation and guided discussion on actual patient reports.
3. Preoperative Counseling and Consent
Students interact directly with patients' guardians to provide preoperative counseling. They explain the nature of the condition, surgical plan (e.g., orchidopexy), potential risks, and postoperative care requirements. Informed consent is obtained under supervision. This activity emphasizes communication and ethical practice.
Teaching-Learning Method: Real-life counseling sessions with supervision and guided feedback.
4. OT Protocol Adherence and Surgical Preparation
Students are actively involved in preoperative preparation, including OT protocols such as hand scrubbing, sterile gowning, patient positioning, and surgical tray arrangement. This ensures understanding of aseptic techniques and coordination within the surgical team.
Teaching-Learning Method: Supervised participation in operating theatre preparation and surgical team briefings.
5. Surgical Skill Development in Orchidopexy
During orchidopexy, students assist and, based on their competency level, perform selected surgical steps like incision, mobilization of the testis, and fixation to the scrotum. This hands-on involvement fosters practical surgical skill development under expert guidance.
Teaching-Learning Method: Supervised surgical participation with progressive responsibility in surgical steps.
6. Postoperative Care and Documentation
Students manage the immediate postoperative care, including monitoring of vitals, wound assessment, medication administration, and guiding parents regarding home care. They also document progress and discharge summaries, reinforcing continuity of care and clinical record-keeping.
Teaching-Learning Method: Real-time bedside management with faculty supervision and instruction
7. Case-Based Presentation and Reflective Learning
After completing the case, students present it in a clinical or academic forum, detailing each phase from diagnosis to outcome. They reflect on their learning experiences, identify challenges faced, and engage in interactive peer discussions. This supports reflective and lifelong learning.
Teaching-Learning Method: Structured case presentation and reflective discussion moderated by faculty.

Experiential-Learning 30.2 : Orchidectomy and Orchodopexy

Activity Details
• Students begin with patient evaluation, performing a thorough clinical history and examination to confirm suitability for orchidectomy or orchidopexy.
• In small groups, they plan treatment, including choice of procedure, patient counselling, and consent-taking.
• Under faculty supervision, students assist in the surgical steps of orchidectomy/orchidopexy, learning safe handling of instruments and tissue.
• Postoperatively, students monitor vitals, manage pain, dress wounds, and advise on activity, hygiene, and follow-up.

• Each group documents the case, highlighting evaluation, surgical assistance, postoperative care, and reflections on clinical learning.
Teacher's Role
• Assign patients and provide pre-operative briefing.
• Supervise student-led evaluation, counselling, and consent process.
• Guide during intraoperative assistance and correct technical errors.
• Oversee postoperative care, ensuring safe and holistic management.
• Facilitate reflective discussion at the end of the activity.
Students' Role
• Evaluate patients independently and plan management approach.
• Counsel patients and families, ensuring clarity and empathy.
• Assist surgical team during orchidectomy/orchidopexy, practicing aseptic technique and instrument handling.
• Deliver postoperative care, including wound dressing, monitoring, and patient education.
• Record and reflect on the complete clinical process for group discussion.

Experiential-Learning 30.3 : Diagnosis and Surgical Management of Scrotal Cysts

Activity Details
• Students evaluate and differentiate scrotal cysts, including emergencies.
• Interpret imaging, plan and execute management (surgical excision where indicated).
• Provide postoperative care integrating Ayurvedic + modern principles.
• Document and reflect on clinical process in group sharing.
Teacher's Role
• Provide patient cases, ensure safety and supervision.
• Guide during surgery and postoperative integration.
Students' Role
• Perform evaluation, imaging interpretation, and management.
• Deliver supervised postop care with integrative approach.
• Document and present reflections.

Experiential-Learning 30.4 : Diagnosis and Surgical Management of Scrotal Cysts

Activity Details
• Students evaluate and differentiate scrotal cysts (including emergencies).

• Interpret imaging, plan and execute management with surgical excision where required.
• Provide postop care integrating Ayurvedic + modern principles.
• Document and reflect on full clinical process in groups.
Teacher's Role
• Provide patients/cases, ensure safety, guide during surgery and postop.
Students' Role
• Perform evaluation, interpretation, management, and postop care.
• Record and reflect on outcomes, share in discussion.

Experiential-Learning 30.5 : Diagnosis and Surgical Management of Scrotal Cysts

Activity Details
• Students begin with detailed clinical evaluation of patients presenting with scrotal cysts (spermatocele, hydrocele, pyocele, haematocele), differentiating emergencies like pyocele or torsion with prompt recognition.
• Each group interprets imaging (ultrasound, Doppler) and relevant investigations, correlating findings with clinical features.
• Students then design a management plan, selecting conservative, Ayurvedic, or surgical options as appropriate. Under supervision, they assist and practice simulated or real surgical excision.
• Postoperative care is carried out, combining Ayurvedic wound care (Ghrita, Madhu, lepa) with modern principles (asepsis, antibiotics, pain management). Students provide patient counselling and follow-up instructions.
• Finally, each student documents the full clinical process—diagnosis, decision-making, management steps, and outcomes—and presents reflections in small group discussions to encourage critical thinking.
Teacher's Role
• Provide clinical cases and simulation models where required.
• Supervise evaluation, ensure safe performance of surgical steps, and correct errors in real time.
• Guide integration of Ayurvedic and modern principles in postoperative care.
• Facilitate reflective discussion and feedback on student documentation.
Students' Role
• Independently perform clinical evaluation and differential diagnosis.
• Interpret investigations and imaging accurately.
• Plan and execute management, assisting/performing surgical excision under supervision.
• Deliver integrative postoperative care and counsel patients.
• Document the case and actively participate in reflective group discussions.

Experiential-Learning 30.6 : Recognize and manage surgical emergencies of Testecular conditions

Activity Details
• Students analyze urgent testicular cases, identify signs, choose conservative or surgical treatment, and present plans.
Teacher's Role
• Provide cases, supervise, ensure correct decisions.
Students' Role
• Recognize urgency, select treatment, justify surgery when needed.
Management of Acute Scrotal Emergencies
1. Independent History-Taking and Clinical Examination
Students independently elicit focused histories and perform detailed physical examinations on patients presenting with acute scrotal pain or swelling—assessing signs such as high-riding testis, absent cremasteric reflex, crepitus, and skin changes suggestive of necrotizing infections.
2. Diagnostic Investigation and Interpretation
Teaching-Learning Method:
Students independently order and interpret relevant investigations—Doppler ultrasonography, urinalysis, CBC, renal profile, blood cultures, and imaging (CT scan/USG)—correlating findings with clinical suspicion of torsion, trauma, or infection.
3. Diagnosis, Risk Stratification, and Management Planning
Teaching-Learning Method:
Using tools like the LRINEC score and clinical judgment, students formulate diagnosis and comprehensive treatment plans including conservative or surgical management of torsion/testicular trauma and emergency response for Fournier's gangrene.
4. Emergency Resuscitation and Preoperative Preparation
Teaching-Learning Method:
Students perform emergency tasks—IV access, fluid resuscitation, catheterization, antibiotic initiation, and surgical preparation—in real-time under faculty supervision.
5. Performing Emergency Surgery (Detorsion / Debridement)
Teaching-Learning Method:
In operation theatres, students assist and progressively perform procedures like scrotal exploration with detorsion or surgical debridement of necrotic tissue, ensuring sterility and operative safety.
6. Postoperative Management and Follow-Up Care
Teaching-Learning Method:
Students manage the entire postoperative course: pain control, dressing, antibiotics, wound care, nutrition, and planning for fertility counseling or reconstructive surgery.
7. Counseling and Communication Skills
Teaching-Learning Method:

Students engage in simulated and real patient/family counseling sessions, addressing diagnosis, prognosis, treatment steps, risks, and outcomes with empathy and clarity.
8. Reflective Case Summary and Presentation
Teaching-Learning Method:
Each student compiles a reflective case log covering diagnostic reasoning, clinical decisions, ethical concerns, surgical challenges, and learning takeaways, followed by structured case presentations to peers.

Experiential-Learning 30.7 : Management of testecular tumors

Activity Details
• Students evaluate and diagnose benign testicular tumours in clinical setting.
• Plan and assist in management, applying traditional surgical principles with modern urology.
• Provide postop care and present reflections.
Teacher's Role
• Provide cases, supervise diagnosis and surgical steps, guide integration.
Students' Role
• Perform evaluation, plan management, assist surgery, deliver postop care, and reflect.
1. Independent Clinical Evaluation
Students independently take patient history (onset, progression, pain, systemic symptoms) and perform physical examination to assess scrotal mass characteristics (size, consistency, transillumination).
2. Ordering and Interpretation of Diagnostic Investigations
Students independently order scrotal ultrasonography, tumor markers (e.g., AFP, beta-hCG, LDH), and blood tests to confirm benign nature.
3. Formulation of Differential Diagnosis and Treatment Plan
Students formulate differentials (e.g., epidermoid cyst, Leydig cell tumor, simple cyst) and decide between observation or surgical excision depending on findings.
4. Preoperative Preparation and Consent Process
Students independently prepare the patient for surgery including counseling, informed consent, pre-op investigations, and anesthetic planning.
5. Surgical Excision (Testis-Sparing Surgery) Under Supervision
In the operating room, students perform or assist in tumor excision or enucleation under supervision, maintaining proper tissue handling and hemostasis.
6. Postoperative Management and Histopathology Follow-up
Students manage pain, monitor recovery, interpret histopathology reports, and plan follow-up accordingly (watchful waiting vs further surgery).
7. Patient Education and Lifestyle Advice
Students provide discharge counseling on testicular self-examination, fertility concerns, and recurrence monitoring.
8. Reflective Learning and Case Presentation
Students compile a case report with reflection on diagnostic reasoning, treatment decision, surgical learning, and patient communication.

Experiential-Learning 30.8 : Managementof malignant testecular tumors

Activity Details
• Students begin with history-taking and examination of patients presenting with suspected testicular malignancy, learning to identify warning signs and staging clues.
• They interpret relevant diagnostics such as ultrasound, tumour markers, and CT imaging under supervision, preparing a preliminary clinical profile.
• In the operative setting, students assist in orchiectomy or related oncologic procedures, gaining confidence in aseptic technique, tissue handling, and stepwise surgical flow.
• Postoperatively, they participate in wound care, pain management, and counselling, addressing both physical recovery and psychological support.
• Students also contribute to long-term care planning, including follow-up investigations, chemotherapy or radiotherapy referrals, and lifestyle guidance.
• Each group maintains a case logbook, documenting clinical presentation, decisions, surgical role, postoperative outcomes, and reflections on skills gained and challenges faced.
Teacher's Role
• Provide real-world cases for longitudinal exposure.
• Supervise at all stages: diagnostic workup, intraoperative assistance, and postoperative care.
• Ensure safe student involvement and highlight integration of modern oncologic protocols with holistic patient care.
• Facilitate reflective group discussions on decision-making and ethical aspects of cancer care.
Students' Role
• Actively perform history-taking, clinical exam, and interpretation of diagnostic results.
• Assist during oncologic surgery with emphasis on safety and precision.
• Deliver supervised postoperative care and counsel patients empathetically.
• Engage in planning long-term follow-up, documenting and reflecting on the entire clinical process.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 50 marks. Keep structured marking pattern. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Select any one or two methods for the assessment. Assessment Methods Used: CL-PR, S-LAQ, DOAP, DOPS, Mini-CEX, OSCE, Log Book 1. ABQ (Application Based Questions) • Application Based Questions are designed to assess clinical reasoning through real-life surgical case scenarios involving conditions such as undescended testes, hydrocele (Mutravridhi), testicular torsion, Fournier's gangrene, and testicular malignancies. • Each ABQ integrates diagnostic interpretation, Ayurvedic and modern surgical decision-making, and pre/postoperative planning.	4

• Students will answer three ABQs—each carrying 8–9 marks—covering distinct units: congenital anomalies (e.g., approach to undescended testes), scrotal cysts (e.g., management of hydrocele with Ayurvedic context), and testicular disorders (e.g., testicular torsion or neoplasia).
• These questions test the student's ability to apply Shalya Tantra concepts to contemporary clinical settings, totaling 25 marks. OR

2. LAQ (Long Answer Questions)
• One structured long answer question (10 marks) assesses comprehensive and integrative understanding of a major topic. Questions may include "Management of Hydrocele (Mutravridhi) with reference to Vedhana Karma and eversion technique" or "Approach to a patient with testicular torsion."
• The answer is evaluated based on depth of content, clarity in expression, conceptual integration between Ayurvedic principles and modern surgical rationale, and clinical correlation.
• This method ensures that students articulate their theoretical understanding in a structured, detailed, and relevant clinical manner. OR

3. SAQ (Short Answer Questions)
• To evaluate factual knowledge and focused conceptual clarity, students answer five short answer questions.
• Topics include: identification and types of scrotal cysts, steps of orchidopexy, clinical features of Fournier's gangrene, differential diagnosis of scrotal swellings, and brief on desmoid tumors of the abdominal wall (interlinked with abdominal pathologies).
• This section ensures rapid recall and precision in foundational concepts and surgical facts. OR

4. OSCE (Objective Structured Clinical Examination) / Spotters
• Five structured OSCE or spot stations are conducted, each carrying 2 marks, to evaluate visual interpretation, procedural planning, and communication.
• Stations include interpretation of Doppler imaging in testicular torsion, identification of surgical instruments used in scrotal surgeries (e.g., hydrocele surgery), outlining the steps of high ligation for varicocele, patient counseling for suspected testicular malignancy, and recognition of Fournier's gangrene with emergency planning.
• This format emphasizes objectivity, visual acuity, decision-making, and communication under timed conditions, totaling 10 marks. OR

5. Continuous and Supportive Assessments (Non-Marked but Mandatory)
• To ensure consistent clinical exposure and formative learning, students are engaged in multiple continuous assessments:
• Mini-CEX is used to evaluate student performance in real-time scenarios during OPD consultations, inpatient care, or in the operation theatre.
• DOAP and DOPS assess hands-on procedural skills in common surgeries like eversion of sac, high ligation for varicocele, and orchidopexy.
• CL-PR (Clinical Problem Reasoning) is implemented via case-based seminar presentations on congenital anomalies or emergency scrotal conditions.

Log Book maintenance is compulsory to track daily participation in observed, assisted, and independently performed procedures.
These tools ensure ongoing feedback and reinforce the translation of knowledge into surgical competence.

OR
Any practical in converted form can be taken for assessment (25 Marks) And
Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)

Semester No : 6

Module 31 : Naadiyantrakrit Shastrakarma: Minimally Invasive Surgeries (MIS)

Module Learning Objectives
(At the end of the module, the students should be able to)

- Describe the principles, techniques, equipment, benefits, complications, management, medicolegal aspects, and limitations of laparoscopic surgery, principles of robotic surgeries with benefits and limitations, current areas of robotic surgery, and basic information on bariatric surgery.
- Conduct or assist in basic laparoscopic procedures, demonstrating competence in port placement, camera handling, and use of instruments. Rationalise and refer eligible patients for robotic surgeries, keeping in mind the best outcome in a suitable case. Understand, assess, a nd refer patients for bariatric surgery, ensuring proper follow-up and management.
- Identify potential complications of laparoscopic, robotic, and bariatric surgeries, and demonstrate the ability to recognize early signs of issues such as bleeding, infection, or procedural failure. Recognize the criteria for patient selection and the appropriate surgical approach based on individual cases

M 31 Unit 1 Introduction to laparoscopic surgery

- Introdcution to MIS, Robotics, NOTES, Single Incision-Laparoscopic Surgery
- Introduction and insights on Diagnostic and therapeutic laparoscopy.
- Laparoscopic anatomy of the abdomen.
- Physiology of pneumo-peritoneum and dangers of pneumoperitoneum.

References: 7,9,12,13,77,78

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO5	Describe the fundamental concepts, techniques, and clinical examples of Minimally	1	Lecture	CC	Knows-	L_VC,BL

	Invasive Surgery (MIS), Robotic Surgery, NOTES (Natural Orifice Transluminal Endoscopic Surgery), and Single Incision Laparoscopic Surgery (SILS), emphasizing their indications, advantages, and limitations in modern surgical practice				how	,L&PPT ,L&GD
CO1,CO4,CO5	Demonstrate the principles and setup of Minimally Invasive Surgery (MIS) including laparoscopic towers and robotic systems such as SILS.	2	Practical Training 31.1	PSY-GUD	Shows-how	SIM,D
CO1,CO4,CO5	Demonstrate set up of laparoscopic equipment, perform diagnostic laparoscopy by inserting ports and identifying landmarks, and execute minor therapeutic procedures like lavage and biopsy under supervision with safety and accuracy.	3	Experiential-Learning 31. 1	PSY-MEC	Shows-how	RLE,SIM, D
CO1,CO4,CO5	Discuss the role of diagnostic and therapeutic laparoscopy along with laparoscopic anatomy of the abdomen, by identifying key anatomical landmarks and clinical scenarios where minimally invasive approaches enhance diagnosis and treatment outcomes.	1	Lecture	CC	Knows-how	L&GD,L _VC,BL, L&PPT
CO1,CO4,CO5	Describe the physiology of pneumoperitoneum and enumerate its potential intraoperative and postoperative complications, discuss how increased intra-abdominal pressure affects cardiovascular, respiratory, and renal systems, and outlining the necessary precautions during laparoscopic surgery.	1	Lecture	CC	Knows-how	BL,L&G D,L_VC, L&PPT
CO1,CO4,CO5	Identify key intra-abdominal anatomical landmarks such as the triangle of Calot and retroperitoneal structures using virtual laparoscopic dissection modules and 3D models, and assist in anatomical orientation exercises on simulators	2	Practical Training 31.2	PSY-GUD	Shows-how	TBL,D-M,SIM
CO1,CO4,CO5	Demonstrate the techniques of creating pneumoperitoneum using Veress needle and open method on a laparoscopic trainer, and discuss the effects of pneumoperitoneum on abdominal compliance and intra-abdominal pressure.	2	Practical Training 31.3	PSY-GUD	Shows-how	D,SIM
CO1,CO4,CO5 ,CO6,CO7,CO 8	Identify intra-abdominal anatomical structures during live laparoscopic surgeries and safely create pneumoperitoneum using Veress needle or open technique under supervision.	3	Experiential-Learning 31. 2	PSY-MEC	Shows-how	CBL,RLE
CO1,CO4,CO5 ,CO6,CO7,CO	Monitor and interpret physiological changes such as vital signs and capnography during insufflation, and assist in port placement and robotic system docking during SILS	2	Experiential-Learning 31.	PSY-MEC	Shows-how	RLE,CBL

8	procedures.		3			

M 31 Unit 2 Principles of energy devices

- Principles, use and dangers of energy devices
- Theory of different forms of diathermy and other energy devices.
- Medico-legal implications of video-endoscopic surgery
- Informed consent for laparoscopic procedures

References: 5,7,9,12,13,77,78

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO5 ,CO6	Describe the principles, types, and clinical applications of diathermy and other surgical energy devices, and discuss their potential hazards, safe usage techniques, and the physiological basis of thermal tissue effects.	1	Lecture	CC	Knows-how	L&PPT , L&GD,BL,L_VC, DIS
CO1,CO5	Describe the principles, mechanisms, and potential dangers of various energy devices, demonstrate safe use of monopolar, bipolar, ultrasonic, and advanced devices and compare their indications and limitations.	2	Practical Training 31.4	PSY-GUD	Shows-how	PBL,SIM, D-M
CO1,CO5,CO6	Operate monopolar, bipolar, and advanced energy devices during surgeries, manage equipment setup and calibration, obtain informed consent highlighting energy device risks, and identify and respond to intraoperative energy-related hazards.	3	Experiential-Learning 31.4	PSY-MEC	Shows-how	SIM,CBL ,RP,W
CO1,CO4,CO5	Discuss the medico-legal implications of video endoscopic surgery, emphasizing the importance of informed consent for laparoscopic procedures, including disclosure of risks, alternatives, documentation standards, and ethical considerations through relevant clinical scenarios	1	Lecture	CC	Knows-how	L_VC,L&GD,BL,L&PPT
CO1,CO3,CO4 ,CO6	Diagnose and manage common energy device malfunctions, demonstrate informed consent communication focusing on medico-legal aspects of energy-based laparoscopic surgery, and analyze medico-legal case studies to develop risk management strategies.	2	Practical Training 31.5	PSY-GUD	Shows-how	SIM,CBL ,RP

CO1,CO4,CO5,CO6,CO7,CO8	Assist in surgeries using various energy modalities, document their clinical application and safety measures in operative notes, and participate in medico-legal case discussions to analyze complications and legal responsibilities.	2	Experiential-Learning 31.5	PSY-MEC	Shows-how	SDL,CBL,DIS

M 31 Unit 3 Laparoscopy equipment

- Technology of video imaging, cameras, insufflator etc.
- The methods of manipulation of images.
- Laparoscopic instruments, clips, staplers and port types.
- Advanced instrumentation and equipments.
- Endoscopic suturing devices.

References: 5,7,9,10,77,78

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO5	Describe the technology and functioning of video imaging systems used in endoscopic surgery, including cameras, light sources, insufflators, and image processing methods, and explain how image manipulation enhances visualization and surgical precision	1	Lecture	CC	Knows-how	DIS,L&GD,L&PPT,BL,L_VC
CO1,CO4,CO5	Assist in the setup and operation of laparoscopic video imaging systems and CO? insufflators, perform basic image manipulation techniques, and identify and handle fundamental laparoscopic instruments.	2	Practical Training 31.6	PSY-GUD	Shows-how	SIM,D
CO1,CO4,CO5,CO6,CO7,CO8	Demonstrate set up and operations of laparoscopic video imaging and CO? insufflation systems, manipulate and handle basic laparoscopic instruments during surgical procedures.	4	Experiential-Learning 31.6	PSY-GUD	Shows-how	D,CBL,RLE,Mnt,PL
CO1,CO4,CO5	Describe the design, function, and clinical use of laparoscopic instruments, including graspers, scissors, clip applicators, staplers, and various types of ports, highlighting their role in different surgical procedures and principles of safe handling.	1	Lecture	CC	Knows-how	DIS,BL,L&GD,L_VC,L&PPT

CO1,CO4,CO5	Explain the principles, functions, and surgical applications of advanced laparoscopic instrumentation and equipment such as ultrasonic shears, vessel sealing devices, advanced energy platforms, articulating instruments, and integrated operating systems, emphasizing their advantages, limitations, and safety considerations.	1	Lecture	CC	Knows-how	L&PPT , L&GD,L_VC,BL
CO1,CO4,CO5	Describe the types, mechanisms, and surgical applications of endoscopic suturing devices, and explain their advantages, limitations, and techniques for intracorporeal and extracorporeal suturing with clinical examples.	1	Lecture	CAP	Knows-how	BL,L&GD,L_VC, L&PPT
CO1,CO4,CO5	Demonstrate the use of laparoscopic ports, apply clips using various clip applicators, and handle laparoscopic staplers for safe ligation and division.	2	Practical Training 31.7	PSY-GUD	Shows-how	D,SIM
CO1,CO4,CO5	Demonstrate handling and application of advanced energy and endoscopic suturing devices, and participate in equipment sterilization and maintenance protocols.	3	Practical Training 31.8	PSY-GUD	Shows-how	D,SIM
CO1,CO4,CO5	Assist in laparoscopic port placement, apply surgical clips, and operate staplers during live procedures under supervision, ensuring ergonomic technique, precision, and patient safety.	3	Experiential-Learning 31.7	PSY-GUD	Shows-how	RLE,Mnt, D
CO1,CO4,CO5	Operate advanced energy devices, perform endoscopic suturing, and oversee post-operative instrument handling and sterilization protocols to ensure surgical efficiency and patient safety.	3	Experiential-Learning 31.8	PSY-GUD	Shows-how	D,Mnt,RLE

M 31 Unit 4 Laparoscopic complications

- Pre and post operative management of laparoscopic cases.
- Recognition and management of laparoscopic complications.
- Anesthetic problems in laparoscopic surgery.
- Port complications and its management.
- Management of equipment failure.

References: 5,7,9,13,77,78

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO5,CO8	Discuss the principles of preoperative and postoperative management of laparoscopic cases, and recognize common laparoscopic complications with their timely diagnosis and evidence-based management strategies.	1	Lecture	CAP	Knows-how	DIS,L_VC,L&GD,CBL,PBL
CO1,CO5	Demonstrate pre-operative preparation, recognize and assist in the management of intraoperative and postoperative laparoscopic complications.	2	Practical Training 31.9	PSY-GUD	Shows-how	SIM,D-M
CO1,CO4,CO6,CO7,CO8	Conduct pre-operative evaluation and documentation, recognize intraoperative complications, monitor postoperative patients for early complication detection, and manage common postoperative issues.	3	Experiential-Learning 31.9	PSY-GUD	Shows-how	CBL,SDL,Mnt,RLE
CO1,CO4,CO5,CO8	Explain the common anaesthetic challenges encountered during laparoscopic surgery and identify port-related complications, detailing their prevention and management with clinical examples to ensure patient safety	1	Lecture	CAN	Knows-how	PBL,L&PPT ,L&GD,L_VC,CBL
CO1,CO4,CO5,CO8	Describe common types of equipment failure in laparoscopic surgery and outline systematic approaches for troubleshooting, prevention, and timely management to ensure surgical safety and minimize intraoperative complications.	1	Lecture	CC	Knows-how	L&GD,L&PPT ,L_VC,PBL,CBL
CO1,CO4,CO5,CO6,CO7,CO8	Demonstrate management of anaesthetic challenges and troubleshoot common laparoscopic equipment malfunctions during surgical scenarios to ensure intraoperative safety and efficiency.	2	Practical Training 31.10	PSY-GUD	Shows-how	SIM,D,RP
CO1,CO4,CO5,CO6,CO7,CO8	Demonstrate decision-making for conversion to open surgery, emergency protocol drills and laparoscopic complications.	3	Practical Training 31.11	PSY-GUD	Shows-how	SDL,CBL,RP
CO1,CO4,CO8	Arrange laparoscopic equipment setup and troubleshooting during surgery, while collaborating with anesthesia to monitor and support management of anesthesia-related complications.	3	Experiential-Learning 31.10	PSY-MEC	Shows-how	DIS,RLE,CBL

CO1,CO4,CO6 ,CO7,CO8	Assist in conversion to open surgery, communicate effectively with patient attendants during complications, accurately document incidents with medico-legal compliance, and submit reflective root cause analyses to improve future care	4	Experiential-Learning 31.11	PSY-GUD	Shows-how	CBL,RLE ,SDL,Mnt ,RP

M 31 Unit 5 Robotic & Bariatric Surgery

- Introduction, indications and contraindications, Advantages and disadvantages of robotic surgery.
- Current areas of robotics surgery.
- Introduction, Indications and contraindications, advantages and disadvantages of bariatric surgery.

References: 5,7,9,13,77,78

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO5 ,CO6,CO7,CO 8	Discuss the principles of robotic surgery, outline its indications and contraindications, and c analyze its advantages and disadvantages in comparison to conventional surgical methods.	1	Lecture	CAN	Knows-how	L&GD,L &PPT ,L_VC
CO1,CO5,CO8	Demonstrate robotic surgery systems, evaluate clinical indications and limitations, compare surgical approaches, and develop hands-on skills in robotic console operation, suturing, dissection, and equipment troubleshooting.	2	Practical Training 31.12	PSY-GUD	Shows-how	SIM,D
CO1,CO5,CO8	Evaluate patients for robotic surgery, conduct preoperative counseling, plan and assist in robotic procedures, manage intraoperative challenges, provide postoperative care, document cases, and critically reflect on robotic surgery applications.	3	Experiential-Learning 31.12	PSY-GUD	Shows-how	DIS,CBL, SDL,SIM
CO1,CO4	Identify the current clinical applications of robotic surgery across various surgical specialties, and explain its evolving role in procedures such as urologic, gynecologic, gastrointestinal, and thoracic surgeries with relevant examples.	1	Lecture	CAP	Knows-how	CBL,L&P PT ,L_VC ,L&GD
CO1,CO4	Explain the principles of bariatric surgery, outline its indications and contraindications, and critically analyze its advantages and disadvantages in the management of morbid obesity with reference to clinical outcomes and patient selection criteria	1	Lecture	CC	Knows-how	L&GD,L _VC,PER ,CBL,L& PPT

CO1,CO4,CO8	Analyze the robotic surgeries, engage in patient counseling and discuss current and emerging robotic surgery fields.	2	Practical Training 31.13	CAN	Knows-how	RP,PER,L&GD,L_VC,SDL
CO1,CO5,CO8	Discuss the common bariatric surgery techniques, evaluate clinical indications and contraindications and analyze their advantages and disadvantages.	2	Practical Training 31.14	CE	Knows-how	DIS,CBL,D-M
CO1,CO4,CO5,CO8	Evaluate bariatric surgery candidates, conduct counseling, assist in surgery, manage post-operative care including nutrition and recognize complications	3	Experiential-Learning 31.13	PSY-ADT	Does	SDL,PER,SIM,RLE,CBL

Practical Training Activity

Practical Training 31.1 : Diagnostic and Therapeutic Laparoscopy

Activity: Demonstrate MIS principles, setup of laparoscopic/robotic systems (SILS), and assist in mock docking & instrument handling.
Teacher's Role: Demonstrate MIS setup, guide simulation.
Students' Role: Observe, assist docking, handle instruments under supervision.
1. Introduction to Minimally Invasive Surgery (MIS) & Laparoscopy
Faculty-led demo using animated models and laparoscopic towers, introducing MIS principles and robotic systems (including Single-Incision Laparoscopic Surgery - SILS). Students assist in mock setup and instrument docking.
2. Diagnostic and Therapeutic Laparoscopy on Pelvic Trainer
Supervised hands-on session where students practice diagnostic laparoscopy using simulators—identifying landmarks, manipulating the scope, and performing mock therapeutic tasks like biopsy or lavage.

Practical Training 31.2 : Virtual Laparoscopic Anatomy

Activity: Identify intra-abdominal landmarks using 3D models, virtual dissection, and simulators.
Teacher's Role: Demonstrate, guide orientation, and supervise practice.
Students' Role: Perform landmark identification and orientation tasks on simulators.
Laparoscopic Anatomy of the Abdomen
Virtual laparoscopic dissection module and 3D models used to demonstrate intra-abdominal anatomical orientation (e.g., triangle of Calot, retroperitoneum). Students assist in orientation exercises on simulators.

Practical Training 31.3 : Pneumoperitoneum Creation

Activity: Demonstrate pneumoperitoneum creation using Veress needle and open method on laparoscopic trainer; explain effects on compliance and intra-abdominal pressure.
Teacher's Role: Demonstrate techniques, highlight safety steps, and explain physiological effects.
Students' Role: Practice both methods on trainer, observe changes, and explain effects under guidance.

Practical Training 31.4 : Energy Devices in Surgery: Principles, Practice, and Comparative Analysis

Activity: Explain principles, mechanisms, and risks of energy devices; demonstrate safe use of monopolar, bipolar, ultrasonic, and advanced devices on simulators; compare indications and limitations through group analysis.
Teacher's Role: Demonstrate device use, supervise practice, guide group discussion.
Students' Role: Operate devices safely, practice on simulators, analyze and compare uses.
1. Demonstration of Principles and Dangers of Energy Devices
Faculty-led interactive demonstration using simulation tools and models to show how monopolar, bipolar, ultrasonic, and advanced energy devices work—including thermal spread, insulation failure, and capacitive coupling.
2. Hands-on Practice with Monopolar and Bipolar Diathermy on Simulators
Students practice tissue dissection and coagulation using monopolar and bipolar diathermy on synthetic tissue models under faculty supervision.
3. Use of Ultrasonic and Advanced Energy Devices on Models
Guided practice using harmonic scalpel, Ligature, and similar tools to demonstrate vessel sealing and cutting efficiency with minimum thermal damage on training models.
4. Comparative Analysis of Diathermy Types and Indications
Group activity where students compare types of energy devices in terms of mechanism, indications, and limitations, followed by a practical application in model-based scenarios.

Practical Training 31.5 : Managing Energy Device Failures and Medico-Legal Aspects in Laparoscopic Surgery

Activity: Diagnose/manage energy device malfunctions via simulation, role-play informed consent with medico-legal focus, and analyze case studies for risk strategies.
Teacher's Role: Facilitate simulation, guide role-play, moderate case discussions.
Students' Role: Troubleshoot devices, perform consent role-play, analyze cases for risk management.

1. Identification and Management of Energy Device Malfunctions
   Simulation-based troubleshooting sessions where students diagnose and manage common device failures such as grounding pad issues, faulty cables, and generator

errors.

2. Role-play on Obtaining Informed Consent for Energy-Based Laparoscopic Surgery
   Faculty guides students through mock consent-taking sessions, emphasizing medico-legal disclosures specific to laparoscopic energy devices.
3. Review of Medico-legal Case Studies Related to Energy Devices
   Case-based discussion on real-life medico-legal incidents involving thermal injuries or equipment mishandling in laparoscopic surgery, with guided risk management strategies.

Practical Training 31.6 : Basic Laparoscopic Equipment Handling and Imaging Techniques

Activity: Assist in setup/operation of laparoscopic video systems and CO? insufflators, perform basic image manipulation, and handle laparoscopic instruments on simulators under supervision.
Teacher's Role: Demonstrate setup, supervise instrument handling, correct errors.
Students' Role: Assist in setup, practice image adjustments, identify and use basic instruments.
1. Orientation to Laparoscopic Video Imaging and Camera Systems
Faculty demonstrate components of laparoscopic video systems including light source, camera head, and monitor setup. Students assist in connecting and adjusting image focus and white balance.
2. Operation of CO? Insufflator and Pneumoperitoneum Creation
Students assist in setting up insufflation systems, monitor pressure and flow settings on simulators, and understand safety cut-offs and alarms.
3. Image Manipulation Techniques
Students assist with adjusting brightness, contrast, zoom, and orientation of laparoscopic images during mock procedures on simulators.
4. Identification and Handling of Basic Laparoscopic Instruments
Hands-on session where students handle graspers, scissors, dissectors, and hook cautery on training boards or dry boxes under supervision.

Practical Training 31.7 : Laparoscopic Access and Stapling Techniques

Activity: Demonstrate and assist in laparoscopic port use, apply clips with applicators, and handle staplers for safe ligation/division on simulation models.
Teacher's Role: Demonstrate instrument use, supervise simulation practice, ensure safety.
Students' Role: Practice port placement, clip application, and stapler handling under guidance.
1. Use of Laparoscopic Ports and Access Devices
Demonstration and student-assisted insertion of various port types (e.g., Hasson, Veress, optical ports) on abdominal models.

2. Application of Clips and Use of Clip Applicators
Students practice using reusable and disposable clip applicators on tissue analogs for vessel sealing and organ ligation.
3. Laparoscopic Staplers: Orientation and Handling
Faculty demonstrate the structure and function of endolinear staplers; students assist in loading, firing, and removing staplers on tissue simulators.

Practical Training 31.8 : Advanced Devices and Instrument Care in Laparoscopy

Activity: Assist in handling/applying advanced energy and endoscopic suturing devices; participate in sterilization and maintenance using simulation and clinical observation.
Teacher's Role: Demonstrate safe device handling, guide simulation practice, and supervise sterilization steps.
Students' Role: Practice device use, assist in suturing, follow sterilization/maintenance protocols.

1. Advanced Energy Devices (Harmonic, Ligasure, etc.)
   Students assist in the demonstration of ultrasonic and bipolar energy devices. They observe and replicate safe activation and tissue dissection on synthetic models.
2. Introduction to Endoscopic Suturing Devices
   Students assist and practice with endostitch or laparoscopic needle holders on foam pads or box trainers under supervision, focusing on orientation and knot tying.
3. Equipment Sterilization and Maintenance ProtocolsStudents observe and assist in post-procedure sterilization, care, and storage of laparoscopic instruments, learning cleaning techniques and damage checks.

Practical Training 31.9 : imulation-Based Training in Laparoscopic Complication Management

Activity: Demonstrate pre-op preparation and assist in managing intra/postoperative laparoscopic complications using simulation models under supervision.
Teacher's Role: Demonstrate steps, supervise simulation, correct techniques.
Students' Role: Practice preparation, recognize complications, assist in management on mannequins.
1. Pre-operative Preparation for Laparoscopic Cases
Demonstration of standard pre-operative protocols using patient mannequins and simulation checklists (e.g., bowel prep, fasting status, consent for laparoscopy and potential conversion to open).
2. Simulation of Intraoperative Laparoscopic Complication Recognition
Students assist in a simulated laparoscopic procedure (virtual reality or dry lab model) where programmed complications (e.g., bleeding, CO? embolism, bowel injury) occur. Students must recognize and alert the supervising faculty.

3. Management of Laparoscopic Complications on Models
Demonstration of techniques for managing complications such as trocar site bleeding, pneumoperitoneum-related issues, and conversion to open surgery on surgical trainers.
4. Postoperative Monitoring and Complication Management
Students assist in simulated post-op monitoring using high-fidelity mannequins—recognizing signs of peritonitis, subcutaneous emphysema, and wound infection.

Practical Training 31.10 : Anaesthetic Challenges and Equipment Troubleshooting in Laparoscopy

Activity: Demonstrate identification and management of anaesthetic challenges (airway, ventilation, hemodynamic changes) and troubleshoot laparoscopic equipment faults using simulation-based models.
Teacher's Role: Demonstrate troubleshooting, guide recognition of anaesthetic complications, supervise simulation tasks.
Students' Role: Practice identifying anaesthetic issues, perform equipment checks, and apply troubleshooting protocols.
1. Managing Anesthetic Issues in Laparoscopy
Anaesthesia faculty demonstrate common challenges (e.g., hypercarbia, shoulder pain, aspiration risk). Students assist in simulated airway management and intraoperative monitoring.
2. Handling Laparoscopic Equipment Malfunctions
Hands-on session where students assist with troubleshooting laparoscopic instruments—e.g., fogging of the lens, insufflator errors, energy device failure—using training consoles.

Practical Training 31.11 : Crisis Management and Reflective Learning in Laparoscopic Surgery

Activity: Participate in simulated decision-making for open conversion, emergency drills, and complication case reviews; maintain reflective logbook documentation.
Teacher's Role: Facilitate simulations, guide drills, and supervise case discussions.
Students' Role: Engage in decision-making, perform drills, analyze cases, and document reflections.

1. Simulated Decision-making for Conversion to Open Surgery
   Facilitated scenario-based role-play where students assist in decision-making under simulated crisis (e.g., dense adhesions, uncontrolled bleeding) leading to open conversion.
2. Emergency Protocol Drills in Laparoscopic Surgery
   Students participate in mock drills (e.g., management of CO? embolism or sudden bradycardia during insufflation), assisting in emergency response on mannequins.
3. Laparoscopic Complications Case Review
   Students review real or recorded case scenarios involving complications and assist in discussion of alternative strategies and missed warning signs.
4. Logbook Documentation and Faculty Feedback

Students maintain a logbook of all laparoscopic training activities with reflections on complication management experiences.

Practical Training 31.12 : Introduction to Robotic Surgery: Theory and Simulator Training

Activity: Learn robotic systems, indications/limitations, compare approaches, and practice console use, suturing, dissection, and troubleshooting on simulators.
Teacher's Role: Explain systems, demonstrate console use, supervise simulation.
Students' Role: Evaluate indications, compare approaches, practice console tasks.
1. Introduction to Robotic Surgery Systems
Demonstration session using training simulators or robotic surgical videos to introduce components of robotic systems (e.g., console, robotic arms, camera systems).
2. Indications and Contraindications for Robotic Surgery
Case-based discussion of clinical scenarios where robotic surgery is suitable or contraindicated (e.g., obesity, adhesions, malignancy staging, etc.).
3. Advantages and Disadvantages of Robotic Surgery
Interactive session using a comparative chart presentation between open, laparoscopic, and robotic approaches—focusing on precision, dexterity, cost, learning curve, and complications.
4. Familiarization with Robotic Surgery Console (Simulator-Based)
Hands-on training on a robotic surgery simulator where students practice basic hand-eye coordination, camera control, and robotic arm maneuvering.
5. Suturing and Dissection on Robotic Simulators
Supervised activity where students perform simulated suturing, vessel sealing, and tissue dissection using robotic arm manipulators on synthetic or virtual models.
6. Troubleshooting Robotic Equipment
Practical demonstration on common system errors and how to respond, including console safety checks and arm calibration.

Practical Training 31.13 : Robotic Surgery Observation, Counseling, and Current Trends

Activity: Observe/analyze robotic surgeries with narration, role-play patient counseling, present on emerging fields, and maintain reflective logbooks.
Teacher's Role: Provide guided narration, facilitate role-play, supervise presentations.
Students' Role: Observe and analyze procedures, perform counseling role-play, present topics, record reflections.

1. Observation of Live/Recorded Robotic Surgery
   Students observe real-time or recorded robotic surgeries (e.g., prostatectomy, hysterectomy) with guided narration by the instructor explaining each step.
2. Role-Play: Robotic Surgery Patient Counseling

Students participate in role-play simulating pre-op counseling for robotic surgery—discussing benefits, risks, and alternatives.

3. Current Areas and Future Scope of Robotic Surgery
   Seminar presentation by students on emerging fields of robotic surgery (e.g., colorectal, hepatobiliary, head & neck, urology).
4. Logbook Entry and Skill Tracking
   Each student maintains a logbook of robotic training activities and reflections on skill acquisition and observed surgeries.

Practical Training 31.14 : Introduction to Bariatric Surgery: Techniques, Indications, and Outcomes

Activity: Learn bariatric surgery techniques, assess indications/contraindications via case discussions, and compare advantages/disadvantages using outcomes.
Teacher's Role: Present techniques, moderate case discussions, guide comparative analysis.
Students' Role: Engage in discussions, identify indications/contraindications, analyze outcomes.
1. Introduction to Bariatric Surgery Techniques
Demonstration of common bariatric surgery types (e.g., sleeve gastrectomy, gastric bypass, adjustable gastric banding) using surgical videos and 3D anatomical models.
2. Indications and Contraindications for Bariatric Surgery
Case-based learning using clinical scenarios to identify when bariatric surgery is appropriate (e.g., BMI ? 40 or ? 35 with comorbidities) and contraindicated (e.g., severe psychiatric illness, non-compliance).
3. Advantages and Disadvantages of Bariatric Surgery
Interactive session with a pros-and-cons matrix comparing bariatric surgery outcomes such as weight loss, comorbidity resolution, nutritional deficiencies, and complication risks.

Experiential learning Activity

Experiential-Learning 31.1 : Hands-on Laparoscopic Setup and Basic Procedures

Independently set up laparoscopic equipment, perform diagnostic laparoscopy (port insertion, landmark identification), and execute minor therapeutic procedures (lavage, biopsy) under supervision.
Teacher's Role: Supervise, ensure safety, provide corrective feedback.
Students' Role: Perform setup, diagnostic, and therapeutic steps with accuracy.
1. Independent Setup and Use of Laparoscopic Tower in OT
Students independently set up the laparoscopic equipment, including the tower, insufflator, light source, and camera system, in preparation for surgery.
2. Performing Diagnostic Laparoscopy under Supervision
Students independently perform basic diagnostic laparoscopy under supervision—port insertion, scope navigation, and identification of abdominal landmarks during elective

surgeries.
3. Performing Minor Therapeutic Laparoscopic Tasks
Students independently perform therapeutic steps such as lavage, suctioning, or minor biopsies in selected laparoscopic cases under direct guidance of the mentor.

Experiential-Learning 31.2 : Anatomical Orientation and Pneumoperitoneum Creation in Laparoscopy

Activity: Identify intra-abdominal structures and create pneumoperitoneum (Veress/open) during live laparoscopic surgeries under supervision.
Teacher's Role: Supervise, guide technique, ensure safety.
Students' Role: Perform identification, practice techniques, follow protocols.
1. Anatomical Orientation during Live Laparoscopic Procedures
During laparoscopic surgeries, students are required to identify and explain intra-abdominal anatomical structures in real-time to the supervising faculty.
2. Creation of Pneumoperitoneum by Veress/Open Technique
Students perform creation of pneumoperitoneum using Veress needle or Hasson technique in actual procedures, focusing on safety protocols and patient response.

Experiential-Learning 31.3 : Physiological Monitoring and Robotic-Assisted Laparoscopy

Activity: Monitor vital signs and capnography during insufflation; assist in port placement and robotic docking in SILS under supervision.
Teacher's Role: Supervise monitoring, guide safe port placement and docking.
Students' Role: Interpret physiological changes, assist in procedures, follow safety steps.

1. Monitoring and Managing Physiological Changes during Insufflation
   Students monitor vital signs, capnography, and abdominal pressure during laparoscopic surgery, and participate in early recognition of physiological disturbances such as hypercarbia or hypotension.
2. Participating in Robotic (SILS) Case Observation and Port Assistance
   Students participate in robotic/single-incision laparoscopic surgeries by assisting in robotic port placement, docking and undocking under surgeon supervision.

Experiential-Learning 31.4 : Advanced Use and Safety of Energy Devices in Surgery

Activity: Independently operate monopolar, bipolar, and advanced energy devices; manage setup and calibration; obtain informed consent explaining risks; identify and manage intraoperative hazards under supervision.
Teacher's Role: Supervise device use, monitor safety, provide feedback.

Students' Role: Perform setup, operate devices, counsel patients, respond to hazards.
1. Independent Use of Monopolar and Bipolar Energy Devices in Surgery
Students independently operate monopolar or bipolar diathermy during minor laparoscopic or open surgical procedures under close supervision, ensuring tissue safety and appropriate energy application.
2. Application of Ultrasonic or Advanced Bipolar Devices (e.g., Harmonic, Ligasure)
During live surgeries, students independently use ultrasonic or advanced bipolar energy instruments for vessel sealing or dissection tasks, supervised by faculty.
3. Managing Equipment Setup and Energy Calibration in OT
Students independently set up energy sources, check insulation, grounding pads, and calibrate diathermy units before the procedure.
4. Informed Consent for Procedures Involving Energy Devices
Students independently obtain informed consent from patients for laparoscopic procedures, ensuring clear communication of the use of energy devices and associated risks.
5. Identifying and Responding to Intraoperative Energy-related Hazards
In real surgical cases, students are assigned the responsibility of monitoring energy device usage, identifying risks (e.g., tissue charring, capacitive coupling), and recommending corrective action when needed.

Experiential-Learning 31.5 : Clinical Integration and Medico-legal Aspects of Energy Devices

Activity: Assist in surgeries using energy devices, document applications and safety in operative notes, and join medico-legal discussions on complications and responsibilities.
Teacher's Role: Supervise surgical assistance, review documentation, and guide discussions.
Students' Role: Apply energy modalities in surgery, record safety measures, and analyze medico-legal aspects.

1. Comparative Clinical Application of Energy Modalities
   Students independently assist in multiple surgeries using different energy devices (monopolar, bipolar, ultrasonic), followed by structured documentation and reflection on indications, outcomes, and efficiency.
2. Documentation of Energy Device Use and Safety Measures in Operative Notes
   Post-surgery, students independently draft operative notes mentioning the type of energy device used, safety checks performed, and intraoperative precautions taken.
3. Participation in Medico-legal Case Discussions Involving Energy Devices
   Students actively engage in morbidity meetings discussing real cases of energy-related complications, presenting findings and legal aspects under faculty guidance.

Experiential-Learning 31.6 : Equipment Handling and Instrumentation in Laparoscopic Surgery

Activity: Independently set up/operate laparoscopic video and CO? systems, adjust images, and handle instruments during live surgeries under supervision.
Teacher's Role: Supervise setup/handling, give feedback.
Students' Role: Perform setup, operate systems, and assist in surgery.
1. Independent Setup of Video Imaging and Camera Systems
Students independently assemble and calibrate the laparoscopic video system (light source, camera, monitor) in the operation theatre before a scheduled case.
2. Operating CO? Insufflator for Pneumoperitoneum Creation
Under supervision, students independently set up and manage the insufflation system during actual laparoscopic surgeries, ensuring proper flow, pressure, and safety compliance.
3. Real-time Image Manipulation in OT
Students adjust video output settings (zoom, contrast, field centering) during surgery to ensure optimal visualization for the surgical team.
4. Independent Handling of Laparoscopic Instruments
Students participate in real procedures by independently selecting, preparing, and passing instruments, and performing minor dissection tasks under direct supervision.

Experiential-Learning 31.7 : Intraoperative Port, Clip, and Stapler Application in Laparoscopic Surgery

Activity: Assist in laparoscopic port placement, apply clips, and operate staplers during live procedures under supervision, ensuring precision and safety.
Teacher's Role: Supervise instrument use, guide ergonomics, correct errors.
Students' Role: Perform port placement assistance, clip application, and stapler use with safe technique.

1. Port Placement and Management
   Students independently assist with placement and fixation of laparoscopic ports, understanding angles and ergonomics in real surgical setup.
2. Application of Clips in Live Procedures
   Under supervision, students deploy surgical clips using clip applicators during laparoscopic procedures like cholecystectomy or appendectomy.
3. Use of Staplers During Surgery
   Students independently prepare and apply laparoscopic staplers under supervision in procedures requiring bowel or vascular transection.

Experiential-Learning 31.8 : Advanced Laparoscopic Skills and Instrument Care in Clinical Practice

Activity: Operate advanced energy devices, perform endoscopic suturing in live procedures, and manage postoperative instrument handling and sterilization under supervision.

Teacher’s Role: Supervise device use and suturing, ensure adherence to safety and sterilization protocols.
Students’ Role: Perform device operation, suturing, and instrument care while maintaining surgical efficiency.

1. Handling Advanced Energy Devices
   Students operate devices like Harmonic scalpel or Ligasure under guidance during live tissue dissection, gaining practical familiarity with activation timing and contact technique.
2. Endoscopic Suturing in Clinical Cases
   In simpler laparoscopic closures, students independently perform suturing and knotting using laparoscopic needle holders or endostitch devices.
3. Post-operative Equipment Handling and Sterilization Oversight
   Students independently oversee instrument collection, decontamination, and preparation for sterilization in the CSSD (Central Sterile Services Department).

Experiential-Learning 31.9 : Comprehensive Clinical Management in Laparoscopic Surgery

Activity: Independently perform pre-op evaluation/documentation, identify intraoperative complications, monitor postop patients, and manage common issues under supervision.
Teacher’s Role: Supervise evaluation, monitoring, and management; provide corrective input.
Students’ Role: Conduct evaluation, recognize complications, perform monitoring, and manage issues.
1. Independent Pre-operative Evaluation and Preparation
Students independently assess patients scheduled for laparoscopic surgery, complete risk stratification, and prepare pre-op documentation including consent highlighting potential complications.
2. Real-time Recognition of Intraoperative Complications
During live laparoscopic surgeries, students observe independently for signs of complications (e.g., bleeding, organ injury) and report findings to the surgical team for validation and action.
3. Independent Post-operative Monitoring and Complication Detection
Students are assigned individual post-op patients and monitor vitals, pain, signs of peritonitis, and wound site issues. They initiate basic interventions and escalate when required.
4. Management of Common Post-operative Laparoscopic Complications
Students manage minor complications independently under supervision—such as managing ileus, wound infection, and referred shoulder pain.

Experiential-Learning 31.10 : Laparoscopic Equipment Management and Anesthesia Collaboration

Activity: Manage laparoscopic equipment setup/troubleshooting and collaborate with anesthesia team to address intraoperative complications.
Teacher's Role: Supervise equipment handling, guide interdisciplinary coordination, ensure safety.
Students' Role: Independently set up and troubleshoot equipment, assist in managing anesthesia-related issues, and coordinate with the team.

1. Independent Management of Laparoscopic Equipment During Procedures
   Students handle laparoscopic tower setup, check instrument functionality, and troubleshoot equipment issues during surgeries (e.g., camera fogging, insufflator malfunction).
2. Anesthesia-related Complication Management Support
   Students collaborate with the anesthesia team, independently monitoring for hypercarbia, hypotension, or shoulder pain post-surgery, and respond per guidelines.

Experiential-Learning 31.11 : Complication Management, Communication, and Documentation in Laparoscopic Surgery

Activity: Participate in conversion to open surgery, communicate with attendants during complications, document incidents medico-legally, and submit root cause analyses.
Teacher's Role: Supervise surgical participation, guide communication, review documentation, and critique analyses.
Students' Role: Assist in conversion, interact with attendants, maintain medico-legal records, and prepare reflective analyses.
1. Execution of Conversion Protocols
When complications mandate conversion to open surgery, students actively participate in implementing the conversion—assisting or observing steps and ensuring smooth transition.
2. Real-time Communication with Patient Attendants During Complications
Students independently conduct post-complication communication with patients' families, explaining events, management, and prognosis under faculty supervision.
3. Documentation of Complications and Incident Reporting
Students independently document complications and complete incident reporting forms, ensuring medico-legal correctness and clarity.
4. Reflective Summary and Root Cause Analysis
After managing a complication case, students submit a structured reflective report including a root cause analysis and prevention strategies.

Experiential-Learning 31.12 : Comprehensive Training in Robotic Surgery: Evaluation, Execution, and Reflection

Activity: Independently evaluate candidates, provide counseling, plan/assist in robotic procedures, manage intra/postoperative care, document, and reflect on robotic surgery.
Teacher's Role: Supervise case evaluation, procedure assistance, and reflection.

Students' Role: Perform evaluation, counseling, assist in surgery, manage care, and document.
1. Independent Evaluation of Robotic Surgery Candidates
Students independently evaluate patients for robotic surgery based on indications (e.g., pelvic surgeries, urologic cancers) and contraindications (e.g., severe cardiopulmonary compromise, extensive adhesions).
2. Conducting Preoperative Counseling for Robotic Surgery
Students independently counsel patients about the robotic procedure, including benefits (e.g., precision, faster recovery), risks, costs, and available alternatives.
3. Developing a Robotic Surgical Plan
Students independently formulate a step-by-step operative plan for a given case, including port placement, docking strategy, and procedural flow.
4. Performing Docking and Instrument Setup Under Supervision
Students take the lead in robotic system setup—robot positioning, docking robotic arms, and instrument attachment—under supervision in the operating room.
5. Independently Operating on Robotic Console (Non-critical Portions)
Under expert supervision, students perform non-critical portions of the robotic surgery (e.g., tissue dissection or suturing in stable areas) on live patients.
6. Managing Intraoperative Robotic Challenges
Students are assigned responsibility to identify and respond to common challenges (e.g., arm collision, vision loss, limited movement) during the procedure.
7. Postoperative Care of Robotic Surgery Patients
Students independently manage postoperative recovery, focusing on pain management, early ambulation, and discharge planning.
8. Documentation and Data Entry in Robotic Surgery Registry
Students maintain operative and postoperative data for robotic procedures, contributing to institutional or research databases.
9. Presentation on Current Applications of Robotic Surgery
Students prepare a seminar or case review on one specific area (e.g., colorectal, urology, gynecology) where robotics is applied.
10. Reflective Case Analysis and Self-assessment
After assisting or performing a robotic procedure, students submit a structured reflective analysis discussing learning points, challenges, and areas for improvement.

Experiential-Learning 31.13 : Comprehensive Clinical Training in Bariatric Surgery: Evaluation to Postoperative Management

Activity: Evaluate bariatric candidates, conduct counseling, assist in surgery, manage postoperative care/nutrition, identify complications, and present case outcomes.
Teacher's Role: Supervise evaluation, counseling, surgical assistance, and review case presentations.
Students' Role: Perform evaluation, assist surgery, manage postoperative care, recognize complications, and present outcomes.
1. Independent Pre-operative Evaluation and Case Selection
Students independently assess bariatric candidates, including BMI calculation, history-taking, comorbidity evaluation, and psychological assessment. They prepare a written case report for surgical planning.
2. Independent Patient Counseling for Bariatric Surgery
Students conduct full pre-operative counseling sessions including explanation of procedure, expectations, risks, dietary changes, and lifestyle modifications.

3. Pre-operative Preparation and Surgical Planning
Students create and present a pre-op checklist including anesthesia clearance, nutritional preparation, bowel prep, and surgical planning based on patient profile.
4. First Assistant Role in Laparoscopic Bariatric Surgery
Students actively assist in real-time surgeries under supervision—handling ports, camera navigation, retractors, and suction as per the procedure.
5. Independent Post-operative Patient Management
Students manage post-op care including fluid balance, pain control, early ambulation, DVT prophylaxis, and first oral intake monitoring.
6. Dietary Planning and Nutritional Counseling Post-Bariatric Surgery
Students independently guide patients through post-op dietary stages—clear liquids to soft diet, and vitamin/mineral supplementation.
7. Monitoring and Managing Complications
In real-time or simulated cases, students recognize and manage complications like vomiting, leaks, infections, or nutrient deficiencies.
8. Case Presentation and Surgical Outcome Evaluation
Students present complete case summaries—pre-op, intra-op, and post-op data with outcomes, highlighting learning and patient improvement.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 75 marks. Keep a structured marking pattern. Keep a record of the structured pattern used for assessment. Calculate the Modular grade point as per Table 6 C. Select any one or two methods for the assessment. 1. QZ – Quiz (10 Marks) • Short, structured quizzes will be administered at key intervals during the module to evaluate foundational knowledge. • These quizzes focus on topics such as the principles and history of MIS, types of laparoscopic surgeries including NOTES and single-incision laparoscopic surgery (SILS), and core technological concepts such as energy devices and laparoscopic/robotic instrumentation. • Designed to encourage fast recall, these quizzes test anatomy (especially of abdominal access areas), physiology of insufflation, equipment safety protocols, and terminology. • Each quiz is objective or SAQ-based and together contributes to 10 marks. 2. S-LAQ – Structured Long Answer Questions (15 Marks) • This method will test a comprehensive theoretical understanding of complex concepts central to MIS and robotic surgery. • Students may be required to answer long questions on topics such as the pathophysiology and risks of pneumoperitoneum, medico-legal implications in laparoscopic procedures, or classification and handling of intraoperative complications like visceral injury, port-site bleeding, or gas embolism. • A strong focus is placed on energy device safety, laparoscopic instrument physics, and robotic precision. • The response is assessed on clarity, depth, and application, contributing 15 marks to the total.	6

3. VV – Viva Voce (10 Marks)

• Oral examination sessions will be conducted to assess decision-making, communication, and professional reasoning.

• Students will be questioned on informed consent nuances for laparoscopic, bariatric, and robotic procedures, contraindications for minimally invasive approaches, and interpretation of real-time complications (e.g., failure of insufflation or trocar misplacement).

• Scenario-based questions, such as equipment malfunction or port-site hematoma, allow evaluators to probe clinical insight, adaptability, and communication under pressure.

4. CBA – Case-Based Assessment (10 Marks)

• Students will be evaluated using structured clinical scenarios involving laparoscopic diagnostic or therapeutic procedures.

• They will be expected to demonstrate stepwise problem-solving, including patient selection, consent, port site planning, intraoperative complication anticipation, and postoperative care.

• This assessment method ensures integration of textbook knowledge with real-life surgical judgment and safety considerations. It includes modern laparoscopic emergencies and robotic system troubleshooting.

5. DOPS – Direct Observation of Procedural Skills (10 Marks)

• Direct procedural observation during skill lab or real-time theatre sessions will be used to evaluate essential laparoscopic competencies.

• The DOPS includes assessment of safe port insertion, pneumoperitoneum creation, energy device usage (monopolar, bipolar, ultrasonic), clip/stapler handling, and ergonomics during instrument handling.

• Faculty score technique, asepsis, troubleshooting, and patient safety adherence, followed by real-time feedback. Each attempt contributes to a cumulative score out of 10.

6. OSPE – Objective Structured Practical Examination (10 Marks)

• A series of five structured OSPE stations (2 marks each) will test practical readiness.

• These include identification and application of laparoscopic tools (e.g., insufflators, energy sources, telescopes), simulation of basic laparoscopic skills (e.g., peg transfer, knotting), interpretation of video clips showing errors or complications (e.g., bowel burn, fogging), and management protocols for common intraoperative issues (e.g., capnothorax, equipment failure).

• This enables a structured and objective assessment of applied practical knowledge. Total: 10 marks.

7. Supporting Assessments (Non-Marked but Mandatory)

• To promote holistic learning and continuous competence building, the following are used:

• Log Book: • Students record clinical exposure, observed and assisted cases, simulation sessions, and procedures with reflections. Reviewed

periodically.

• CHK (Checklist-Based Assessment): • Used during OT or simulations to ensure students follow step-wise safety protocols, including WHO surgical safety checklists and instrument setup.

• Mini-CEX: • Evaluates student performance in patient interaction, history taking, and immediate decision-making in outpatient or pre-op settings.

• 360-Degree Feedback:

Collected from peers, nurses, and faculty to assess interprofessional behaviour, teamwork, communication, and OR ethics.
OR
Any practical in converted form can be taken for assessment (25 Marks) And
Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)

Module 32 : Baala Shalyakarma - Paediatric Surgery

Module Learning Objectives
(At the end of the module, the students should be able to)

- Classify common paediatric surgical conditions such as congenital anomalies, hernias, appendicitis, and trauma, and communicate effectively with paediatric patients and their families by providing clear explanations of conditions, procedures, and postoperative care plans.
- Perform or assist in basic paediatric surgical procedures using safe practices tailored to the needs of children.
- Provide preoperative and postoperative care for paediatric patients, addressing child-specific considerations such as pain management and recovery.
- Identify early signs and symptoms of common surgical conditions in children, recognize complications, and deliver timely interventions.

M 32 Unit 1 Care of pediatric surgical patients

- Pre-operative assessment pediatric patients.
- Post operative care of pediatric patients.

References: 7,9,10,11,13,79,80

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO6,CO7,CO8	Assess pediatric patients preoperatively, identify key risk factors, and formulate an appropriate anesthetic and surgical plan.	1	Lecture	CAN	Knows-how	L&PPT , L&GD,L_VC,DIS, CBL
CO1,CO4,CO6,CO7,CO8	Demonstrate age-appropriate history taking, risk stratification, and preoperative preparation including consent and psychological assessment in pediatric patients.	2	Practical Training 32.1	PSY-GUD	Shows-how	SIM,CBL,RP,LRI
CO1,CO4,CO5,CO6,CO7,CO8	Demonstrate preoperative evaluation, ASA grading, caregiver counseling and consent, documentation, postoperative monitoring, wound care, early mobilization, discharge planning, and parental education in pediatric surgical patients.	3	Experiential-Learning 32.1	PSY-MEC	Does	SDL,RLE,CBL,DIS
CO1,CO4,CO6,CO7,CO8	Describe the essential principles of monitoring, pain control, nutrition, and complication management in postoperative care of pediatric patient	1	Lecture	CC	Knows-how	PBL,DIS, L&GD,CBL,L&PPT
CO1,CO4,CO6,CO7,CO8	Demonstrate skill in appropriate preoperative preparation and immediate postoperative care including monitoring, wound management, early mobilization, and discharge counseling for pediatric surgical patients	2	Practical Training 32.2	PSY-MEC	Shows-how	CBL,SIM,RP,D-BED

M 32 Unit 2 Common pediatric surgical conditions

- Diagnosis, investigations and surgical management of Common pediatric surgical diseases like

- Undescended testis.
- Ectopic testis.
- Lymphadenopathy.
- Lymphangioma, Thyroglossal cyst, Branchial cyst and other soft tissue lesions, etc.

References: 5,7,8,9,13,15,41,44,74,79,80

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO5,CO7,CO8	Describe principles of monitoring, pain control, nutrition, and complication management in postoperative care of pediatric patients.	1	Lecture	CC	Knows-how	L&GD,L_VC,CBL,L,L&PPT
CO1,CO4,CO5,CO6,CO7,CO8	Demonstrate preoperative preparation and provide immediate postoperative care including monitoring, wound management, early mobilization, and discharge counseling for pediatric surgical patients.	2	Practical Training 32.3	PSY-GUD	Shows-how	D,D-M,SIM,RP
CO1,CO4,CO5,CO6,CO7,CO8	Demonstrate comprehensive competency in the clinical evaluation, diagnostic interpretation, counseling, surgical management, and postoperative follow-up of pediatric patients with undescended and ectopic testis.	4	Experiential-Learning 32.2	PSY-MEC	Does	DIS,D-BED,CBL,RLE,SIM
CO1,CO4,CO6,CO7,CO8	Describe the diagnosis, appropriate investigations, and surgical management of common pediatric surgical conditions including undescended testis, ectopic testes,congenital herniae, cngenital hydrocele, lymphadenopathy, lymphangioma, thyroglossal cyst, and branchial cyst.	1	Lecture	CC	Knows-how	CBL,L_VC,L&GD,L&PPT
CO1,CO4,CO6,CO7,CO8	Describe the diagnosis, appropriate investigations, and surgical management of common pediatric surgical conditions including undescended testis, ectopic testes,congenital herniae, congenital hydrocele, lymphadenopathy, lymphangioma, thyroglossal cyst, and branchial cyst.	1	Lecture	CC	Knows-how	L_VC,L&GD,L&PPT ,CBL
CO1,CO4,CO6,CO7,CO8	Perform systematic examination of lymph nodes, interpret relevant investigations, decide on appropriate surgical intervention, simulate excision biopsy, and manage postoperative	2	Practical Training 32.4	PSY-GUD	Shows-how	D-M,DIS,CBL,SIM

	care in pediatric patients					,LRI
CO1,CO4,CO6 ,CO7,CO8	Demonstrate clinical examination, interpret investigations, and perform basic surgical steps for common pediatric neck masses such as thyroglossal cyst, branchial cyst, and lymphangioma	2	Practical Training 32.5	PSY-GUD	Shows-how	DIS,SIM, LRI,D-M,RP
CO1,CO4,CO6 ,CO7,CO8	Assess pediatric lymphadenopathy by conducting clinical evaluation, selecting and interpreting investigations, obtaining informed consent, performing biopsy or drainage under supervision, and ensuring appropriate postoperative care and follow-up.	3	Experiential-Learning 32.3	PSY-MEC	Does	RP,SDL, CBL,LRI, D-BED
CO1,CO4,CO6 ,CO7,CO8	Assess pediatric patients with neck and soft tissue lesions by performing clinical evaluation, planning and interpreting investigations, obtaining informed consent, executing surgical procedures under supervision, overseeing postoperative care, and reviewing histopathology finding	3	Experiential-Learning 32.4	PSY-MEC	Does	SDL,RP, CBL,LRI, RLE

Practical Training Activity

Practical Training 32.1 : Preoperative Evaluation of Pediatric Surgical Patients

Activity Details
• Demo of pediatric history-taking, risk stratification, consent, and psychological assessment.
• Students practice age-appropriate interviewing, assess risks, and simulate preoperative preparation.
Teacher’s Role
• Demonstrate techniques, guide interactions, supervise practice.
Students’ Role
• Take history, stratify risks, practice consent and psychological assessment under supervision.

Practical Training 32.2 : Perioperative and Postoperative Care in Pediatric Surgery

Activity Details
• The teacher begins by demonstrating preoperative preparation for pediatric patients, including history review, risk assessment, fasting guidelines, consent-taking, psychological reassurance, and sterile setup.
• Students observe, then practice preparing a simulated patient, performing tasks such as marking the operative site, checking investigations, and counselling caregivers.
• The teacher next demonstrates immediate postoperative care, covering vital monitoring, airway care, wound dressing, pain management, and fluid balance.
• Students then practice monitoring and wound management on models or patients under supervision, followed by simulated early mobilization techniques and discharge

counselling for parents.
• At the end, students prepare a mini check-list or protocol combining preoperative and immediate postoperative steps for reinforcement.
Teacher's Role
• Demonstrate preop and postop protocols in detail.
• Provide simulation setups or bedside opportunities.
• Supervise students during performance, ensuring safety and accuracy.
• Emphasize integration of technical care with communication and counselling.
Students' Role
• Observe demonstration carefully and note sequence of steps.
• Perform preop preparation tasks and postoperative care measures on models/patients.
• Practice discharge counselling in role-play or real settings.
• Consolidate learning by drafting a stepwise protocol/checklist.

Practical Training 32.3 : Diagnosis and Surgical Management of Undescended and Ectopic Testis in Pediatric Patients

Activity Details
• Demo of pediatric preop prep and postop care.
• Students practice monitoring, wound care, mobilization, and counseling.
Teacher's Role
• Demonstrate, guide, correct.
Students' Role
• Perform prep and postop tasks under supervision.
1. Clinical Evaluation of Undescended Testis
Demonstration on pediatric anatomical models showing physical examination techniques such as positional testis evaluation, transillumination test, and inguinal palpation.
2. Diagnostic Imaging Interpretation
Case-based group discussion using pediatric ultrasound and MRI films to differentiate between retractile, ectopic, and truly undescended testes.
3. Surgical Anatomy and Approach Planning
3D models or virtual simulation to demonstrate surgical anatomy of the inguinal canal and testicular descent pathway. Trainees assist in simulated orchidopexy procedure.
4. Simulation of Orchidopexy Procedure
Step-by-step demonstration followed by student-assisted simulated orchidopexy on synthetic pediatric pelvic models.
5. Postoperative Monitoring and Complication Recognition
Role play and mannequin-based simulation of postoperative care—checking wound site, monitoring for complications like hematoma or testicular atrophy.
1. Identification and Clinical Examination of Ectopic Testis

Demonstration on pediatric pelvic and inguinoscrotal region simulators showing examination techniques to differentiate ectopic, retractile, and undescended testes.
2. Interpretation of Diagnostic Investigations
Case-based discussion with simulated reports of ultrasound and MRI to locate testicular position and assess viability.
3. Understanding Surgical Options and Preoperative Planning
Interactive model-based demonstration explaining surgical approaches (e.g., trans-inguinal or trans-peritoneal) and patient positioning.
4. Assisted Simulation of Surgical Correction (Orchidopexy)
Supervised hands-on activity using synthetic tissue models to simulate exposure, dissection, mobilization, and fixation of ectopic testis.
5. Simulation of Postoperative Monitoring and Counseling
Scenario-based simulation of immediate post-op care, wound management, and parent counseling using mannequins or standardized patients.

Practical Training 32.4 : Assessment and Surgical Management of Pediatric Lymphadenopathy

Activity Details
• Demo of systematic lymph node exam and interpretation of investigations.
• Teacher demonstrates simulated excision biopsy and postop care.
• Students practice exam, discuss decision-making, perform simulation, and practice care under supervision.
Teacher's Role
• Demonstrate exam, investigation correlation, biopsy simulation, and care.
• Supervise and guide students in each step.
Students' Role
• Perform exam, interpret investigations, decide intervention.
• Practice excision biopsy on simulators and manage postop care.
1. Clinical Examination and Identification of Enlarged Lymph Nodes
Demonstration and hands-on practice on pediatric mannequins or simulation models showing systematic palpation of cervical, axillary, and inguinal lymph nodes.
2. Interpretation of Diagnostic Investigations
Small group discussion with simulated lab results (CBC, ESR, Mantoux test, FNAC reports) and ultrasound images of lymph nodes.
3. Decision-Making for Surgical Management (Excision Biopsy/Drainage)
Facilitated discussion and flowchart exercises on when to opt for biopsy versus conservative management, using pediatric case scenarios.
4. Simulation of Lymph Node Excision Biopsy
Hands-on activity using anatomical models to simulate surgical excision technique, including incision planning, dissection, and hemostasis.
5. Postoperative Wound Care and Follow-Up Planning
Demonstration of wound dressing techniques and interactive discussion on post-op care, infection signs, and follow-up protocols.

Practical Training 32.5 : Demostration of Evaluation and Surgical Management of Pediatric Neck Masses

Activity Details
• Demo of clinical exam for pediatric neck masses (thyroglossal cyst, branchial cyst, lymphangioma).
• Teacher demonstrates interpretation of investigations and basic surgical steps on models/cases.
• Students practice exam, discuss findings, and perform guided surgical steps in simulation.
Teacher's Role
• Demonstrate exam, diagnostics, and surgical steps.
• Supervise and correct student practice.
Students' Role
• Perform exam, interpret investigations, and practice surgical steps under guidance.
1. Clinical Examination and Identification of Pediatric Neck Masses
Demonstration and guided practice using pediatric mannequins and 3D anatomical models to identify characteristic locations and clinical features of soft tissue swellings like thyroglossal and branchial cysts.
2. Diagnostic Investigations Interpretation
Small group tutorials using simulated investigation reports (USG, CT scan, FNAC findings) to differentiate cystic and solid neck lesions.
3. Surgical Planning for Lymphangioma and Congenital Neck Cysts
Interactive discussion and flowchart-based exercises on indications, timing, and selection of surgical approach (e.g., Sistrunk procedure for thyroglossal cyst).
4. Surgical Simulation on Models
Hands-on surgical simulation on models for:

- Sistrunk procedure
  Excision of branchial cyst
- Dissection of superficial lymphangiomas

5. Postoperative Care and Follow-up
Demonstration of wound care and role-play exercises for postoperative counseling, recurrence prevention, and signs of complications.

Experiential learning Activity

Experiential-Learning 32.1 : Perioperative Care in Pediatric Surgery

Activity Details
• Students conduct preop evaluation, ASA grading, counseling/consent, documentation, postop monitoring, wound care, mobilization, discharge planning, and parental education.
Teacher’s Role
• Provide cases, supervise each step, ensure safety.
Students’ Role
• Perform evaluation, care, counseling, and education under guidance.
1. Independent Pediatric Preoperative Evaluation
Student independently conducts full pediatric surgical history and physical exam in OPD/ward under faculty supervision.
2. Risk Stratification and Surgical Planning
Student formulates perioperative risk assessment and surgical plan, including ASA grading and anesthesia discussion.
3. Consent and Caregiver Counseling
Student independently obtains informed consent, explains risks and benefits to caregivers using layman's language.
4. Preoperative Preparation and Documentation
Student performs preoperative checklists, fasting instructions, medication reconciliation, and surgical site verification.
5. Real-time Postoperative Monitoring and Charting
Student manages postoperative patient monitoring—vitals, IV fluids, pain scoring, under supervision in recovery/ward.
6. Wound Care and Mobilization Planning
Teaching-Learning Method:
Student performs wound inspection and dressing changes; initiates early mobilization protocol in real patients.
7. Discharge Planning and Parental Education
Student prepares discharge summary and conducts caregiver counseling for home care, follow-up, and medication compliance..

Experiential-Learning 32.2 : Clinical and Surgical Competency in Management of Undescended and Ectopic Testis

Activity Details
• Students start with systematic evaluation of pediatric patients suspected of undescended or ectopic testis, taking focused history and performing age-appropriate clinical examination.
• They then interpret diagnostic tools such as ultrasound, hormonal studies, and relevant laboratory investigations, correlating findings with clinical presentation.
• Students conduct caregiver counselling, explaining the diagnosis, treatment plan, risks/benefits, and expected outcomes in simple, reassuring language.
• In the operating room, students assist in surgical management (orchidopexy/orchidectomy), practicing sterile technique, instrument handling, and observing critical surgical steps.

• Postoperatively, they participate in monitoring vitals, wound management, pain relief, early mobilization, and discharge planning.
• Students also provide follow-up care, ensuring continuity and integrating both modern protocols and holistic supportive measures.
• Each student maintains a clinical logbook, documenting evaluation, diagnostic interpretation, surgical exposure, and follow-up care, followed by reflective discussion in groups.
Teacher's Role
• Assign real pediatric cases and supervise history, examination, and diagnostic interpretation.
• Oversee counselling sessions, correcting communication gaps.
• Guide during surgical procedures, ensuring safe and meaningful student participation.
• Supervise postoperative monitoring and discharge planning, emphasizing holistic care.
• Lead group reflection and case-based discussions for deeper learning.
Students' Role
• Independently examine patients, interpret diagnostics, and engage caregivers in counselling.
• Assist in surgical management under supervision, practicing aseptic and technical skills.
• Deliver supervised postoperative care and follow-up.
• Document each case comprehensively and share reflections during group sessions.

Experiential-Learning 32.3 : Integrated Management of Pediatric Lymphadenopathy

Activity Details
• Students evaluate pediatric lymphadenopathy cases, select/interpret investigations, counsel caregivers, and obtain consent.
• Perform biopsy or drainage under supervision.
• Provide postoperative care and plan follow-up.
Teacher's Role
• Provide cases, supervise evaluation, biopsy/drainage, and postop care.
• Guide safe technique and decision-making.
Students' Role
• Conduct evaluation, investigations, and counselling.
• Perform supervised procedure and deliver postop care with follow-up.

Experiential-Learning 32.4 : Comprehensive Management of Pediatric Neck and Soft Tissue Lesions

Activity Details
• Students evaluate pediatric neck/soft tissue lesions, plan and interpret investigations, and counsel with consent.

• Perform surgical procedures under supervision.
• Provide postop care and review histopathology findings with team.
Teacher's Role
• Provide cases, supervise evaluation, surgery, and postop care.
• Guide interpretation of investigations and histopathology.
Students' Role
• Conduct evaluation, plan/interpret tests, and obtain consent.
• Perform supervised surgery, deliver postop care, and review reports.

Modular Assessment

Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be for 25 marks. Keep a structured marking pattern. Keep a record of the structured pattern used for assessment. Calculate the Modular grade point as per Table 6 C. Select any one or two methods for the assessment. To assess postgraduate competency in managing pediatric surgical conditions and understanding perioperative care principles, a multi-modal assessment approach is used. This includes structured clinical reasoning, theory articulation, and skill demonstration, proportionally distributed across 25 marks. 1. ABQ – Applied Based Questions (25 Marks) • One Application-Based Question (AABQ will be framed using clinical vignettes from conditions such as an undescended testis or a lymphangioma. • Students will be required to interpret history, clinical signs, and imaging findings, and proceed to justify the surgical approach and anticipate perioperative challenges. • Each ABQ (25 marks × 1) will focus on integration of Ayurvedic and modern perspectives—for example, applying *shotha* chikitsa principles in congenital neck swellings or surgical reasoning in cryptorchidism. • The emphasis will be on correlating diagnosis with decision-making and surgical readiness.OR 2. SAQ – Short Answer Questions (5 Marks) • Five SAQs (5 marks each) will test knowledge recall and conceptual clarity. Topics may include: • Steps of preoperative fitness evaluation in pediatric cases • Common postoperative complications and their management • Types and presentations of ectopic testis • Differential diagnosis of midline neck swellings • Surgical principles in lymphangioma vs. branchial cyst	2

• These questions ensure vertical integration of anatomy, pathology, and surgical decision-making in pediatric contexts. OR

3. OSPE – Objective Structured Practical Examination (5 Marks)
• A three-station OSPE (2 + 2 + 1 marks) will be used to test procedural reasoning and anatomical recognition.
• Station 1: Identification and interpretation of scrotal ultrasonography or Doppler images (2 marks)
• Station 2: Dummy model-based simulation of clinical examination for undescended testis or cervical mass palpation (2 marks)
• Station 3: Fill a brief checklist of pre-op preparation for pediatric neck mass surgery (1 mark)

This structured format ensures assessment of both procedural steps and critical thinking in pediatric surgical scenarios. OR
4. CL-PR – Clinical Problem Reasoning (5 Marks)
• In this exercise, students will be given a short clinical scenario (e.g., a child with a painless midline neck swelling moving with deglutition) and asked to:

• Differentiate between a thyroglossal cyst and a dermoid cyst
• Justify the choice of investigation and imaging
• Outline surgical planning and possible intraoperative difficulties
Marks are awarded for reasoning clarity (2), diagnostic accuracy (2), and postoperative consideration (1), bringing the total to 5 marks. OR
Any practical in converted form can be taken for assessment (25 Marks) And
Any Experiential Learning as portfolio / reflections / presentations, can be taken as an assessment. (25 Marks)

Table 4 : Practical Training Activity

(*Refer table 3 of similar activity number)

Practical No*	Practical name	Hours
1.1	Anti-inflammatory Treatment Modalities	2
1.2	Anti-inflammatory Treatment Modalities	2
1.3	Identification of diagnostic challenges complications of Prameha pidaka	2
1.4	complications of Prameha pidaka	2
1.5	Identification of diagnostic challenges complications of Prameha pidaka	2
1.6	Assessment of DFU healing	2
1.7	Documentation of healing of DFU	2
1.8	DFU management	2
1.9	Recent advancements in DFU management	2
1.10	Cellulitis and Erysipelas	2
2.1	Recent advancements in the managements Burn injury with Scope for Ayurveda Treatment	2
2.2	Recent advancements in the managements Burn injury with Scope for Ayurveda Treatment	2
2.3	Recent advancements in the management Burn injury with Scope for Ayurveda Treatment	2
2.4	Mechanisms of action associated with advanced techniques in wound healing	2
2.5	Mechanisms of action of advanced techniques in wound healing	2
3.1	Anaesthesia Equipment	3
3.2	Preoperative evaluation and preanesthetic medication	3
3.3	Preoperative evaluation and preanesthetic medication	2
3.4	Airway management	2

3.5	Airway Management	2
3.6	Role of ayurvedic medicines in sangyaharan	2
3.7	Pharmacology of drugs related to anaesthesia	3
3.8	Pharmacology of drugs related to anaesthesia	3
4.1	General Anaesthesia	3
4.2	General Anaesthesia	3
4.3	Central Neuraxial block	3
4.4	Central Neuraxial block	2
4.5	Central Neuraxial block	2
4.6	Peripheral Nerve Blocks, Surface anaesthesia, Infiltration and Field blocks and medicolegal aspects	3
4.7	Peripheral Nerve Blocks, Surface anaesthesia, Infiltration and Field blocks and medicolegal aspects	2
4.8	Peripheral Nerve Blocks, Surface anaesthesia, Infiltration and Field blocks and medicolegal aspects	2
5.1	Anaesthesia in different specialities of surgery	3
5.2	Anaesthesia for patients with co-morbid conditions	2
5.3	Monitoring and post operative management in anaesthesia	3
5.4	Monitoring and post operative management in anaesthesia	2
5.5	Lifesaving skills	3
5.6	Lifesaving skills	2
5.7	Anaesthesia in remote locations and recent advances in sangyaharan	3
5.8	Anaesthesia in remote locations and recent advances in sangyaharan	2

6.1	Describe wound exudates	3
6.2	Management Strategies of Burns and Burn wound care	2
6.3	Analysis of wound exudates	3
6.4	Assessment and documentation of Ulcers	2
6.5	Assessment and Documentation of Sinus and Fistula	2
6.6	Assessment and documentation of Ulcers	2
6.7	complications associated with retained foreign bodies	3
6.8	complications associated with retained foreign bodies	3
6.9	complications associated with retained foreign bodies	2
6.10	Identify complications associated with retained foreign bodies, including infection and related clinical outcomes.	2
6.11	Examination of a case of Acute trauma	2
6.12	Innovative treatment strategies to enhance wound healing.	2
7.1	Benign & Malignant Cysts	2
7.2	Clinicopathology & Prognostic factors of Soft tissue Tumour	2
7.3	Evaluate clinicopathological and prognostic factors of soft tissue tumours in applied case settings.	3
7.4	Treatment protocol of Tumor	2
7.5	Treatment protocol of Tumor	3
7.6	Key factors to the Metastatic stages and Diagnosis	2
7.7	Key factors to the Metastatic stages and Diagnosis	2
7.8	Complications and Ayurveda Treatment in the Post chemo therapy and Radiotherapy complications	2

7.9	Complications and Ayurveda Treatment in the Post chemo therapy and Radiotherapy complications	2
8.1	Principles of reconstructive Surgery	2
8.2	skin grafts and flaps & their respective types with specific indications for each type	2
8.3	Principles and techniques of Nasa Sandhana (Rhinoplasty,), Karna Sandhana (Auroplasty), Ostasandhana(Cheiloplasty) and its Post operative Care described by Sushruta	2
8.4	Principles and techniques of Karna Sandhana (Auroplasty), and its Post operative Care described by Sushruta	2
8.5	Principles and techniques of Ostasandhana(Cheiloplasty) and its Post operative Care described by Sushruta	2
8.6	Techniques and tools used in reconstructive and cosmetic surgery.	2
8.7	Techniques and tools used in reconstructive and cosmetic surgery.	2
8.8	Leech Therapy in Plastic and Reconstructive Surgery Role of Jalaukavacharana/Leech therapy in Plastic surgery and its recent advancements.	2
8.9	Concept of Transplant surgery and Organ transplantation	2
8.10	Concept of Transplant surgery and Organ transplantation	2
9.1	Applied fundamentals of Orthopaedis Practice.	2
9.2	Sandhaniya & Ropniya drugs in context to Bhagna Sandhaana in clinical scenarioes.	1
9.3	Fundamentals of Orthopaedic practice & understanding the development , ossification pattern & its implication in the fracture healing & metabolic disorder. Demonstrate the application of anatomical and physiological fundamentals in orthopaedic practice.	1
9.4	Practical understanding regarding the prompt, effective & efficient incorporation of the primary care in orthopaedic trauma	2
9.5	Prompt, effective & efficient incorporation of the primary care in orthopaedic trauma.	1
9.6	Demonstrate history taking, clinical examination, and assessment for general orthopaedic disorders in practical settings.	2
9.7	Trauma cases and their management.	1
9.8	Medico-legal concerns & initiating the trail of documentation in orthopaedic practice.	2

9.9	Investigations in Orthopaedic practice.	2
9.10	Planning Investigations in Orthopaedic practice	2
9.11	Medico-legal concerns & trail of documentation in orthopaedic practice.	2
9.12	Pathya-Apathya Sandhaniya & Ropniya drugs in context to Bhagna Sandhaana in clinical scenarioes.	2
10.1	Marma as per its anatomical correlation (Shakha marma, Uromarma, Udara marma and Prrishta marma)	2
10.2	Marma & their anatomical correlation (Jatrurdhwagata marma)	1
10.3	Sports Fittness	2
10.4	Marma therapy, Manipulation techniques, & Adankal manoeuvre.	2
10.5	Traction manoeuvre & orthopaedics appliances	1
10.6	Developments & scope of Research in Marma for Orthopaedics Specialty	2
10.7	Developments & scope of Research in Marma for Kreeda Bheshaja (sports medicine)	1
10.8	Applied fundamentals of Kreeda Bheshaja (Sports Medicine)	2
10.9	Applied fundamentals of Kreeda Bheshaja (Sports Medicine).	2
10.10	Physical fitness & athletic performance	2
10.11	Understanding the First-Aid Protocols for Sports Injuries	2
10.12	Sports Injuries Management Protocol.	1
11.1	Congenital & acquired orthopaedic conditions & Non-Traumatic orthopaedic condition	2
11.2	Congenital & acquired regional Musculo-skeletal disorders	1
11.3	Metabolic, Infective Endocrinological , Neuro-muscular orthopaedic disorders &osteo-necrosis &AVN	2
11.4	Metabolic, Infective Endocrinological , Neuro-muscular orthopaedic disorders &osteo-necrosis &AVN	1

11.5	Asthigata Arbuda (Tumours of the Bone)	2
11.6	Asthigata Arbuda (Tumours of the Bone)	1
11.7	Musculo-skeletal injuries with emphasis on Paediatric & Geriatric Trauma.	2
11.8	Session 1: : Musculo-skeletal injuries with emphasis on Paediatric & Geriatric Trauma.	2
11.9	Disorders of the Arteries, Veins, lymphatic system & Nerves.	2
11.10	Disorders of the Arteries, Veins, lymphatic system & Nerves.	2
11.11	Diagnostic & Therapeutic Arthroscopy	1
11.12	Diagnostic & Therapeutic Arthroscopy	2
12.1	General Principle of Bhagna Chikitsa & Punachesta prasaar (Rehabilitation)	2
12.2	General Principle of Bhagna Chikitsa & Punachesta prasaar (Rehabilitation)	1
12.3	Knowledge about Orthopaedic implants, external fixators, splints, orthotics, prosthetics & other relevant equipment	2
12.4	Knowledge about Orthopaedic implants, external fixators, splints, orthotics, prosthetics & other relevant equipment	1
12.5	Management of Individual Bone and Joint injuries Conservative	2
12.6	Management of Individual Bone and Joint injuries Conservative	1
12.7	Surgical Management of Individual Bone and Joint injuries.	2
12.8	Surgical Management of Individual Bone and Joint injuries.	2
12.9	Strategy of prompt identification, primary care, initial assessment & management plan in Head & spine injuries	2
12.10	Strategy of prompt identification, primary care, initial assessment & management plan in Head & spine injuries	2
12.11	Management of Diseases of the bone & regional Orthopaedic disorders: Conservative & Surgical management	1
12.12	Management of Diseases of the bone & regional Orthopaedic disorders: Conservative & Surgical management	2

13.1	Unit-1: Systemic complications in relation to the orthopaedic injuries.	2
13.2	Systemic complications in relation to the orthopaedic injuries.	1
13.3	Practical exposuers of Systemic complications in relation to the orthopaedic injuries.	2
13.4	Emergent conditions	2
13.5	Pulmonary, Delayed & Vascular complications in relation to the orthopaedic injuries	2
13.6	Pulmonary, Delayed & Vascular complications in relation to the orthopaedic injuries	1
13.7	Corrective orthopaedics surgery	2
13.8	Corrective Orthopaedics	1
13.9	Attain Clinical Exposures for Types & biology of bone grafting, over view of bone banking in the clinical scenarios & workshops.	2
13.10	Attain Clinical Exposures for over view of bone banking & Principles & indications of bone transportation in the clinical scenarios & workshops.	2
13.11	Amputation Surgery.	1
13.12	Arthrodesis & Arthroplasty.	2
14.1	Diagnosis of Ashmari	2
14.2	Diagnosis of Ashmari	2
14.3	Diagnosis of Mutraghata	2
14.4	Diagnosis of Mutrakrichhra	2
14.5	Diagnosis of Niruddhaprakasha	2
14.6	Diagnosis of Parivartika, Avapatika	3
14.7	pre-procedure of Uttarbasti	2
14.8	Procedre of Uttarbasti	3

14.9	Diagnosis of male infertility	2
15.1	Anatomy and physiology of the Retroperitoneum, Kidney, Ureter, and Urinary bladder	2
15.2	Clinical examinations of Congenital anomalies, Trauma, Infection of Kidney & ureter.	2
15.3	Diagnosis of Neoplasm of Kidney & ureter	2
15.4	Diagnosis of Hydronephrosis, Hydroureter, Haematuria	3
15.5	Diagnosis of renal failure and and to know the procedure of dialysis	3
15.6	Diagnosis of Congenital anomalies, Trauma, Infection & Neoplasm of urinary bladder	3
15.7	Diagnosis of Diverticulum, Vesico-vaginal fistula, cystocele.	2
15.8	Diagnosis of atony, retention of urine, neurogenic bladder, overactive bladder, urinary incontinence	3
16.1	Anatomy and physiology of Prostate, Penis & Urethra	2
16.2	Diagnosis of congenital anomalies, Trauma, Infection of Prostate gland	2
16.3	Diagnosis of Neoplasm of Prostate (BPH & Ca. Prostate)	2
16.4	Diagnosis of Prostatic abscess, calculi and ejaculatory duct obstruction (EDO)	2
16.5	diagnosis of Congenital anomalies, Trauma, Infection Lingaarsha and Neoplasm of Shisna (Ca. Penis)	2
16.6	Diagnosis of Phimosis, Paraphimosis	3
16.7	Diagnosis of Prepuseal ulcer, Priapism, Erectile dysfunction, Chordee, Penile fracture	3
16.8	Diagnosis of Hypospadias, Epispadias	2
16.9	Diagnosis of urethral stricture, meatal stenosis, urethra-cutaneous fistula	2
17.1	Diagnosis and application of conservative and surgical management of oral ulcer, stomatitis, submucosal fibrosis, leucoplakia, precancerous conditions, and oral cancer, including the use of Ayurvedic drugs and procedures under supervision.	2
17.2	Interpretion of clinical findings and performing diagnostic and endoscopic procedures, and application and adaption of conservative as well as surgical management for gastro-oesophageal disorders under supervision.	3

17.3	Interpretation of diagnosis and discuss conservative and perform surgical management of lip tumours, mucosal cysts, tongue ulcers, tongue tie, tongue neoplasms, nasopharyngeal cancer, and demonstrate reconstructive surgery of cleft lip and cleft palate under supervision.	2
17.4	DemonstratIon of diagnostic skills, perform endoscopic procedures, and apply conservative as well as surgical management for gastro-oesophageal reflux, reflux oesophagitis, dysphagia, motility disorders, achalasia cardia, diverticula, strictures, and benign and malignant neoplasms of the oesophagus under supervision.	3
18.1	Diagnosis of pyloric stenosis,Gastritis, Gastric ulcer and other disorders of stomach and demonstration of suitable surgical procedures e.g. gastric bypass procedure- Gastrojejunostomy etc. under supervision.	2
18.2	Diagnosis, observation and assisting surgical procedures for the management of pyloric stenosis and gastric bypass (e.g., gastrojejunostomy) under supervision	2
18.3	Interprete the diagnosis of pyloric stenosis and observation for surgical procedure of gastric bypass (e.g., gastrojejunostomy) for it.through live or video demonstrations	2
18.4	Diagnosis of duodenitis, duodenal ulcer, perforated and bleeding peptic ulcer, and duodenal neoplasms and demonstration of their conservative and surgical management e.g. Upper GI endoscopy under supervision.	2
18.5	Interpretion of diagnosis, and application of conservative and surgical management of duodenitis, duodenal ulcer, perforated and bleeding peptic ulcer, and neoplasm of the duodenum using live/operative videos, and demonstration of Upper GI endoscopy under supervision.	2
18.6	Interpretation of Diagnosis of Parinam Shool and Annadrava Shool, advise suitable investigations and demonstration of the application of Ayurvedic formulations their management	2
18.7	Diagnosis of Parinam Shool and Annadrava Shool., suggest suitable investigations and demonstration of the application of Ayurvedic formulations for its management.	2
18.8	Interpretion of the diagnosis enlisting related investigations and demonstrate the application of appropriate Ayurvedic formulations for Parinamshool and Annadrava Shool.	2
18.9	Diagnosis and applyication of conservative and surgical management of intestinal obstruction, perforation, and resection anastomosis using live or operative videos under supervision.	2
18.10	Diagnosis and apply conservative and surgical management of intestinal obstruction, perforation, and resection anastomosis using live or operative videos under supervision.	2
18.11	Diagnosis and application of conservative and surgical management of intestinal obstruction, perforation, and resection anastomosis using live or operative videos under supervision.	2

18.12	Interpretion of radiology and histopathology findings and perform surgical management of abdominal tuberculosis complications, including intraperitoneal abscess, stricture, intestinal obstruction, and perforation under supervision.	2
18.13	Interpretion of diagnostic evaluations, including radiology and histopathology, and performing surgical management of complications of abdominal tuberculosis such as intraperitoneal abscess, stricture, intestinal obstruction, and perforation under supervision	2
18.14	Diagnostic obervation and its interpretation for Urdhwag Rktapitta	2
18.15	Interpretion of diagnostic evaluation of gastrointestinal bleeding through endoscopy, USG, and CT findings and perform its surgical management.	2
19.1	Application ofdiagnostic tools for salivary gland disorders, thyroglossal cyst and fistula, branchial cyst and fistula, and cystic hygroma, and interpret thyroid function tests in practical settings.	2
19.2	Application of diagnostic tools for salivary gland disorders, thyroglossal cyst and fistula, branchial cyst and fistula, and cystic hygroma, and interpret thyroid function tests in practical settings.	2
19.3	Demonstration of different conventional surgical techniques of neck disorders and illustration of the Chedan and other suitable Ayurvedic procedures (Karma) in Ayurveda for the management of Manyagat Granthi and Arbuda under supervision	2
19.4	Demonstration of different conventional surgical techniques of neck disorders and demonstration of the Chedan and other suitable Ayurvedic procedures (Karma) in Ayurveda for the management of Manyagat Granthi and Arbuda.	2
19.5	Demonstration of different conventional surgical techniques of neck disorders and demonstration of the Chedan and other suitable Ayurvedic procedures (Karma) in Ayurveda for the management of Manyagat Granthi and Arbuda.	2
20.1	Interpretion of the diagnosis of Liver abscess, hydatid cyst, Primary and Secondary malignant tumours of liver and illustration of their conservative and surgical management..	2
20.2	Interpretion of the diagnosis of Liver abscess, hydatid cyst, Primary and Secondary malignant tumours of liver and illustration of their conservative and surgical management.	2
20.3	Interpretion of the diagnosis of Secondary malignant tumours of liver and illustration of their conservative and surgical management.	2
20.4	Interpretion of the diagnosis of Yakritodara (Portal Hypertension and Budd-Chiari Syndrome etc.) and illustration of their conservative and surgical management.	2
20.5	Interpretion of the differential diagnosis of Congenital anomalies of Gall bladder, Bile duct and vascular.and illustration of their conservative and surgical management.	2

20.6	Interpretion of the differential diagnosis of Acute and Chronic Cholecystitis, Cholelithiasis and neoplasm of Gall Bladder and illustration of their conservative and surgical management,e,g, Cholecystectomy-Open, Laparoscopic with recent advancements	2
20.7	Interpretion of the diagnosis of Acute and Chronic Cholecystitis, Cholelithiasis and neoplasm of Gall Bladder and illustration of their conservative and surgical management,e,g, Cholecystectomy-Open, Laparoscopic with recent advancements	2
20.8	Interpretion of the differential diagnosis of Acute and Chronic Cholecystitis, Cholelithiasis and neoplasm of Gall Bladder and illustration of their conservative and surgical management e.g. Cholecystectomy, Open, Laparoscopic with recent surgical advancements	2
20.9	Interpretion of the differential diagnsis of Cholangitis, Stenosis, Choledocholithiasis, Choledochal Cyst and neoplasm of biliary tree with illustration of their specific conservative and surgical management and recent advancements.	2
20.10	Interpretion of the differenttial diagnosis of Cholangitis, Stenosis, Choledocholithiasis, Choledochal Cyst and neoplasm of biliary tree with illustration of their conservative and surgical management with recent advancements.	2
20.11	Interpretion of differential diagnsosis of Pancreatitis, cyst, calculous and neoplasm of pancreas and illlustration of their specific conservative and surgical management.	2
20.12	Interpretion of the diagnosis of Pancreatitis, cyst, calculous and neoplasm of pancreas through case based scenarios and differentiate their conservative and surgical management.	2
20.13	Interpretion of the diagnosis of Splenomegaly, Splenic Injury and neoplasm of spleen wiith their appropriate differential diagnosis and illustration of their conservative and surgical management.	2
20.14	Diagnostic procedure for hepatobiliary diseases-Practical-I	2
20.15	Diagnostic procedure for hepatobiliary diseases-Practical-II	2
21.1	Diagnosis and evaluation of conservative and surgical management of peritoneal disorders—including peritonitis, pelvic abscess, subphrenic abscess, and malignancy—and omental disorders—including cyst, torsion, and tumour—in practical sessions.	2
21.2	Diagnosis and evaluation of conservative and surgical management of mesenteric disorders—including cyst, torsion, trauma, lymphadenitis, malignancy, and vascular thrombosis—in practical sessions.	2
21.3	Diagnosis and evaluation of conservative and surgical management of mesenteric disorders—including cyst, torsion, trauma, lymphadenitis, malignancy, and vascular thrombosis—in practical sessions.	2
21.4	Performing and evaluating therapeutic outcomes of Udar Patan/Exploratory Laparotomy in practical sessions through Live/ VDO demonstration	2

21.5	Performing examination and investigation with evaluation of live or video-demonstrated surgical management of abdominal mass in practical sessions	2
21.6	Performing examination and investigation and evaluation of live or video-demonstrated surgical management of abdominal mass in practical sessions.	2
21.7	Demonstration of the clinical examiniation of Gulma with respect to its contemoporary corelation and illustration of its surgical management.	2
21.8	Demonstration of the clinical examiniation of Gulma with respect to its contemoporary corelation and illustration of its surgical management.	2
21.9	Demonstration of the conservative and surgical management of retroperitoneal fibrosis, retroperitoneal swelling, retroperitoneal tumour and psoas abscess .	2
21.10	Demonstration of the conservative and surgical management of retroperitoneal fibrosis, retroperitoneal swelling, retroperitoneal tumour and psoas abscess .	2
22.1	Recent advancements in the managements Burn injury with Scope for Ayurveda Treatment	2
22.2	Diagnosis and evaluation of conservative and surgical management of caecal and large intestinal disorders—including congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, and neoplasms—in practical sessions.	2
22.3	Diagnosis and evaluation of conservative and surgical management of caecal and large intestinal disorders—including congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, and neoplasms—in practical sessions.	2
22.4	Diagnosis and evaluation of conservative and surgical management of ulcerative colitis (Grahani), ileostomy, colostomy, and emergency resection anastomosis in practical sessions.	2
22.5	Diagnosis and evaluation of conservative and surgical management of ulcerative colitis (Grahani), ileostomy, colostomy, and emergency resection anastomosis in practical sessions.	2
22.6	Evaluation of ive or video-demonstrated colonoscopy, laparoscopy, and sigmoidoscopy procedures in practical sessions.	2
22.7	Evaluation of live or video-demonstrated colonoscopy, laparoscopy, and sigmoidoscopy procedures in practical sessions.	2
22.8	Diagnosis and evaluation of conservative and surgical management of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—in practical sessions.	2

22.9	Diagnosis and evaluation of conservative and surgical management of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—in practical sessions.	2
22.10	Diagnosis and evaluation of conservative and surgical management of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—in practical sessions	2
22.11	Diagnosis and evaluation of conservative and surgical management of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—in practical sessions.	2
23.1	Present cases of bleeding per anum with differential diagnoses and critically appraise related journal articles	2
23.2	Interpret radiological investigations and present cases of congenital anomalies, ulcers, neoplasms, and other rectal conditions	2
23.3	Interpretion of radiological investigations and presentation of cases of congenital anomalies, ulcers, neoplasms, and other rectal conditions	2
23.4	Perform apprpriate surgical procedures and discuss their indications for Ar?a (haemorrhoids)	2
23.5	Performing apprpriate surgical procedures and discussion on their indications for Ar?a (haemorrhoids)	2
23.6	Perform surgical procedures and discuss their indications for Ar?a (haemorrhoids)	1
23.7	Illustration of case taking and clinical examination for fistula management, identifications of indications for techniques such as LIFT (ligation of intersphincteric fistula tract), core fistulectomy, and K??ras?tra, and presention of related cases in practical sessions.	2
23.8	Illustration of case taking and clinical examination for fistula management, identifications of indications for techniques such as LIFT (ligation of intersphincteric fistula tract), core fistulectomy, and K??ras?tra, and presention of related cases in practical sessions.	2
23.9	Illustration of case taking and clinical examination for fistula management, identifications of indications for techniques such as LIFT (ligation of intersphincteric fistula tract), core fistulectomy, and K??ras?tra, and presention of related cases in practical sessions.	1
23.10	Application of clinical reasoning to identify suitable and unsuitable cases for K??ras?tra Chikits? by evaluating its indications and contraindications during practical sessions.	2
23.11	Conduction of clinical examination, formulatation of differential diagnoses, and develop treatment plans—including medical and surgical management—for anorectal disorders such as Parikartika (fissure-in-ano), Sannirudha Guda (anal stenosis and stricture), Gudavidradhi (perianal abscess), faecal incontinence, anorectal injuries, and foreign bodies in practical sessions.	2
23.12	Conduct clinical examination, formulate differential diagnoses, and develop treatment plans—including medical and surgical management—for anorectal disorders such as Parikartika (fissure-in-ano), Sannirudha Guda (anal stenosis and stricture), Gudavidradhi (perianal abscess), faecal incontinence, anorectal injuries, and foreign bodies in practical sessions.	2

23.13	Conduction of diagnosis and observation of indications of different surgical techniques for pilonidal sinus, identification of their complications, and presentation of related cases in practical sessions	2
23.14	Conduction of diagnosis and observation of indications of different surgical techniques for pilonidal sinus, identification of their complications, and presentation of related cases in practical sessions	2
23.15	Performing clinical and local examinations—including proctoscopy and sphincterotone assessment.	2
23.16	Performing clinical and local examinations—including proctoscopy and sphincterotone assessment.	2
24.1	Application of assessment, diagnostic, conservative, and surgical management principles for thoracic injuries in practical settings.	2
24.2	Application of diagnostic methods and principles of management for abdominal injuries in practical settings.	2
24.3	Application of Nidan and Chikitsa Sutra of Sadyovrana of Udar in practical settings.	2
24.4	Application of diagnostic and management principles, including Nidan and Chikitsa, for gastro-duodenal, pancreatic, small bowel, colonic, liver, splenic, renal, urinary bladder, and pelvic injuries, and determinination of appropriate conservative or surgical interventions in practical settings	2
24.5	Application of diagnostic and management principles, including Nidan and Chikitsa, for gastro-duodenal, pancreatic, small bowel, colonic, liver, splenic, renal, urinary bladder, and pelvic injuries, and determinination of appropriate conservative or surgical interventions in practical settings	2
25.1	Preparation and standardisation of Kshara and Kshara sutra	2
25.2	Importance of sterilization of Ksharasutra	2
25.3	Application of Kshara	2
25.4	Application of different types of Kshara and management of complications	2
25.5	Demonstration of applicability of Kshara sutra	3
25.6	identification and management of complications of Kshara Sutra	3
25.7	Scientific advances in Kshara karma -indications, preparations and procedure	3
25.8	Scientific advances in Kshara Sutra preparation, indictaions and application	3
26.1	Demonstration of types of Agnikarma	2

26.2	Demonstration of the materials used for Agnikarmama	2
26.3	Demonstration of Agnikarma procedure	3
26.4	Demonstration of dagdha lakshana, complications of Agnikarma and their management	2
26.5	Demonstartion of mode of action in Agnikarma	3
26.6	Advanced Agnikarma techniques.	2
26.7	Applicability of modern thermal equipment	3
26.8	Modern thermal equipment	3
27.1	Selection of patients for Rakthamokshana	2
27.2	Selection of patient and procedure for Rakthamokshana	2
27.3	Demonstration of Rakthamokshana procedure	3
27.4	Demonstartion of identification and managemnet of complications of Rakthamokshana	3
27.5	Identification, collection and storage of medicinal leeches	3
27.6	Demonstration of mode of action-leech therapy	2
27.7	Demonstration of Jalaukavacharana	3
27.8	Recent advances in Rakthamokshana	2
28.1	Breast applied anatomy	1
28.2	Clinical identification of Nidana Panchaka of Stanaroga	2
28.3	Stanaroga Chikitsa	2
28.4	Diagnosis of inflammatory and benign breast diseases	3
28.5	Demonstration of surgical interventions in inflammatory and beningn breast conditions	3

28.6	Diagnosis and management of malignant breast diseases	2
28.7	Diagnosis and management of malignant breast diseases	2
28.8	Diagnosis and management of malignant breast diseases	3
28.9	Phyllodes Tumor: Hands-on Diagnosis and Management	2
29.1	Diagnosis and Mangement of Vriddhi roga in Ayurveda.	2
29.2	Demonstration of diagnosis and management of abdominal wall hernia	3
29.3	Demonstration of diagnosis and management of abdominal wall hernia	3
29.4	Demonstration of diagnosis and management of abdominal wall hernia	3
29.5	Management strategy - Abdominal wall infections and synergistic gangrene	3
29.6	Management strategy for cuatneous fistilas of the abdominal wall	2
29.7	Management startegy for Abdominal compartment syndrome	2
29.8	Management strartegy for Abdominal wall neoplasms	2
30.1	Congenital anamalies of scrotum and testes-diganostic and management profile	2
30.2	Congenital anamalies of scrotum and testes-diganostic and management profile	2
30.3	Scrotal Cysts - Dignostic evaluation and management outline	2
30.4	Clinical understanding of Scrotal and Tesetcular cysts	2
30.5	Diagnosis and Management of Scrotal Fluid Collections	2
30.6	Varicocele Diagnosis and Operative Techniques	2
30.7	Dignostic and management profile - Surgical conditions of Testes	2
30.8	Dignostic and management profile - Surgical conditions of Testes	2

30.9	Dignostic and management profile - Surgical conditions of Testes	2
30.10	Dignostic and management profile - Surgical conditions of Testes	2
31.1	Diagnostic and Therapeutic Laparoscopy	2
31.2	Virtual Laparoscopic Anatomy	2
31.3	Pneumoperitoneum Creation	2
31.4	Energy Devices in Surgery: Principles, Practice, and Comparative Analysis	2
31.5	Managing Energy Device Failures and Medico-Legal Aspects in Laparoscopic Surgery	2
31.6	Basic Laparoscopic Equipment Handling and Imaging Techniques	2
31.7	Laparoscopic Access and Stapling Techniques	2
31.8	Advanced Devices and Instrument Care in Laparoscopy	3
31.9	imulation-Based Training in Laparoscopic Complication Management	2
31.10	Anaesthetic Challenges and Equipment Troubleshooting in Laparoscopy	2
31.11	Crisis Management and Reflective Learning in Laparoscopic Surgery	3
31.12	Introduction to Robotic Surgery: Theory and Simulator Training	2
31.13	Robotic Surgery Observation, Counseling, and Current Trends	2
31.14	Introduction to Bariatric Surgery: Techniques, Indications, and Outcomes	2
32.1	Preoperative Evaluation of Pediatric Surgical Patients	2
32.2	Perioperative and Postoperative Care in Pediatric Surgery	2
32.3	Diagnosis and Surgical Management of Undescended and Ectopic Testis in Pediatric Patients	2
32.4	Assessment and Surgical Management of Pediatric Lymphadenopathy	2

32.5	Demostration of Evaluation and Surgical Management of Pediatric Neck Masses	2

Table 5 : Experiential learning Activity

(*Refer table 3 of similar activity number)		
Experiential learning No*	**Experiential name**	**Hours**
1.1	Treatment of Vrana Sopha and Vidradhi,	3
1.2	Procedure for Incision & Drainage of Abscess	2
1.3	Treatment of Diabetic Carbuncle	3
1.4	Examination of DFU and assessment of its Characteristics features as per Ayurveda	3
1.5	Examination of DFU and assessment of its Characteristics features as per Ayurveda	2
1.6	Care of Limb and Care of DFU	3
1.7	Care of Limb and Care of Diabetic Foot Ulcer	2
1.8	Cellulitis and erisepelas	4
1.9	Description of Cellulitis limb care strategies in Cellulitis, Scope of Ayurveda treatment in the Cellulitis and Erysipelas	4
2.1	Management of acute trauma	3
2.2	Advancements in wound treatment	4
3.1	Assembly and checking of Anaesthesia Equipment	4
3.2	Preoperative evaluation, referral & preanaesthetic check-up of patient	3
3.3	Preoperative evaluation, referral & preanaesthetic check-up of patient	3
3.4	Airway management	3
3.5	Airway management	3
3.6	Pharmacology of Ayurvedic sangyaharan Drugs	2

3.7	Pharmacology of drugs related to anaesthesia	4
3.8	Pharmacology of drugs related to anaesthesia	4
4.1	General Anaesthesia	3
4.2	General Anaesthesia	3
4.3	General Anaesthesia	3
4.4	Central Neuraxial block	3
4.5	Central Neuraxial block	3
4.6	Central Neuraxial block	3
4.7	Peripheral Nerve Blocks, Surface anaesthesia, Infiltration and Field blocks and medicolegal aspects	3
4.8	Peripheral Nerve Blocks, Surface anaesthesia, Infiltration and Field blocks and medicolegal aspects	3
4.9	Peripheral Nerve Blocks, Surface anaesthesia, Infiltration and Field blocks and medicolegal aspects	2
5.1	Anaesthesia in different specialities of surgery	4
5.2	Anaesthesia for patients with co-morbid conditions	4
5.3	Monitoring and post operative management in anaesthesia	3
5.4	Monitoring and post operative management in anaesthesia	3
5.5	Lifesaving skills	4
5.6	Lifesaving skills	3
5.7	Anaesthesia in remote locations and recent advances in sangyaharan	3
5.8	Anaesthesia in remote locations and recent advances in sangyaharan	2

6.1	Demonstrate Shasti Upakrama	3
6.2	Applicability of Shashti Upakrama	3
6.3	Explain the aetiology of burns and outline management strategies, complications, and long-term care approaches.	4
6.4	Management Strategies of Burns and Burn wound care.	4
6.5	Management Strategies of Burns	3
6.6	Management Strategies of Burns	2
6.7	Describe the strategies to understand and manage factors contributing to delayed wound healing	3
6.8	Application of strategies to understant and manage factors contributing to delayed wound healing	3
6.9	Perform diagnostic procedures using imaging (X-ray, ultrasound) and assist in the safe removal of hidden foreign bodies with surgical or minimally invasive methods.	4
6.10	Perform diagnostic procedures using imaging (X-ray, ultrasound) and assist in the safe removal of hidden foreign bodies with surgical or minimally invasive methods.	4
6.11	Adapt diagnostic and imaging procedures (X-ray, ultrasound) and assist in the safe removal of hidden foreign bodies using surgical or minimally invasive methods.	5
6.12	Management of acute trauma	3
6.13	Innovative contributions of Ayurveda to wound care.	4
7.1	Indications of surgery in cysts and Types of surgeries indicated	4
7.2	Staging of Soft tissue Tumour	4
7.3	Evaluate therapeutic advancements in the management of soft tissue tumours.	3
7.4	Therapeutic advancements in the Soft tissue Tumour	3
7.5	Surgical Resection, Indications- Session I	3

7.6	Surgical Resection, Indications - Session Ii	3
7.7	Procedure of Chemotherapy and Radiotherapy	3
7.8	Procedure of Chemotherapy and Radiotherapy	3
8.1	Principles of cosmetic Surgery	3
8.2	healing time and clinical applications of skin grafts and their respective outcomes and limitations	3
8.3	grafts and flap and their respective outcomes and limitations	2
8.4	Principles and techniques of Nasa Sandhana (Rhinoplasty,), Karna Sandhana (Auroplasty), Ostasandhana(Cheiloplasty) and its Post operative Care described by Sushruta	3
8.5	Principles and techniques of Nasa Sandhana (Rhinoplasty,), Karna Sandhana (Auroplasty), Ostasandhana(Cheiloplasty) and its Post operative Care described by Sushruta	2
8.6	Tissue expansion, Reservoir of tissue expansion , Liposuction, Implants and Biomaterials	4
8.7	Leech Therapy in Plastic and Reconstructive Surgery Role of Jalaukavacharana/Leech therapy in Plastic surgery and its recent advancements.	4
8.8	Principles of Transplantation, Concept of Brain death, Organ Retrieval and Immunosuppression in Transplantation. Fundamentals, General principles and surgical techniques of Renal and Liver Transplantation.	3
8.9	Principles of Transplantation, Concept of Brain death, Organ Retrieval and Immunosuppression in Transplantation. Fundamentals, General principles and surgical techniques of Renal and Liver Transplantation.	2
9.1	Applied knowledge about the embryological development, Ossification Histology, Anatomy & Physiology of Tarunasthi, Asthi & Sandhi.	2
9.2	Recent Advancements in the form of Biophysiological for the enhancement of Fracture healing.	3
9.3	Applied knowledge about the embryological development, Ossification Histology, Anatomy & Physiology of cartilage, bone & joints.	2
9.4	Musculo-skeletal Injuries and their primary care.	2
9.5	Musculo-skeletal Injuries and medico-legal aspects in them.	2

9.6	Detailed Case Taking of General orthopaedics disorders.	2
9.7	Detailed Case Taking of Trauma cases.	2
9.8	Case taking in Medico legal scenarios.	2
9.9	Case taking in Medico legal scenarios.	2
9.10	Planning & interpreting the investigations in context to orthopaedic conditions.	3
9.11	Planning & interpreting the investigations in context to orthopaedic conditions	2
9.12	Recent advances in the enhancement of fracture healing.	2
10.1	Identification of Marma & their anatomical correlations	2
10.2	Marma & their anatomical correlations.	2
10.3	Marma therapy, Manipulation techniques, & Adankal manoeuvre employed in Marma chikitsa	2
10.4	Traction manoeuvre & orthopaedics appliances employed in Marma chikitsa	2
10.5	Recent Developments & scope of Research in Marma for Orthopaedics Specialty .	2
10.6	Recent Developments & scope of Research in Marma fo Kreeda Bheshaja (sports medicine).	2
10.7	applied fundamentals of Kreeda Bheshaja (Sports Medicine).	2
10.8	Appreciating the implementations fundamentals of Sports medicine	2
10.9	Sports Fitness & Sports Injuries	3
10.10	Sports Fitness & Sports Injuries	2
10.11	Primary care protocols in sports injuries & rehabilitation strategies	3
10.12	Primary care protocols in sports injuries & rehabilitation strategies	2

11.1	Congenital & acquired regional Musculo-skeletal disorders	2
11.2	Unit :1 Congenital & acquired regional Musculo-skeletal disorders	2
11.3	Metabolic, Infective Endocrinological , Neuro-muscular orthopaedic disorders &osteo-necrosis &AVN	2
11.4	Metabolic, Infective Endocrinological , Neuro-muscular orthopaedic disorders &osteo-necrosis &AVN	2
11.5	Tumours of the Bone	2
11.6	Clinical scenarios of Tumours of the Bone	2
11.7	Musculo-skeletal injuries with emphasis on Paediatric & Geriatric Trauma.	2
11.8	Musculo-skeletal injuries with emphasis on Paediatric & Geriatric Trauma.	2
11.9	Disorders of the Arteries, Veins, lymphatic system & Nerves.	2
11.10	Disorders of the Arteries, Veins, lymphatic system & Nerves.	3
11.11	Diagnostic & Therapeutic Arthroscopy	3
11.12	Diagnostic & Therapeutic Arthroscopy	2
12.1	General Principle of Bhagna Chikitsa & Punachesta prasaar (Rehabilitation)	2
12.2	General Principle of Bhagna Chikitsa & Punachesta prasaar (Rehabilitation)	2
12.3	Knowledge about Orthopaedic implants, external fixators, splints, orthotics, prosthetics & other relevant equipment	2
12.4	Knowledge about Orthopaedic implants, external fixators, splints, orthotics, prosthetics & other relevant equipment	2
12.5	Management of Individual Bone and Joint injuries Conservative	2
12.6	Management of Individual Bone and Joint injuries Conservative	2
12.7	Surgical exposures & training regarding the conservative Management of Individual Bone and Joint injuries.	2
12.8	Surgical Management of Individual Bone and Joint injuries	2

12.9	Strategy of prompt identification, primary care, initial assessment & management plan in Head & spine injuries	3
12.10	Strategy of prompt identification, primary care, initial assessment & management plan in Head & spine injuries	2
12.11	Management of Diseases of the bone & regional Orthopaedic disorders: Conservative & Surgical management	2
12.12	Management of Diseases of the bone & regional Orthopaedic disorders: Conservative & Surgical management	3
13.1	Systemic complications in relation to the orthopaedic injuries	2
13.2	Unit-1: Systemic complications in relation to the orthopaedic injuries.	2
13.3	Pulmonary, Delayed & Vascular complications in relation to the orthopaedic injuries.	2
13.4	Pulmonary, Delayed & Vascular complications in relation to the orthopaedic injuries.	2
13.5	Corrective orthopaedics surgery	2
13.6	Corrective orthopaedics surgery	2
13.7	Types & Biology of bone grafting	2
13.8	Types & Biology of bone grafting, over view of Bone banking	2
13.9	Amputation Surgery.	3
13.10	Amputation Surgery.	2
13.11	Arthrodesis & Arthroplasty.	3
13.12	Arthrodesis & Arthroplasty.	2
14.1	Management of Ashmari	3
14.2	Management of Mutraghata	3
14.3	Management of Mutrakrichhra	3

14.4	Management of Niruddhaprakasha	3
14.5	Management of Parivartika, Avapatika	3
14.6	Uttarbasti-in urinary diseases	4
14.7	Uttarbasti-in urinary disorders	4
14.8	Management of male infertility	3
15.1	Demonstartion of anatomy of Retroperitoneum, Kidney, Ureter, and Urinary bladder	3
15.2	Management of Congenital anomalies, Trauma, Infection & Neoplasm of Kidney & ureter	5
15.3	Management of Hydronephrosis, Hydroureter, Haematuria	4
15.4	Management of renal failure and procedure of dialysis	4
15.5	Management of Congenital anomalies, Trauma, Infection & Neoplasm of urinary bladder disorders	4
15.6	Management of Diverticulum, Vesico-vaginal fistula, cystocele	3
15.7	Management of atony, retention of urine, neurogenic bladder, overactive bladder, urinary incontinence.	3
16.1	Demonstartion of anatomy and physiology of Prostate, Penis & Urethra	3
16.2	The management of Congenital anomalies, Trauma, and Infection of the Prostate gland	3
16.3	Management of Neoplasm of Prostate (BPH & Ca. Prostate)	3
16.4	Management of Prostatic abscess, calculi and ejaculatory duct obstruction (EDO)	3
16.5	Management of Congenital anomalies, Trauma, Infection Lingaarsha and Neoplasm of Shisna (Ca. Penis)	3
16.6	Management of Phimosis and Paraphimosis	3
16.7	Management of Prepuseal ulcer, Priapism, Erectile dysfunction, Chordee, Penile fracture	2
16.8	Management of Hypospadias, Epispadias	3

16.9	Management of urethral stricture, meatal stenosis, urethro-cutaneous fistula	3
17.1	Assistance in surgical procedures for oral cavity and oesophageal disorders, perform oral examinations using diagnostic tools, and apply treatment options including lifestyle modifications and surgical interventions under supervision	3
17.2	Assisting in surgical procedures for lip, nasopharyngeal, and tongue disorders, including collecting biopsy samples and performing post-operative follow-up under supervision.	3
17.3	PerformIng and adaption of skills in diagnosis, endoscopic procedures, and conservative as well as surgical management of GERD, reflux oesophagitis, dysphagia, motility disorders, achalasia cardia, diverticula, strictures, and oesophageal neoplasms, and demonstrate application	2
17.4	Arrangement and utilization of the facility and environment for experiential learning, adapt skills in prompt diagnosis, conservative and surgical management of oesophageal disorders, and perform post-operative follow-up	3
17.5	Diagnosis the case and choose the appropriate appropriate tretament protocol among endoscopic procedure, conservative and surgical management in selected cases of Gastro-oesophageal reflux, reflux oesophagitis, dysphagia, oesophageal motility disorders, Achalasia cardia, oesophageal diverticula, stricture, benign and malignant neoplasm of oesophagus.	2
18.1	EL- Surgical procedure of stomach	4
18.2	Assistance and observation of surgical procedures for gastric disorders and practice anastomotic techniques on simulation models under supervision.	2
18.3	EL- I Surgical procedure for Duodenum	4
18.4	Advise Ayurvedic formulations for Amlapitta and Parinamshool disorders.	4
18.5	Appropriate selection of Ayurvedic formulations in surgical conditions like Amlapitta and Parinamshool and justify their surgical role in these conditions.	2
18.6	Operative procedures in Intestinal disorders- EL I	4
18.7	Procedure of anastomosis in experimental model/ simulation for intestinal disorders.	4
18.8	Performing the procedure of anastomosis in experimental model/ simulation related to intestinal disorders.	2
18.9	Observation of Cases on Intestinal Tuberculosis EL-I	3

18.10	Observation and assistance in the surgical management of abdominal tuberculosis, including intestinal strictures, obstruction, perforation, and abscesses, through exploratory laparotomy and related surgical procedures under supervision.	2
18.11	Observation and assistance in the surgical management of abdominal tuberculosis, including intestinal strictures, obstruction, perforation, and abscesses, through exploratory laparotomy and related procedure	2
18.12	Demonstration of suitable surgical interventions for arresting the GI bleeding	3
18.13	Diagnosis of gastrointestinal bleeding, and selection and performing suitable surgical techniques to arrest GI bleeding using simulation under supervision.	3
19.1	Application of knowledge of applied anatomy to analyze pathogenesis, diagnose salivary gland, thyroid gland, and neck disorders, interpret investigatory findings, and formulate a final diagnosis.	3
19.2	Application of knowledge of applied anatomy to analyze pathogenesis, diagnose salivary gland, thyroid gland, and neck disorders, interpret investigatory findings, and formulate a final diagnosis.	3
19.3	Observation and assistance in surgical management in diseases of salivary gland, thyroid gland, and other neck disorders under supervision.	4
19.4	Observation and assistance in surgical management in diseases of salivary gland, thyroid gland, and other neck disorders under supervision	3
20.1	surgical procedures of Liver disorders	2
20.2	onservative and surgical procedures of Yakritodara	3
20.3	conservative and surgical procedures of Yakritodara.	2
20.4	Congenital anomalies of Gall bladder, Bile duct and vascular.	2
20.5	conservative and surgical procedures of Gall Bladder Disorders	4
20.6	conservative and surgical procedures of Gall Bladder Disorders	4
20.7	conservative and surgical procedures of Gall Bladder Disorders- EL-III	2
20.8	conservative and surgical management of Billiary tree disorders	4

20.9	conservative and surgical management of Billiary tree disorders-	2
20.10	conservative management of Pancreatic disorders-EL-I	3
20.11	Interpretion of the conservative mangement of Pancreatitis, cyst, calculous and neoplasm of pancreas and assistance in their surgical management.	3
20.12	Observion and assistance in the conservative and surgical management of Splenomegaly, Splenic Injury and neoplasm of spleen. with illustration of their outcomes in different case scenarios.	4
20.13	Interpretate the investigatory findings through observation of the Radiological - ERCP, MRCP and laboratory investigations for the diagnosis of hepatobiliary diseases.	4
21.1	Assistance and observation of conservative and surgical procedures of peritoneal and omental disorders—including peritonitis, pelvic and subphrenic abscess, malignancy, cyst, torsion, and tumour—on simulation, and analyze related case scenarios with their outcomes for experiential learning.	2
21.2	Assistance and observation of conservative and surgical procedures of peritoneal and omental disorders—including peritonitis, pelvic and subphrenic abscess, malignancy, cyst, torsion, and tumour—on simulation, and analyze related case scenarios with their outcomes for experiential learning.	1
21.3	Assistance in and observation of conservative and surgical procedures of mesenteric disorders—including trauma, lymphadenitis, malignancy, and vascular thrombosis—with analysis of case scenarios with their outcomes for experiential learning.	2
21.4	Assistance in and observation of conservative and surgical procedures of mesenteric disorders—including trauma, lymphadenitis, malignancy, and vascular thrombosis—with analysis of case scenarios with their outcomes for experiential learning.	2
21.5	Assistance in and observation of conservative and surgical procedures of mesenteric disorders—including trauma, lymphadenitis, malignancy, and vascular thrombosis—and analysis of case scenarios with their outcomes	2
21.6	Assistance and observation for conservative and surgical procedures of Udar Roga, and analysis case scenarios with their outcomes.	2
21.7	Assistance and observation for conservative and surgical procedures of Udar Roga, and analysis case scenarios with their outcomes.	2
21.8	Assistance and observation for conservative and surgical procedures of Udar Roga, and analysis case scenarios with their outcomes.	2
	Assistance and observation for conservative and surgical procedures of Udar Roga, and analysis case scenarios with their outcomes.	2

21.9		
21.10	Assistance and observation for conservative and surgical procedures of abdominal mass, and analysis of related case scenarios with their outcomes	2
21.11	Assistance and observation for conservative and surgical procedures of abdominal mass, and analysis of related case scenarios with their outcomes.	2
21.12	Assistance and observation for conservative and surgical procedures of abdominal mass, and analysis of related case scenarios with their outcomes.	1
21.13	Comparision of the differential diagnosis of various types of Gulma. and differentiation between their conservative and surgical management.	1
21.14	Interpretion of the diagnosis of retroperitoneal fibrosis, retroperitoneal swelling, retroperitoneal tumour and psoas abscess and illustration of their conservative and surgical management.	2
21.15	Interpretion of the diagnosis of retroperitoneal fibrosis, retroperitoneal swelling, retroperitoneal tumour and psoas abscess wiith their appropriate differential diagnosis and illustration of their conservative and surgical management. with therapeutic outcomes	1
22.1	Assistance and observation of conservative and surgical procedures for caecal and large intestinal disorders—including congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, and neoplasm with analysis of case scenarios with their outcomes for experiential learning.	2
22.2	Assistance and observation of conservative and surgical procedures for caecal and large intestinal disorders—including congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, and neoplasm with analysis of case scenarios with their outcomes for experiential learning.	2
22.3	Assistance and observation of conservative and surgical procedures for caecal and large intestinal disorders—including congenital anomalies, inflammation, ulcers, stenosis, injuries, foreign bodies, diverticula, obstruction, perforation, faecal fistula, amoebiasis, familial polyposis coli, and neoplasm with analysis of case scenarios with their outcomes for experiential learning.	2
22.4	Assistance and observation of conservative and surgical procedures of ulcerative colitis (Grahani), ileostomy, colostomy, and resection anastomosis in emergency, with analysis of case scenarios with their outcomes for experiential learning.	2
22.5	Assistance and observation of conservative and surgical procedures of ulcerative colitis (Grahani), ileostomy, colostomy, and resection	2

	anastomosis in emergency, with analysis of case scenarios with their outcomes for experiential learning.	
22.6	Assistane and observation of conservative and surgical procedures of ulcerative colitis (Grahani), ileostomy, colostomy, and resection anastomosis in emergency, with analysis of case scenarios with their outcomes for experiential learning.	2
22.7	Observation of colonoscopy, laparoscopy, and sigmoidoscopy procedures, and analysis of case scenarios with their outcomes for experiential learning.	2
22.8	Observation of colonoscopy, laparoscopy, and sigmoidoscopy procedures, and analysis of case scenarios with their outcomes for experiential learning.	2
22.9	Assistance in and observation of conservative and surgical procedures of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—with analysis of case scenarios with their outcomes for experiential learning	2
22.10	Assistance in and observation of conservative and surgical procedures of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—with analysis of case scenarios with their outcomes for experiential learning	2
22.11	Assistance in and observation of conservative and surgical procedures of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—with analysis of case scenarios with their outcomes for experiential learning	2
22.12	Assistance in and observation of conservative and surgical procedures of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—with analysis of case scenarios with their outcomes for experiential learning	2
22.13	Assistance in and observation of conservative and surgical procedures of appendicular disorders—including appendicitis, abscess, mass, perforation, carcinoid tumour, and other neoplasms—with analysis of case scenarios with their outcomes for experiential learning	2
23.1	Perform hands-on proctoscopy and colonoscopy to identify sources of bleeding, observe and assist in surgical procedures for bleeding per anum, and analyze related case scenarios	2
23.2	Perform hands-on proctoscopy and colonoscopy to identify sources of bleeding, observe and assist in surgical procedures for bleeding per anum, and analyze related case scenarios	2
23.3	Observe surgical procedures—such as anoplasty and tumor resections—assist as appropriate, and analyze pre- and post-operative care and case scenarios	2
23.4	Observe live or video-demonstrated surgical procedures—such as anoplasty and tumor resections—assist as appropriate, and analyze pre- and post-	2

	operative care and case scenarios for experiential learning.	
23.5	Demonstration of techniques of haemorrhoidectomy, observe and assist in surgical procedures, and evaluation of management of complications during experiential learning.	2
23.6	Demonstration of techniques of haemorrhoidectomy, observe and assist in surgical procedures, and evaluation of management of complications during experiential learning.	2
23.7	Demonstration of techniques of haemorrhoidectomy, observe and assist in surgical procedures, and evaluation of management of complications during experiential learning.	1
23.8	Observation of video or live-demonstrated advanced surgical procedures for Ar?a (haemorrhoids), assitstance as appropriate, with analysis of related case scenarios for experiential learning.	2
23.9	Observation of video or live-demonstrated advanced surgical procedures for Ar?a (haemorrhoids), assitstance as appropriate, with analysis of related case scenarios for experiential learning.	2
23.10	Observation of video or live-demonstrated advanced surgical procedures for Ar?a (haemorrhoids), assitstance as appropriate, with analysis of related case scenarios for experiential learning.	2
23.11	Observation of video or live-demonstrated advanced surgical procedures for Ar?a (haemorrhoids), assitstance as appropriate, with analysis of related case scenarios for experiential learning.	2
23.12	Performing hands-on application of K??ras?tra in Bhagandara and application of K??ra in Ar?a during experiential learning sessions.	2
23.13	Performing hands-on application of Ksharasutra in Bhagandara and application of K?hara in Ar?a during experiential learning sessions.	2
23.14	Observation of surgical procedures for anorectal disorders—including Parikartika (fissure-in-ano), Sannirudha Guda (anal stenosis and stricture), Gudavidradhi (perianal abscess), faecal incontinence, anorectal injuries, and foreign bodies—assistance as appropriate, with analysis case scenarios with their outcomes	2
23.15	Observation of live or video-demonstrated surgical procedures for anorectal disorders—including Parikartika (fissure-in-ano), Sannirudha Guda (anal stenosis and stricture), Gudavidradhi (perianal abscess), faecal incontinence, anorectal injuries, and foreign bodies—assisistance as appropriate, with analysis related case scenarios for experiential learning.	2
23.16	Observation of live or video-demonstrated surgical procedures for anorectal disorders—including Parikartika (fissure-in-ano), Sannirudha Guda	2

	(anal stenosis and stricture), Gudavidradhi (perianal abscess), faecal incontinence, anorectal injuries, and foreign bodies—assisistance as appropriate, with analysis related case scenarios for experiential learning.	
23.17	Observation of live or video-demonstrated surgical procedures—such as Z-plasty and flap techniques—for pilonidal sinus management, assist as appropriate, with analysis of related case scenarios for experiential learning.	2
23.18	Observation of live or video-demonstrated surgical procedures—such as Z-plasty and flap techniques—for pilonidal sinus management, assist as appropriate, with analysis of related case scenarios for experiential learning.	2
23.19	Observation of live or video-demonstrated surgical procedures of Gudabransha (prolapse rectum), assist as appropriate, and analyze related case scenarios for experiential learning.	2
23.20	Observation of live or video-demonstrated surgical procedures of Gudabransha (prolapse rectum), assist as appropriate, and analyze related case scenarios for experiential learning.	2
24.1	Identification of associated injuries in cases of thoracic trauma during experiential learning	2
24.2	Identification of associated injuries in cases of thoracic trauma during experiential learning	2
24.3	Analysis of case scenarios of abdominal trauma to interpret clinical findings and management options during experiential learning.	2
24.4	Analysis of case scenarios of abdominal trauma to interpret clinical findings and management options during experiential learning.	2
24.5	Analysis of case scenarios of abdominal trauma to interpret clinical findings and management options during experiential learning.	2
24.6	Application of diagnostic procedures to case scenarios of abdominal organ injuries for differential diagnosis and determination of the need for exploratory laparotomy in pelvic injuries during experiential learning.	2
24.7	Interpretion of case scenarios of abdominal organ and pelvic injuries to differentiate diagnostic procedures and determination of the need for exploratory laparotomy.	1
25.1	Preaparation and standardization of different types Kshara and Kshara sutra	3
25.2	Sterilzation of Kshara sutra	3
25.3	Application of Kshara	3

25.4	Identification and management of complications of Kshara karma	3
25.5	Pre-operative assessment for Kshara Sutra application	2
25.6	Indications and contra indications of Kshara Sutra	2
25.7	Complications in Kshara Sutra application and management	3
25.8	Scientific advances in the field of Kshara	4
25.9	Scientific advances in Kshara sutra	3
26.1	Materials and methods of Agnikarma	3
26.2	Materials and methods of Agnikarma	3
26.3	Clincal evaluation of patient for Agnikarma and Agnikarma procedure	3
26.4	Clinical identification and management of Dagdha vrana and complications of Agnikarma	3
26.5	Agnikarma mode of action	3
26.6	Clinical application of adavanced techniques of Agnikarma	3
26.7	Clinical Application of Modern thermal equipment	4
26.8	Clinical judgement on the use of modern thermal equipment	4
27.1	Clinical assessment for Rakthamokshana	3
27.2	Selction of patient and procedure of Rakthamokshana	3
27.3	Clinical experience on Rakthamokshana	3
27.4	Management of complications of Rakthamokshana	3
27.5	Medicinal leeches	4

27.6	Clinical reflection on mode of action in leech therapy	2
27.7	Clnical application of Jalaukavacharana	4
27.8	Clinical application of recent innovative technologies and latest research findings.	4
28.1	Clinical application of Ayurvedic principles in the management of Stanaroga	3
28.2	Clinical application of Ayurvedic principles in the management of Stanaroga	3
28.3	Diagnosis and management of inflammatory and benign breast diseases	4
28.4	Clinical competence in breast disease management	3
28.5	Clinical comptence in mangement of beningn and malignant breast diseases	3
28.6	Management of malignant breast diseases	4
28.7	Management of malignant breast diseases	4
28.8	Phyllodes tumour - Diagnostic workup and management strategy	2
29.1	Surgical management of Antra Vridhi	3
29.2	Surgical Management of Mutra Vridhi and Antra Vridhi	3
29.3	Management of and Abdominal wall herniae	3
29.4	Management of abdominal wall herniae	4
29.5	Management of abdominal wall herniae	3
29.6	Management of abdominal wall anomalies and umbilical infections	3
29.7	Management of abdominal wall sinuses and soft tissue neoplasms	3
29.8	Management of abdominal wall conditions—including infections, synergistic gangrene, cutaneous fistulas, abdominal compartment syndrome, and neoplasms	4

30.1	Congenital anomalies of Scrotum and Testes - Identify and manage emergencies	3
30.2	Orchidectomy and Orchodopexy	3
30.3	Diagnosis and Surgical Management of Scrotal Cysts	4
30.4	Diagnosis and Surgical Management of Scrotal Cysts	3
30.5	Diagnosis and Surgical Management of Scrotal Cysts	3
30.6	Recognize and manage surgical emergencies of Testecular conditions	4
30.7	Management of testecular tumors	3
30.8	Managementof malignant testecular tumors	3
31.1	Hands-on Laparoscopic Setup and Basic Procedures	3
31.2	Anatomical Orientation and Pneumoperitoneum Creation in Laparoscopy	3
31.3	Physiological Monitoring and Robotic-Assisted Laparoscopy	2
31.4	Advanced Use and Safety of Energy Devices in Surgery	3
31.5	Clinical Integration and Medico-legal Aspects of Energy Devices	2
31.6	Equipment Handling and Instrumentation in Laparoscopic Surgery	4
31.7	Intraoperative Port, Clip, and Stapler Application in Laparoscopic Surgery	3
31.8	Advanced Laparoscopic Skills and Instrument Care in Clinical Practice	3
31.9	Comprehensive Clinical Management in Laparoscopic Surgery	3
31.10	Laparoscopic Equipment Management and Anesthesia Collaboration	3
31.11	Complication Management, Communication, and Documentation in Laparoscopic Surgery	4

31.12	Comprehensive Training in Robotic Surgery: Evaluation, Execution, and Reflection	3
31.13	Comprehensive Clinical Training in Bariatric Surgery: Evaluation to Postoperative Management	3
32.1	Perioperative Care in Pediatric Surgery	3
32.2	Clinical and Surgical Competency in Management of Undescended and Ectopic Testis	4
32.3	Integrated Management of Pediatric Lymphadenopathy	3
32.4	Comprehensive Management of Pediatric Neck and Soft Tissue Lesions	3

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

6 A : Number of Papers and Marks Distribution

Subject Code	Paper	Theory	Practical	Total
AYPG-ST	4	100 x 4 Papers = 400	400	800

6 B : Scheme of Assessment (Formative and Summative Assessment)

Credit frame work

AYPG-ST consists of 32 modules totaling 64 credits, which correspond to 1920 Notional Learning Hours. Each credit comprises 30 Hours of learner engagement, distributed across teaching, practical, and experiential learning in the ratio of 1:2:3. Accordingly, one credit includes 5 hours of teaching, 10 hours of practical training, 13 hours of experiential learning, and 2 hours allocated for modular assessment, which carries 25 marks.

Formative Assessment : Module wise Assessment:will be done at the end of each module. Evaluation includes learners active participation to get Credits and Marks. Each Module may contain one or more credits.
Summative Assessment: Summative Assessment (University examination) will be carried out at the end of Semester VI.

6 C : Calculation Method for Modular Grade Points (MGP)

Module Number & Name (a)	Credits (b)	Actual No. of Notional Learning Hours (c)	Attended Number of notional Learning hours (d)	Maximum Marks of assessment of modules (e)	Obtained Marks per module (f)	MGP =d*f/c*e*100
Semester No : 3						
Paper No : 1 (Vrana, Sandhankarma Evam Sangyaharan Vigyan (Wound, Plastic Surgery and Anaesthesiology))						
M1 Vrana Sopha, Vidradhi, Pidika (Inflammation , Abscess , Boils & its Management)	2	60		50		
M2 Vrana Chikitsa (Wound/ Ulcer and its management)	2	60		50		
Paper No : 2 (Asthi, Sandhi, Marma Aghat Evam Mootraroga Vigyan (Orthopedics and Urology))						
M9 Asthi Sandhi Vikara - Mool Sidhanta (Basics of orthopaedics)	2	60		50		
M10 Marma Vigyana & Sports Medicine	2	60		50		
Paper No : 3 (Mahasrotas Evam Manyagat Shalyavikara (Surgical Disorders of Gastro-Intestinal System and Neck))						
M17 Mukha Roga and Annamargagata Vyadhi (Diseases of Oral Cavity and Oesophagus)	1	30		25		

M18 Amashayagata, Grahanigata and Kshudrantragata Vyadhi (Diseases of Stomach, Duodenum and Small Intestine)	3	90		75		
Paper No : 4 (Anushastrakarma Evam Vishishta Shastrakarma (Parasurgical and Specialized Surgical Procedures))						
M25 Principles and Practice of Kshara Karma	2	60		50		
M26 Principles and Practice of Agni Karma	2	60		50		
	16	480		400		
Semester No : 4						
Paper No : 1 (Vrana, Sandhankarma Evam Sangyaharan Vigyan (Wound, Plastic Surgery and Anaesthesiology))						
M3 Principles and Practice of Sangyaharan -Anaesthesiology	2	60		50		
M4 Description of Types of Anaesthesia	2	60		50		
Paper No : 2 (Asthi, Sandhi, Marma Aghat Evam Mootraroga Vigyan (Orthopedics and Urology))						
M11 Orthopaedic Disorders & Musculo-Skeletal Injuries	2	60		50		
M12 Bhagna Management	2	60		50		
Paper No : 3 (Mahasrotas Evam Manyagat Shalyavikara (Surgical Disorders of Gastro-Intestinal System and Neck))						
M19 Manya Vikara (Neck Disorders)	1	30		25		
M20 Yakrit, Pittashaya, Pittanalika evam Pleeha Vyadhi (Diseases of Hepatobiliary System and Spleen)	3	90		75		
Paper No : 4 (Anushastrakarma Evam Vishishta Shastrakarma (Parasurgical and Specialized Surgical Procedures))						
M27 Principles and Practice of Raktamokshana	2	60		50		
M28 Stana Roga (Breast Diseases)	2	60		50		
	16	480		400		
Semester No : 5						
Paper No : 1 (Vrana, Sandhankarma Evam Sangyaharan Vigyan (Wound, Plastic Surgery and Anaesthesiology))						
M5 Perioperative Anaesthesiology and Anaesthesia in specific conditions.	2	60		50		
M6 : Dagdha Vrana (Burn injuries & Scalds) and Pranashta Shalya (Extraction of retained foreign body.	2	60		50		
Paper No : 2 (Asthi, Sandhi, Marma Aghat Evam Mootraroga Vigyan (Orthopedics and Urology))						

M13 Complications of Musculo-Skeletal Injuries & Corrective Orthopaedics.	2	60		50		
M14 Mutravaha Srotas Vikara [Urinary disorders]	2	60		50		
Paper No : 3 (Mahasrotas Evam Manyagat Shalyavikara (Surgical Disorders of Gastro-Intestinal System and Neck))						
M21 Diseases of Peritoneum, Omentum, Mesentery, Retroperitoneal Space and Abdominal Mass	2	60		50		
M22 Unduk, Unduk Puchha and Brihadantragata Vyadhi (Diseases of Caecum and Vermiform Appendix and Large Intestine)	2	60		50		
Paper No : 4 (Anushastrakarma Evam Vishishta Shastrakarma (Parasurgical and Specialized Surgical Procedures))						
M29 Vriddhi Roga - Hernia, Diseases of Abdominal Wall and Umbilicus.	2	60		50		
M30 Vrishana Evam Vrishanakoshagat Vyadhi - The Testes and Scrotum	2	60		50		
	16	480		400		
Semester No : 6						
Paper No : 1 (Vrana, Sandhankarma Evam Sangyaharan Vigyan (Wound, Plastic Surgery and Anaesthesiology))						
M7 Granthi, Arbuda (Principles of Management of Cyst and Neoplasm)	2	60		50		
M8 Fundamentals of Sandhana Karma - Plastic & Reconstructive Surgery	2	60		50		
Paper No : 2 (Asthi, Sandhi, Marma Aghat Evam Mootraroga Vigyan (Orthopedics and Urology))						
M15 Vrukka, Gavini Evam Bastigat Vyadhi [Diseases of Kidney, Ureter & Urinary Bladder]	2	60		50		
M16 Paurushgranthi, Shishna Evam Mutramargagat Vyadhi [Diseases of Prostate, Penis & Urethra]	2	60		50		
Paper No : 3 (Mahasrotas Evam Manyagat Shalyavikara (Surgical Disorders of Gastro-Intestinal System and Neck))						
M23 Gudagat Roga (Diseases of Rectum and Anal Canal)	3	90		75		
M24 Urah Evam Udara Abhighat (Torso Trauma)	1	30		25		
Paper No : 4 (Anushastrakarma Evam Vishishta Shastrakarma (Parasurgical and Specialized Surgical Procedures))						

M31 Naadiyantrakrit Shastrakarma: Minimally Invasive Surgeries (MIS)	3	90		75		
M32 Baala Shalyakarma - Paediatric Surgery	1	30		25		
	16	480		400		
MGP = ((Number of Notional learning hours attended in a module) X (Marks obtained in the modular assessment) / (Total number of Notional learning hours in the module) X (Maximum marks of the module)) X 100						

6 D : Semester Evaluation Methods for Semester Grade point Average (SGPA)

SGPA will be calculated at the end of the semester as an average of all Module MGPs. Average of MGPS of the Semester For becoming eligible for Summative assessment of the semester, student should get minimum of 60% of SGPA

SGPA = Average of MGP of all modules of all papers = add all MGPs in the semester/ no. of modules in the semester

Evaluation Methods for Modular Assessment

Semester No : 3		
Paper No : 1 Vrana, Sandhankarma Evam Sangyaharan Vigyan (Wound, Plastic Surgery and Anaesthesiology)		
A S.No	**B Module number and Name**	**C MGP**
1	M1.Vrana Sopha, Vidradhi, Pidika (Inflammation , Abscess , Boils & its Management)	C1
2	M2.Vrana Chikitsa (Wound/ Ulcer and its management)	C2
Paper No : 2 Asthi, Sandhi, Marma Aghat Evam Mootraroga Vigyan (Orthopedics and Urology)		
A S.No	**B Module number and Name**	**C MGP**
3	M9.Asthi Sandhi Vikara - Mool Sidhanta (Basics of orthopaedics)	C3
4	M10.Marma Vigyana & Sports Medicine	C4
Paper No : 3 Mahasrotas Evam Manyagat Shalyavikara (Surgical Disorders of Gastro-Intestinal System and Neck)		
A S.No	**B Module number and Name**	**C MGP**
5	M17.Mukha Roga and Annamargagata Vyadhi (Diseases of Oral Cavity and Oesophagus)	C5
6	M18.Amashayagata, Grahanigata and Kshudrantragata Vyadhi (Diseases of Stomach, Duodenum and Small Intestine)	C6
Paper No : 4 Anushastrakarma Evam Vishishta Shastrakarma (Parasurgical and Specialized Surgical Procedures)		
A S.No	**B Module number and Name**	**C MGP**
7	M25.Principles and Practice of Kshara Karma	C7
8	M26.Principles and Practice of Agni Karma	C8
	Semester Grade point Average (SGPA)	(C1+C2+C3+C4+C5+C6+C7+C8) / Number of modules(8)

Semester No : 4

Paper No : 1 Vrana, Sandhankarma Evam Sangyaharan Vigyan (Wound, Plastic Surgery and Anaesthesiology)

A S.No	B Module number and Name	C MGP
1	M3.Principles and Practice of Sangyaharan -Anaesthesiology	C1
2	M4.Description of Types of Anaesthesia	C2

Paper No : 2 Asthi, Sandhi, Marma Aghat Evam Mootraroga Vigyan (Orthopedics and Urology)

A S.No	B Module number and Name	C MGP
3	M11.Orthopaedic Disorders & Musculo-Skeletal Injuries	C3
4	M12.Bhagna Management	C4

Paper No : 3 Mahasrotas Evam Manyagat Shalyavikara (Surgical Disorders of Gastro-Intestinal System and Neck)

A S.No	B Module number and Name	C MGP
5	M19.Manya Vikara (Neck Disorders)	C5
6	M20.Yakrit, Pittashaya, Pittanalika evam Pleeha Vyadhi (Diseases of Hepatobiliary System and Spleen)	C6

Paper No : 4 Anushastrakarma Evam Vishishta Shastrakarma (Parasurgical and Specialized Surgical Procedures)

A S.No	B Module number and Name	C MGP
7	M27.Principles and Practice of Raktamokshana	C7
8	M28.Stana Roga (Breast Diseases)	C8
	Semester Grade point Average (SGPA)	(C1+C2+C3+C4+C5+C6+C7+C8) / Number of modules(8)

Semester No : 5

Paper No : 1 Vrana, Sandhankarma Evam Sangyaharan Vigyan (Wound, Plastic Surgery and Anaesthesiology)

A S.No	B Module number and Name	C MGP

1	M5.Perioperative Anaesthesiology and Anaesthesia in specific conditions.	C1
2	M6.: Dagdha Vrana (Burn injuries & Scalds) and Pranashta Shalya (Extraction of retained foreign body.	C2
Paper No : 2 Asthi, Sandhi, Marma Aghat Evam Mootraroga Vigyan (Orthopedics and Urology)		
A S.No	**B Module number and Name**	**C MGP**
3	M13.Complications of Musculo-Skeletal Injuries & Corrective Orthopaedics.	C3
4	M14.Mutravaha Srotas Vikara [Urinary disorders]	C4
Paper No : 3 Mahasrotas Evam Manyagat Shalyavikara (Surgical Disorders of Gastro-Intestinal System and Neck)		
A S.No	**B Module number and Name**	**C MGP**
5	M21.Diseases of Peritoneum, Omentum, Mesentery, Retroperitoneal Space and Abdominal Mass	C5
6	M22.Unduk, Unduk Puchha and Brihadantragata Vyadhi (Diseases of Caecum and Vermiform Appendix and Large Intestine)	C6
Paper No : 4 Anushastrakarma Evam Vishishta Shastrakarma (Parasurgical and Specialized Surgical Procedures)		
A S.No	**B Module number and Name**	**C MGP**
7	M29.Vriddhi Roga - Hernia, Diseases of Abdominal Wall and Umbilicus.	C7
8	M30.Vrishana Evam Vrishanakoshagat Vyadhi - The Testes and Scrotum	C8
	Semester Grade point Average (SGPA)	(C1+C2+C3+C4+C5+ C6+C7+C8) / Number of modules(8)
Semester No : 6		
Paper No : 1 Vrana, Sandhankarma Evam Sangyaharan Vigyan (Wound, Plastic Surgery and Anaesthesiology)		
A S.No	**B Module number and Name**	**C MGP**
1	M7.Granthi, Arbuda (Principles of Management of Cyst and Neoplasm)	C1
2	M8.Fundamentals of Sandhana Karma - Plastic & Reconstructive Surgery	C2
Paper No : 2 Asthi, Sandhi, Marma Aghat Evam Mootraroga Vigyan (Orthopedics and Urology)		
A	**B**	**C**

S.No	Module number and Name	MGP
3	M15.Vrukka, Gavini Evam Bastigat Vyadhi [Diseases of Kidney, Ureter & Urinary Bladder]	C3
4	M16.Paurushgranthi, Shishna Evam Mutramargagat Vyadhi [Diseases of Prostate, Penis & Urethra]	C4
Paper No : 3 Mahasrotas Evam Manyagat Shalyavikara (Surgical Disorders of Gastro-Intestinal System and Neck)		
A S.No	**B Module number and Name**	**C MGP**
5	M23.Gudagat Roga (Diseases of Rectum and Anal Canal)	C5
6	M24.Urah Evam Udara Abhighat (Torso Trauma)	C6
Paper No : 4 Anushastrakarma Evam Vishishta Shastrakarma (Parasurgical and Specialized Surgical Procedures)		
A S.No	**B Module number and Name**	**C MGP**
7	M31.Naadiyantrakrit Shastrakarma: Minimally Invasive Surgeries (MIS)	C7
8	M32.Baala Shalyakarma - Paediatric Surgery	C8
	Semester Grade point Average (SGPA)	(C1+C2+C3+C4+C5+C6+C7+C8) / Number of modules(8)

S. No	Evaluation Methods
1.	Method explained in the Assessment of the module or similar to the objectives of the module.

6 E : Question Paper Pattern

MD/MS Ayurveda Examination
AYPG-ST
Sem VI

Time: 3 Hours ,**Maximum Marks:** 100
INSTRUCTIONS: All questions compulsory

		Number of Questions	Marks per Question	Total Marks
Q 1	Application-based Questions (ABQ)	1	20	20
Q 2	Short answer questions (SAQ)	8	5	40
Q 3	Analytical based structured Long answer question (LAQ)	4	10	40

				100

6 F : Distribution for summative assessment (University examination)

S.No	List of Module/Unit	ABQ	SAQ	LAQ
Paper No : 1 (Vrana, Sandhankarma Evam Sangyaharan Vigyan (Wound, Plastic Surgery and Anaesthesiology))				
(M-1)Vrana Sopha, Vidradhi, Pidika (Inflammation , Abscess , Boils & its Management) (Marks: Range 5-15)				
1	(U-1) Vrana Shopha Vidradhi	No	Yes	Yes
2	(U-2) Prameha Pidaka / Diabetic Carbuncle, Boils	No	No	Yes
3	(U-3) Diabetic Foot Ulcer (DFU)	No	Yes	Yes
4	(U-4) Advances in Diabetic foot Ulcer (DFU) care	No	Yes	No
5	(U-5) Visarpa, Cellulitis & Erysipelas	No	Yes	Yes
(M-2)Vrana Chikitsa (Wound/ Ulcer and its management) (Marks: Range 5-20)				
1	(U-1) Vrana, its components, and the principles of management.	Yes	Yes	No
2	(U-2) Comprehensive description of wounds, ulcers and their management	Yes	No	Yes
3	(U-3) Sadyo Vrana and its Chikitsa	Yes	Yes	No
4	(U-4) Advanced techniques in wound management:	No	Yes	Yes
5	(U-5) Recent advances in Functional wound dressing	No	Yes	Yes
(M-3)Principles and Practice of Sangyaharan -Anaesthesiology (Marks: Range 5-15)				
1	(U-1) Introduction to Anaesthesia and its Equipment	No	Yes	No
2	(U-2) Preoperative evaluation and Preanaesthetic medication	No	Yes	No
3	(U-3) Airway management	No	Yes	No
4	(U-4) Pharmacology of Sangyaharan related Ayurvedic drugs.	No	Yes	No
5	(U-5) Pharmacology of drugs related to anaesthesia	No	Yes	Yes
(M-4)Description of Types of Anaesthesia (Marks: Range 5-20)				
1	(U-1) General Anaesthesia	Yes	Yes	No
2	(U-2) Central Neuraxial block	Yes	Yes	No
3	(U-3) Peripheral Nerve Blocks, Surface anaesthesia, Infiltration and Field blocks and medicolegal aspects	Yes	Yes	Yes
(M-5)Perioperative Anaesthesiology and Anaesthesia in specific conditions. (Marks: Range 5-15)				
1	(U-1) Principles of anaesthesiology in different specialities of surgery	No	No	Yes
2	(U-2) Anaesthesia for patients with co-morbid conditions	No	No	Yes
3	(U-3) Monitoring and post operative management in anaesthesia	No	Yes	Yes

4	(U-4) Lifesaving skills	No	Yes	Yes
5	(U-5) Anaesthesia in remote locations and recent advances in Sangyaharan	No	Yes	No
(M-6): Dagdha Vrana (Burn injuries & Scalds) and Pranashta Shalya (Extraction of retained foreign body. (Marks: Range 5-15)				
1	(U-1) Dagdha vrana (Burns)	No	Yes	Yes
2	(U-2) Pranashta Shalya	No	Yes	Yes
(M-7)Granthi, Arbuda (Principles of Management of Cyst and Neoplasm) (Marks: Range 5-15)				
1	(U-1) Granthi – Cyst and Arbuda – Benign and malignant Neoplasm	No	Yes	Yes
2	(U-2) Soft Tissue Tumours	No	Yes	Yes
3	(U-3) Tumour - Diagnosis and General Treatment	No	Yes	Yes
4	(U-4) Surgical treatment of Tumors	No	Yes	No
5	(U-5) Chemotherapy and radiotherapy in the management of Malignant Neoplasm	No	Yes	Yes
(M-8)Fundamentals of Sandhana Karma - Plastic & Reconstructive Surgery (Marks: Range 5-15)				
1	(U-1) Sandhana Karma - Plastic & Reconstructive Surgery	No	Yes	Yes
2	(U-2) Principles of Plastic surgery	No	Yes	Yes
3	(U-3) Nasa, Karna and Oshtha sandhana	No	Yes	Yes
4	(U-4) Techniques and tools used in reconstructive and cosmetic surgery	No	Yes	No
5	(U-5) Leech Therapy in Plastic and Reconstructive Surgery	No	Yes	Yes
6	(U-6) Concept of Transplant surgery and Organ transplantation	No	Yes	No

S.No	List of Module/Unit	ABQ	SAQ	LAQ
Paper No : 2 (Asthi, Sandhi, Marma Aghat Evam Mootraroga Vigyan (Orthopedics and Urology))				
(M-9)Asthi Sandhi Vikara - Mool Sidhanta (Basics of orthopaedics) (Marks: Range 5-20)				
1	(U-1) History of orthopaedics, Orthopaedics terminology & Applied knowledge of Tarunasthi(cartilage), Asthi (bone) & Sandhi	Yes	Yes	Yes
2	(U-2) The plan of primary care in Musculo-skeletal injuries	Yes	Yes	Yes
3	(U-3) General scheme of case taking in the scenario of Musculo-skeletal injuries	Yes	Yes	Yes
4	(U-4) Medico-legal implications.	Yes	Yes	Yes
5	(U-5) Plan of investigations in orthopaedics.	Yes	Yes	Yes
6	(U-6) Mechanism & factors influencing the Bhagna Sandhana	Yes	Yes	Yes
(M-10)Marma Vigyana & Sports Medicine (Marks: Range 5-20)				
1	(U-1) Marma & its anatomical correlations	Yes	Yes	Yes
2	(U-2) Different systems of Marma Therapy, Manipulation techniques of individual Marma, Adankal manoeuvre, Traction manoeuvres & orthopaedics appliances.	Yes	Yes	Yes
3	(U-3) Recent Developments & scope of Research in Marma.	Yes	Yes	Yes
4	(U-4) Applied fundamentals of Kreeda Bheshaja (Sports Medicine).	Yes	Yes	Yes
5	(U-5) Sports Fitness & Sports Injuries.	Yes	Yes	Yes
6	(U-6) Primary care protocols in sports injuries & rehabilitation strategies	Yes	Yes	Yes
(M-11)Orthopaedic Disorders & Musculo-Skeletal Injuries (Marks: Range 5-20)				
1	(U-1) Congenital & acquired regional musculo-skeletal disorders	Yes	Yes	Yes
2	(U-2) Metabolic, Infective, Endocrinological, Neuro-muscular orthopaedic disorders & Osteonecrosis/Avascular necrosis (AVN)	Yes	Yes	Yes
3	(U-3) Asthigata Arbuda (Tumours of the Bone)	Yes	Yes	Yes
4	(U-4) Musculo-skeletal injuries with emphasis on Paediatric & Geriatric Trauma.	Yes	Yes	Yes
5	(U-5) Disorders of the Arteries, Veins, lymphatic system & Nerves.	Yes	Yes	Yes
6	(U-6) Diagnostic and therapeutic Arthroscopy	Yes	Yes	Yes

(M-12)Bhagna Management (Marks: Range 5-20)				
1	(U-1) General Principle of Bhagna Chikitsa & Punachesta prasaar (Rehabilitation strategies)	Yes	Yes	Yes
2	(U-2) Knowledge about Orthopaedic implants, external fixators, splints, orthotics, prosthetics & other relevant equipments.	Yes	Yes	Yes
3	(U-3) Conservative Management of Individual Bone and Joint injuries	Yes	Yes	Yes
4	(U-4) Surgical Management of Individual Bone and Joint injuries.	Yes	Yes	Yes
5	(U-5) Strategy of prompt identification, primary care, initial assessment & management plan in Head & spine injuries	Yes	Yes	Yes
6	(U-6) Management of Diseases of the bone & regional Orthopaedic disorders: Conservative & Surgical management	Yes	Yes	Yes
(M-13)Complications of Musculo-Skeletal Injuries & Corrective Orthopaedics. (Marks: Range 5-20)				
1	(U-1) Systemic complications in relation to the orthopaedic injuries.	Yes	Yes	Yes
2	(U-2) Pulmonary, Delayed & Vascular complications in relation to the orthopaedic injuries	Yes	Yes	Yes
3	(U-3) Conservative & Corrective orthopaedic surgery (Repair, Transfer, reconstruction & lengthening procedures for Tendon & ligament.	Yes	Yes	Yes
4	(U-4) Bone grafting, bone banking & bone transportation	Yes	Yes	Yes
5	(U-5) Amputation Surgery.	Yes	Yes	Yes
6	(U-6) Arthrodesis & Arthroplasty.	Yes	Yes	Yes
(M-14)Mutravaha Srotas Vikara [Urinary disorders] (Marks: Range 5-20)				
1	(U-1) Ashmari	Yes	Yes	Yes
2	(U-2) Mutraghata	Yes	Yes	Yes
3	(U-3) Mutrakrichhra	Yes	Yes	Yes
4	(U-4) Shishna Vikara	Yes	Yes	Yes
5	(U-5) Uttar Basti	Yes	Yes	Yes
6	(U-6) Male infertility	Yes	Yes	Yes
(M-15)Vrukka, Gavini Evam Bastigat Vyadhi [Diseases of Kidney, Ureter & Urinary Bladder] (Marks: Range 5-20)				
1	(U-1) Applied anatomy & Physiology of urinary system	Yes	Yes	Yes

2	(U-2) Anomalies of Kidney and Ureter	Yes	Yes	Yes
3	(U-3) Obstructive Uropathy and Haematuria	Yes	Yes	Yes
4	(U-4) Renal failure	Yes	Yes	Yes
5	(U-5) Anomalies of urinary bladder	Yes	Yes	Yes
6	(U-6) Urinary system complications	Yes	Yes	Yes
(M-16)Paurushgranthi, Shishna Evam Mutramargagat Vyadhi [Diseases of Prostate, Penis & Urethra] (Marks: Range 5)				
1	(U-1) Applied anatomy & Physiology of urinary system	Yes	Yes	Yes
2	(U-2) Anomalies & Disorders of prostate	Yes	Yes	Yes
3	(U-3) Prostatitis	Yes	Yes	Yes
4	(U-4) Anomalies & Disorders of penis	Yes	Yes	Yes
5	(U-5) Phimosis and Paraphimosis	Yes	Yes	Yes
6	(U-6) Anomalies & Disorders of Urethra	Yes	Yes	Yes

S.No	List of Module/Unit	ABQ	SAQ	LAQ
Paper No : 3 (Mahasrotas Evam Manyagat Shalyavikara (Surgical Disorders of Gastro-Intestinal System and Neck))				
(M-17)Mukha Roga and Annamargagata Vyadhi (Diseases of Oral Cavity and Oesophagus) (Marks: Range 5-15)				
1	(U-1) Diagnosis and Management of Oral diseases	No	Yes	Yes
2	(U-2) Oshtha Roga	Yes	Yes	Yes
3	(U-3) Oesophageal Disorders	No	No	No
(M-18)Amashayagata, Grahanigata and Kshudrantragata Vyadhi (Diseases of Stomach, Duodenum and Small Intestine) (Marks: Range 5-20)				
1	(U-1) Diseases of Stomach	Yes	Yes	Yes
2	(U-2) Diseases of Duodenum	Yes	Yes	Yes
3	(U-3) Amashayagat Roga	No	Yes	Yes
4	(U-4) Diseases of Small Intestine	Yes	Yes	Yes
5	(U-5) Abdominal Tuberculosis	No	Yes	Yes
6	(U-6) Urdhvag Raktapitta	No	Yes	Yes
(M-19)Manya Vikara (Neck Disorders) (Marks: Range 5-15)				
1	(U-1) Diagnosis of neck disorders	No	No	No
2	(U-2) Management of neck disorders	No	Yes	Yes
(M-20)Yakrit, Pittashaya, Pittanalika evam Pleeha Vyadhi (Diseases of Hepatobiliary System and Spleen) (Marks: Range 5-20)				
1	(U-1) Investigations in Hepatobiliary diseases	No	Yes	Yes
2	(U-2) Plihavikara (Diseases of Spleen)	No	Yes	Yes
3	(U-3) Agnyashaya Vikara (Diseases of Pancreas)	Yes	Yes	Yes
4	(U-4) Cholangitis & other	Yes	Yes	Yes
5	(U-5) Pittashaya Vikara (Diseases of Gall Bladder)	Yes	Yes	Yes
6	(U-6) Congenital Anomalies of Biliary Tract	Yes	Yes	Yes
7	(U-7) Yakriddalyodara	No	Yes	Yes
8	(U-8) Granthi & Arbud of Yakrit	Yes	Yes	Yes
(M-21)Diseases of Peritoneum, Omentum, Mesentery, Retroperitoneal Space and Abdominal Mass (Marks: Range 5-20)				
1	(U-1) Retroperitoneal disorders	No	Yes	Yes

2	(U-2) Gulma	No	Yes	No
3	(U-3) Abdominal Mass	Yes	Yes	Yes
4	(U-4) Laparotomy	Yes	Yes	Yes
5	(U-5) Mesentric diseases	Yes	Yes	Yes
6	(U-6) Diseases of Peritoneum	Yes	Yes	Yes
(M-22)Unduk, Unduk Puchha and Brihadantragata Vyadhi (Diseases of Caecum and Vermiform Appendix and Large Intestine) (Marks: Range 5-20)				
1	(U-1) Caecum & large intestine	Yes	Yes	Yes
2	(U-2) Emergencies of colon & grahani and their management	Yes	Yes	Yes
3	(U-3) Therapeutics of scopies	Yes	Yes	Yes
4	(U-4) Diagnosis and management of Undukpuchhagat disorders	Yes	Yes	Yes
(M-23)Gudagat Roga (Diseases of Rectum and Anal Canal) (Marks: Range 5-20)				
1	(U-1) Diagnosis and Management of Adhog Raktapitta	Yes	Yes	Yes
2	(U-2) Congenital Anomalies of Rectum	Yes	Yes	Yes
3	(U-3) Nidanpanchak and Chikitsa of Arsha (Haemorrhoids)	Yes	Yes	Yes
4	(U-4) Diagnosis and management of Bhagandara (Fistula-in-ano)	Yes	Yes	Yes
5	(U-5) Ksharsutra & Ksharkarma	Yes	Yes	Yes
6	(U-6) Nidanpanchak and Chikitsa of Parikartika (Fissure-in ano)	Yes	Yes	Yes
7	(U-7) Diagnosis and Management of Pilonidal Sinus	Yes	Yes	Yes
8	(U-8) Nidanpanchak and Chikitsa of Gudabransha (Prolapse of Rectum)	Yes	Yes	Yes
(M-24)Urah Evam Udara Abhighat (Torso Trauma) (Marks: Range 5-15)				
1	(U-1) Urahgat Bhinna Vrana Evam Chikitsa	No	Yes	Yes
2	(U-2) Udargat Bhinna Vrana Evam Chikitsa	Yes	Yes	Yes
3	(U-3) Diagnosis and Management of Koshthabhighat (Abdominal Injury)	Yes	Yes	Yes

S.No	List of Module/Unit	ABQ	SAQ	LAQ
Paper No : 4 (Anushastrakarma Evam Vishishta Shastrakarma (Parasurgical and Specialized Surgical Procedures))				
(M-25)Principles and Practice of Kshara Karma (Marks: Range 5-15)				
1	(U-1) Principles of Kshara and Kshara Sutra	Yes	Yes	Yes
2	(U-2) Application of Kshara	Yes	Yes	Yes
3	(U-3) Application of Kshara Sutra.	Yes	Yes	Yes
4	(U-4) Scientific advances in Kshara Karma and Kshara Sutra	Yes	Yes	Yes
(M-26)Principles and Practice of Agni Karma (Marks: Range 5-15)				
1	(U-1) Principles of Agnikarma	Yes	Yes	Yes
2	(U-2) Application of Agnikarma	Yes	Yes	Yes
3	(U-3) Agnikarma Karmukatva	Yes	Yes	Yes
4	(U-4) Advanced tools and techniques of Agnikarma.	Yes	Yes	Yes
(M-27)Principles and Practice of Raktamokshana (Marks: Range 5-20)				
1	(U-1) Principles of Rakthamokshana	No	Yes	Yes
2	(U-2) Procedure of Raktamokshana	Yes	Yes	Yes
3	(U-3) Jalaukavacharana(Leech therapy)	Yes	Yes	Yes
4	(U-4) Recent advances.	Yes	Yes	Yes
(M-28)Stana Roga (Breast Diseases) (Marks: Range 5-15)				
1	(U-1) Anatomy	No	Yes	Yes
2	(U-2) Nidana and Chikitsa of Stana Roga	No	Yes	Yes
3	(U-3) Diagnosis and management of inflammatory and benign breast diseases	No	Yes	Yes
4	(U-4) Diagnosis and management of malignant breast diseases	No	Yes	Yes
5	(U-5) Phyllodes tumor	No	Yes	Yes
(M-29)Vriddhi Roga - Hernia, Diseases of Abdominal Wall and Umbilicus. (Marks: Range 5-20)				
1	(U-1) Vriddhi Roga	Yes	Yes	Yes
2	(U-2) Abdominal wall hernia	No	Yes	Yes
3	(U-3) Umbilicus and abdominal wall conditions	No	Yes	Yes
(M-30)Vrishana Evam Vrishanakoshagat Vyadhi - The Testes and Scrotum (Marks: Range 5-20)				
1	(U-1) Congenital anomalies	Yes	Yes	Yes

2	(U-2) Scrotal cysts	No	Yes	Yes
3	(U-3) The Testes	No	Yes	Yes
(M-31)Naadiyantrakrit Shastrakarma: Minimally Invasive Surgeries (MIS) (Marks: Range 5-15)				
1	(U-1) Introduction to laparoscopic surgery	No	Yes	No
2	(U-2) Principles of energy devices	No	Yes	Yes
3	(U-3) Laparoscopy equipment	No	Yes	Yes
4	(U-4) Laparoscopic complications	No	Yes	Yes
5	(U-5) Robotic & Bariatric Surgery	No	Yes	Yes
(M-32)Baala Shalyakarma - Paediatric Surgery (Marks: Range 5-10)				
1	(U-1) Care of pediatric surgical patients	No	Yes	Yes
2	(U-2) Common pediatric surgical conditions	No	Yes	Yes

6 G : Instruction for the paper setting & Blue Print for Summative assessment (University Examination)

Instructions for the paper setting.

1. University examination shall have 4 papers of 100 marks.

Each 100 marks question paper shall contain:-

- Application Based Question: 1 No (carries 20 marks)
- Short Answer Questions: 8 Nos (each question carries 05 marks)
- Long Answer Questions: 4 Nos (each question carries 10 marks)

2. Questions should be drawn based on the table 6F.
3. Marks assigned for the module in 6F should be considered as the maximum marks. No question shall be asked beyond the maximum marks.
4. Refer table 6F before setting the questions. Questions should not be framed on the particular unit if indicated “NO”.
5. There will be a single application-based question (ABQ) worth 20 marks. No other questions should be asked from the same module where the ABQ is framed.
6. Except the module on which ABQ is framed, at least one Short Answer Question should be framed from each module.
7. Long Answer Question should be analytical based structured questions assessing the higher cognitive ability.
8. Create Blueprint based on instructions 1 to 7

6 H : Distribution of Practical Exam (University Examination)

S.No	Heads	Marks
1	**1. Long case or procedure/Major practical as applicable** • 1 Long Case and 1 Practical Demonstration (50 marks each) is must. • If Long case is chosen from Paper I or II then Practical Demonstration should be chosen from Paper III & IV Long case writing with bedside viva - 1 X 50 marks (Cases or Clinical scenario concerned with Module • **Patient History - 10 Marks** • Presenting Complaints • History of Present Illness • Past Medical History • **Physical Examination - 10 Marks** • Relevant Systemic Examination • Description of findings • Interpretation • **Investigations - 10 Marks** • Relevant tests for the case scenario • Interpretation of result • **Diagnosis - 10 Marks** • Accuracy of diagnosis • Differential Diagnoses • **Treatment Plan - 10 Marks** • Chikitsa Sutra/ Standard treatment protocol • Recommendations/Follow-up Practical Demonstration of Shastrakarma on patients/ Synthetic Models (Procedural demonstration concerned with Module 1 X 50 Marks • **Procedure Execution (Pradhana Karma) - 15 Marks** • Procedural Steps • Safety Measures - maintain aseptic measures and patient safety • Time Management • **Post procedure care (Paschat Karma) - 15 Marks** • Immediate care • Follow up plan • **Skill Demonstration - 20 Marks** • Skill in performing surgical procedure.	100

2	**2. Short case or procedure/Minor practical *as applicable** • 1 Short Case and 1 Practical Demonstration (25 marks each) is must. • If Short case is chosen from Paper I or II then Practical Demonstration should be chosen from Paper III & IV. 1.One Short case writing (either on patient or scenario based) - 25 Marks concerned with Module • **Patient History - 5 Marks** ◦ Presenting Complaints ◦ History of Present Illness • **Physical Examination - 5 Marks** ◦ Relevant Systemic Examination ◦ Description of findings ◦ Interpretation • **Investigations - 5 Marks** ◦ Relevant tests for the case scenario ◦ Interpretation of result • **Diagnosis & Treatment - 10 Marks** ◦ Accuracy of diagnosis ◦ Differential Diagnoses ◦ Chikitsa Sutra/ Standard treatment protocol 2.Demonstration of Para surgical procedures and minor surgical procedures as per the availability from Module – 25 marks. ◦ **Preparation and Setup (Purva Karma) - 5 Marks** ◦ Equipment Preparation ◦ Setting up patient or synthetic model (positioning and preparation) ◦ **Procedure Execution (Pradhana Karma) - 10 Marks** ◦ Procedural Steps ◦ **Post procedure care (Paschat Karma) - 5 Marks** ◦ Immediate care & Follow up plan ◦ **Theoretical Understanding & Skill demonstration - 5 Marks**	50

	◦ Knowledge of Procedure performed and its essential skill demonstration	
3	**3. Spotters * as applicable 10 spotters each carrying 5 marks** • Identification, Characteristic features/Usage/Sterilization technique OR • Interpretation of Investigation reports Like Xray, MRI, Endoscopy & Lab report	50
4	**4. Assessing teaching ability** • Assess Subject mastery • Clarity and structure of content delivery • Use of teaching aids and methods	20
5	**5. Assessing presentation skills** • Assess Relevance of content its accuracy and depth • Verbal & Nonverbal communication • use of Visual aids • Time management and • Response questions.	20
6	**6. Viva (4 examiners: 20 marks/each examiner)**	80
7	**7. Dissertation Viva** • Data Analysis & Interpretation • Originality and Innovation	40

8	**8.Logbook (Activity record)**	20
9	**9.Practical/Clinical Record** • Long cases (10) • Short cases (5) • Skill Lab procedures (5) • Practical Writings. (5)	20
Total Marks		**400**

Reference Books/ Resources

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Abbreviations

Domain		T L Method		Level	
CK	Cognitive/Knowledge	L	Lecture	K	Know
CC	Cognitive/Comprehension	L&PPT	Lecture with PowerPoint presentation	KH	Knows how
CAP	Cognitive/Application	L&GD	Lecture & Group Discussion	SH	Shows how
CAN	Cognitive/Analysis	L_VC	Lecture with Video clips	D	Does
CS	Cognitive/Synthesis	REC	Recitation		
CE	Cognitive/Evaluation	SY	Symposium		
PSY-SET	Psychomotor/Set	TUT	Tutorial		
PSY-GUD	Psychomotor/Guided response	DIS	Discussions		
PSY-MEC	Psychomotor/Mechanism	BS	Brainstorming		
PSY-ADT	Psychomotor Adaptation	IBL	Inquiry-Based Learning		
PSY-ORG	Psychomotor/Origination	PBL	Problem-Based Learning		
AFT-REC	Affective/ Receiving	CBL	Case-Based Learning		
AFT-RES	Affective/Responding	PrBL	Project-Based Learning		
AFT-VAL	Affective/Valuing	TBL	Team-Based Learning		
AFT-SET	Affective/Organization	TPW	Team Project Work		
AFT-CHR	Affective/ characterization	FC	Flipped Classroom		
		BL	Blended Learning		
		EDU	Edutainment		
		ML	Mobile Learning		
		ECE	Early Clinical Exposure		
		SIM	Simulation		
		RP	Role Plays		
		SDL	Self-directed learning		
		PSM	Problem-Solving Method		
		KL	Kinaesthetic Learning		
		W	Workshops		
		GBL	Game-Based Learning		
		LS	Library Session		
		PL	Peer Learning		
		RLE	Real-Life Experience		
		PER	Presentations		
		D-M	Demonstration on Model		
		PT	Practical		
		X-Ray	X-ray Identification		
		CD	Case Diagnosis		

		LRI	Lab Report Interpretation		
		DA	Drug Analysis		
		D	Demonstration		
		D-BED	Demonstration Bedside		
		DL	Demonstration Lab		
		DG	Demonstration Garden		
		FV	Field Visit		
		JC	Journal Club		
		Mnt	Mentoring		
		PAL	Peer Assisted Learning		
		C_L	Co Learning		
		DSN	Dissection		
		PSN	Prosection		

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