Curriculum for MD/ MS Ayurveda
(PRESCRIBED BY NCISM)

अभ्यासात्प्राप्यते दृष्टिः कर्मसिद्धिप्रकाशिनी।

Semester II
Applied Basics of Shalya Tantra
(Ayurveda Surgery)
(SUBJECT CODE : AYPG-AB-ST)

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

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BOARD OF AYURVEDA
NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE
NEW DELHI-110026

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.

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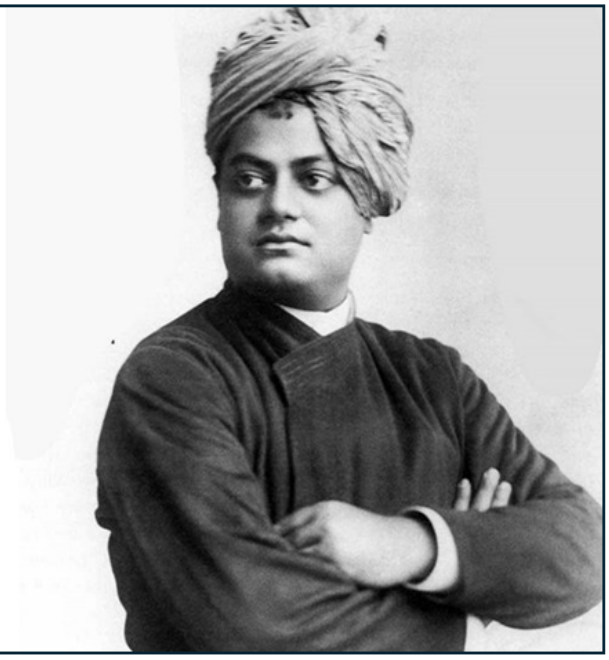
We want that education by which **character** is formed, **strength of mind** is increased, the **intellect** is expanded, and by which one can **stand on one's own feet.**

-Swami Vivekananda



NCISM

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Curriculum for MD/ MS Ayurveda

Applied Basics of Shalya Tantra (AYPG-AB-ST)

Summary & Credit Framework

Semester II

Module Number & Name	Credits	Notional Learning Hours	Maximum Marks of assessment of modules (Formative assessment)
M1. Surgical Ethics & Surgical Audit	2	60	50
M2. Importance of Rakta, Applicability of Shatkriyakala, Sadhya-Asadhyata & Arista Lakshanas (Haemorrhage, its management and Description of Pathogenesis of surgical diseases and Postoperative morbidity)	2	60	50
M3. Marmaghata: Shock, Fluid, Electrolytes & Acid-base imbalance	2	60	50
M4. Nirjantukarana (Sterilization)	2	60	50
M5. Yantra, Shastra & Yogya Vidhi (Description of Blunt instruments, Sharp instruments and Skill training)	2	60	50
M6. Trividha Karma & Pathya-Apathya (Description of Preoperative, Operative and Postoperative patient care and Post-Surgery Diet)	2	60	50
M7. Shastra Karma & Bandha Vidhi (Principles of Operative and Bandaging techniques)	2	60	50
M8. Life Saving Drugs and Essential Medicines	2	60	50
	16	**480**	**400**

Credit frame work

AYPG-AB-ST consists of 8 modules totaling 16 credits, which correspond to 480 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. In case of difficulty and questions regarding the curriculum, write to syllabus24ayu@ncismindia.org.

Course Code and Name of Course

Course code	Name of Course
AYPG-AB-ST	Applied Basics of Shalya Tantra

Table 1 : Course learning outcomes and mapped Program learning outcomes

CO No	A1 Course learning Outcomes (CO) AYPG-AB-ST At the end of the course AYPG-AB-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)

2A Module Number	2B Module & units	2C Number of Credits	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including modular assessment	2G Total
1	**M-1 Surgical Ethics & Surgical Audit** This module explores the essential ethical principles and audit practices that govern surgical practice. The first part of the module on Surgical Ethics which examines the foundational ethical principles in surgery, including patient autonomy, beneficence, non-maleficence, and justice. Surgical Audit provides students with an understanding of the audit process as a tool for enhancing surgical quality, safety, and accountability. • **M1U1 Ethics in surgery** ◦ Surgical Ethics and Informed Consent. • **M1U2 Surgical Audit** ◦ Importance of Surgical Audit. • **M1U3 Medico legal considerations** ◦ Implications of acts of omission and commission in practice. • **M1U4 Consumer Protection Act** ◦ Purpose	2	10	20	30	60

	◦ Objectives ◦ Redressal mechanism ◦ Recent amendments and updates • **M1U5 High Risk Consent** Importance of consent in ◦ Life saving surgical procedures ◦ Surgical emergencies associated with complications.					
2	**M-2 Importance of Rakta, Applicability of Shatkriyakala, Sadhya-Asadhyata & Arista Lakshanas (Haemorrhage, its management and Description of Pathogenesis of surgical diseases and Postoperative morbidity)** This module focuses to describe and understand the concept of Rakta in Ayurveda and its physiological functions. Explore the role of Rakta in the development of surgical diseases. Description of Blood transfusion, Its Components, procedure of blood transfusion, transfusion reactions, safety & legal issues, evaluation and management of blood borne diseases and the risk of thrombosis in surgical patients. At the end of the module the student will be able to Comprehend the six stages of disease development (Shatkriyakala) and their significance in early diagnosis and prevention. • **M2U1 Concept of Rakta** ◦ Description of Rakta, ◦ Raktasrava (Haemorrhage) – Pathophysiology, Types, Degree and classification ◦ Clinical features and Management of Raktasrava (Haemorrhage).	2	10	20	30	60

- **M2U2 Raktastambhanopaya- Haemostatic techniques**

    - Methods of Rakta Stambhana– Haemostasis.
    - Biological mechanisms of haemostasis.
    - Congenital and Aquired defects in haemostasis
    - Medical and Surgical management of bleeding conditions.

- **M2U3 Raktadhan (Blood transfusion)**

    - Description of Blood and blood component,
    - Blood Trasfusion- indications, Procedure, Complications
    - Safety and Legal issues of Blood transfusion.
    - Blood Substitute

- **M2U4 Raktastravajanya Vikarah (Blood disorders and Coagulopathies in surgery)**

    Evaluation and Management of-

    - Haemophilia,
    - Haemolytic anaemia,
    - Thrombocytopenia, Sickle cell disease
    - surgical considerations and Management.
    - Polycythaemia and the risk of thrombosis in surgical patients.

- **M2U5 Shatkriyakala (Description of pathogenesis in surgery)**

    - Six progressive stages of disease development and the opportunities for intervention in surgical diseases.

- **M2U6 Sadhya -Asadhyata and Arista Lakshanas**

	Concept and Applied aspect of- ◦ Sadhya-Asadhyata (Prognosis) ◦ Arishtha Lakshanas (Postoperative morbidity)					
3	**M-3 Marmaghata: Shock, Fluid, Electrolytes & Acid-base imbalance** This module provides an in-depth exploration of the pathophysiology, diagnosis, and management of shock, as well as the critical role of fluid balance, electrolytes, and acid-base homeostasis in maintaining physiological stability. Students will be able to understand the types and stages of shock, along with the pathophysiological mechanisms involved. Gain knowledge of fluid compartments, regulation of water balance, and the management of fluid therapy. • **M3U1 Description of Marmaghata and Shock** ◦ Description, Classification, Etiopathogenesis and Management of Shock. • **M3U2 Lifesaving Skills** Description and demonstration of ◦ Cardiopulmonary resuscitation (CPR), ◦ Endo-tracheal intubation. ◦ Tracheostomy. • **M3U3 Drug Reactions** ◦ Drug reactions, ◦ Anaphylaxis and its Management.	2	10	20	30	60

	• **M3U4 Surgical Emergency** ◦ Identification, Diagnosis and Management of Surgical emergency scenarios and Multiorgan failure. • **M3U5 Fluid and Electrolytes** Description of basics of ◦ Fluid, Electrolyte, Acid base balance, Nutrition, ◦ Acidosis, Alkalosis ◦ Metabolic response to injury like Increased protein degradation, Insulin resistance.					
4	**M-4 Nirjantukarana (Sterilization)** This module focuses on Nirjantukarana (Sterilization) on surfaces, surgical instruments, and in medical environments. Student will be able to Understand the principles and importance of sterilization (Nirjantukarana) in both traditional and modern healthcare practices. The module aims at sterilization protocols for instruments, operating theatres, and other healthcare environments. Recognize the role of sterilization in preventing healthcare-associated infections (HAIs) and maintaining patient safety. • **M4U1 Nirjantukaran Parichay (Introduction to sterilization and infection control)** ◦ Infection control, particularly in health care settings. • **M4U2 Nirjantukarana Prakriya (Method of Sterilization)**	2	10	20	30	60

- Sterilization (Nirjantukarana) – Methods, Types and their applications.
- Operating Theatre (OT) Sterilization: Principles and Procedures.

• **M4U3 Sterilization of surgical instruments and Medical devices**

- Sterilization of common surgical instruments.
- Handling of surgical instruments for steam sterilization (Autoclaving).
- Sterilization protocols for complex and delicate instruments (e.g., Endoscopes).

• **M4U4 Shastrakriyagar Nirjantukarana (Sterilization of Operating room and environment)**

- Sterilization in the operating room, Healthcare environments (Theatre protocol)
- Biomedical Waste Management.

• **M4U5 Universal precautions in bloodborne infections & infections of the bloodstream and associated conditions**

Comprehensive care for patients with

- HIV (Human Immunodeficiency Virus)
- Hepatitis (Hepatitis B and C Virus) and surgical practice.

Description of infections of the blood stream and associated conditions such as

- Bacteraemia,
- Septicaemia,
- Toxaemia and
- Pyaemia.

• **M4U6 Sterilization failures and troubleshooting**

	◦ Common causes of sterilization failure, identifying and managing sterilization failures.					
5	**M-5 Yantra, Shastra & Yogya Vidhi (Description of Blunt instruments, Sharp instruments and Skill training)** This module covers the essential concepts of Yantra (surgical instruments) and Shastra (surgical tools) in Ayurveda. It provides an understanding of the types, functions, and applications of various instruments and tools used in Ayurvedic surgical practices, along with a comparison to contemporary surgical instruments. The description and demonstration of Yogya (simulated training for surgical procedure)is also included. The module emphasizes the significance of precision and skill in the use of these instruments for effective surgical outcomes. • **M5U1 Yantra (Blunt Instruments)** ◦ Demonstrations of Yantra (Blunt instruments), ◦ utility and ◦ its recent advances. • **M5U2 Utility and Etiquette of Instruments** ◦ Appropriate Selection ◦ Safe handling of instruments. • **M5U3 Shastra (Sharp Instruments)** ◦ Demonstration of Shastra (Sharp instruments), ◦ Utility ◦ Recent advances.	2	10	20	30	60

	• **M5U4 Yogya Vidhi** ◦ Practical and experimental training on different types of surgical models. • **M5U5 Skill Lab Training** ◦ Development of surgical skills like practicing suturing, knot-tying and basic surgical skills on tissue models or simulators. ◦ Practical and experimental training/simulated training on different types of surgical models.					
6	**M-6 Trividha Karma & Pathya-Apathya (Description of Preoperative, Operative and Postoperative patient care and Post-Surgery Diet)** This module explores into the foundational Ayurvedic principles of *Trividha Karma* (Pre-operative, Operative & Postoperative patient care) and *Pathyaapathya* (dietary and lifestyle guidelines) essential for promoting health and managing disease. Students will explore the theoretical basis and practical applications of these core concepts, examining how they contribute to a balanced lifestyle and effective treatment strategies in Ayurveda. • **M6U1 Trividha Karma** ◦ Purvakarma, ◦ Pradhan Karma & ◦ Pashchat Karma ◦ Trividha karma Importance in surgical Practice. • **M6U2 Preoperative, Intra-operative and Postoperative patient care**	2	10	20	30	60

	◦ Phases of comprehensive surgical care. • **M6U3 Pathya-Apathya** ◦ Scope of Pathya-Apathya in the post operative management of surgical diseases. • **M6U4 Post-Surgery Diet** ◦ Immediate Post-surgery diet ◦ Transition diet ◦ Key nutrients for Post-surgery recovery. • **M6U5 Post-Surgical Morbidity** ◦ Types ◦ Risk factors, ◦ Prevention ◦ Management					
7	**M-7 Shastra Karma & Bandha Vidhi (Principles of Operative and Bandaging techniques)** This module provides a comprehensive overview of the principles and techniques of Shastra Karma (Operative procedures) and Bandha Vidhi (bandaging techniques) in Ayurveda, combined with insights from contemporary operative techniques. The module aims to equip students with foundational knowledge and practical skills in conducting pre-operative, operative, and post-operative practices. Emphasis is placed on aseptic techniques, wound management, and the appropriate selection and application of bandages to facilitate healing and support recovery.	2	10	20	30	60

	• **M7U1 Shastra Karma** ◦ Description and demonstration of of Ashtavidha Shastra Karma. • **M7U2 Shastra Karma in other Samhitas** ◦ Shadvidha Shastra Karma. ◦ Trayodasha Shastra Karma. • **M7U3 Principles of Operative Techniques** ◦ Basic surgical techniques. • **M7U4 Bandha Vidhi** ◦ Types of bandages ◦ Bandaging techniques mentioned in Ayurveda. • **M7U5 Bandaging techniques** ◦ Bandages and their application techniques.					
8	**M-8 Life Saving Drugs and Essential Medicines** This module focuses on the essential pharmacological agents used in surgical practice, particularly antibiotics, analgesics, anti-inflammatory drugs, and emergency medications. The module provides a comprehensive understanding of the pharmacodynamics, indications, contraindications, and appropriate usage of these drugs, ensuring safe and effective management in surgical patients. • **M8U1 Pharmacokinetics and Pharmacodynamics**	2	10	20	30	60

- Pharmacology in surgical practice
- Pharmacokinetics
- Pharmacodynamics.

• **M8U2 Jeevanurodhak Dravya (Antibiotics)**

- Description, Definition, Types, Importance, Classification by spectrum of activity of Different Antibiotics
- Mechanisms of action
- Antibiotic resistance
- Side effects
- Adverse reactions.

• **M8U3 Vedanaprashamana and Shothaprashamana Dravya (Analgesics and Anti-Inflammatory Drugs)**

- Applications of Analgesics drugs.
- Applications of Anti-inflammatory drugs.

• **M8U4 Dravya in Atyayika Avastha (Emergency drugs in surgical practice)**

- Most common emergency drugs used in surgical practice,
- Their indications
- Actions.

• **M8U5 Drug Interactions and Safety Considerations**

- Recognizing and managing drug interactions,
- Monitoring adverse effects and toxicity,
- Patient safety
- Documentation.

		16	**80**	**160**	**240**	**480**

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

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 : Surgical Ethics & Surgical Audit						
Module Learning Objectives **(At the end of the module, the students should be able to)** ◦ Describe the purpose of Surgical ethics and process of surgical audits as a method for quality control and improvement in surgical practices. ◦ Demonstrate strategies for effective communication and decision-making that respect patient rights and surgeon responsibilities. ◦ Identify and analyse ethical dilemmas in surgical scenarios, demonstrating awareness of diverse cultural and societal factors. ◦ Analyse audit data to identify trends, strengths, and areas for improvement in surgical practice.						
Unit 1 Ethics in surgery ◦ Surgical Ethics and Informed Consent. **References:** 1,5,7,27,28,29						
3A	3B	3C	3D	3E	3F	3G
CO2	Describe core ethical principles (autonomy, beneficence,) in a surgical context.	1	Lecture	CAP	Knows-how	L&PPT
CO2	Describe core ethical principles (non-maleficence, justice) in a surgical context.	1	Lecture	CAP	Knows-how	L&PPT

CO2	Identify and analyse ethical dilemmas in surgical scenarios,	2	Practical Training 1.1	CC	Shows-how	D,PBL,RP
CO2	Identify and analyse e demonstrating awareness of diverse cultural and societal factors.	2	Practical Training 1.2	CC	Shows-how	PBL,RP
CO2	Discuss the role of informed consent, privacy, and confidentiality in surgical ethics. Evaluate the ethical implications of complex cases, such as end-of-life care, resource allocation, and emergency surgery.	4	Experiential-Learning 1.1	AFT-RES	Does	DIS,LS,PL,PBL

Unit 2 Surgical Audit

- Importance of Surgical Audit.

References: 1,27,28,29

3A	3B	3C	3D	3E	3F	3G
CO2	Explore the purpose of surgical audits as improvement in surgical practices.	1	Lecture	CAP	Knows-how	L&PPT
CO2	Describe the process of surgical audits as a method for quality control in surgical practices.	1	Lecture	CC	Knows-how	L&PPT
CO2	Interpret the regulatory standards relevant to surgical audits	2	Practical Training 1.3	CC	Shows-how	PBL
CO2	Demonstrate the compliance standards relevant to surgical audits	2	Practical Training 1.4	CAP	Shows-how	PBL
CO2	Practice basic surgical audit, focusing on outcome measurement, data collection, and interpretation. Evaluate the impact of surgical audits on patient outcomes and overall healthcare quality.	3	Experiential-Learning 1.2	AFT-RES	Does	DIS,LS,PL,PBL
CO2	Report the impact of surgical audits on patient outcomes and overall healthcare quality.	3	Experiential-	AFT-RES	Does	D,LS,PL,

			Learning 1.3			PBL,SDL

Unit 3 Medico legal considerations

- Implications of acts of omission and commission in practice.

References: 1,27,28,29

3A	3B	3C	3D	3E	3F	3G
CO2	Describe and differentiate between acts of omission and acts of commission in the context of medical practice.	1	Lecture	CAP	Knows-how	D,L,L&P PT
CO2	Review the legal and ethical implications of acts of omission (failure to act) and commission (incorrect or harmful action) in clinical settings.	1	Lecture	CAP	Knows-how	D,L,L&P PT
CO2	Identify common scenarios where omissions or commissions may occur in medical and surgical practice, highlighting potential risks.	2	Practical Training 1.5	CC	Shows-how	PBL,TBL
CO2	Identify common scenarios where omissions or commissions may occur in medical and surgical practice, highlighting potential risks	2	Practical Training 1.6	CC	Shows-how	PBL,TUT
CO2	Perform strategies and protocols to minimize the risk of omissions and commissions, in adherence to standard care guidelines.	3	Experiential-Learning 1.4	AFT-RES	Does	D,LS,PL, PrBL
CO2	Visualize / Interpolate the role of regulatory bodies and legal frameworks in addressing and rectifying acts of omission and commission in healthcare.	3	Experiential-Learning 1.5	CC	Does	D,LS,PL, PBL

Unit 4 Consumer Protection Act

- Purpose
- Objectives
- Redressal mechanism
- Recent amendments and updates

References: 1,27,28,29

3A	3B	3C	3D	3E	3F	3G
CO2	Describe the key features of the Consumer Protection Act, including consumer rights, duties, and provisions addressing liability.	1	Lecture	CAN	Know	L&PPT
CO2	Describe the key features of the Consumer Protection Act, including penalties, and compensation.	1	Lecture	CAN	Knows-how	L&PPT
CO2	Observe recent amendments and updates and Understand the redressal mechanism provided under the Act,	2	Practical Training 1.7	CC	Shows-how	PBL,TUT
CO2	Summarize recent amendments and updates and Understand the the roles of consumer courts and various redressal agencies at the district, state, and national levels.	2	Practical Training 1.8	CC	Shows-how	PBL,TUT
CO2	Present the rights of consumers as outlined in the Act, including redress, and consumer education.	3	Experiential-Learning 1.6	AFT-RES	Does	LS,PL,PBL
CO2	Identify the responsibilities of consumers as outlined in the Act, including the right to information, choice.	3	Experiential-Learning 1.7	CC	Does	LS,PL,PBL

Unit 5 High Risk Consent

Importance of consent in

- Life saving surgical procedures
- Surgical emergencies associated with complications.

References: 1,7,27,28,29

3A	3B	3C	3D	3E	3F	3G
CO2	Define high-risk consent and understand its significance in medical and surgical practice.	1	Lecture	CAP	Knows-how	L&PPT

CO2	Differentiate between standard and high-risk consent particularly in situations involving complex or high-risk procedures	1	Lecture	CAN	Knows-how	L&PPT
CO2	Identify the components of an effective high-risk consent process, including clear communication of potential risks, benefits.	2	Practical Training 1.9	AFT-RES	Shows-how	D,LS,PL, PBL,RP
CO2	Practice the components of an effective high-risk consent process, including alternatives, and possible complications.	2	Practical Training 1.10	AFT-RES	Shows-how	D,LS,PL, PBL
CO2	Demonstrate the ability to communicate effectively with patients and families during the high-risk consent process, using language that is understandable and respectful.	4	Experiential-Learning 1.8	CC	Does	PBL,TUT

Practical Training Activity

Practical No	Name	Activity details
Practical Training 1.1	Analysis of Ethical dilemmas in surgical scenarios	The demonstration by the teacher about the ethical dilemma that can occur in the surgical practice. Reflective Journals and discussion in the presence of teacher about how you analyse the ethical dilemmas in surgical scenario Problem Based learning : Provide a scenario of ethical dilemma: The consultant decides to proceed with the surgery without formal consent, citing the urgent need and “best interest” principle. Team can discuss about: Was the decision to proceed without consent ethically justified? What alternatives could have been considered? How should the team balance urgency with patient rights? What is the role of the junior doctor in this situation? What policies or guidelines should be referred to? Clear record of rationale for action and communication attempts must be made.
Practical Training 1.2	Demonstrating awareness of diverse cultural and societal factors.	Role-play scenarios : The demonstration by the teacher about the ethical dilemma that can occur in the surgical practice. Assign the students roles like Patient, Doctor and Family members for a duration of 20 min, where a teacher/surgeon explains risks and benefits to a patient with cultural or language barriers. Teacher can provide feed back on how well the Students in different roles acknowledge the family involvement during such scenario. Reflective Journals and discussion in the presence of teacher about how you approach autonomy in culturally diverse scenarios can be encouraged. Alloted hour can be utilized for the Roleplay, discussion and assessment.

Practical Training 1.3	Regulatory and compliance standards relevant to surgical audits.	Mock Surgical Audit Group of students can take up a Surgical case, eg: Cholecystectomy/ Appendisectomy and each student can apply the assigned goal to audit. With this Surgical team can discuss the how it enhance quality assurance practices, improve communication, and foster a culture of continuous learning and patient safety..
Practical Training 1.4	Regulatory and compliance standards relevant to surgical audits	Demonstration by the Teacher Teacher can Familiarize students with audit procedures by simulating a real-life surgical audit. Clearly outline the goals of the mock audit, such as: Evaluating compliance with clinical guidelines and protocols. Identifying complications and their management. Reviewing surgical outcomes and decision-making processes. Identify strategies to address gaps or errors.
Practical Training 1.5	Commissions to adress Potential risks in Surgical Practice.	Mock Preoperative Assessment: Provide students with a simulated patient chart missing critical information (e.g., allergy history). Have them identify gaps and prepare a full preoperative checklist to avoid omissions. Debrief: Teacher can review the errors, explore the root causes, and discuss strategies for preventing similar mistakes in the future
Practical Training 1.6	Assessment of scenarios for Omission of Potential Risks in Surgical Practice.	Mock Preoperative Assessment: Provide students with a simulated patient chart missing critical information (e.g., allergy history). Students have to identify gaps and prepare a full preoperative checklist to avoid omissions. Teacher can review the errors, explore the root causes, and discuss strategies for preventing similar mistakes in the future
Practical Training 1.7	Recent Amendments and Updates of Consumer Protection Act	Case Study Analysis of Medical Negligence Cases: Provide students with case studies where patients have filed complaints against healthcare providers, covering issues like wrong diagnosis, treatment complications, or misleading medical information. Discuss how each case highlights specific consumer rights and the impact of recent amendments. Emphasize the role of the redressal mechanism at each level.
Practical Training 1.8	Consumer Protection Act.	Case Study Analysis of Medical Negligence Cases: Provide students with case studies where patients have filed complaints against healthcare providers, covering issues like wrong diagnosis, treatment complications, or misleading medical information.

Practical Training 1.9	Importance of Consent Surgical emergencies associated with complications.	Role-Play of High-Risk Consent Conversations to Practice, in delivering high-risk consent information effectively and empathetically during Surgical emergencies . Provide feedback on clarity, empathy, and thoroughness, highlighting areas for improvement. Repeat with different scenarios to build adaptability in students
Practical Training 1.10	Importance of Consent in life saving Surgical emergencies.	Role-Play of High-Risk Consent Conversations to Practice and thus delivering high-risk consent information effectively and empathetically. Provide feeback on clarity, empathy, and thoroughness, highlighting areas for improvement. Repeat with different scenarios to build adaptability among students.
Experiential learning Activity		
Experiential learning No	**Name**	**Activity details**
Experiential-Learning 1.1	Basic components of Surgical Ethics and ethical implications of complex cases.	Roleplay : Assign student different roles like patient and doctor . Role-Playing with “Difficult Conversations” of patient and Doctor to Improve communication skills and ethical sensitivity in delivering complex, sensitive information. Take a case scenario and explain the importance of informed consent during surgery, and the methods to convey in complex cases. Group discussions :(GD) Invite legal and medical ethics experts to discuss real-life cases of informed consent, privacy, and confidentiality issues in complex surgical cases.
Experiential-Learning 1.2	Demonstration of basic surgical audit	Role Play (Mock Surgical Audit) Conduct a full surgical audit cycle, from data collection to outcome analysis. Roleplay : Assign student different roles like lead auditor, junior doctor, nurse, medical records officer and observer. Ask the students to play on setting up the agenda, analysis of data, identifying gaps, recommendations and action plan. Students can demonstrate the Importance of audit in patient safety and quality improvement
Experiential-Learning 1.3	Impact of surgical audits on patient outcomes and overall healthcare quality.	Panel Discussion with Experts on Real-Life Surgical Audits Discussion with the experts to gain insight on how to conduct or manage surgical audits in a hospital setting.
Experiential-	Strategies and protocols	Case-Based Learning: Real-Life Scenarios of Omissions and Commissions to Understand the impact of omissions and

Learning 1.4	to minimize the risk of omissions and commissions,	commissions on patient outcomes and explore prevention strategies. Arrange an interaction with experts to obtain insights on this topic with the active participation of students.
Experiential-Learning 1.5	Role of Regulatory bodies and legal frameworks	Case-Based Learning: Real-Life Scenarios of Omissions and Commissions to Understand the impact of omissions and commissions on patient outcomes and explore prevention strategies. Peer Review and Reflective Practice Exercises to obtain the role of regulatory bodies can be followed by refering the published papers and discussing the points with experts
Experiential-Learning 1.6	Identification of Consumer responsibilities	Debate: Organize a debate where students argue the importance of consumer rights, versus consumer responsibilities. Each team can present arguments on how these elements contribute to a fair and functional healthcare system. Guest Speaker Session with Legal or Consumer Rights Experts, encouraging active participation of Students.
Experiential-Learning 1.7	Identification of Consumer Rights	Debate: Organize a debate where students argue the importance of consumer rights, versus consumer responsibilities. Each team can present arguments on how these elements contribute to a fair and functional healthcare system. Guest Speaker Session with Legal or Consumer Rights Experts to provide practical insights on this topic by encouraging the students
Experiential-Learning 1.8	Importance of Consent in life saving Surgical and in Surgical emergencies associated with complications.	Role-Play of High-Risk Consent Scenarios: Set the Scene: Briefly explain the scenario background. Student can Practice delivering high-risk consent information in an empathetic, clear, and patient-centered way. Assign the role to the students like Doctor, patient and the family members, The patient asks questions or expresses concerns and doctor obtain voluntary, informed, and competent consent.

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 asssessment. 1. Theory Open Book Test Conduct theory open book test for 50 marks which will contain either 2 LAQ and 6 SAQ. OR	4

2. Practical Roleplay (25marks for presentation & 25 marks for evaluation) Preparation: Identify real-life scenarios related to the module and provide clear instructions for the roles and expected outcomes. Execution**:** Divide students into groups, assigning roles related to Role-Playing High-Risk Consent Conversations, Mock pre-operative assessment, Mock Surgical Audit etc. Evaluation: Evaluate to grade skills like communication, problem-solving capacity, and teamwork. OR 3.Debate –25 marks for each debate (Total 2 debates) Preparation: Select relevant topics connected to the module. 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. 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 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 2 : Importance of Rakta, Applicability of Shatkriyakala, Sadhya-Asadhyata & Arista Lakshanas (Haemorrhage, its management and Description of Pathogenesis of surgical diseases and Postoperative morbidity)

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

- Study the concept of Rakta in Ayurveda and its physiological functions and Gain knowledge of Rakta-related disorders from both Ayurvedic and modern medical perspectives
- Practice to treat diseases associated with Rakta, including management of haemorrhage, transfusion and coagulopathies. Conduct the demonstration of Shatkriyakala and observe it within the diseases as well as conduct all understand the prognosis and Pathya(Diet)
- Identify the different treatment plans according to the stages in a particular disease and ways to handle according to the severity. Also as per the Vyaktavastha and Bhedavastha treatment modalities will be applied.

Unit 1 Concept of Rakta

- Description of Rakta,
- Raktasrava (Haemorrhage) – Pathophysiology, Types, Degree and classification
- Clinical features and Management of Raktasrava (Haemorrhage).

References: 1,2,3

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the concept of Rakta (blood) and its significance in Ayurvedic and contemporary medicine along with its classification.	1	Lecture	CC	Knows-how	L&PPT
CO1,CO4	Identify the signs and symptoms of acute and chronic haemorrhage, physiological response to blood loss, including compensatory mechanisms	2	Practical Training 2.1	CC	Shows-how	D,D-BED,PBL
CO1,CO4	Describe the management of bleeding, supportive measures to address the physiological impacts of blood loss,	1	Experiential-Learning 2.1	AFT-RES	Does	DIS,PBL, SIM

Unit 2 Raktastambhanopaya- Haemostatic techniques

- Methods of Rakta Stambhana– Haemostasis.
- Biological mechanisms of haemostasis.
- Congenital and Aquired defects in haemostasis
- Medical and Surgical management of bleeding conditions.

References: 1,2,3,4

3A	3B	3C	3D	3E	3F	3G
CO1,CO4	Description of methods of Rakta Stambhana(Methods of Haemostasis and its Biological mechanisms)	1	Lecture	CAP	Knows-how	L&PPT
CO1,CO4	Identify Ayurvedic techniques for bleeding control and discuss how these align with or complement contemporary haemostatic practices.	2	Practical Training 2.2	CC	Shows-how	DIS,PBL
CO1,CO4	Demonstrate the importance of monitoring a patient's vital signs, physical symptoms during and after the haemorrhage management. Develop a monitoring plan to track the patient's response to treatment, recognizing when to escalate care if bleeding persists or complications arise.	3	Experiential-Learning 2.2	AFT-RES	Does	D,PL

Unit 3 Raktadhan (Blood transfusion)

- Description of Blood and blood component,
- Blood Trasfusion- indications, Procedure, Complications
- Safety and Legal issues of Blood transfusion.
- Blood Substitute

References: 7,8,18,30

3A	3B	3C	3D	3E	3F	3G
CO1,CO4	Describe the components, procedure and complications of Blood transfusion	1	Lecture	CAP	Knows-	L&PPT

					how	,L_VC
CO1,CO4	Identify common transfusion reactions, including febrile non-hemolytic reactions, allergic reactions, acute hemolytic reactions.	2	Practical Training 2.3	CC	Shows-how	CBL,PBL ,SDL
CO1,CO4	Identify common transfusion reactions, including transfusion-related acute lung injury (TRALI), and transfusion-associated circulatory overload (TACO).	2	Practical Training 2.4	CC	Shows-how	CBL,PBL ,SDL
CO1,CO4	Conduct practical regarding principles of management of common transfusion reactions, including TACO & TRALI	2	Practical Training 2.5	CC	Shows-how	CBL,PBL
CO1	Perform the procedure of Blood transfusion, implement safety protocols and address Legal and ethical issues	3	Experiential-Learning 2.3	AFT-RES	Does	D-BED,DIS,PBL
CO1	Perform the procedure of Blood transfusion, manage transfusion reactions, implement safety protocols and address Legal and ethical issues	4	Experiential-Learning 2.4	AFT-RES	Does	D,LS,PL
CO1,CO4	Summarize the procedure of Blood transfusion	1	Lecture	CE	Knows-how	L&PPT
CO1,CO4	Describe the complications of Blood transfusion	1	Lecture	CAP	Knows-how	L&PPT

Unit 4 Raktastravajanya Vikarah (Blood disorders and Coagulopathies in surgery)

Evaluation and Management of-

- Haemophilia,
- Haemolytic anaemia,
- Thrombocytopenia, Sickle cell disease
- surgical considerations and Management.
- Polycythaemia and the risk of thrombosis in surgical patients.

References: 7

3A	3B	3C	3D	3E	3F	3G
CO1	Describe haemophilia, haemolytic anaemia, thrombocytopenia and their surgical considerations.	1	Lecture	CAP	Knows-how	L&PPT
CO1,CO4	Describe sickle cell disease, Polycythaemia and their surgical considerations.	1	Lecture	CAP	Shows-how	L&PPT
CO1,CO4	Explain the unique surgical challenges and risks associated with hematologic conditions, including bleeding, clotting, and oxygenation	2	Practical Training 2.6	CC	Shows-how	PBL
CO1,CO4	Discuss risks associated with these hematologic conditions, including bleeding, clotting and oxygenation issues in surgical and parasurgical procedures.	2	Practical Training 2.7	CC	Shows-how	LRI,PrBL,RLE,TUT
CO1,CO4	Demonstrate the unique surgical challenges and risks associated with hematologic conditions, including bleeding, clotting, and oxygenation surgical and parasurgical diseases.	3	Experiential-Learning 2.5	AFT-RES	Does	PL,PSM
CO1,CO4	Demonstrate intraoperative interventions, comprehensive monitoring plan and clinical indicators of bleeding or thrombotic complications.	3	Experiential-Learning 2.6	CC	Does	PL,PrBL

Unit 5 Shatkriyakala (Description of pathogenesis in surgery)

- Six progressive stages of disease development and the opportunities for intervention in surgical diseases.

References: 1,2

3A	3B	3C	3D	3E	3F	3G
CO1	Describe Shatkriyakala and understand its significance as a framework for disease progression.	1	Lecture	CAP	Knows-how	L&PPT

CO1	Describe utility of shatkriyakala for the disease intervention in Ayurveda.	1	Lecture	CAP	Knows-how	L&PPT
CO1,CO4	Develop skills in documenting patient symptoms, disease progression according to the stages of Shatkriyakala.	2	Practical Training 2.8	CC	Does	DL,PBL
CO1,CO4	Develop skills in documenting patient symptoms and treatment according to the stages of Shatkriyakala.	2	Practical Training 2.9	CC	Does	D-BED,PBL
CO1,CO4	Conduct a comprehensive patient assessment, identify the stage of Shatkriyakala of the Diisease.	3	Experiential-Learning 2.7	AFT-RES	Does	D,DIS,PL,PBL,W
CO1,CO4	Conduct a comprehensive patient assessment, identify the stage of disease and demonstrate the treatment strategies as per Shatkriyakaala	3	Experiential-Learning 2.8	AFT-RES	Does	CBL,DIS,PBL,W

Unit 6 Sadhya -Asadhyata and Arista Lakshanas

Concept and Applied aspect of-

- Sadhya-Asadhyata (Prognosis)
- Arishtha Lakshanas (Postoperative morbidity)

References: 1,3

3A	3B	3C	3D	3E	3F	3G
CO1,CO4	Define the concepts and explain their significance in assessing disease prognosis and identifying terminal or high-risk signs.	1	Lecture	CAN	Knows-how	L&PPT
CO1,CO4	Identify the key prognostic factors in a disease, explain how they impact disease outcomes, and determine the recovery or management	2	Practical Training 2.10	CC	Shows-how	PER,PrBL,TPW,TUT

CO1,CO4	Develop the skill of evaluating disease prognosis in clinical settings using Ayurvedic principles and assess treatability based on Sadhyasadhyata criteria, and recommend suitable treatment plans.	3	Experiential-Learning 2.9	AFT-RES	Does	BL,LS,PL,SIM

Practical Training Activity

Practical No	Name	Activity details
Practical Training 2.1	Assessment of clinical features of acute and chronic haemorrhage	Demonstration by Teacher: Teacher can demonstrate and emphasize key indicators of Acute and chronic blood loss giving Focus on subtler signs that may develop over time, such as pallor, tachycardia, and general weakness, which can indicate ongoing, slow blood loss. Demonstration bedside: Bedside demonstration of the features of Compensatory mechanisms to identify the prognosis of the disease. Teacher can use case scenarios, audio visual demonstration or patients to demonstrate the practical.
Practical Training 2.2	Raktastambhan Upayas (haemostatic measures in Ayurveda and in Contemporary science)	Group Discussion: Students can be involved in group discussions on understanding Ayurvedic techniques for bleeding control, recognizing their mechanisms, and identifying how they complement modern haemostatic practices. Demonstration by the Teacher: Teacher can demonstrate the haemostatic procedures on surgical sites or with audio-visual aids. Example: Clamping the bleeder, Agnikarma(cautery) etc Interactions and Presentations: Interactions and presentations on how Critically assess the effects of Ayurvedic methods, both independently and in combination with available haemostatic practices. Discussion about the innovative techniques and Research in the field, to contribute the science.

Practical Training 2.3	Common transfusion reactions.	Case based learning: Observe or demonstrate the scenarios where clinicians address common transfusion reactions. Real petients bedside or audiovisual aids can be used to enlist them according to the classification such as acute haemolytic, non febrile-haemolytic and allerdic reactions and discuss the strategies of management. Provide checklist to the students and practice the standard procedures to be followed prior to the transfusion to minimise the reactions. Self -directed learning: To obtain the knowledge on complications , Journal reading, discussion with experts are encouraged.
Practical Training 2.4	Identification of transfusion reactions such as TRALI and TACO	Demonstration by the Teacher: Teacher can introduce core concepts of the condition. risk factors and tabulate the clinical features between TRALI and TACO Case based learning: Provide students with case scenarios and ask them to Identify symptoms, apply diagnostic criteria, discuss prevention strategies and plan immediate interventions. Self -directed learning: To obtain the knowledge on complications , Journal reading, discussion bedside with experts are encouraged.
Practical Training 2.5	Treatment protocol for common transfusion reactions, including TACO & TRALI	Case based learning: Divide students into small groups and present realistic clinical cases or case scenario Tasks: 1. Identify the reaction 2. Outline immediate steps of management. 3. Discuss preventive measures Self -directed learning: To obtain the knowledge on complications , Journal reading, discussion bedside with experts are encouraged.
Practical Training 2.6	Identification of Unique surgical challenges with haematologic conditions	Demonstration Bedside/ in lab: Teachers / experts can discuss on the affect of bleeding and clotting disorders or variation in Oxygen saturation that can interfere the surgical interventions. Preoperative assessment of the patient along with interpretation of blood reports in relation to bleeding time, clotting time, and their importance in surgical and parasurgical procedures can be demonstrated bedside or in the laboratory to minimise the consequances.

Practical Training 2.7	Demonstrate the risks associated with hematologic conditions, including bleeding, clotting, and oxygenation in surgical and parasurgical procedures.	Demonstration Bedside/ in lab: Teachers / experts can demonstate with case scenarios or experiences in practice on the potential risks of bleeding and clotting disorders that can interfere the surgical interventions. Discuss the possible strategies to follow while handling these haematologic conditions in inevitable ciercumstances. Preparedness to combat the oxygenation issues must be demonstrated before and during the surgery.
Practical Training 2.8	Document a case details based on stages of Shatkriyakala	Demonstration Bedside & Demonstration-lab Teacher can try to explain the disease progression by interpreting Lab reports and relating with the clinical symptoms to map with the stages of Shatkriyakala. Student can apply the concept on Surgical diseases and repeatedly exercise this activity.
Practical Training 2.9	Document patient symptoms and treatment responses according to the stages of Shatkriyakala.	Demonstration Bedside Teacher can explain the disease symptoms and treatment protocol as per the stages of Kriyakala. Apply these principles of managemnt in surgeical cases and repeat the exercise.
Practical Training 2.10	Identify key prognostic factors in a disease , to understand the prognosis	Project based learning, Presentations, Team project work Teacher can provide a brief overview of common prognostic factors, such as age, disease stage, comorbidities, functional status, lifestyle, and biomarkers, and discuss how each can affect outcomes. Emphasize how understanding prognosis aids in setting realistic goals, planning treatments, and communicating effectively with patients and families.
Experiential learning Activity		
Experiential learning No	**Name**	**Activity details**
Experiential-Learning 2.1	Haemorrhage and its management	Simulated Scenario based learning: Provide students a scenario like Acute or chronic haemorrhage Students can be assigned with systematic approach to check vital signs, physical appearance and perform a detailed assessment, They can practice explaining findings and discuss key takeaways on recognizing acute versus chronic haemorrhage along with the description of the features compensatory mechanisms.

		Discuss the management in detail. Student can utilize the journals to explain the compensatory mechanisms.
Experiential-Learning 2.2	Assessment of patient following haemorrhage - monitoring patient's vital signs, physical symptoms and complications	Team project work: Teacher can briefly Demonstrate the importance and guide students on assessing functional status using tools like the Activities of Daily Living (ADL) scale and evaluating comorbidities that may interfere with treatment. Provide check list to track the patient's response to symptoms and identification of complications to escalate the care of the patient.
Experiential-Learning 2.3	Demonstrate the procedure of Blood Transfusion.	Demonstration bedside or Demonstration with audio visual aids or by Hospital Transfusion Unit Visit/Blood Bank Visit: Teacher/Doctor /expert can demonstrate the procedure of blood transfusion, assessment, monitoring the patient throughout the procedure like Pre-transfusion preparation, Blood product collection and verification, monitoring vital signs and Post-transfusion care.
Experiential-Learning 2.4	Assist or perform the procedure of Blood transfusion	Demonstration bedside or Demonstration with audio visual aids or by Hospital Transfusion Unit Visit/Blood Bank Visit: Student must involve in demonstrating the procedure of blood transfusion. Independently perform or assist in the assessment and monitoring the patient throughout the procedure. Student must perform or assist the experts in Pre-transfusion preparation, Blood product collection and verification, monitoring vital signs and Post-transfusion care.
Experiential-Learning 2.5	Identification of unique surgical challenges and risks associated with hematologic conditions in surgical and parasurgical diseases.	Self-directed Learning and Presentation: The students can collect the preliminary data related to surgical challenges and risks associated with hematologic conditions, and present in the presence of teacher which can be demonstrated Bedside.
Experiential-Learning 2.6	Intraoperative interventions of bleeding or thrombotic complications.	Self-directed Learning and Presentation: The students can collect the preliminary data related to surgical challenges and risks associated with hematologic conditions, and present in the presence of teacher which can be demonstrated Bedside. This can be a revision exercise for the students.
Experiential-Learning 2.7	Perform the Patient assessment and Identify the stage of	Workshops and Group discussions: Provide the students an opportunity to discuss and demonstrate their interpretations to conduct a comprehensive patient assessment to describe the stage of the disease in relation to shatkriyakala

	Shatkriyakala of the disease.	
Experiential-Learning 2.8	Demonstrate the treatment principles as per the stages of kriyakaala.	Workshops and Group discussions: Provide the students an opportunity to discuss and demonstrate their interpretations to conduct a comprehensive patient assessment to describe the stage of the disease in relation to shatkriyakala. Case based Learning According to the stage of the disease the treatment strategies in few surgical conditions/scenarios can be given to the group of students and practiced in the presence of Teacher.
Experiential-Learning 2.9	Evaluation of disease prognosis with Ayurvedic Principles.	Blended learning Develop skills to assess disease prognosis in clinical settings using Ayurvedic principles and provide medication guidelines. Stuedents can demonstrate the plan of assessment criteria for good prognosis and adopt suitable treatment plans. Hands-on training Use tools like Prakriti assessment charts or questionnaires to evaluate the prognosis of disease. Each student assesses Prakriti using pulse examination, physical features, and mental characteristics in the questionair based learning. This Hybrid learning method can be scaled up with with interactions with experts on the given topic.

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 asssessment. 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 (e.g., doctor-patient interactions, emergency care) relevant to the module. Execution: Assign roles (e.g., patient, clinician, observer). Provide guidelines for role execution. Evaluation**:** Assess communication, clinical reasoning, empathy, and problem-solving using a checklist. 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.	4

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., 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 5.OSPE (Objective Structured Practical Examination) - Plan 10 stations from the list of practicals 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 6.OSCE (Objective Structured Clinical Examination) -Plan 5 clinical examination stations carrying 50marks Preparation: Set up stations mimicking real-life clinical scenarios (e.g., taking patient history, diagnosing conditions, or h andling emergencies). 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 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 3 : Marmaghata: Shock, Fluid, Electrolytes & Acid-base imbalance

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

- Discuss the types and stages of shock, along with the pathophysiological mechanisms involved and gain knowledge of fluid compartments, Comprehend the role of key electrolytes (sodium, potassium, calcium, etc.) in maintaining cellular function.
- Demonstrate the mechanisms of acid-base balance, and how to identify and correct imbalances such as acidosis and alkalosis.
- Develop skills to manage patients with shock, fluid and electrolyte disturbances, and acid-base disorders.

Unit 1 Description of Marmaghata and Shock

- Description, Classification, Etiopathogenesis and Management of Shock.

References: 1,2,7,30

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO8	Describe the aetiology, pathophysiology, classification of shock	1	Lecture	CC	Knows-how	DIS,L&PPT
CO1,CO4,CO8	Describe the management and prognosis of different types of shock .	1	Lecture	CS	Shows-how	D,L&GD
CO1,CO4,CO7,CO8	Document a history/clinical examination in a case of shock.	2	Practical Training 3.1	PSY-ADT	Shows-how	D-BED,DL,LRI,RP
CO1,CO4,CO7,CO8	Demonstrate a case of shock with its management	2	Practical Training 3.2	PSY-ADT	Shows-how	CBL,D-BED,LRI,RP
CO1,CO4,CO7	Identify the causes, clinical features and complications of shock	4	Experiential-	PSY-	Does	D-

,CO8			Learning 3.1	GUD		BED,PBL

Unit 2 Lifesaving Skills

Description and demonstration of

- Cardiopulmonary resuscitation (CPR),
- Endo-tracheal intubation.
- Tracheostomy.

References: 31

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO8	Describe steps of Cardiopulmonary resuscitation (CPR).	1	Lecture	CAP	Knows-how	BS,L&PPT ,L_VC
CO1,CO4,CO8	Describe Endo-tracheal intubation and Tracheostomy	1	Lecture	CAP	Knows-how	BS,L&PPT ,L_VC
CO1,CO4,CO7	Conduct and demonstrate steps of lifesaving skills - Cardiopulmonary resuscitation (CPR),	2	Practical Training 3.3	PSY-ADT	Shows-how	D,KL,W
CO1,CO4,CO7	Conduct and demonstrate steps of lifesaving skills- Endo-tracheal intubation and Tracheostomy in Manniquins	2	Practical Training 3.4	PSY-ADT	Shows-how	KL,W
CO1,CO4,CO7	Execute lifesaving skills -Cardiopulmonary resuscitation (CPR),	3	Experiential-Learning 3.2	PSY-GUD	Does	CBL,D-BED,KL
CO1,CO4,CO7	Apply lifesaving skills like Endo-tracheal intubation and Tracheostomy	3	Experiential-Learning 3.3	PSY-GUD	Does	CBL,D,KL,SIM

Unit 3 Drug Reactions

- Drug reactions,

- Anaphylaxis and its Management.

References: 33

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO8	Describe clinical features of drug reactions and anaphylaxis	1	Lecture	CAN	Knows-how	BL,L&GD,L_VC
CO1,CO4,CO8	Describe the management of drug reactions and anaphylaxis.	1	Lecture	CAN	Knows-how	BL,L&PPT ,L_VC
CO1,CO4,CO8	Identify the clinical features of drug reactions and anaphylaxis	2	Practical Training 3.5	CC	Shows-how	CBL,KL,PBL
CO1,CO4,CO8	Demonstrate management of drug reactions and anaphylaxis	2	Practical Training 3.6	PSY-ADT	Shows-how	CBL,KL,SIM
CO1,CO4,CO8	Identify clinical manifestations and management of drug reactions and anaphylaxis	5	Experiential-Learning 3.4	PSY-GUD	Does	CBL,D-BED,KL,TBL

Unit 4 Surgical Emergency

- Identification, Diagnosis and Management of Surgical emergency scenarios and Multiorgan failure.

References: 32

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO8	Describe identification, diagnosis of surgical emergency scenarios	1	Lecture	CAN	Knows-how	BL,L&GD,L_VC
CO1,CO4,CO8	Describe the management of surgical emergency scenarios	1	Lecture	CS	Knows-how	BL,BS,L&GD,L_

						VC
CO1,CO4,CO8	Identify and assess common surgical emergencies, such as acute abdomen, trauma	2	Practical Training 3.7	CC	Shows-how	CBL,D,PBL
CO1,CO4,CO8	Identify and assess common surgical emergencies, such as gastrointestinal bleeding, and vascular emergencies .	2	Practical Training 3.8	CC	Shows-how	CBL,PBL,SIM,W
CO1,CO4,CO8	Identify the signs and symptoms of various surgical emergencies to enable timely diagnosis and initiation of appropriate management.	3	Experiential-Learning 3.5	PSY-GUD	Does	CBL,KL,RP
CO1,CO4,CO8	Demonstrate proficiency in primary assessment and prioritization of care for surgical emergency patients, including airway, breathing, circulation, disability, and exposure (ABCDE) principles.	3	Experiential-Learning 3.6	PSY-GUD	Does	CBL,KL,W

Unit 5 Fluid and Electrolytes

Description of basics of

- Fluid, Electrolyte, Acid base balance, Nutrition,
- Acidosis, Alkalosis
- Metabolic response to injury like Increased protein degradation, Insulin resistance.

References: 7

3A	3B	3C	3D	3E	3F	3G
CO1,CO4,CO8	Discuss the physiology of fluid compartments in the body, including intracellular, extracellular, and interstitial fluid distribution.	1	Lecture	CAP	Knows-how	FC,L&PPT,L_VC,LS
CO1,CO4,CO8	Describe the basic principles of fluid and electrolyte balance, including the roles of sodium, potassium, chloride, calcium, magnesium, and phosphate in body function.	1	Lecture	CAP	Knows-how	FC,L&PPT

						,L_VC,LS
CO1,CO4	Calculate and administer appropriate fluid therapy based on individual patient needs, considering factors such as age, weight, underlying conditions, and surgical status	2	Practical Training 3.9	CC	Shows-how	CBL,W
CO1,CO4	Summarize steps in Fluid Administration	2	Practical Training 3.10	CC	Shows-how	CBL,PBL,W
CO1,CO4,CO8	Demonstration of types of Intravenous fluids	3	Experiential-Learning 3.7	PSY-GUD	Does	CBL,D-BED,DIS,PER
CO1,CO4,CO8	Demonstrate IV fluid adminstration	2	Experiential-Learning 3.8	PSY-GUD	Does	CBL,D-BED,LRI,W

Practical Training Activity

Practical No	Name	Activity details
Practical Training 3.1	Discuss a case of Marmaghata (Shock)	Demonstration by the teacher Appropriate history taking/clinical examination and documentation in a patient of shock Choosing and ordering relevant laboratory (LRI - Lab Report Interpretation) and other necessary investigations to confirm the diagnosis Interacting with the attendants of patient and developing effective counselling techniques obtaining consent Role plays Gather students together, tell them about the scenario of shock, and encourage an open discussion to uncover all the relevant issues Divide students into small groups Assign different roles (i.e. of Doctor, Patient, Attendants, Hospital staff etc.) to the student Instruct the students to act out the scenario of evaluation a shock patient Discuss what students have observed and learnt The teacher shall summarize the key concepts covered in the practical
Practical Training 3.2	Practical discussion on the management of	Demonstration by the teacher: Teacher can demonstrate the

	Marmaghata (Shock)	Proper emergency management and care of the patient Choosing and ordering relevant laboratory (LRI - Lab Report Interpretation) and other investigations and deciding further line of management Interacting with the attendants of patient and developing effective counselling techniques obtaining consent Role plays Gather students together, tell them about the scenario of shock. Divide students into small groups Assign different roles (i.e. of Doctor, Patient, Attendants, Hospital staff etc.) to the students Instruct the students to act out the scenario of evaluation and management of a shock patient Discuss what students have observed and learnt The teacher shall summarize the key concepts covered in the practical
Practical Training 3.3	Lifesaving skills	Demonstration by the teacher: Teacher can demonstrate Equipment and requirements for CPR, Endo-tracheal intubation and Tracheostomy Evaluation of the patient and Steps of CPR in emergency room/ward/manniquins Teacher can use audio visual aids to conduct the practical Hands on training Divide students into small groups Instruct students to perform CPR on a Mannequin Ask students to repeatedly practice these procedures for skill improvement Encourage students to discuss about their observations with their groups The teacher shall summarize the key concepts covered in the practical
Practical Training 3.4	Lifesaving skills	Demonstration by the teacher Teacher/Experts can demonstrate by using Audio visual aids Equipment and requirements for Endo-tracheal intubation and Tracheostomy Evaluation of the patient and Steps of ETT and Tracheostomy in emergency room/ward Hands on training Divide students into small groups Instruct students to perform Endo-tracheal intubation on a Mannequin Ask students to repeatedly practice these procedures for skill improvement Encourage students to discuss about their observations with their groups

		The teacher shall summarize the key concepts covered in the practical.
Practical Training 3.5	Drug reactions and Anaphylaxis	Case Discussions Present cases (e.g., a patient develops a rash after starting antibiotics). Ask students/ participants to identify the reaction type Anaphylaxis Simulation Activity: Scenario-Based Training Simulate a patient developing anaphylaxis after a drug administration. Participants must recognize symptoms, call for help, and initiate the following steps: Immediate Recognition: Identify symptoms of anaphylaxis Supportive Management: Hands-On Practice Divide participants into small groups and rotate through stations. Supervisors guide and correct during practice, focusing on: Accurate recognition of symptoms.
Practical Training 3.6	Drug reactions and Anaphylaxis	Simulation based Learning : Simulation area for hands-on practice (clinical setup with a bed or stretcher). Separate workstations for drug reaction and anaphylaxis scenarios. Station 1: Drug Reaction Management Present a scenario of Drug reaction, Demonstrate steps like Stop the suspected drug immediately. Administer antihistamines for itching and rash. Apply topical emollients for localized reactions. Demonstrate immediate referral to a tertiary care center. Fluid replacement and skin care (use mock IV fluids and dressing). Station 2: Anaphylaxis Management Recognizing Anaphylaxis: Present a scenario and demonstrate the early recognition of symptoms and the need to act immediately.
Practical Training 3.7	Surgical Emergency	Practical Demonstration Station 1: Acute Abdomen

		Provide a simulated patient with abdominal pain. Guide participants to form differential diagnoses and suggest initial management (e.g., IV fluids, analgesics, imaging). Station 2: Trauma Management Plan the Primary Survey (ABCDE Approach). Set up trauma scenarios such as Blunt abdominal trauma penetrating chest trauma. Students have to work as a team to stabilize the patient using ATLS principles.
Practical Training 3.8	Surgical Emergency	Case based learning: Design two workstations: Station 1: GI bleeding. Station 2: Vascular emergencies (e.g., acute limb ischemia, aortic aneurysm rupture). Hands-on Training: Rotate participants through stations. Assign roles (e.g., primary clinician, assistant) to enhance teamwork and decision-making. Encourage students to Identify key symptoms and signs, formulate a diagnosis and Implement initial stabilization measures.
Practical Training 3.9	Fluid therapy Calculation	Fluid Calculation and Dosage Practice Workshop: Provide sample cases with patient profiles including age, weight, medical conditions, and specific fluid requirements. Students calculate fluid requirements for each scenario, using established formulas for maintenance, deficit replacement, and ongoing losses. Train participants to: Calculate fluid requirements based on clinical conditions. Choose the correct type and rate of fluids.
Practical Training 3.10	Fluid and Electrolytes	Hands on training on Steps in Fluid Administration: Assess the patient’s fluid needs: Clinical signs: Dehydration, shock (hypotension, tachycardia). Lab values: Electrolytes, BUN/Creatinine, acid-base status. Choose the appropriate fluid type (e.g., isotonic for resuscitation, dextrose for maintenance). Calculate fluid rate based on weight and clinical condition. Administer fluids while monitoring vital signs and urine output.
Experiential learning Activity		
Experiential learning No	**Name**	**Activity details**

Experiential-Learning 3.1	Complications of Marmaghata (Shock)	Case based learning: Assign a patient or a case scenario to the students. Ask them to identify the clinical signs with the help of Visual aids showing signs of complications. Students should Independently evaluate a patient of shock in ICU Students should identify and independently manage complications of shock Student should repeatedly practise evaluation and management of shock on a simulator for skill improvement
Experiential-Learning 3.2	Lifesaving skills	Hands on training: Students should perform CPR on a Mannequin according to available guidelines Follow the CAB (Compressions-Airway-Breathing) Sequence: Divide participants into small groups, each with a manikin. Supervise as students practice compressions, rescue breaths, and proper hand positioning. Provide constructive feedback on Compression depth, rate and Proper airway opening techniques, and Effective delivery of rescue breaths Demonstrate the Use of an Automated External Defibrillator (AED) Explain the importance of AED use during CPR. Demonstrate how to turn on the AED, attach pads to the correct positions on the manikin’s chest, follow the AED prompts for shock delivery.
Experiential-Learning 3.3	Lifesaving skills	Hands on Training: Divide participants into small groups for individualized attention. Practice Stations: One for endotracheal intubation with different manikins. One for tracheostomy using training models. Supervision: Provide step-by-step guidance and correct errors during practice. Endotracheal Intubation Demonstration: Steps: Prepare Equipment Positioning Visualization and Tube placement Demonstrate passing the tube through the vocal cords and inflating the cuff Confirmation of Placement Securing the Tube

		Complications Tracheostomy Demonstration Steps Preparation Explain indications (e.g., airway obstruction, prolonged ventilation) and risks Show how to sterilize the area and prepare instruments Landmark Identification Procedure of Surgical Tracheostomy
Experiential-Learning 3.4	Drug reactions and Anaphylaxis	Case based learning Divide participants into small groups for each station. Supervise participants as they Identify drug reactions and practice management protocols. Provide real-time feedback on technique, communication, and decision-making. Repeat the steps for recognizing and managing drug reactions and anaphylaxis. Stress the importance of preparedness, early intervention, and teamwork. Provide handouts summarizing management protocols. Encourage regular training to improve confidence and efficiency in handling emergencies.
Experiential-Learning 3.5	Surgical Emergency	Case based Learning on Emergency Decision Making Drill with Limited Information: Develop decision-making skills under pressure with incomplete information. Method: Present “time-constrained” scenarios where students are given only essential patient information (e.g., symptoms, vital signs) and must make rapid decisions on diagnosis and intervention. Hands-On Practice and Role Play Divide participants into groups, rotating through stations. Assign roles (e.g., primary responder, team leader, and assistant) to simulate real-life emergency scenarios. Emphasize communication and teamwork during the practical.
Experiential-Learning 3.6	Surgical Emergency	Hands on training: Set up Simulation stations with pre-designed emergency scenarios. Divide stations into individual components of ABCDE. Station 1: Airway and breathing. Station 2: Circulation. Station 3: Disability and exposure. Hands-On Practice: Participants practice airway maneuvers, BVM ventilation, and intubation

		Station 2: Circulation: Students must assess for external bleeding and control it using direct pressure or a tourniquet. Demonstrate IV cannulation and start fluid resuscitation. Discuss indications for blood transfusion. Station 3: Disability and Exposure Ask the students to assess the AVPU scale. Hands-On Practice Divide participants into small groups and rotate through stations. Assign roles (e.g., team leader, airway manager) to simulate a real-life emergency team. Use time-limited scenarios to encourage quick decision-making. Incorporate reassessment after each intervention Teamwork and communication are essential in emergencies.
Experiential-Learning 3.7	Description of Crystalloids, Colloids and Special purpose solutions	Presentation and Group discussion: Teacher can assign a student to present on composition, properties, and applications of Crystalloids, Colloids, and Special Purpose Solutions in medical practice. Clinical Applications & IV Infusion Scenarios 1. Assign different clinical scenarios to students Hypovolemia Dehydration Septic shock Traumatic brain injury 2. Ask students to select the appropriate solution and justify their choice.
Experiential-Learning 3.8	Administration of Fluid and Electrolytes	Hands-On Practice Station 1: Fluid Calculation Provide participants with patient scenarios and ask them to calculate: Maintenance fluids. Resuscitation fluids. Replacement fluids. Station 2: IV Setup and Administration Demonstrate IV cannulation on manikins.

		Practice setting up and regulating IV fluids using a drip set or infusion pump. Station 3: Monitoring and Reassessment Teach participants to monitor: Vital signs (BP, HR, respiratory rate). Urine output (1 mL/kg/hr for adults, 1–2 mL/kg/hr for children). Signs of overhydration (e.g., edema, pulmonary crackles).

Modular Assessment	
Assessment method	**Hour**
Instructions - Conduct a structured Modular assessment. Assessment will be of 50 marks.Keep structured marking pattern.Use different assessment methods in each module for the semester.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 50 marks which will contain either 2 LAQ and 6 SAQ . OR 2. Practical Roleplay : (25marks for presentation & 25 marks for evaluation) Preparation: Identify real-life scenarios related to the module and provide clear instructions for the roles and expected outcomes. Execution**:** Divide students into groups, assigning roles related to Mock assessment of a unconcious patient and advocating BLS, fluid and electrolyte imbalance 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 OR 4. OSCE (Objective Structured Clinical Examination) - 5 stations- 50 marks Set up structured stations for various tasks (e.g., history taking, Lab report interpretation, diagnosis & Principles of management). e.g. drug reactions and anaphylaxis, acidosis, alkalosis. etc. Provide immediate or post-assessment feedback. OR 5. Checklist Methods- depending upon the type of task (either 25 marks X2 OR 50 marks X 1) Assess the steps accurately and completely eg. CPR, fluid calculation and dosage practice etc. Performing the tasks within the allotted time and adhere to safety protocols.	4

Evaluation: Use detailed procedural checklists to evaluate observable steps or actions. OR 6. Scenario-Based Assessments Provide clinical scenarios like, types of Shock . Scenario Analysis: Ability to understand and break down clinical scenarios. (20 marks) Clinical Reasoning: Develops logical and evidence-based plans. (10 marks) Decision-Making: Chooses appropriate interventions or solutions. (20 marks) Evaluation: Present scenarios during viva, roleplays, or written assessments. Use a rubric to evaluate problem identification, reasoning, and proposed solutions. 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 4 : Nirjantukarana (Sterilization)

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

- Understand the concept and significance of Nirjantukarana (sterilization) in Ayurvedic and modern medical contexts and Learn about the different methods of sterilization, including traditional Ayurvedic approaches and modern techniques.
- Gain practical knowledge of how to implement sterilization practices in clinical settings to ensure patient safety.
- Understand the role of sterilization in preventing healthcare-associated infections (HAIs) and cross-contamination.

Unit 1 Nirjantukaran Parichay (Introduction to sterilization and infection control)

- Infection control, particularly in health care settings.

References: 7,15,16

3A	3B	3C	3D	3E	3F	3G
CO1,CO4	Describe of aseptic techniques, sterilization and disinfection.	1	Lecture	CAP	Knows-how	BS,L&G D,L_VC
CO1	Demonstrate aseptic technique,types, purpose, benefits in Surgical practice.	2	Practical Training 4.1	CC	Shows-how	D,KL
CO1	Perform proper and effective antiseptic procedures.	3	Experiential-Learning 4.1	PSY-GUD	Does	D,KL

Unit 2 Nirjantukarana Prakriya (Method of Sterilization)

- Sterilization (Nirjantukarana) – Methods, Types and their applications.
- Operating Theatre (OT) Sterilization: Principles and Procedures.

References: 7,15,16

3A	3B	3C	3D	3E	3F	3G
CO1	Summaraize Sterilization Methods	1	Lecture	CAN	Knows-how	BS,L&PPT
CO1	Execute sterilization methods and their applications	1	Lecture	CAN	Knows-how	L&PPT
CO1	Demonstrate principles and procedure of sterilization of surgical instruments	2	Practical Training 4.2	PSY-ADT	Shows-how	D,DIS
CO1	Practice operating theatre (OT) Sterilization	2	Practical Training 4.3	PSY-ADT	Shows-how	D,DIS
CO1	Perform hands-on, interactive training session on OT sterilization	4	Experiential-Learning 4.2	PSY-ADT	Does	D,KL

Unit 3 Sterilization of surgical instruments and Medical devices

- Sterilization of common surgical instruments.
- Handling of surgical instruments for steam sterilization (Autoclaving).
- Sterilization protocols for complex and delicate instruments (e.g., Endoscopes).

References: 34,35

3A	3B	3C	3D	3E	3F	3G
CO1	Discuss sterilization methods and agents used in sterilization	1	Lecture	CC	Knows-how	FC,L&PPT
CO1	Describe sterilization methods for medical devices based on material compatibility, heat tolerance, and device complexity	1	Lecture	CAP	Knows-how	FC,L&GD,L&PPT

CO1	Demonstrate agents used in the sterilization	2	Practical Training 4.4	PSY-ADT	Shows-how	D,DIS
CO1	Associate with Common Sterilization Methods for Medical devices	2	Practical Training 4.5	PSY-ADT	Shows-how	D,DIS,KL
CO1	Perform Hands on Training on Sterilization methods used for medical devices	3	Experiential-Learning 4.3	PSY-MEC	Does	D,KL
CO1	Practice zoning inside the Operating Room and Biomedical Waste Management (BMW)	3	Experiential-Learning 4.4	PSY-MEC	Does	D,DIS

Unit 4 Shastrakriyagar Nirjantukarana (Sterilization of Operating room and environment)

- Sterilization in the operating room, Healthcare environments (Theatre protocol)
- Biomedical Waste Management.

References: 7

3A	3B	3C	3D	3E	3F	3G
CO1	Discuss sterilization methods which are suitable for different types of surgical instruments	1	Lecture	CAP	Knows-how	BL,L&PPT ,L_VC
CO1	Apply sterilization methods suitable for medical devices based on material compatibility, heat tolerance, and device complexity	1	Lecture	CAP	Knows-how	BL,L&PPT ,L_VC
CO1	Identify the role of Zones of operating room in infection prevention and control, reducing healthcare-associated infections (HAIs)	2	Practical Training 4.6	PSY-MEC	Shows-how	D,KL
CO1	Demonstrate training on working in a Sterile Field (Highest aseptic Zone)	2	Practical Training 4.7	PSY-MEC	Shows-how	D,KL
CO1	Design aseptic & sterile techniques in the Operation threatre	3	Experiential-Learning 4.5	PSY-ADT	Does	D,DIS,KL

CO1	Develop Step-by-Step Sterile Tray Preparation	3	Experiential-Learning 4.6	PSY-ADT	Does	D,D-M,DIS,KL

Unit 5 Universal precautions in bloodborne infections & infections of the bloodstream and associated conditions

Comprehensive care for patients with

- HIV (Human Immunodeficiency Virus)
- Hepatitis (Hepatitis B and C Virus) and surgical practice.

Description of infections of the bloodstream and associated conditions such as

- Bacteraemia,
- Septicaemia,
- Toxaemia and
- Pyaemia.

References: 7

3A	3B	3C	3D	3E	3F	3G
CO1	Discuss Universal Precautions to prevent transmission of infectious diseases in healthcare settings	1	Lecture	CAN	Knows-how	FC,JC,L&PPT
CO1	Record Universal Precautions in surgical cases	1	Lecture	CAP	Knows-how	FC,JC,L&GD,L&PPT
CO1	Demonstrate Personal Protective Equipment (PPE) to prevent exposure to bloodborne pathogens	2	Practical Training 4.8	PSY-MEC	Shows-how	D,KL
CO1	Practice Personal Protective Equipment (PPE) and adaptations in Surgical practice	2	Practical Training 4.9	PSY-MEC	Shows-how	D,KL
CO1	Demonstrate the conditions requiring Universal precautions	3	Experiential-Learning 4.7	PSY-ADT	Does	D,DIS,KL

CO1	Handling Disposal of Contaminated Materials	3	Experiential-Learning 4.8	PSY-ADT	Does	D,DIS

Unit 6 Sterilization failures and troubleshooting

- Common causes of sterilization failure, identifying and managing sterilization failures.

References: 7,15,16

3A	3B	3C	3D	3E	3F	3G
CO1	Explain importance of retraining and protocol adjustments following sterilization process failures	1	Lecture	CC	Knows-how	BS,L&G D,L&PPT
CO1	Identify common sterilization failures and develop problem-solving skills to address issues such as equipment malfunctions, sterilant shortages, or load configuration errors.	2	Practical Training 4.10	PSY-MEC	Shows-how	DIS,KL,PSM
CO1	Apply best practices for storing, handling, and transporting sterilized instruments to prevent contamination and ensure sterility until the point of use.	1	Experiential-Learning 4.9	PSY-ADT	Does	D,DIS,KL

Practical Training Activity

Practical No	Name	Activity details
Practical Training 4.1	Aseptic techniques	Demonstration: Teacher can demonstrate the technique of practice of hand hygiene, gowning and skin preparation to the group of students. Hands-On Practice: Students can practice individually method of hand washing, gowning, gloving and antiseptic skin preparation to be practiced before any Operative procedure.
Practical Training 4.2	Sterilization of Surgical instruments	Demonstration by the Teacher : Demonstrate the Physical agents and Chemical agents of sterilization. Teach the operation of an autoclave and how to sterilize surgical instruments. After the demonstration and practice sessions, assign students to observe the sterilization process in a real OT setting ensuring how

		to maintain sterility throughout the procedure.
Practical Training 4.3	Sterilization of Operation Theatre	Practical Demonstration Teacher can demonstrate Cleaning and Disinfection of OT Surfaces like Daily Cleaning Protocol and Terminal Cleaning (After each Surgery) Microbial Swab Testing of the surfaces of OT (Operation Theatre), its importance and method of documentation. OT Fumigation and UV-C Light Disinfection Method of Maintaining sterilization logs and validation reports.
Practical Training 4.4	Physical and Chemical agents used in sterilization.	Demonstration by Teacher: Teacher can demonstrate the Physical agents and Chemical agents used in the sterilization. Revision on the Sterilization methods adopted for commonly used instruments like catheters, thermometer etc. Teacher can encourage the discussions by reading Journals on Principles of Sterilization method.
Practical Training 4.5	Methods of Sterilization for Medical devices	Demonstration by Teacher: Teacher can demonstrate the sterilization methods for medical devices proper use of sterilization equipment validation and quality control procedures The demonstration must include: Medical devices (surgical instruments, catheters, endoscopes, etc.) Sterilization equipment (Autoclave, ETO chamber, Plasma sterilizer, UV sterilizer) Sterilization indicators (chemical, biological, mechanical) PPE kits (gloves, masks, gowns) Sterilization logbooks for documentation
Practical Training 4.6	Zones of Operating room	Demonstration by Teacher Brief lecture on the role of environmental and OT sterilization in infection prevention and reducing HAIs. Setup the Training Area Identify and differentiate the Protective zone, Clean zone and Sterile zone. Follow correct dress code & movement restrictions for each zone Introduce a contamination scenario and assess whether participants navigate the zones correctly.
Practical	Working in a Sterile	Hands on Training to work around the surgical table, instrument tray, patient area

Training 4.7	field during a surgical procedure	Activity: Participants have to set up a sterile tray Maintain aseptic technique while handling and arranging instruments Show a video or live reenactment of someone touching masks, crossing sterile fields Discuss corrective actions for the same.
Practical Training 4.8	Personal Protective Equipment (PPE) in Bloodborne pathogens	Demonstration by Teacher - Teacher must give an introduction about Bloodborne Diseases (Transmitted through blood and body fluids) Teacher/trainer demonstrates the utility of PPE, Handling sharps and needles safely, method of disposing of contaminated materials. Students can raise questions on each step and discuss with the teacher.
Practical Training 4.9	Adaptation of Personal Protective Equipment (PPE) in Surgical conditions	PPE Adaptations for Different Surgical Procedures: Teacher can do Briefing & Introduction Explain why PPE adaptations are important in surgery Discuss infection control risks associated with different procedures Show a comparison of PPE requirements across surgery types Hands-On Training: Participants are divided into groups. Each group is assigned a different surgical scenario.They must select, don, and doff PPE appropriately. Teacher/Instructor evaluates technique & provides feedback. 1. Team A: Prepares for general surgery 2. Team B: Prepares for orthopedic surgery 3. Team C: Prepares for HIV and HbSAg positive patients Discuss common mistakes observed during practice and Reinforce infection control guidelines.
Practical Training 4.10	Sterilization failures and Troubleshooting	Problem-Solving Method Introduction by the teacher about the importance of sterilization validation Teacher can Assign each group a common OT sterilization issue (e.g., failed sterilization indicators, high microbial counts on surfaces) and have them develop a step-by-step response and prevention plan. Also, plan the method of documentation & reporting failures
Experiential learning Activity		
Experiential	**Name**	**Activity details**

learning No		
Experiential-Learning 4.1	Aseptic measures	Hands-on Training: Teacher must encourage the Students to practice: Handwashing, gowning, gloving and antiseptic skin preparation for a surgical procedure. Handling a sterile Equipment and sterile Media Use of a non-touch technique. Aseptic Transfer Techniques
Experiential-Learning 4.2	Hands-on training session on OT sterilization	Step-by-Step Practical Demonstration of Sterilization: Teacher can use Experiential Learning Cycle (David Kolb's Model): 1. Concrete Experience(Hands-on Activity): Activity: Simulated "OT Sterilization" Process Set up a mock OT with real or simulated instruments and equipment. Assign roles (surgeon, nurse, technician, cleaning staff). Conduct a real-time sterilization process, including: • Surface disinfection • Instrument sterilization 2. Reflective Observation (Discussion & Feedback)Activity: "Spot the Error" Reflection: Ask the participants to observe and analyze the effectiveness of their sterilization 3. Abstract Conceptualization (Theory + Guidelines)Discuss WHO & CDC guidelines for sterilization. 4. Active Experimentation (Skill Application) Activity: OT Sterilization Simulation Challenge Participants must correctly follow sterilization protocols within a limited time. Assess performance using a scoring system (accuracy, efficiency, compliance).
Experiential-Learning 4.3	Sterilization methods used for medical devices	Hands-on Training: Divide students into small working groups Arrange stations for each sterilization method Participants Rotate Through the Following Stations:

		Also, audio-visual aids can be use to demonstrate the sterilization methods Station 1 Steam Sterilization (Autoclaving) Load, run, and validate an autoclave cycle using indicators Station 2 Ethylene Oxide (ETO) Sterilization Safely operate an ETO sterilizer and discuss aeration steps Station 3 Plasma Sterilization (Hydrogen Peroxide Gas) Perform plasma sterilization on heat-sensitive instruments Station 4 Chemical Sterilization (Glutaraldehyde, Peracetic Acid) Soak endoscopes in glutaraldehyde & check sterilization effectiveness Station 5 Dry Heat Sterilization (Hot Air Oven) Run a hot air oven cycle for glassware sterilization
Experiential-Learning 4.4	Zoning and Steps of Biomedical waste management(BMW)	Demonstration by Teacher Teacher must demonstrate Zoning inside the Operating room , giving importance to Disposal zone. Students must observe the steps of BMW management giving importance to seggregation of BMW and BMW rules in India
Experiential-Learning 4.5	OT room skills	Demonstration by Teacher Teacher will describe the Cleaning Protocols with a brief explanation of the importance of cleaning and sterilizing the OR to prevent infections, focusing on the three main types of cleaning: daily, between-case, and terminal cleaning. Demonstration by the students: Sequential demonstration of general aseptic and sterile techniques to be followed in Operation theatre such as Hand Scrubbing & Surgical Asepsis – Proper hand hygiene, scrubbing, gowning, and gloving techniques, Maintaining the Sterile Field, Correct Movement in the OT OT Room Cleaning Protocols – Disinfecting surfaces, lights, and equipment after each case. Documentation & Record Keeping regarding Surgical Count – Tracking instruments, swabs, and needles before and after surgery.
Experiential-Learning 4.6	Sterile Tray Preparation for the surgical	Demonstration : Hands on Training:

	procedure	Student will demonstrate the steps of Arranging Instruments on the Tray in following steps: Basic Layout: Arrange instruments in an orderly, functional manner Handle-First Technique: Place instruments with handles facing the scrub nurse/surgeon for easy pickup Sharp Instruments: Keep scalpels and sharp items in a separate section for safety Sterile Bowls & Gauze: Place bowls for antiseptic solution at the tray's edge Suture & Dressing Materials: Arrange absorbable/non-absorbable sutures separatel Each student has to demonstrate the steps and confirm proper sequence of items for surgery. Training videos can be utilized for the demonstration.
Experiential-Learning 4.7	Universal Precautions for all Healthcare Workers	Demonstration by the teacher: Demonstration of key Universal Precautions for all Healthcare Workers by the students: Students can demonstrate the key universal precautions for all heathcare workers by Live demonstration of - Hand Hygiene PPE Use Safe Injection Practices Proper Waste Disposal Environmental Cleaning Universal precautions must be followed in the operating theatre, emergency rooms, ICUs, and general wards to prevent infections must be taken it consideration in the discussion.
Experiential-Learning 4.8	Disposal of Biohazardous materials	Group Discussion: Group Discussion on Best Practices for Biohazard Waste Management: Students can prepare presentations on Steps for Safe Disposal of Biohazardous Waste Best Practices for Biohazard Waste Management WHO Guidelines on Healthcare Waste Management Conduct a group discussion where students reflect on their experience, discussing challenges and precautions and Handling Disposal of Contaminated Materials
Experiential-Learning 4.9	Best Practices of storing, handling, and transporting sterilized instruments.	Demonstration of Standard Operating Procedure (SOP) for Storing, Handling, and Transporting Sterilized Instruments by the students. It includes - General storage guidelines Handling protocol

		Monitoring & Quality Assurance Documentation for Quality control

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 asssessment. 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: Identify real-life scenarios related to the module and provide clear instructions for the roles and expected outcomes. Execution**:** Divide students into groups, assigning roles related to Sterilization methods, sterilization in preventing healthcare-associated infections (HAIs) etc. Evaluation: Evaluate skills like communication, problem-solving capacity, and teamwork. OR 3. Checklist Methods & DOPS A) Develop Standardized Checklists: 25marks outlining each step of the sterilization process (e.g., instruments' sterilization, Sterilization of Operating Room and Environment, sterilization methods etc). Include criteria for evaluating technique, adherence to protocols, and safety measures. B) Conduct Observations: 25marks Supervisors observe students as they carry out sterilization procedures. Use the checklist to evaluate performance objectively. 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

Module 5 : Yantra, Shastra & Yogya Vidhi (Description of Blunt instruments, Sharp instruments and Skill training)

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

- Describe classification, design, and types of Yantras and Shastras used in Ayurvedic surgery.
- Demonstrate the practical applications of these instruments in various surgical procedures, particularly in the context of Ayurvedic Shastra Karma (surgical interventions) and the development of surgical skills with Simulated surgical training by utilizing the Skill lab.
- Apply basic proficiency in handling traditional and modern surgical instruments safely and effectively.

Unit 1 Yantra (Blunt Instruments)

- Demonstrations of Yantra (Blunt instruments),
- utility and
- its recent advances.

References: 1,7,34,35

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the Role of Yantra (Blunt Instruments) in Surgery and review current best practices for instrument use in surgical settings.	1	Lecture	CC	Knows-how	D,L&PPT
CO1	Identify the functional design of various blunt instruments and their roles in tissue manipulation.	2	Practical Training 5.1	CC	Shows-how	D,KL
CO1	Demonstrate the applications and Functional outcomes of Yantra((Blunt instruments)	3	Experiential-Learning 5.1	PSY-MEC	Does	D,D-M,KL

Unit 2 Utility and Etiquette of Instruments

- Appropriate Selection
- Safe handling of instruments.

References: 1,2,7,34,35

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the functional utility of Surgical instruments	2	Lecture	CAP	Knows-how	D,L,L&P PT
CO1	Develop Proficiency in the safe handling and maintenance of operation theatre instruments and equipment.	2	Practical Training 5.2	CAP	Shows-how	D,D-M,KL,SIM
CO1	Demonstrate the safe handling and maintenance of operation theatre instruments and equipments.	2	Practical Training 5.3	PSY-MEC	Shows-how	D,KL,SIM
CO1	Demonstrate appropriate communication skills and timing when passing instruments in an Operation Theatre(OT)	3	Experiential-Learning 5.2	AFT-RES	Does	D,KL,RP

Unit 3 Shastra (Sharp Instruments)

- Demonstration of Shastra (Sharp instruments),
- Utility
- Recent advances.

References: 1,2,34,35

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the specific purposes sharp instruments and Describe advancements in laser, ultrasonic, and energy-assisted instruments and their advantages in surgical applications.	2	Lecture	CAP	Knows-how	D,L,L&P PT
CO1	Develop competency in handling and maintaining sharp instruments used for surgery and the available advanced instruments.	2	Practical Training 5.4	CC	Shows-how	D,D-M,KL,SIM

CO1	Develop competency in handling and maintaining available advanced sharp instruments.	2	Practical Training 5.5	CC	Shows-how	D,D-M,KL,SIM
CO1	Adopt and apply proper Surgical etiquette in the use of Sharp instruments	3	Experiential-Learning 5.3	AFT-RES	Does	D
CO1	Demonstrate Surgical etiquette in the use of Sharp instruments.	3	Experiential-Learning 5.4	PSY-GUD	Does	D,RP

Unit 4 Yogya Vidhi

- Practical and experimental training on different types of surgical models.

References: 1,2,4,34,35

3A	3B	3C	3D	3E	3F	3G
CO1	Describe different types of surgical models, including synthetic, biological, virtual reality (VR), and animal models.	2	Lecture	CAP	Knows-how	D,L,L&PPT
CO1	Practice common surgical techniques on synthetic, vegetable, animal models, building fundamental skills in a controlled environment with reference to Yogyasutriya chapter of Sushruta samhita	2	Practical Training 5.6	CC	Shows-how	D,DL,SIM
CO1	Perform common surgical techniques on synthetic, vegetable, animal models, for the fundamental skill development.	3	Experiential-Learning 5.5	AFT-RES	Does	D,D-M,KL,SIM
CO1	Demonstrate Hands-on training on surgical techniques (Progressive Training Modules)	3	Experiential-Learning 5.6	PSY-MEC	Does	D,D-M,EDU,KL,SIM
CO1	Practice common surgical techniques on animal models, building fundamental skills in a controlled environment with reference to Yogyasutriya chapter of Sushruta samhita	2	Practical Training 5.7	CC	Shows-how	D,D-M,SIM

Unit 5 Skill Lab Training

- Development of surgical skills like practicing suturing, knot-tying and basic surgical skills on tissue models or simulators.
- Practical and experimental training/simulated training on different types of surgical models.

References: 1,2,7,34,35,36

3A	3B	3C	3D	3E	3F	3G
CO1	Describe high-fidelity simulators for practicing minimally invasive techniques.	3	Lecture	CAP	Knows-how	D,L,L&P PT
CO1	Practice choosing and adapting appropriate techniques and tools for each procedural steps.	3	Practical Training 5.8	CC	Shows-how	D,D-M,SIM
CO1	Demonstrate Hands on training on adapting appropriate techniques and tools for each procedural steps.	3	Practical Training 5.9	CC	Shows-how	D,D-M,SIM
CO1	Perform advanced procedures such as laparoscopic surgeries, on simulation models to develop procedural familiarity and dexterity.	3	Experiential-Learning 5.7	AFT-RES	Does	D
CO1	Perform endoscopic procedures on simulation models to develop procedural familiarity and dexterity.	3	Experiential-Learning 5.8	AFT-RES	Does	D,D-M,KL,SIM
CO1	Perform robotic surgeries on simulation models to develop procedural familiarity and dexterity.	2	Experiential-Learning 5.9	AFT-RES	Does	D,EDU,PL,W

Practical Training Activity

Practical No	Name	Activity details
Practical Training 5.1	Functional design of blunt instruments	Demonstration by teacher: • Ask students to identify the most appropriate instrument for each Surgery and their utility to perform specific tissue manipulations. • Functional design depends on their intended use, but common characteristics include

		• Impact and Force Distribution • Ergonomics and Handling • Safety and Precision
Practical Training 5.2	Acquaintance of assembling and understanding the structure and function of OT equipment and available advanced instruments.	Demonstration by teacher: • Train the students on Instrument Grip and Passing, Handling Sharp and Blunt Instruments, Maintaining sterilization. • Demonstrate the procedure of functioning of OT equipments Instrument Handling Drills • Repetition: Students has to Practice picking up, passing, and positioning instruments repeatedly • Dexterity Exercises: Use tools like forceps, clamps, and scissors to perform tasks like tying knots, suturing, or grasping small objects. • Students must be taught about the functioning of OT equipments such as Boyle's apparatus, Suction apparatus, endoscopes or any other advanced available OT equipments etc
Practical Training 5.3	Demonstrate the assembling and understanding the structure and function of OT equipment and available advanced instruments.	Demonstration by the Student: Student can demonstrate how to assemble, understand the parts and function of operation theatre equpments regarding their proper use in the presence of Teacher/experts. Kinaesthetic learning: Demonstration of the Practical proficiency of technique, precision, control, and adherence to safe practices of handling OT instruments and equipments 1. Simulation-Based Practice • Surgical Simulators: Use high-fidelity simulators or low-cost setups to replicate surgical procedures. Practice handling

		instruments in a controlled, realistic environment. • Virtual Reality (VR): Engage in VR simulations that allow you to handle virtual instruments with precise feedback on movement and technique. • Cadaver Labs or Animal Models: Work with real tissues to understand pressure, grip, and motion. 2. Instrument Handling Drills • Student has to demonstrate the method of picking up, passing, and positioning instruments repeatedly • Also, they have to use tools like forceps, clamps, and scissors to perform tasks like tying knots, suturing, or grasping small objects to demonstrate the dextrity drills.
Practical Training 5.4	Competency in handling Shastra(Sharp instruments), utility and its recent advances.	Demonstration by teacher: Teacher has to demonstrate the Classification & Utility of Sharp Instruments (Shastra) such as A. Cutting & Dissecting Instruments (Scalpel, scissors) B. Piercing & Puncturing Instruments (Trocar & canula) C. Grasping & Holding Sharp Instruments(Needle Holders) D. Electrosurgical & Laser Instruments (Electrocautery (Monopolar/Bipolar)/ laser blades if avilable. Train students in the proper methods for handling instruments during surgical procedures for the apt performance. Acquaintance of assembling and understanding the structure and function of available advanced surgical instruments.
Practical Training 5.5	Handling and maintaining available advanced sharp instruments.	Kinaesthetic learning: Simulation-Based Practice • Use high-fidelity simulators or low-cost setups to replicate surgical procedures. • Virtual Reality (VR): Engage in VR simulations that allow you to handle instruments with precise feedback on movement and techniques. Competency in Handling Sharp Instruments:

		• The student must practice the safe handling and aseptic handling of sharps, Dexterity and Precision Training with sharp instruments. • Handling of Recent Advances in Sharp Instruments such as Minimally Invasive & Robotic Surgery Tools and dvanced Wound Closure Techniques must be encouraged among the students.
Practical Training 5.6	Practice common surgical techniques on synthetic, vegetable, animal models.	Demonstration by teacher: • Teacher must demonstrate common surgical techniques on vegetable models as per Sushruta Samhita • Rationality behind using such models in the text must be explained logically. • Make the students to appreciate between the surgical techniques demonstrated on vegetable model and Synthetic models.
Practical Training 5.7	Practice common surgical techniques on animal models.	Demonstration by teacher: • Teacher must demonstrate common surgical techniques on animal models as per Sushruta Samhita • Rationality behind using such models in the text must be explained logically. • Make the students to appreciate between the surgical techniques demonstrated on vegetable model and Synthetic models.
Practical Training 5.8	Practice choosing and adapting appropriate techniques and tools for each procedural steps.	Demonstration by teacher: Utilize the principles of Yantra, Shastra and Yogya vidhi explained in Sushruta Samhita to robust its practical applicability. Hands on Training to students: Students must practice to Perform Procedural Steps & Appropriate Technique/Tool Selection for the procedural steps like : • Incision & Access • Dissection & Exposure

		• Hemostasis (Bleeding Control) • Tissue Approximation & Suturing • Tissue Resection & Removal • Wound Closure & Dressing
Practical Training 5.9	Choosing and adapting appropriate techniques and tools for each procedural steps.	Demonstration by teacher: Conduct a step-by-step demonstration while explaining why each step is necessary and Choose tools and materials that align with the objectives. It includes Tissue type – Skin, muscle, tendon, bone, or organ tissue. Surgical objective – Cutting, dissecting, coagulating, suturing, or excising. Procedural Steps & Appropriate Technique/Tool Selection must be explained and demonstrated for • Incision & Access • Dissection & Exposure • Hemostasis (Bleeding Control) • Tissue Approximation & Suturing • Tissue Resection & Removal • Wound Closure & Dressing
Experiential learning Activity		
Experiential learning No	**Name**	**Activity details**
Experiential-Learning 5.1	Applications and outcomes of Yantra (Blunt instruments)	Hands on Training : Set up stations for the training. Students can be engaged in Hands-on training on Demonstration of

		• Grip and Handling Techniques • Precision and Dexterity • Dexterity Drills to carry out focussed actions in the surgery.
Experiential-Learning 5.2	Communication skills and timing when passing instruments in an Operation Theatre(OT)	Demonstration by Teacher : • Demonstrate Operation Theatre (OT)Protocols: Give students an overview of the Operation theatre environment, sterile field protocols. • Use a model or diagram to explain the sterile field and why respecting this boundary is crucial. • Emphasize verbal and non-verbal cues used during the surgical procedure. Roleplay: Divide participants into roles (surgeon, scrub nurse, assistant) and conduct a role-play to practice real-time instrument passing.
Experiential-Learning 5.3	Adopt and apply proper Surgical etiquette in the use of Sharp instruments.	Demonstration: The students must Demonstrate proper handling, including how to pass and receive sharp instruments safely in the presence of teacher. Show Safe Passing Techniques: Students must devide among them selvs and demonstrate the passing techniques, such using a “safe zone” for placing and retrieving sharp tools and the correct position to pass instruments (handle-first or in a position that prevents the sharp edge from facing the receiver).
Experiential-Learning 5.4	Hands on training on Surgical etiquette in the use of Sharp instruments.	Roleplay: Assign roles such as surgeon, assistant, or scrub nurse, to mimic real surgical scenarios. Rotate roles to allow everyone the chance to handle sharp instruments and practice safe etiquette. Hands-On Experiential Learning 1. Safe Handling & Passing Techniques Activity: Simulated Instrument Passing Drill Instruct the Participants wear sterile gloves and form surgical teams. Pass instruments using the neutral zone technique and hand-to-hand passing with correct etiquette. they have to Minimize direct hand-to-hand sharp passing and reinforce communication (e.g.,

		saying “sharp” when passing). Instructor observe for grip, posture, and awareness. 2. Precision & Dexterity Training Activity: Suturing & Scalpel Control Practice. Use synthetic skin models or cadaveric tissue for controlled practice. Assign task to the students such as to Perform controlled incisions at specific depths and to Practice suturing techniques while handling sharp instruments safely. 3. Team Coordination – Communication and etiquette in surgical teams. Teacher has to observe for team coordination during the entire drill.
Experiential-Learning 5.5	Practice the surgical techniques on synthetic, vegetable, animal models.	Hands-on training with Guidance Allow the students to practice each technique step-by-step on the chosen models and practice careful dissection, suturing to reinforce tissue differentiation and precision. Example: Use grape or tomato models to practice delicate tissue handling, Okra for excision, Pomogranate fruit for extraction etc.
Experiential-Learning 5.6	Surgical techniques in Progressive Training Modules	Basic Techniques Using Synthetic Models : Incision & Suturing Practice on Silicone Pads. Students have to perform straight and curved incisions using scalpels. Practice interrupted, continuous, and subcuticular sutures and Learn proper needle handling & tension control. This develops basic dexterity and control before transitioning to organic materials. Each student has to practice the techniques individually. Advanced Techniques Using Animal Tissue Models: Practice of Full-Thickness Suturing & Anastomosis Use chicken thighs or bovine heart to simulate real human-like tissue layers. Students can perform • Vascular anastomosis simulation – Using chicken blood vessels to practice delicate suturing. • Help the students to Develop realistic tissue handling, dissection, and wound closure skills.
Experiential-Learning 5.7	Laparoscopic surgeries, on simulation models to develop procedural familiarity and dexterity.	Demonstration of Techniques and Equipment Handling of Laparoscopic simulation model: Demonstration by the teacher: • Teacher has to demonstrate the fundamental hand-eye coordination, depth perception, instrument control, and procedural

		efficiency for laparoscopic surgeries using simulation models before transitioning to real patients. Students can perform the same in the presence of teacher. • Teacher can also utilize the Virtual Reality (VR) Simulators for the demonstrations.
Experiential-Learning 5.8	Perform endoscopic procedures on simulation models	Instructor-Led Demonstration: • An expert must describe the procedural familiarity, dexterity, and spatial awareness for performing diagnostic and therapeutic endoscopic procedures using simulation models before transitioning to real patients. • Training to students must include the Importance of Endoscopic Simulation Training such as Basic Endoscopic Skills (Scope Handling & Dexterity), Diagnostic Endoscopy by using High-fidelity endoscopic simulator and Therapeutic Endoscopy by VR simulator with interventional modules
Experiential-Learning 5.9	Perform robotic surgeries on simulation models to develop procedural familiarity and dexterity.	Expert talks: • Faculties can Organize workshops and allow the students to get exposed to focusing on technique, precision, and efficiency in these surgeries and provide constructive feedback. • Demonstrate the students about procedural familiarity, hand-eye coordination, and dexterity for performing robotic-assisted surgeries using simulation models Training Modules for Robotic Surgery Simulation must include Basic Console & Instrument Control such as Hand-Eye Coordination & Camera Control Training by using VR robotic simulator.

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 asssessment. 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 - 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. DOPS (Direct Observation of Procedural Skills): 10 stations (50 marks) Procedure Selection: Identify critical skills such Ashta Vidha shastra karma, probing, injection techniques, etc on simulators or synthetic models. OR 4. OSPE (Objective Structured Practical Examination): 10 stations (50 marks) Purpose: Test theoretical knowledge and practical skills in structured stations. Station Design: Include tasks like, instrument identification, holding techniques of instruments, demonstration of assembling and functioning of OT equipment and performing specific procedures like Ashta Vidha shastra karma. Allocate a specific time for each station. Assessment Criteria: Precision & Accuracy of task completion 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 6 : Trividha Karma & Pathya-Apathya (Description of Preoperative, Operative and Postoperative patient care and Post-Surgery Diet)

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

- Describe the Concept of Trividha Karma
- Demonstrate the Practical exercises to acquire Knowledge and develop skills in appropriate skills of Pre-operative, Operative & Postoperative patient care
- Identify commonly encountered conditions , providing insights into how Pathyaapathya can aid in treatment.

Unit 1 Trividha Karma

- Purvakarma,
- Pradhan Karma &
- Pashchat Karma
- Trividha karma Importance in surgical Practice.

References: 1,3,7,11,23

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the importance of Trividha karma with respect to various surgical disorders.	2	Lecture	CAP	Knows-how	D,L,L&P PT
CO1	Perform the threefold therapeutic actions (Trividha Karma)	2	Practical Training 6.1	CC	Shows-how	D,DIS,PBL
CO1	Demonstrate the threefold therapeutic actions (Trividha Karma)	2	Practical Training 6.2	CC	Shows-how	D,D-M,DIS,SIM
CO1	Demonstrate the comprehensive understanding of the principles of Trividha Karma and its practical application in contemporary surgical practice.	3	Experiential-Learning 6.1	PSY-ADT	Does	CBL,D,LS

CO1	Demonstrate Surgical protocols, including preoperative evaluation, intraoperative management, and postoperative care.	3	Experiential-Learning 6.2	PSY-GUD	Does	CBL,D,LS
Unit 2 Preoperative, Intra-operative and Postoperative patient care ◦ Phases of comprehensive surgical care. **References:** 7,18						
3A	**3B**	**3C**	**3D**	**3E**	**3F**	**3G**
CO1	Demonstrate essential preoperative assessments, including patient history, physical examination, and diagnostic testing.	2	Lecture	CAN	Knows-how	D,L,L&PPT
CO1	Identify and respond to intraoperative emergencies, including bleeding, allergic reactions, and equipment malfunction.	2	Practical Training 6.3	CAP	Shows-how	CBL,PBL
CO1	Demonstrate the response to intraoperative emergencies, including bleeding, allergic reactions, and equipment malfunction.	2	Practical Training 6.4	CC	Shows-how	PBL,RP
CO1	Identify and monitor for common postoperative complications, such as bleeding and infections.	2	Experiential-Learning 6.3	AFT-RES	Does	D,PBL
CO1	Identify and monitor for common postoperative complications, such as thromboembolism.	2	Experiential-Learning 6.4	AFT-RES	Does	D,LS,PL,PER,PBL,SDL
Unit 3 Pathya-Apathya ◦ Scope of Pathya-Apathya in the post operative management of surgical diseases. **References:** 1,2,3,4						
3A	**3B**	**3C**	**3D**	**3E**	**3F**	**3G**

CO1	Describe the Pathya-Apathya recommendations in patient recovery	1	Lecture	CAN	Knows-how	D,L,L&PPT
CO1	Integrate Pathya-Apathya with contemporary Post-operative care guidelines	2	Practical Training 6.5	CC	Shows-how	PBL,TBL
CO1	Apply clinically the role of Pathya-Apathya for long-term recovery and prevention of complications.	3	Experiential-Learning 6.5	PSY-MEC	Does	CBL,D-BED

Unit 4 Post-Surgery Diet

- Immediate Post-surgery diet
- Transition diet
- Key nutrients for Post-surgery recovery.

References: 7,37

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the nutritional requirements that requires Post-Surgery recovery.	2	Lecture	CC	Knows-how	D,L,L&PPT
CO1	Elaborate the role of a post-surgery diet immediately after surgery to support digestive rest and maintain hydration.	2	Practical Training 6.6	CC	Shows-how	DIS,PBL,TBL
CO1	Identify the Post-surgery diet plan specific to surgical procedures.	2	Practical Training 6.7	CC	Shows-how	PBL,TBL
CO1	Describe the steps for safely transitioning from a liquid diet to a more substantial soft or semi-solid diet as tolerated by the patient in relation to specific surgical conditions	2	Experiential-Learning 6.6	PSY-MEC	Does	D,PL,W
CO1	Demonstrate the steps for safely transitioning from a liquid diet to a more substantial soft or semi-solid diet as tolerated by the patient.	2	Experiential-Learning 6.7	PSY-MEC	Does	DIS,PL,PER

Unit 5 Post-Surgical Morbidity

- Types
- Risk factors,
- Prevention
- Management

References: 7,10,11

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the warning signs of morbidity and its risk factors	3	Lecture	CAN	Knows-how	D,L,L&PPT
CO1	Identify the Warning Signs of Morbidity	2	Practical Training 6.8	CC	Shows-how	D-BED,DIS
CO1	Identify the role Dietary choices and lifestyle changes that support recovery.	2	Practical Training 6.9	CC	Shows-how	DIS,LS,PL,PER
CO1	Identify the preventive strategies for the post surgical morbidity	2	Practical Training 6.10	CC	Shows-how	DIS,LS,PER,W
CO1	Implement management strategies for post-surgical morbidity.	3	Experiential-Learning 6.8	PSY-MEC	Does	CBL,D-BED,TBL
CO1	Plan outline of the management strategies for post-surgical morbidity.	3	Experiential-Learning 6.9	PSY-MEC	Does	CBL,D-BED,PL,SDL,TBL
CO1	Demonstrate the Advancements in the Post surgical monitoring	3	Experiential-Learning 6.10	PSY-MEC	Does	D,D-BED,DIS,PL,PER,TBL

Practical Training Activity

Practical No	Name	Activity details

Practical Training 6.1	Observation and execution of the threefold therapeutic actions (Trividha Karma)	Demonstration by the teacher: • Introduction to the topic by teacher and describe the the purpose of each stage of the threefold therapeutic actions in surgery. Enable the students to observe, understand, and execute the threefold therapeutic actions • Utilize clinical settings for real patient observations. • Demonstrate a case scenario where Trividha Karma can be applied
Practical Training 6.2	Guided Hands-On Practiceof the threefold therapeutic actions (Trividha Karma)	Group discussion: Assign the topic to the students and Conduct group discussions to provide a basic understanding of each stage's importance and how it contributes to successful surgical outcomes. Live demonstration: • Live demonstration of steps of Trividha karma • Enocurage the students to practice and demonstrate on Recorded case studies and step-by-step procedural walkthroughs.
Practical Training 6.3	Recognize and respond to intraoperative emergencies, including bleeding, allergic reactions, and equipment malfunction.	Scheduled Practice drills: • Teacher can Demonstrate the intraoperative emergency scenarios to the students such as bleeding , allergic reactions and brief about the methods to manage such scearios. • Organize regular practice sessions with varying emergency scenarios to keep students prepared for different types of intraoperative crises.
Practical Training 6.4	Response to intraoperative	Roleplay: Teacher can assign Roleplay to the students to show clear, concise communication with the surgical team, ensuring coordinated

	emergencies, including bleeding, allergic reactions, and equipment malfunction.	efforts during an emergency. Practical Exercises: • Teacher can conduct prctical exercise on Hemostatic Agents & Electrocautery Practice, Direct Pressure application, Vessel Ligation & Suturing Techniques to respond to intraoperative emergencies. • Teacher can train the students to recognize signs of anaphylaxis and initiate treatment immediately.
Practical Training 6.5	Integration of Pathya-Apathya with contemporary Post-operative care guidelines.	Team based learning: • Create patient-centered care plans that balance Pathya-Apathya and contemporary guidelines to support recovery. • Discuss and provide constructive feedback on each care plan, focusing on practicality, patient safety, and effectiveness in integrating the two approaches. Example: Pathya Easily digestible (Laghu) & nourishing foods – Moong dal, rice gruel (Yusha), vegetable soups Ghee – Supports gut healing, anti-inflammatory properties Peya, Vilepi (Medicated gruels with herbs like Shunthi, Pippali, and Haridra) – Improves digestion and prevents bloating Integration with ERAS (Enhanced recovery after surgery)Guidelines: High-protein diet – Supports wound healing (Ayurvedic equivalents: Mung dal, milk, paneer) Low-residue diet in early recovery – Aligns with Ayurveda's *Peya-Vilepi* principle Early oral feeding (within 6 hours post-surgery) – Reduces infection risk and improves gut motility Student can select these points to plan the effective post operative care through integrated approach.
Practical Training 6.6	Role of a post-surgery diet immediately after surgery to support digestive rest and maintain hydration.	Team based Learning (TBL)and Discussion. • Teacher can encourage these learning methods to outline the goals, including understanding the importance of digestive rest, maintaining hydration, and identifying suitable dietary options immediately post-surgery.

		• Demonstrate the Phase-wise Post-Surgery Diet ◦ Phase 1: Immediate Postoperative Period (0–6 hours) ◦ Phase 2: First 12–24 Hours – Light Liquid Diet ◦ Phase 3: First 24–72 Hours • Based on above information students can customize diet chart based on the type of surgery
Practical Training 6.7	Recognize the role of a post-surgery diet plan to support digestive rest and maintain hydration.	Team based Learning (TBL)and Discussion. • Teacher can encourage these learning methods to outline the goals, including understanding the importance of customizing the diet plan based on surgery. • Gradual progression from clear liquids ? light gruels ? semi-solids prevents digestive distress must be discussed by each student • Ayurveda's Pathya principles can be made in align with contemorary ERAS guidelines, ensuring a smooth, well-balanced recovery.
Practical Training 6.8	Warning Signs of Morbidity	Discussions: • Students have to indulge in discussions to understand the General Signs of Morbidity after any surgical procedures. • Students have to discuss about General Signs of Morbidity like fatigue , fever etc and Post-Surgical Warning Signs such as delayed wound healing, dysuria or any other relavant systemic warning signs related to cardiovascualr, respiratory system etc.

Practical Training 6.9	Systematic approach to the Dietary choices and lifestyle changes that support recovery.	Discussions: • This is to understand the rationale with Library sessions and presentations and it can be applied to all major and minor surgeries. • Students can discuss with the teacher about gradual transition to high-protein, anti-inflammatory, gut-friendly foods optimizing recovery concerned to types of surgeries.
Practical Training 6.10	Strategies to prevent Post surgical morbidity	Discussion: • This is to understand the rationale with Library sessions and presentations and it can be applied to all major and minor surgeries. • Students can discuss with the teacher about Preventive Strategies such as Early mobilization, Infection control, Adequate hydration & nutrition and Monitoring vital signs post-surgery for the prevention and early detection of complications.
Experiential learning Activity		
Experiential learning No	**Name**	**Activity details**
Experiential-Learning 6.1	Principles of Trividha Karma and its practical application in contemporary surgical practice.	Case based learning: • Ask each student to to present a case study with a patient needing comprehensive care. • Student must allign the case demonstration with ◦ Poorva Karma (Preoperative Preparation) ◦ Pradhana Karma (Main Surgical Procedure)

		◦ Paschat Karma (Postoperative Care & Rehabilitation)
Experiential-Learning 6.2	Surgical protocols	Case based learning: Each students must demonstrate a case scenario or realtime patient case including all key points of Surgical protocol Example: Demonstrate a case of Haemorrhoids or Appendicitis or any case of teacher's choice . Ask the students to follow Surgical protocol including preoperative evaluation, intraoperative management, and postoperative care.
Experiential-Learning 6.3	Monitor for common postoperative complications, such as bleeding & infection.	Demonstration by the Teacher: • Teacher can demonstrate the each complication, explaining signs, symptoms, and when they typically occur postoperatively. • Also, know and apply preventive strategies for each complication, including wound care • Students can discuss and interact with the different case scenarios during the session • Monitoring & Management of postoperative bleeding and surgical site infections exercises for early sepsis detection & escalation of care must be ensured from the students
Experiential-Learning 6.4	Monitor for common postoperative complications, such as thromboembolism.	• Self-directed learning (SDL) to understand the rationale and advanced concepts to minimise postoperative complications • Students have to prepare a presentation on Monitoring & Management of Thrombo embolism. Judicial advice of suitable investigations and strtegies to prevent DVT in postoperative period must be discussed. Key points such as ◦ Doppler ultrasound for suspected DVT. ◦ D-dimer test & CT pulmonary angiography for PE suspicion. ◦ Early ambulation & mechanical compression devices must be discussed in the presentation

Experiential-Learning 6.5	Role of Pathya-Apathya for long-term recovery and prevention of complications.	Demonstration Bedside :D-BED Discuss dietary practices that promote tissue healing, reduce inflammation, and enhance the recovery. Case based Learning: CBL Provide students with different patient profiles who are in the recovery phase post-surgery and ask them to clinically interpret the role of pathya and apathya in long-term recovery and prevention of complications. Example: Discuss the role of diet in a Post appendisectomy and Post Transfixation and Ligation of haemorrhoid cases.(Or any other cases of teacher's /student's choice)
Experiential-Learning 6.6	Know the steps for safely transitioning from a liquid diet to a more substantial soft or semi-solid diet as tolerated by the patient.	Brainstorming sessions: Expert presentations and discussions can be organized to know the stepwise transitioning of diet.
Experiential-Learning 6.7	Know the steps for safely transitioning from a liquid diet to a more substantial soft or semi-solid diet as tolerated by the patient.	Presentations and discussions: These methods are applied for careful application of Pathya-Apathya principles as explained in Ayurveda literature.
Experiential-Learning 6.8	Management strategies for post-surgical morbidity	Team-Based and Interdisciplinary Communication Practice: Plan the interdisciplinary discussions and Demonstration Bedside , to discuss the management of post-surgical complication. Case based learning: Present a case discussing treatment plans, and collaborating with Surgeons and. Anaesthetists.
Experiential-Learning 6.9	Implement management strategies for post-surgical morbidity	Team-Based and Interdisciplinary Communication Practice Plan the interdisciplinary discussions and Demonstration Bedside , to discuss the management of post-surgical complication. Case based learning: Students can Present a case discussing the principles of treatment plans collaborating with experts. Students can enlist common post surgical complications and perform a framework for risk assessment, prevention, and management strategies
Experiential-	Use of technologies &	Team-Based and Interdisciplinary Communication Practice:

Learning 6.10	Advancements in the Post surgical monitoring	Students in a team can discuss the Advanced Strategies for Post-Surgical Morbidity Management such as
		
		• Enhanced Recovery After Surgery (ERAS) Protocols
		  ◦ Minimally Invasive Techniques – Reduce tissue damage
		  ◦ Early Mobilization – Reduces risks of DVT, pneumonia
		• Multidisciplinary Team Approach
		  ◦ Nutritionists – to optimize dietary intake
		  ◦ Physiotherapists – to ssist in mobilization and rehabilitation
		• Use of Technology & AI in Post-Surgical Monitoring
		  ◦ Wearable Devices – to monitor heart rate, oxygen levels, and movement
		  ◦ Telemedicine Follow-ups – to reduce hospital revisits
		
		These discussions are encouraged for the comprehensive understanding the necessity of Post surgical monitoring

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 asssessment. 1. Theory Open book Test: Conduct theory open book test for 50 marks which will contain either 1 LAQ or 4 SAQ and 1 ABQ. OR 2. Scenario-Based Assessments: Provide clinical scenarios like preoperative assesment or postoperative assessment of patient or dietary guidelinesor lifestyle guidelines Scenario Analysis: Ability to understand and break down clinical scenarios. (20 marks) , Clinical Reasoning: Develops logical and evidence-based plans. (10 marks), Decision-Making: Choosing appropriate interventions or solutions. (20 marks) Evaluation: Present scenarios during viva, or written assessments.Evaluate problem identification, reasoning, and proposed solutions. OR 3. DOPS Assessments Direct observation involves Teachers or supervisors watching Postgraduates performing procedures in real-time. Developing Standardized Checklists: 25marks, Outlining each step of Trividh karmas. (e.g., Poorvakarma, pradhana karma, Pashchat karma, diet after abdominal surgery, diet after anorectal surgery). Conduct Observations: 25marks : Supervisors observe students as they carry out Pradhana karma in minor	4

operative procedures and para-surgical procedures. Use the checklist to evaluate performance objectively. OR 4. Debate (Select 2 topics each will carry 25marks, total 50 marks) Preparation: Choose clinical or procedural topics (e.g., Pathya Apathya in Surgery, Trividha karma related) Execution:Divide students into teams. (give different roles to different students) Provide structured time for arguments, counterarguments, and summaries. Evaluation: Assess argument strength, evidence use, and delivery. 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 7 : Shastra Karma & Bandha Vidhi (Principles of Operative and Bandaging techniques)

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

- Discuss the Principles of Shastra Karma (Operative techniques) in Ayurveda.
- Demonstrate Proper Bandaging Techniques (Bandha Vidhi)
- Acquire Skills in tissue handling and wound management

Unit 1 Shastra Karma

- Description and demonstration of of Ashtavidha Shastra Karma.

References: 1,2,3,4,7,30

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe the Ashtavidha and Shadvidha for treatment of surgical disorders	1	Lecture	CAP	Knows-how	D,L&PPT
CO1,CO3	Describe the Trayodasha Shastrakarma for treatment of surgical disorders	1	Lecture	CAP	Knows-how	L&PPT
CO1,CO3	Demonstrate Ashtavidha Shastra Karma	2	Practical Training 7.1	PSY-GUD	Shows-how	D,KL,SIM,TBL
CO1,CO3	Demonstrate Shadvidha and Trayodasha Shastra Karma	2	Practical Training 7.2	CC	Shows-how	D,KL,SIM,TBL
CO1,CO3	Identify the Shastrakarmas and either assist or perform the shastrakarmas for various surgical disorders	3	Experiential-Learning 7.1	PSY-GUD	Shows-how	D,KL,SIM,TBL

CO1,CO3	Identify the Shastrakarmas explained by Acharya Charaka or Vagbhata	3	Experiential-Learning 7.2	PSY-GUD	Shows-how	D,KL,PL, SIM,TBL

Unit 2 Shastra Karma in other Samhitas

- Shadvidha Shastra Karma.
- Trayodasha Shastra Karma.

References: 2,3

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe the Indications of Ashtavidha, Shadvidha Shastrakarma for treatment of surgical disorders.	1	Lecture	CAP	Knows-how	L&PPT
CO1,CO3	Describe the Trayodasha Shastrakrma and its indication for the treatment of surgical disorders.	1	Lecture	CAP	Knows-how	L&PPT
CO1,CO3	Integrate Ayurveda Concepts with contemporary Surgical Practices of surgical Skills-Session I	2	Practical Training 7.3	PSY-ADT	Shows-how	D,KL,PT, SIM,TBL
CO1,CO3	Demonstrate and practice specific Shastrakarmas in various surgical conditions	2	Experiential-Learning 7.3	PSY-GUD	Does	D,KL,PL, SIM,TBL

Unit 3 Principles of Operative Techniques

- Basic surgical techniques.

References: 5,9

3A	3B	3C	3D	3E	3F	3G
CO3	Describe the Master techniques for handling instruments safely and efficiently.	1	Lecture	CAP	Knows-how	L&PPT

CO3	Describe principles of incision placement	1	Lecture	CAP	Shows-how	L&PPT
CO3	Describe the types of incisions based on procedure requirements.	1	Lecture	CAP	Shows-how	L&PPT
CO3	Demonstrate blunt dissection techniques.	2	Practical Training 7.4	PSY-GUD	Shows-how	D,DSN,KL,SIM,W
CO3	Demonstrate sharp dissection techniques and practice safe, efficient tissue separation.	2	Practical Training 7.5	PSY-ADT	Shows-how	D,DSN,KL,SIM,TBL
CO3	Demonstrate techniques for tissue handling to minimize trauma, maintaining tissue integrity during surgery.	3	Experiential-Learning 7.4	PSY-GUD	Shows-how	D,KL,SIM
CO3	Practice wound closure methods that aids healing, minimize tension, and reduce scarring.	3	Experiential-Learning 7.5	PSY-GUD	Shows-how	D,KL,SIM

Unit 4 Bandha Vidhi

- Types of bandages
- Bandaging techniques mentioned in Ayurveda.

References: 1,2,4

3A	3B	3C	3D	3E	3F	3G
CO3,CO6	Describe Bandages, bandaging materials	1	Lecture	CAP	Shows-how	L&PPT
CO3,CO6	Enumerate types of bandages as per various Ayurveda texts	1	Lecture	CAP	Does	L&PPT
CO3,CO6	Practice Principles of Bandhana(Bandages) as per Ayurveda	2	Practical Training 7.6	PSY-GUD	Shows-how	D,D-BED,KL,SIM

CO3,CO6	Practice Principles of (Bandhana) Bandages as per Ayurveda	2	Practical Training 7.7	PSY-GUD	Shows-how	D-BED,KL,SIM
CO3,CO6	Practice bandaging techniques.	3	Experiential-Learning 7.6	AFT-RES	Does	D-BED,KL,PL,SIM,TPW,TBL
CO3,CO6	Develop experty in bandaging techniques.	3	Experiential-Learning 7.7	PSY-ADT	Does	D,KL,PL,SIM,TPW,TBL

Unit 5 Bandaging techniques

- Bandages and their application techniques.

References: 7,38

3A	3B	3C	3D	3E	3F	3G
CO3,CO6	Describe and classify different types of bandages and unique properties and primary functions of bandages.	1	Lecture	CAP	Shows-how	L&PPT
CO3,CO6	Identify Master techniques for applying bandages	3	Practical Training 7.8	PSY-MEC	Shows-how	D,KL,SIM,TPW,TBL
CO3,CO6	Demonstrate Master techniques for applying bandages	3	Practical Training 7.9	PSY-MEC	Shows-how	D,KL,SIM,TPW,TBL
CO3,CO6	Practice safe and effective Bandaging procedures and adapt Bandaging techniques for different patient needs like children & elderly and body parts	3	Experiential-Learning 7.8	AFT-RES	Does	D,DIS,KL,LS,SIM,TBL

CO3,CO6	Practice safe and effective Bandaging procedures and adapt Bandaging techniques for different patient needs like children, elderly and body parts	3	Experiential-Learning 7.9	AFT-RES	Does	D,KL,SIM,TBL

Practical Training Activity

Practical No	Name	Activity details
Practical Training 7.1	Develop Skills , observe surgical procedures focusing on technique, precision	Demonstration by the teacher: Teacher can demonstrate a session with a brief explanation of the surgical procedure, including its purpose, sequence of steps, and potential challenges. Demonstration to students with techniques like incision, excision suturing, probing, etc can be adopted Describe precision in each technique and why it’s essential for successful outcomes in any surgical disese
Practical Training 7.2	Develop Skills , observe surgical procedures focusing Shadvidha and Trayodasha Shastra Karma	Demonstration by the Teacher: Teacher can Describe session with a brief explanation of the surgical procedure, including its purpose, sequence of steps, and potential challenges in Shadvidha and Trayodasha Shastra Karma Describe precision in each technique and why it’s categorized by Acharya's and their importance in present scenario can be discussed
Practical Training 7.3	Surgical skills in Ayurveda and contemporary Science	Regular Practice Sessions with Advanced Skills: Schedule ongoing sessions where students can practice more advanced procedures using hybrid approach Discuss case studies that showcase successful integration of Ayurvedic principles with advanced surgical techniques, inspiring students to adopt a more balanced approach in their future practice. Example: Lazer techniques, Wound closure techniques etc
Practical Training 7.4	Blunt Dissection Techniques.	Demonstration by the teacher: Teacher can Demonstrate blunt dissection techniques chosen based on tissue type, surgical approach, and risk of injury to surrounding structures by using simulated models. Also, students can discuss about specific instruments utilized in blunt dissections. Purpose & Principles, Techniques of Blunt Dissection must be demonstrated
Practical Training 7.5	Sharp dissection Techniques.	Demonstration by teacher: Teacher can demonstrate sharp dissection techniques by using simulated models. Also, students can discuss about the utility of specific instruments iused in this procedure.

		in the discussion keypoints such as Purpose & Principles, Techniques of Sharp Dissection must be given importance. All the students must be involved in Step by step demonstration of Sharp dissection
Practical Training 7.6	Identification different techniques of Bandhana(Bandages).	Demonstration by the Teacher : Teacher can demonstrate about the utility of different types of bandages. Explain the specific utility of each bandage ensuring proper application for various injuries. Audiovisual aids can be used for the demonstration .
Practical Training 7.7	Identification of techniques of Bandhana(bandages)	Demonstration by the Teacher about the utility of different types of bandages and explain their specific utility ensuring proper application for various injuries, and understanding the purpose of each bandage type.
Practical Training 7.8	Master techniques of Bandha.	Hands-On practice in applying bandages Divide Students into Small Groups: Assign each group a specific technique and body part (e.g., figure-eight bandage on the ankle, spiral bandage on the arm). Provide mannequins or simulated limbs for realistic practice.
Practical Training 7.9	Master Techniques of bandhana (Bandages).	Hands-On practice in applying bandages Teacher can initially demonstrate the importance of Bandaging in surgical conditions, trauma, and post-operative care. Also, mentions the properties of bandage which provides support, protection, and compression to wounds and injuries. Students can demonstrate the utility of bandages in different conditions.
Experiential learning Activity		
Experiential learning No	**Name**	**Activity details**
Experiential-Learning 7.1	Description and demonstration of of Ashtavidha Shastra Karma	Skill training: Demonstration of practice with Shastrakarma on Synthetic Models Allow students to practice each Shastrakarma on simulated tissue or models. Each student is given chance to perform in the presence of teacher or among themselves.
Experiential-Learning 7.2	Description and demonstration of uniques shastrakarma	Hands on Training: Demonstration of practice with Shastrakarma on Synthetic Models by the students such as utpaatana(elevation & extraction) Kuttana (multiple pricking etc) Allow students to practice each Shastrakarma on simulated tissue or models in the presence of teacher or among themselves.

Experiential-Learning 7.3	Correlation of Shastrakrmas as per contemporary Science and their practice in surgical diseases	Hands on Training : Students are encouraged to Perform or Assist shastrakarmas to perform the procedures effectively Discuss Specific Indications of each shastra karma . Explain when and why each Shastrakarma is performed. For example: Chedana is used excision of tumors Bhedana is appropriate for abscesses to drain pus
Experiential-Learning 7.4	Tissue Handling Techniques	Hands-On training Set a station for hands-on training and Provide simulated tissue and Instruct students to make small, controlled incisions and focus on accuracy to prevent unintentional injury to nearby structures. Training must be given on on suturing techniques & knot application to minimise scarring.
Experiential-Learning 7.5	Wound closure Methods.	Hands-On training Provide simulated tissue and Instruct students to make small, controlled incisions and focus on accuracy to prevent unintentional injury to nearby structures. Train the students on different types of suturing techniques , knot application to minimise scarring.
Experiential-Learning 7.6	Demonstration of bandaging techniques as per Ayurveda	Hands on training on different techniques of bandaging Teacher can demonstrate the objectives of Bandaging such as Protection, Compression, Immobilization etc and Common Bandaging Techniques like Circular Bandage, Spiral Bandage, Figure-of-Eight Bandage etc
Experiential-Learning 7.7	Demonstration of bandaging techniques as per Ayurveda	Hands on training on different techniques of bandaging: Students have to individually performa and demonstrate the types of bandages explained in Ayurveda. They can include bandaging techniques in selected orthopedic conditions like Shoulder dislocation, Knee joint pain, low back ache etc Repeat the practice of bandaging by each student.
Experiential-Learning 7.8	Different technique differences of bandaging in child & elderly patients.	Group Reflection on Learning: Conduct a debriefing session where students can share their experiences with Ayurvedic bandaging techniques. Encourage discussion on any challenges faced and adapted techniques,
Experiential-Learning 7.9	Differences in children & elderly Bandaging	Discussion with Teacher Conduct a debriefing session where students can share their experiences and discuss with the teacher about the modifications to be

	techniques.	made in bandaging techniques while applying to children and elderly. Example: Use soft, hypoallergenic bandages to avoid irritation in children and Soft, non-adhesive, padded bandages in elderly to avoid irritation to fragile skins

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 asssessment. 1. Theory Open Book Test : Conduct theory open book test for 50 marks which will contain 1 LAQ and 2 ABQ. OR 2. 360-Degree Evaluation (minimum 2 procedures' feedback) Preparation: Develop feedback forms evaluating clinical and procedural competencies like bandaging techniques & Ashtavidha shastra karma Execution: Include peers, faculty, and self-assessment. (Allot different marks for peers, faculty etc.) Conduct evaluations after specific activities (e.g., demonstrations for bandaging techniques Evaluation: Aggregate feedback scores for assessment. OR 3. Viva 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 5. DOPS (Direct Observation of Procedural Skills) : 2 procedures = 50 marks (make at least 5 to 10 different checklists and allot either 1 or 2 marks for each checklist) Preparation: Identify critical procedures (e.g., demonstration of types of Shastra karma / types of bandages) relevant to the module. Develop detailed checklists for each procedure. Execution: students perform procedures under observation in a clinical or simulated environment. Observe key steps, technique, and patient interaction. Evaluation: Use the checklist to evaluate skill, technique, aseptic methods, and safety adherence. OR 6. OSPE (Objective Structured Practical Examination) : Make at least 10 stations allotting 5 marks each= 50 marks	4

Preparation: Develop multiple stations covering practical and theoretical aspects (e.g., demonstration of types of Shastrakarma and types of bandages) Create standardized questions for each station. Execution: Students rotate through stations within a set time frame. Station formats may include tasks like demonstrations, or viva responses Evaluation: Use a standardized checklist for consistency. 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 8 : Life Saving Drugs and Essential Medicines

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

- Understand the role of antibiotics in preventing and treating infections in surgical patients.
- Acquire knowledgevabout different classes of analgesics and used for pain management during and after surgery.
- Practice emergency drugs used to manage critical situations during surgical procedures and understand the pharmacology, indications, side effects, and contraindications of each drug category.

Unit 1 Pharmacokinetics and Pharmacodynamics

- Pharmacology in surgical practice
- Pharmacokinetics
- Pharmacodynamics.

References: 33,39

3A	3B	3C	3D	3E	3F	3G
CO1	Identify Pharmacokinetics (PK) ,Pharmacodynamics (PD) in Surgical Practice.	1	Lecture	CAP	Knows-how	D,L&PPT
CO1	Evaluate drug effect and safety during and after surgery.	2	Practical Training 8.1	CC	Shows-how	DL,PBL
CO1	Practice essential medicines, uses, potential side effects.	1	Experiential-Learning 8.1	AFT-RES	Does	D,LS,PL, PER,PBL

Unit 2 Jeevanurodhak Dravya (Antibiotics)

- Description, Definition, Types, Importance, Classification by spectrum of activity of Different Antibiotics
- Mechanisms of action
- Antibiotic resistance
- Side effects
- Adverse reactions.

References: 33,39

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the antibiotics and classification by spectrum activity	3	Lecture	CAP	Knows-how	D,L,L&P PT
CO1	Identify the clinical implications of mechanism of action of Antibiotics, antibiotic resistance and understand its significance in clinical practice, particularly in surgery.	2	Practical Training 8.2	CC	Shows-how	LS,PBL
CO1	Illustrate the antibiotic resistance and understand its significance in clinical practice, particularly in surgery.	2	Practical Training 8.3	CAP	Knows-how	PBL,TUT
CO1	Demonstrate the avenues for AMR and Ayurveda treatment.	2	Practical Training 8.4	CAP	Shows-how	PER,PBL
CO1	Identify common side effects a of antibiotics, and demonstrate the principles of management.	4	Experiential-Learning 8.2	AFT-RES	Shows-how	D,LS,PL, PER,PBL, SIM
CO1	Compose treatment protocol for the management of common side effects and serious adverse reactions of antibiotics.	4	Experiential-Learning 8.3	PSY-GUD	Shows-how	CBL,D,LS,PL,PER,PBL

Unit 3 Vedanaprashamana and Shothaprashamana Dravya (Analgesics and Anti-Inflammatory Drugs)

- Applications of Analgesics drugs.
- Applications of Anti-inflammatory drugs.

References: 33

3A	3B	3C	3D	3E	3F	3G
CO1	Description of Analgesics and Anti-inflammatory Drugs	2	Lecture	CK	Knows-how	D,L&PPT
CO1	Identify the main classes of analgesics, including non-opioid analgesics, opioid analgesics, adjuvant analgesics	2	Practical Training 8.5	CAP	Shows-how	PER,PBL, TUT
CO1	Identify the classes of anti-inflammatory drugs, including non-steroidal anti-inflammatory drugs (NSAIDs) and corticosteroids.	2	Practical Training 8.6	CAN	Shows-how	PrBL
CO1	Design the applications of Analgesics and response to adverse drug reactions along with ethical considerations.	3	Experiential-Learning 8.4	PSY-MEC	Shows-how	D,D-BED ,PL,PER, PBL
CO1	Demonstrate applications of Anti-Inflammatory drugs and response to adverse drug reactions along with ethical considerations.	3	Experiential-Learning 8.5	AFT-RES	Does	D,D-BED ,DL,LS,P L,PER,PB L

Unit 4 Dravya in Atyayika Avastha (Emergency drugs in surgical practice)

- Most common emergency drugs used in surgical practice,
- Their indications
- Actions.

References: 7,31,33

3A	3B	3C	3D	3E	3F	3G
CO1	Identify the indications and actions of Specific Emergency Drugs.	2	Lecture	CAP	Knows-how	D,L&PPT

CO1	Summarize commonly used emergency drugs in surgical settings and their importance in managing acute, life-threatening situations during surgery.	2	Practical Training 8.7	CC	Shows-how	D-BED,DA,PBL,RLE
CO1	Demonstrate best practices for safe medication administration, including the "FIVE RIGHTS" (right patient, right drug, right dose, right route, right time).	3	Experiential-Learning 8.6	AFT-RES	Shows-how	D,LS,PL,PER,PBL
CO1	Describe commonly used emergency drugs in surgical settings, importance of emergency drugs in managing acute, life-threatening situations during surgery.	3	Experiential-Learning 8.7	AFT-RES	Shows-how	D,LS,PL,PER,PBL,RP
CO1	Describe commonly used emergency drugs in surgical settings and their importance emergency situations during surgery.	2	Practical Training 8.8	CAP	Shows-how	D-BED,PBL,RLE

Unit 5 Drug Interactions and Safety Considerations

- Recognizing and managing drug interactions,
- Monitoring adverse effects and toxicity,
- Patient safety
- Documentation.

References: 33,39

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the common adverse effects associated with drug classes.	2	Lecture	CAN	Knows-how	D,L,L&PPT
CO1	Identify and enlist common drug interactions with high-risk medications, such as anticoagulants, opioids, and antibiotics, and understand their clinical implications.	2	Practical Training 8.9	CC	Shows-how	PBL
CO1	Identify common drug interactions with high-risk medications, such as anticoagulants, opioids, and antibiotics, and understand their clinical implications.	2	Practical Training 8.10	CAN	Shows-how	CBL
CO1	Demonstrate best practices for safe medication administration, including the "FIVE	3	Experiential-	AFT-RES	Shows-	D,LS,PL,

	RIGHTS" (right patient, right drug, right dose, right route, right time).		Learning 8.8		how	PBL
CO1	Identify and demonstrateof potential errors in medication administration and implement prevention strategies.	2	Experiential-Learning 8.9	AFT-RES	Shows-how	D,LS,PL, PER,PBL, SIM

Practical Training Activity

Practical No	Name	Activity details
Practical Training 8.1	Monitor and evaluate drug effect and safety during & after surgery.	Demonstration in lab (DL): Teacher can involve students in the demonstration of key monitoring parameters like baseline vital signs and lab values pre-operatively as reference points for evaluating drug effects and safety throughout surgery and recovery. Students can note the drug effect and safety considerations to be followed during the administration. Activity is practiced by giving opportunity to observe the drug effect and safelty in In-patient units.
Practical Training 8.2	Identify the clinical implications of mechanism of action of Antibiotics	Library session: Students must be given ample time to gather information about mechanism of action of drugs. Peer learning: With the gathered information by the students, discussion with the experts is conducted to obtain clarity in the subject.
Practical Training 8.3	Antibiotic resistance and its significance in Surgical practice.	Guest lectures: Teacher can select this topic for Interdisciplinary expert lectures to understand AMR and its significance in surgery.
Practical Training 8.4	Role of Ayurveda in Combatting AMR.	Presentations: Student can prepare the Presentations on AMR withe the available resources from recent publications and discuss the new avenues for Ayurveda can be presented and discussed within the group and with the teacher or experts.
Practical Training 8.5	Classes of analgesics, including non-opioid analgesics, opioid analgesics, adjuvant analgesics.	Presentation: The students can collect the preliminary data related to classification of analgesics and present in the presence of teacher which can be demonstrated suitable examples.

Practical Training 8.6	Anti-inflammatory drugs, including non-steroidal anti-inflammatory drugs (NSAIDs) and corticosteroids.	Project Based Learning: Students can be assigned projects on these topics and discussed with experts. Discussions based on the indications and contraindications as per the case scenarios by Teacher can be incorporated
Practical Training 8.7	Identify and describe emergency drugs used in surgical setting, their importance in managing acute, life-threatening situations during surgery.	Drug Identification and its uses: Display emergency drug kits with labeled vials or cards showing drug names. Ask students to match drugs with their indications, dosages, and routes. Real life experience & Demonstration Bedside: Emphasize clear and concise record-keeping that includes drug name, dose, time, response, and any interventions. Documentation and Reporting Demonstrate how to document drug administration during emergencies, including time, dosage, and patient response.
Practical Training 8.8	Route of administration of Emergency drugs in surgical settings to manage life-threatening situations during surgery.	Real life experience & Demonstration Bedside: Emphasize the students about clear and concise record-keeping that includes drug name, dose, time, response, and any interventions. Drug Administration Techniques: Demonstrate the correct route of administration for emergency drugs: Intravenous (IV), Intramuscular (IM), Inhalation or Nebulization. Use simulation arms or practice kits for IV and IM drug administration.
Practical Training 8.9	Enlist the common drug interactions with high-risk medications, such as anticoagulants, opioids, and antibiotics and their clinical implications.	Drug Interaction Simulation: Provide students with prescription sheets containing multiple medications. Use drug interaction resources or software to identify interactions. Ask students to highlight the interactions, Note the clinical consequences and suggest appropriate interventions.
Practical Training 8.10	Common drug interactions with high-risk medications their	Case-Based Exercise: Provide patient scenarios with drug lists. Assign students different interactions to explain mechanisms. Teach monitoring strategies and use of drug interaction databases.

	clinical implications.	Drug Interaction Simulation Provide students with prescription sheets containing multiple medications. Ask students to note the interactions, clinical consequences and appropriate interventions. Dosage and Adjustment Exercises Provide the students the exercise to calculate the dose and analyse calculation problems where drug interactions alter metabolism.
Experiential learning Activity		
Experiential learning No	**Name**	**Activity details**
Experiential-Learning 8.1	Uses and Potential side effects of Essential medicines.	Drug Identification and Classification : Provide students with labeled medication bottles or cards. Task is to identify the class, primary uses, and common side effects for each drug. Documentation and Reporting: Demonstrate how to document adverse drug reactions (ADRs) in patient records and report them to pharmacovigilance systems.
Experiential-Learning 8.2	Monitor the side effects and adverse reactions of Antibiotics	Bedside learning: Students can work in groups and exercise to maintain clear, accurate records of all drug-related observations, including dose adjustments, monitoring parameters, and patient responses.
Experiential-Learning 8.3	Identify common side effects and serious adverse reactions of antibiotics	Case-based learning: CBL Simulate a scenario to demonstrate side effects of antibiotics including available tools to monitor adverse reactions and its management or timely referral. Documentation and Reporting Demonstrate how to document adverse drug reactions (ADRs) in patient records and report them to pharmacovigilance systems.
Experiential-Learning 8.4	Clinical observations on Analgesics, adverse drug reactions, management along with ethical considerations.	Demonstration Bedside: Bedside demonstration of utility of analgesics with an example of a surgical case . The students can enlist suitable surgical conditions and discuss the utility of analgesics with the teacher. Documentation and Reporting Demonstrate how to document adverse drug reactions (ADRs) in patient records and report them to pharmacovigilance systems.
Experiential-	Anti-Inflammatory	Demonstration lab/ Demonstration bedside

Learning 8.5	drugs and response to adverse drug reactions along with ethical considerations.	Teacher can assign the students the activity of Interpretation of Lab reports and discussion on the impact of these drugs on blood parameters of patients. Provide the students suitable methods/tools for the documentation and observation can be performed Documentation and Reporting Demonstrate how to document adverse drug reactions (ADRs) in patient records and report them to pharmacovigilance systems.
Experiential-Learning 8.6	Importance of emergency drugs in managing acute, life-threatening situations during surgery.	Scheduled Simulation Drills: Arrange practice sessions with various patient scenarios to reinforce skills and build adaptability in different clinical situations. Students are repeatedly made aware of Lifethreatening situations encountered and strategies for the management during Surgery. Simulated Emergency Scenarios Provide an emergency scenario to the patient, assign the task to identify and administer the emergency drug. Ask the students to record time, dose, route, and patient response.
Experiential-Learning 8.7	Enlist commonly used emergency drugs in surgical settings and their importance in emergency situations during surgery.	Role-Play: Assign task to the students . Students have to perform the role of patient and doctor. The conversations of the students must include commonly used emergency drugs and communicating the patient about its requirement, education on Drug use and safety can be assigned to students to perform roleplay. Teacher must demonstrate proper documentation of adverse drug reactions (ADRs).
Experiential-Learning 8.8	Demonstration of "five rights" - best practices for safe medication administration.	Administering Medication to a Patient Provide a simulated medication chart, prescription, and patient identification band/MRD number. Steps for Students: Check the patient’s ID using the band and ask for their vital data. Cross-check the prescription with the medication label (right drug). Verify the dosage with the prescribed amount and calculate if necessary (right dose). Confirm the route of administration (right route). Administer at the correct time and document it.
Experiential-Learning 8.9	Demonstration potential errors in medication administration and implement prevention strategies.	Identifying Errors in Mock Scenarios: Provide scenarios with deliberate errors (e.g., wrong drug or dose). Task:Ask the students to identify the error and suggest corrective action. Highlight the consequences of these errors. Hands-on Practice with Medication Administration: Use simulated medications and syringes or oral dosing cups. Assign students to administer medication in pairs or groups. Tasks:Verify medications using a checklist. Apply the Five Rights before administration. Practice safe disposal of sharps and proper documentation.

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 asssessment. 1. Theory Open book Test :Conduct theory open book test for 50 marks which will contain 2 LAQ and 6 SAQ. OR 2. Viva: 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. Scenario-Based Assessments (take at least 2 scenarios) A. Provide clinical scenarios like, Adverse drug reactions, interpreting lab reports to select suitable antibiotics B. Scenario Analysis: Ability to understand and break down clinical scenarios. (10marks) C. Clinical Reasoning: Develops logical and evidence-based plans. (05 marks) D. Decision-Making: Chooses appropriate interventions or solutions. (10 marks) Evaluation: Present scenarios during viva, roleplays, or written assessment s. Use a rubric to evaluate problem identification, reasoning, and proposed solutions. OR 4. Debate –25 marks for each debate (Total 2 debates) Preparation: i) Select relevant topics connected to the module like concept of essential medicines, their uses and potential side effects. ii) Divide students into teams and provide time for preparation. Execution i) Conduct the debate with clear time limits for each speaker. ii) Assign a moderator to ensure smooth proceedings. Evaluation: Use rubrics focusing on argument quality, delivery, rebuttals, and teamwork. 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)	

Table 4 : Practical Training Activity

Practical No	Practical name	Hours
1.1	Analysis of Ethical dilemmas in surgical scenarios	2
1.2	Demonstrating awareness of diverse cultural and societal factors.	2
1.3	Regulatory and compliance standards relevant to surgical audits.	2
1.4	Regulatory and compliance standards relevant to surgical audits	2
1.5	Commissions to adress Potential risks in Surgical Practice.	2
1.6	Assessment of scenarios for Omission of Potential Risks in Surgical Practice.	2
1.7	Recent Amendments and Updates of Consumer Protection Act	2
1.8	Consumer Protection Act.	2
1.9	Importance of Consent Surgical emergencies associated with complications.	2
1.10	Importance of Consent in life saving Surgical emergencies.	2
2.1	Assessment of clinical features of acute and chronic haemorrhage	2
2.2	Raktastambhan Upayas (haemostatic measures in Ayurveda and in Contemporary science)	2
2.3	Common transfusion reactions.	2
2.4	Identification of transfusion reactions such as TRALI and TACO	2
2.5	Treatment protocol for common transfusion reactions, including TACO & TRALI	2

2.6	Identification of Unique surgical challenges with haematologic conditions	2
2.7	Demonstrate the risks associated with hematologic conditions, including bleeding, clotting, and oxygenation in surgical and parasurgical procedures.	2
2.8	Document a case details based on stages of Shatkriyakala	2
2.9	Document patient symptoms and treatment responses according to the stages of Shatkriyakala.	2
2.10	Identify key prognostic factors in a disease , to understand the prognosis	2
3.1	Discuss a case of Marmaghata (Shock)	2
3.2	Practical discussion on the management of Marmaghata (Shock)	2
3.3	Lifesaving skills	2
3.4	Lifesaving skills	2
3.5	Drug reactions and Anaphylaxis	2
3.6	Drug reactions and Anaphylaxis	2
3.7	Surgical Emergency	2
3.8	Surgical Emergency	2
3.9	Fluid therapy Calculation	2
3.10	Fluid and Electrolytes	2
4.1	Aseptic techniques	2
4.2	Sterilization of Surgical instruments	2
4.3	Sterilization of Operation Theatre	2
4.4	Physical and Chemical agents used in sterilization.	2
4.5	Methods of Sterilization for Medical devices	2

4.6	Zones of Operating room	2
4.7	Working in a Sterile field during a surgical procedure	2
4.8	Personal Protective Equipment (PPE) in Bloodborne pathogens	2
4.9	Adaptation of Personal Protective Equipment (PPE) in Surgical conditions	2
4.10	Sterilization failures and Troubleshooting	2
5.1	Functional design of blunt instruments	2
5.2	Acquaintance of assembling and understanding the structure and function of OT equipment and available advanced instruments.	2
5.3	Demonstrate the assembling and understanding the structure and function of OT equipment and available advanced instruments.	2
5.4	Competency in handling Shastra(Sharp instruments), utility and its recent advances.	2
5.5	Handling and maintaining available advanced sharp instruments.	2
5.6	Practice common surgical techniques on synthetic, vegetable, animal models.	2
5.7	Practice common surgical techniques on animal models.	2
5.8	Practice choosing and adapting appropriate techniques and tools for each procedural steps.	3
5.9	Choosing and adapting appropriate techniques and tools for each procedural steps.	3
6.1	Observation and execution of the threefold therapeutic actions (Trividha Karma)	2
6.2	Guided Hands-On Practiceof the threefold therapeutic actions (Trividha Karma)	2
6.3	Recognize and respond to intraoperative emergencies, including bleeding, allergic reactions, and equipment malfunction.	2
6.4	Response to intraoperative emergencies, including bleeding, allergic reactions, and equipment malfunction.	2
6.5	Integration of Pathya-Apathya with contemporary Post-operative care guidelines.	2
6.6	Role of a post-surgery diet immediately after surgery to support digestive rest and maintain hydration.	2

6.7	Recognize the role of a post-surgery diet plan to support digestive rest and maintain hydration.	2
6.8	Warning Signs of Morbidity	2
6.9	Systematic approach to the Dietary choices and lifestyle changes that support recovery.	2
6.10	Strategies to prevent Post surgical morbidity	2
7.1	Develop Skills , observe surgical procedures focusing on technique, precision	2
7.2	Develop Skills , observe surgical procedures focusing Shadvidha and Trayodasha Shastra Karma	2
7.3	Surgical skills in Ayurveda and contemporary Science	2
7.4	Blunt Dissection Techniques.	2
7.5	Sharp dissection Techniques.	2
7.6	Identification different techniques of Bandhana(Bandages).	2
7.7	Identification of techniques of Bandhana(bandages)	2
7.8	Master techniques of Bandha.	3
7.9	Master Techniques of bandhana (Bandages).	3
8.1	Monitor and evaluate drug effect and safety during & after surgery.	2
8.2	Identify the clinical implications of mechanism of action of Antibiotics	2
8.3	Antibiotic resistance and its significance in Surgical practice.	2
8.4	Role of Ayurveda in Combatting AMR.	2
8.5	Classes of analgesics, including non-opioid analgesics, opioid analgesics, adjuvant analgesics.	2
8.6	Anti-inflammatory drugs, including non-steroidal anti-inflammatory drugs (NSAIDs) and corticosteroids.	2
8.7	Identify and describe emergency drugs used in surgical setting, their importance in managing acute, life-threatening situations during surgery.	2

8.8	Route of administration of Emergency drugs in surgical settings to manage life-threatening situations during surgery.	2
8.9	Enlist the common drug interactions with high-risk medications, such as anticoagulants, opioids, and antibiotics and their clinical implications.	2
8.10	Common drug interactions with high-risk medications their clinical implications.	2

Table 5 : Experiential learning Activity

Experiential learning No	Experiential name	Hours
1.1	Basic components of Surgical Ethics and ethical implications of complex cases.	4
1.2	Demonstration of basic surgical audit	3
1.3	Impact of surgical audits on patient outcomes and overall healthcare quality.	3
1.4	Strategies and protocols to minimize the risk of omissions and commissions,	3
1.5	Role of Regulatory bodies and legal frameworks	3
1.6	Identification of Consumer responsibilities	3
1.7	Identification of Consumer Rights	3
1.8	Importance of Consent in life saving Surgical and in Surgical emergencies associated with complications.	4
2.1	Haemorrhage and its management	1
2.2	Assessment of patient following haemorrhage - monitoring patient's vital signs, physical symptoms and complications	3
2.3	Demonstrate the procedure of Blood Transfusion.	3
2.4	Assist or perform the procedure of Blood transfusion	4
2.5	Identification of unique surgical challenges and risks associated with hematologic conditions in surgical and parasurgical diseases.	3
2.6	Intraoperative interventions of bleeding or thrombotic complications.	3
2.7	Perform the Patient assessment and Identify the stage of Shatkriyakala of the disease.	3
2.8	Demonstrate the treatment principles as per the stages of kriyakaala.	3
2.9	Evaluation of disease prognosis with Ayurvedic Principles.	3
3.1	Complications of Marmaghata (Shock)	4

3.2	Lifesaving skills	3
3.3	Lifesaving skills	3
3.4	Drug reactions and Anaphylaxis	5
3.5	Surgical Emergency	3
3.6	Surgical Emergency	3
3.7	Description of Crystalloids, Colloids and Special purpose solutions	3
3.8	Administration of Fluid and Electrolytes	2
4.1	Aseptic measures	3
4.2	Hands-on training session on OT sterilization	4
4.3	Sterilization methods used for medical devices	3
4.4	Zoning and Steps of Biomedical waste management(BMW)	3
4.5	OT room skills	3
4.6	Sterile Tray Preparation for the surgical procedure	3
4.7	Universal Precautions for all Healthcare Workers	3
4.8	Disposal of Biohazardous materials	3
4.9	Best Practices of storing, handling, and transporting sterilized instruments.	1
5.1	Applications and outcomes of Yantra (Blunt instruments)	3
5.2	Communication skills and timing when passing instruments in an Operation Theatre(OT)	3
5.3	Adopt and apply proper Surgical etiquette in the use of Sharp instruments.	3

5.4	Hands on training on Surgical etiquette in the use of Sharp instruments.	3
5.5	Practice the surgical techniques on synthetic, vegetable, animal models.	3
5.6	Surgical techniques in Progressive Training Modules	3
5.7	Laparoscopic surgeries, on simulation models to develop procedural familiarity and dexterity.	3
5.8	Perform endoscopic procedures on simulation models	3
5.9	Perform robotic surgeries on simulation models to develop procedural familiarity and dexterity.	2
6.1	Principles of Trividha Karma and its practical application in contemporary surgical practice.	3
6.2	Surgical protocols	3
6.3	Monitor for common postoperative complications, such as bleeding & infection.	2
6.4	Monitor for common postoperative complications, such as thromboembolism.	2
6.5	Role of Pathya-Apathya for long-term recovery and prevention of complications.	3
6.6	Know the steps for safely transitioning from a liquid diet to a more substantial soft or semi-solid diet as tolerated by the patient.	2
6.7	Know the steps for safely transitioning from a liquid diet to a more substantial soft or semi-solid diet as tolerated by the patient.	2
6.8	Management strategies for post-surgical morbidity	3
6.9	Implement management strategies for post-surgical morbidity	3
6.10	Use of technologies & Advancements in the Post surgical monitoring	3
7.1	Description and demonstration of of Ashtavidha Shastra Karma	3
7.2	Description and demonstration of uniques shastrakarma	3
7.3	Correlation of Shastrakrmas as per contemporary Science and their practice in surgical diseases	2
7.4	Tissue Handling Techniques	3

7.5	Wound closure Methods.	3
7.6	Demonstration of bandaging techniques as per Ayurveda	3
7.7	Demonstration of bandaging techniques as per Ayurveda	3
7.8	Different technique differences of bandaging in child & elderly patients.	3
7.9	Differences in children & elderly Bandaging techniques.	3
8.1	Uses and Potential side effects of Essential medicines.	1
8.2	Monitor the side effects and adverse reactions of Antibiotics	4
8.3	Identify common side effects and serious adverse reactions of antibiotics	4
8.4	Clinical observations on Analgesics, adverse drug reactions, management along with ethical considerations.	3
8.5	Anti-Inflammatory drugs and response to adverse drug reactions along with ethical considerations.	3
8.6	Importance of emergency drugs in managing acute, life-threatening situations during surgery.	3
8.7	Enlist commonly used emergency drugs in surgical settings and their importance in emergency situations during surgery.	3
8.8	Demonstration of "five rights" - best practices for safe medication administration.	3
8.9	Demonstration potential errors in medication administration and implement prevention strategies.	2

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-AB-ST	1	100	200	300

6 B : Scheme of Assessment (Formative and Summative Assessment)

Credit frame work

AYPG-AB-ST consists of 8 modules totaling 16 credits, which correspond to 480 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 II.

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
M1. Surgical Ethics & Surgical Audit	2	60		50		
M2. Importance of Rakta, Applicability of Shatkriyakala, Sadhya-Asadhyata & Arista Lakshanas (Haemorrhage, its management and Description of Pathogenesis of surgical diseases and Postoperative morbidity)	2	60		50		
M3. Marmaghata: Shock, Fluid, Electrolytes & Acid-base imbalance	2	60		50		
M4. Nirjantukarana (Sterilization)	2	60		50		
M5. Yantra, Shastra & Yogya Vidhi (Description of Blunt instruments, Sharp instruments and Skill training)	2	60		50		
M6. Trividha Karma & Pathya-Apathya (Description of Preoperative, Operative and Postoperative patient care and Post-Surgery Diet)	2	60		50		

M7. Shastra Karma & Bandha Vidhi (Principles of Operative and Bandaging techniques)	2	60		50		
M8. Life Saving Drugs and Essential Medicines	2	60		50		
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

A S.No	B Module number and Name	C MGP
1	M1.Surgical Ethics & Surgical Audit	C1
2	M2.Importance of Rakta, Applicability of Shatkriyakala, Sadhya-Asadhyata & Arista Lakshanas (Haemorrhage, its management and Description of Pathogenesis of surgical diseases and Postoperative morbidity)	C2
3	M3.Marmaghata: Shock, Fluid, Electrolytes & Acid-base imbalance	C3
4	M4.Nirjantukarana (Sterilization)	C4
5	M5.Yantra, Shastra & Yogya Vidhi (Description of Blunt instruments, Sharp instruments and Skill training)	C5
6	M6.Trividha Karma & Pathya-Apathya (Description of Preoperative, Operative and Postoperative patient care and Post-Surgery Diet)	C6
7	M7.Shastra Karma & Bandha Vidhi (Principles of Operative and Bandaging techniques)	C7
8	M8.Life Saving Drugs and Essential Medicines	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-AB-ST

Sem II

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
(M-1)Surgical Ethics & Surgical Audit (Marks: Range 5-20)				
1	**(U-1)** Ethics in surgery	No	Yes	Yes
2	**(U-2)** Surgical Audit	No	Yes	No
3	**(U-3)** Medico legal considerations	No	Yes	No
4	**(U-4)** Consumer Protection Act	No	Yes	No
5	**(U-5)** High Risk Consent	Yes	Yes	No
(M-2)Importance of Rakta, Applicability of Shatkriyakala, Sadhya-Asadhyata & Arista Lakshanas (Haemorrhage, its management and Description of Pathogenesis of surgical diseases and Postoperative morbidity) (Marks: Range 5-20)				
1	**(U-1)** Concept of Rakta	No	Yes	No
2	**(U-2)** Raktastambhanopaya- Haemostatic techniques	No	Yes	No
3	**(U-3)** Raktadhan (Blood transfusion)	Yes	Yes	Yes
4	**(U-4)** Raktastravajanya Vikarah (Blood disorders and Coagulopathies in surgery)	No	Yes	No
5	**(U-5)** Shatkriyakala (Description of pathogenesis in surgery)	Yes	Yes	Yes
6	**(U-6)** Sadhya -Asadhyata and Arista Lakshanas	No	Yes	No
(M-3)Marmaghata: Shock, Fluid, Electrolytes & Acid-base imbalance (Marks: Range 5-20)				
1	**(U-1)** Description of Marmaghata and Shock	Yes	Yes	Yes
2	**(U-2)** Lifesaving Skills	No	Yes	No
3	**(U-3)** Drug Reactions	No	Yes	No
4	**(U-4)** Surgical Emergency	No	Yes	No
5	**(U-5)** Fluid and Electrolytes	Yes	Yes	Yes
(M-4)Nirjantukarana (Sterilization) (Marks: Range 5-20)				
1	**(U-1)** Nirjantukaran Parichay (Introduction to sterilization and infection control)	No	Yes	No
2	**(U-2)** Nirjantukarana Prakriya (Method of Sterilization)	No	Yes	No
3	**(U-3)** Sterilization of surgical instruments and Medical devices	No	Yes	No
4	**(U-4)** Shastrakriyagar Nirjantukarana (Sterilization of Operating room and environment)	No	Yes	No
5	**(U-5)** Universal precautions in bloodborne infections & infections of the bloodstream and associated conditions	Yes	Yes	Yes

6	**(U-6)** Sterilization failures and troubleshooting	No	Yes	No
(M-5)Yantra, Shastra & Yogya Vidhi (Description of Blunt instruments, Sharp instruments and Skill training) (Marks: Range 5-20)				
1	**(U-1)** Yantra (Blunt Instruments)	No	Yes	No
2	**(U-2)** Utility and Etiquette of Instruments	No	Yes	Yes
3	**(U-3)** Shastra (Sharp Instruments)	No	Yes	No
4	**(U-4)** Yogya Vidhi	Yes	Yes	No
5	**(U-5)** Skill Lab Training	No	Yes	Yes
(M-6)Trividha Karma & Pathya-Apathya (Description of Preoperative, Operative and Postoperative patient care and Post-Surgery Diet) (Marks: Range 5-20)				
1	**(U-1)** Trividha Karma	Yes	Yes	No
2	**(U-2)** Preoperative, Intra-operative and Postoperative patient care	Yes	Yes	Yes
3	**(U-3)** Pathya-Apathya	Yes	Yes	No
4	**(U-4)** Post-Surgery Diet	Yes	Yes	No
5	**(U-5)** Post-Surgical Morbidity	Yes	Yes	Yes
(M-7)Shastra Karma & Bandha Vidhi (Principles of Operative and Bandaging techniques) (Marks: Range 5-20)				
1	**(U-1)** Shastra Karma	Yes	Yes	Yes
2	**(U-2)** Shastra Karma in other Samhitas	Yes	Yes	No
3	**(U-3)** Principles of Operative Techniques	Yes	Yes	Yes
4	**(U-4)** Bandha Vidhi	Yes	Yes	No
5	**(U-5)** Bandaging techniques	Yes	Yes	No
(M-8)Life Saving Drugs and Essential Medicines (Marks: Range 5-15)				
1	**(U-1)** Pharmacokinetics and Pharmacodynamics	No	Yes	No
2	**(U-2)** Jeevanurodhak Dravya (Antibiotics)	Yes	Yes	No
3	**(U-3)** Vedanaprashamana and Shothaprashamana Dravya (Analgesics and Anti-Inflammatory Drugs)	No	Yes	No
4	**(U-4)** Dravya in Atyayika Avastha (Emergency drugs in surgical practice)	No	Yes	No
5	**(U-5)** Drug Interactions and Safety Considerations	No	Yes	No

6 G : Instruction for the paper setting & Blue Print for Summative assessment (University Examination)

Instructions for the paper setting.

1. 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. Use the Blueprint provided in 6G or similar Blueprint created based on instructions 1 to 7

6 H : Distribution of Practical Exam (University Examination)

S.No	Heads	Marks
1	1 Long cases each carrying 80 marks OR 1 Practical Demonstrations each carrying 80 marks (Cases or Clincal scenario concerned with Module 6 & 7) Long Case Writing - 40 marks Bed side Viva - 40 marks Long case can be asked from module 7 only as it is the only patient related module. 2. Practical Demonstration of procedure on patients/ Synthetic Models- 40 Marks (Procedural demonstration concerned with Module 6 & 7)	80
2	1) 1 Short case writing (either on patient or scenario based) - 20 Marks 2) Demonstration of parasurgical (Ksharkarma, change of ksharsutra, Agnikarma, raktamokshana) and minor surgical procedures like (bandaging, wound dressing, wart excision, nail excision, I&D,) - 15 marks 3) 10 number of Spotters carrying 2 marks each- 20 Marks (Marks can be allotted to each sub component) The spotters from module 4, 5 , 7 4) Communincation skill (examined in table viva as well as case taking) - 05 marks NOTE: The concern teacher can choose any of the above or any other patient or scenario for giving short cases.	60
3	Viva (2 examiners: 20 marks/ each examiner)- 40 Marks	40
4	Logbook (Activity record) - 10 Marks	10
5	Practical / Clinical Record - minimum 20 activities. 1. Long cases- 5 2. Short cases - 5 3. Skill Lab procedures - 5. 4. Practical Writings.- 5	10
Total Marks		**200**

Reference Books/ Resources

13_Shalya

Click here to access References and Resources

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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