



UNIVERSITY MEDICAL & DENTAL COLLEGE

MBBS YEAR 04

2026

Study Guide

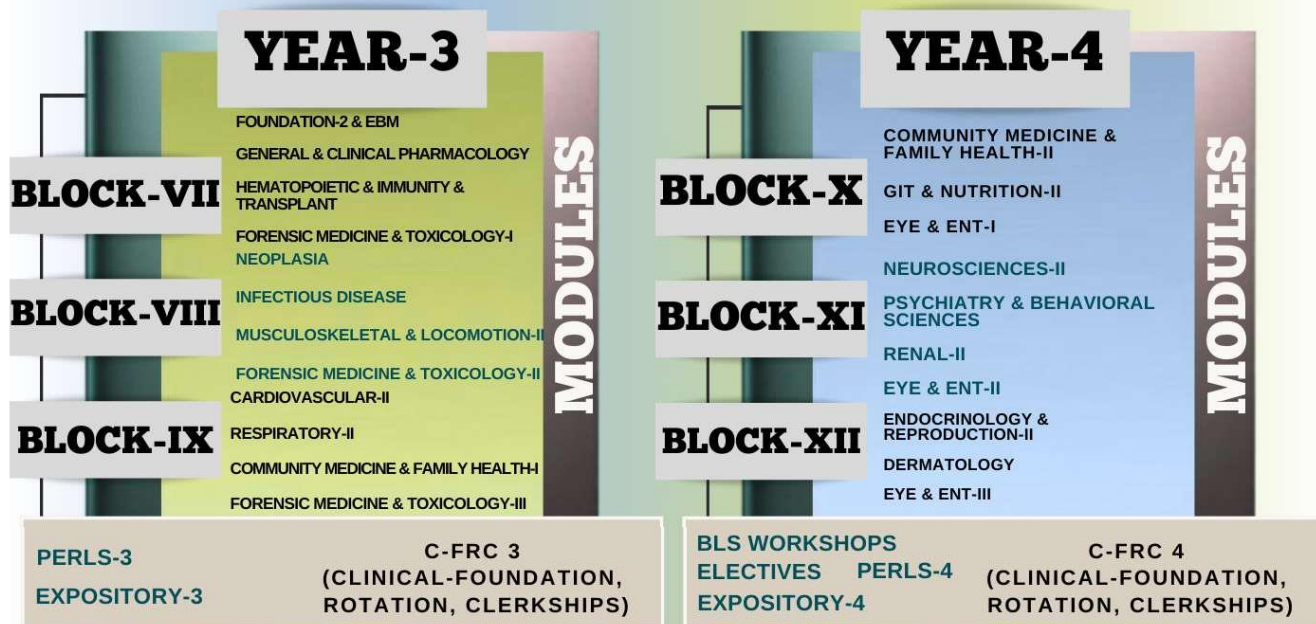
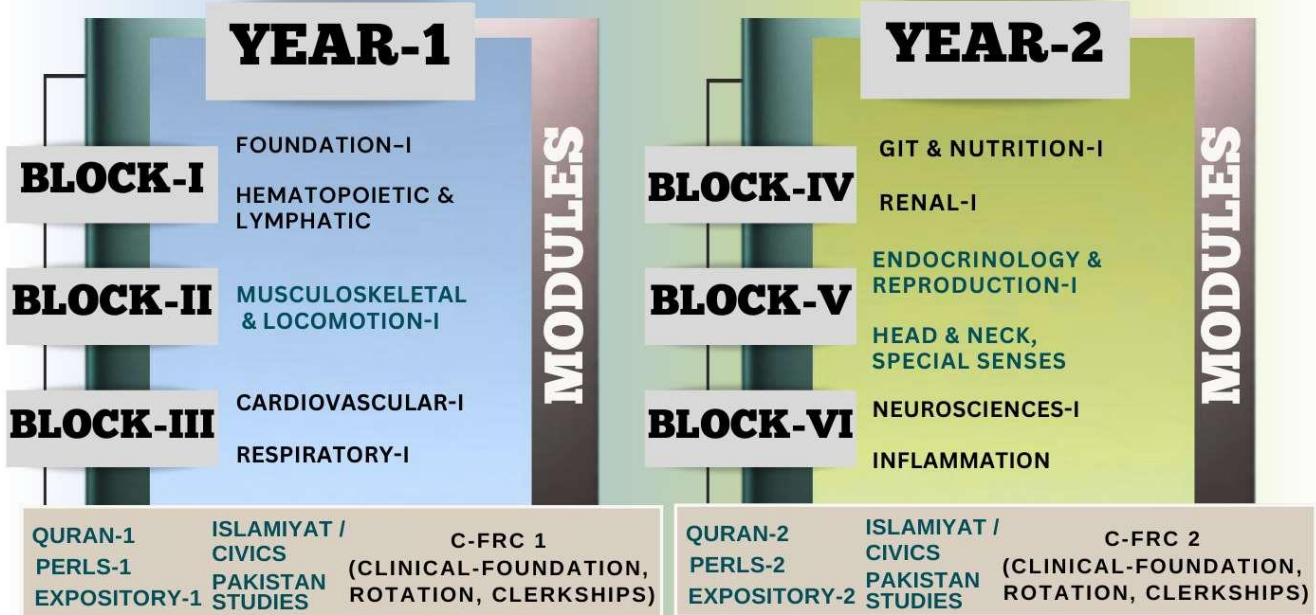
Modular Integrated Curriculum
Department of Medical Education



TABLE OF CONTENT

Section	Content
1	Curriculum Framework
2	<p>Year-4 Modules</p> <p><u>Block-10</u></p> <p>24) Community Medicine & Family Health-II</p> <p>25) GIT & Nutrition-II</p> <p>26) Eye & ENT-I</p> <p><u>Block-11</u></p> <p>27) Neurosciences-II</p> <p>28) Psychiatry & Behavioral Sciences</p> <p>29) Renal-II</p> <p>30) Eye & ENT-II</p> <p><u>Block-12</u></p> <p>31) Endocrinology & Reproduction-II</p> <p>32) Dermatology</p> <p>33) Eye & ENT-III</p>
3	Table of Specifications
4	PERLs-IV
5	Expository-IV
6	Electives
7	Skill Acquisition Workshops

Modular Integrated Curriculum 2K23 Framework



FOURTH YEAR MBBS		
BLOCK X	BLOCK XI	BLOCK XII
Community Medicine & Family Health-II	Neurosciences-II	Endocrine & Reproduction- II
	Psychiatry & Behavioural Sciences	
GIT & Nutrition- II	Renal-II	Dermatology
Eye & ENT-I	Eye & ENT-II	Eye & ENT-III
11 WEEKS	14 WEEKS	11 WEEKS

**Each institute will prepare a comprehensive program planner ensuring that the following activities are scheduled appropriately for the whole academic year:

- Routine classes and assessments (as per timetable)
- Dedicated library time
- Self-study hours
- Clinical rotations
- Co-curricular and extra-curricular activities
- Mandatory clinical skills workshops
- Protected research time
- End-of-module interdisciplinary seminars, symposiums, and CPCs
- Elective activities



BLOCK 10

MODULE 24

COMMUNITY MEDICINE &

FAMILY HEALTH -II

MODULE RATIONALE

Community Medicine & Family Health-II equips future healthcare professionals with the knowledge, skills, and attitudes necessary to implement preventive strategies, promote health, and reduce the burden of disease through a primary healthcare approach aimed at achieving universal health coverage. It enables students to understand how social, economic, and environmental factors influence health outcomes and prepares them to address health disparities effectively. The module also focuses on developing competencies to respond to public health challenges such as pandemics, natural disasters, and environmental hazards through community-based strategies. Additionally, it emphasizes the importance of providing family health services at the community level.

MODULE OUTCOMES

- Apply biostatistical and epidemiological methods to collect, analyze, interpret, and present health data for evidence-based decision-making and research.
- Analyze demographic principles, transitions, and indicators to evaluate their implications for population health and healthcare planning in the context of Pakistan and globally.
- Evaluate occupational and environmental health risks, identify related diseases and hazards, and propose preventive, protective, and management strategies within legal and organizational frameworks.
- Develop and apply strategies for disaster preparedness, response, and recovery, including triage, relief management, and community mobilization.
- Critically appraise health systems, planning processes, and policies, and relate them to sustainable development goals and the concept of “Health for All.”

SUBJECTS INTEGRATED IN THE MODULE

1. Family Medicine
2. Community medicine

THEORY

COMMUNITY MEDICINE-II

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
CMFH2- CM-001	Explain the basic concepts and uses of biostatistics.	Community Medicine	Biostatistics and Health Management Information System
	Classify data according to its types.		
	Define and apply rates, ratios, and proportions in health contexts.		
	Describe the process of collection and registration of vital events in Pakistan.		
	Apply methods of data presentation, including tables, graphs, and diagrams.		
	Calculate measures of central tendency (mean, median, mode).		
	Calculate measures of dispersion (range, standard deviation, standard error).		
	Interpret the normal curve and its applications in health sciences.		
	Analyze and apply sampling techniques in health research.		
	Apply and interpret health data using statistical tests such as t-test and chi-square. Apply and interpret health data using correlation.		
CMFH2- CM-002	Explain demographic principles and demographic processes.	Community Medicine	Demography and Population Dynamics
	Describe population pyramids and differentiate between those of developing and developed countries.		
	Interpret and apply population pyramids to analyze population structures.		

	<p>Identify and analyze determinants of fertility and mortality.</p> <p>Calculate and interpret indicators of fertility and mortality.</p>		
	<p>Describe the stages of demographic transition.</p> <p>Describe, calculate, and interpret the dependency ratio, growth rates, and population doubling time.</p>		
	<p>Explain demographic concepts such as demographic trap, demographic window, demographic bonus, and demographic dividend.</p>		
	<p>Define and explain the methodology and types of censuses, and evaluate their importance for health planning.</p>		
	<p>Discuss the implications of high population growth, social mobilization, and urbanization, and apply these to the context of Pakistan.</p>		
<p>CMFH2- CM-003</p>	<p>Explain the concepts of occupational health, occupational medicine, and occupational hygiene.</p>	<p>Community Medicine</p>	<p>Occupational Health</p>
	<p>Identify and classify physical, chemical, biological, mechanical, and psychosocial workplace hazards.</p>		
	<p>Apply general principles of occupational disease prevention in workplace settings.</p>		
	<p>Define and discuss ergonomics and its importance in occupational health.</p>		
	<p>Interpret causes and recognize signs and symptoms of occupational lung diseases, including pneumoconiosis, silicosis, anthracosis, byssinosis, bagassosis, asbestosis, and farmer's lung.</p>		
	<p>Analyze the causes, signs, and diagnosis of lead poisoning, and propose preventive and management strategies.</p>		

	Describe accidents in the industry, sickness absenteeism, and other health problems due to industrialization. Recommend medical, engineering and legislative measures for worker protection.		
CMFH2- CM-004	Define and classify disasters.	Community Medicine	Disaster Management and accidents
	Describe and explain disaster cycle and its phases.		
	Explain the epidemiology and preventive strategies of communicable diseases during disaster. Describe impact of man-made disasters.		
	Explain and apply the principles of triage in disaster situations.		
CMFH2- CM-005	Define health planning and apply its relevance in healthcare delivery.	Community Medicine	Health Planning and Management
	Describe the steps of the health planning cycle.		
	Discuss key management methods and techniques used in health planning.		

THEORY

FAMILY HEALTH-II

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
CMFH2-FM-001	Define and classify headache.	Family Medicine/ Neurology/ Medicine	Headache
	Diagnose the following based on signs and symptoms: <ul style="list-style-type: none"> i. Migraine (with/without aura) ii. Tension-type headache iii. Cluster headache Identify red flags.		
	List the common causes of secondary headache including intracranial and systemic.		
	Outline the treatment of migraine, tension-type, and cluster headaches. Prescribe prophylactic treatment for recurrent primary headaches. Plan the management of secondary headaches according to cause. Advise non-pharmacological measures.		
CMFH2-FM-002	Classify fever based on duration and pattern. Explain their clinical relevance in primary care.	Family Medicine/ Medicine	Fever
	Outline the common infectious and non-infectious causes of fever, with emphasis on locally prevalent conditions.		
	Enlist baseline investigations in the evaluation of fever in primary care.		
	Outline the symptomatic management and disease-specific treatment at the primary care level.		
	Counsel patients and caregivers on home management of fever. Identify red flag features in febrile patients that require urgent referral.		

CMFH2-FM-003	List the common causes of an unwell child presentation.	Family Medicine/ Paediatrics	Unwell child
	Outline the initial assessment of a sick child. Identify the red flag signs of serious illness in children.		
	Enlist the baseline investigations.		
	Plan the management of unwell child including <ul style="list-style-type: none"> i. Immediate stabilization ii. Symptomatic management iii. Specific management according to cause iv. Indications for referral and hospitalization 		
	Discuss preventive aspects including: <ul style="list-style-type: none"> i. Importance of immunization ii. Nutrition iii. Early recognition of illness by caregivers 		
CMFH2-FM-004	Enlist the common mental health disorders relevant to general practice.	Family Medicine/ Psychiatry	Mental Health
	Outline the key signs and symptoms important for early detection of psychiatric conditions.		
	Discuss the principles of initial management and referral pathways for common psychiatric disorders and emergencies.		
	Explain the role of general practitioners in promoting mental health and reducing stigma.		
CMFH2-FM-005	Enlist common causes of weakness and weight loss.	Family Medicine/ Medicine	Generalized weakness and weight loss
	Outline baseline investigations to guide initial evaluation at the primary care level.		
	Evaluate patients for red flag features that warrant urgent referral.		
	Formulate an initial management plan, including symptomatic care, preventive counseling, and referral.		

	Discuss the role of family physicians in promoting early recognition, lifestyle modification, and community awareness to prevent late presentations.		
CMFH2-FM-006	Identify common urogenital symptoms in males and females.	Family Medicine/ Nephrology/ Urology	Urogenital Symptoms (Male and female)
	Enlist the common causes.		
	Outline baseline investigations to reach diagnosis.		
	Evaluate warning signs that require urgent referral.		
	Discuss the general principles of management of common urogenital conditions in primary care, including symptomatic treatment, infection control, and referral.		
CMFH2-FM-007	Diagnose common skin fungal infections based on clinical presentation and outline their primary care management.	Family Medicine/ Dermatology	Skin Conditions (common OPD cases)
	Identify common ectoparasitic infestations (scabies, pediculosis), manage appropriately, and counsel regarding treatment of contacts and preventive measures.		
	Diagnose common bacterial skin infections (cellulitis, folliculitis). Identify red flags for urgent referral. Outline initial primary care management.		
	Diagnose and manage common viral skin infections (warts, herpes simplex) at primary care level, and identify cases requiring referral.		
	Diagnose common inflammatory and allergic skin conditions (eczema, atopic dermatitis, acne vulgaris) based on signs and symptoms. Outline primary care management including lifestyle advice, topical therapy, and patient education.		
CMFH2-FM-008	Identify common geriatric problems including pressure ulcers, incontinence, falls, functional		

	decline, and delirium, and evaluate their impact on the quality of life of older adults.	Family Medicine/ Medicine	Common Geriatric Issues
	Discuss the components of a basic geriatric assessment, including physical, functional, cognitive, and social aspects.		
	Identify red flag symptoms in elderly patients (acute confusion, unexplained weight loss, recurrent falls, elder abuse/neglect) that require urgent evaluation or referral.		
	Counsel elderly patients and caregivers regarding chronic disease management, adherence, rehabilitation, and end-of-life care options.		



MODULE 25

GIT &

NUTRITION-II

MODULE RATIONALE

In GIT and Nutrition II, students developed a foundational understanding of the normal structure and mechanisms of the gastrointestinal system and nutrition. Building on this base, GIT and Nutrition II shifts the focus to pathological basis and clinical aspects of gastrointestinal and nutritional disorders. The module emphasizes disease mechanisms, characteristic pathological features, clinical presentations, diagnostic approaches, and evidence-based management of both common and significant GIT conditions, with nutrition considered in relation to these disorders. Students will gain a deeper understanding of how pathological changes translate into clinical symptoms and disease progression, with conditions such as infections, peptic ulcer disease, liver disorders, inflammatory bowel disease, gastrointestinal malignancies, and malabsorption syndromes explored for their clinical relevance and impact on patient outcomes. Nutritional aspects, including deficiencies and metabolic derangements, will be studied in parallel, reinforcing their close link with gastrointestinal health and disease.

MODULE OUTCOMES

- Describe the pathophysiology of major GIT diseases.
- Apply clinical knowledge of GIT pathology to diagnose and manage common GIT conditions.
- Integrate pharmacological treatment options for GIT disorders.
- Appreciate the role of nutrition in maintaining and restoring GIT health.
- Understand the impact of GIT pathology in community health settings.
- Identify psychological factors contributing to GIT disorders.

SUBJECTS INTEGRATED IN THE MODULE

1. Pathology
2. Clinical Pharmacology & Therapeutics
3. General Medicine
4. General Surgery
5. Community Medicine

THEORY

ORAL CAVITY & SALIVARY GLAND TUMORS

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
GIT2-Pa-001	Classify and describe the morphological features of oral infectious diseases.	Pathology	Oral infectious diseases
GIT2-Pa-002	Describe briefly benign, premalignant, and malignant oral lesions.		Oral lesions
GIT2-Pa-003	Classify salivary gland tumors into benign and malignant types.		Salivary gland tumors
GIT2-Pa-004	Discuss the histopathological features of pleomorphic adenoma and Warthin's tumors.		Pleomorphic adenoma
GIT2-Pa-005	Differentiate the pathological features of common malignant salivary gland tumors.		Malignant salivary gland tumors
GIT2-Pa-006	Explain the role of immunohistochemistry and other diagnostic tools in differentiating between various salivary gland tumors.		Diagnostic tools

ESOPHAGUS

GIT2-Pa-007	Discuss in detail the pathological causes of esophageal obstruction.	Pathology	Esophageal obstruction
GIT2-Pa-008	Enumerate and describe the pathogenesis of different types of esophagitis.	Pathology	Esophagitis
GIT2-Pa-009	Describe the pathogenesis of esophageal varices.	Pathology	Esophageal Varices
GIT2-Pa-010	Describe in detail the morphology of Barret's esophagus with major complications.	Pathology	Barret's Esophagus
GIT2-Pa-011	Classify esophageal tumors. Describe the pathogenesis and morphology of adenocarcinoma and squamous cell carcinoma of the esophagus.	Pathology	Esophageal Tumors
GIT2-GE-012	Define dysphagia.	Gastroenterology/Medicine	Dysphagia

	<p>Explain the pathophysiological mechanisms leading to dysphagia.</p> <p>Outline the etiology of dysphagia</p> <p>Develop a stepwise diagnostic and management plan for a patient presenting with dysphagia.</p>		
GIT2-GE-013	<p>Diagnose gastroesophageal reflux disease (GERD) on the basis of characteristic symptoms and clinical presentation.</p> <p>Enlist the etiology and pathophysiology of GERD.</p> <p>Outline differential diagnosis of GERD.</p>	Gastroenterology/Medicine	Gastroesophageal Reflux Disease (GERD)
GIT2-GE-014	<p>Diagnose achalasia on the basis of characteristic symptoms and clinical presentation.</p> <p>Describe the etiology and pathophysiology of achalasia.</p> <p>Outline the diagnostic investigations for achalasia.</p> <p>Interpret the radiological and endoscopic findings in achalasia.</p> <p>Discuss the treatment options for achalasia.</p>	Gastroenterology/Medicine	Achalasia
GIT2-GE-015	<p>Diagnose esophageal candidiasis based on its specific signs and symptoms.</p> <p>Enumerate the risk factors for esophageal candidiasis.</p> <p>Outline the diagnostic investigations and discuss the treatment options for esophageal candidiasis.</p>	Gastroenterology/Medicine	Esophageal candidiasis
GIT2-GE-016	<p>Describe the risk factors for esophageal cancer.</p> <p>Diagnose esophageal cancer from its symptoms and clinical presentation.</p> <p>Outline the diagnostic investigations for esophageal cancer.</p> <p>Explain the staging of esophageal cancer.</p> <p>Discuss the treatment options for esophageal cancer.</p>	Gastroenterology/Medicine	Esophageal cancer
STOMACH AND DUODENUM			
GIT2-Pa-017	<p>Describe the pathogenesis and morphology of acute gastritis.</p>	Pathology	Acute gastritis

GIT2-Pa-018	Enumerate the causes of chronic gastritis with special emphasis on the pathogenesis of H. Pylori gastritis and autoimmune gastritis.	Pathology	Chronic gastritis
	Describe the differentiating features of H. Pylori and autoimmune gastritis.		
GIT2-Pa-019	Describe the pathogenesis, morphology, and complication of peptic ulcer disease.	Pathology	Peptic ulcer disease
GIT2-Pa-020	Discuss in detail the hypertrophic gastropathies.	Pathology	Hypertrophic gastropathies
GIT2-Pa-021	Describe the important features of the fundic gland, inflammatory, hyperplastic polyps, and gastric adenomas.	Pathology	Gastric polyps and adenomas
GIT2-Pa-022	Classify gastric tumors. Describe the morphology of gastric adenocarcinomas and its two types. Describe the morphology of maltoma and its immunohistochemistry. Describe the morphology and variants of Gastrointestinal Stromal Tumours (GIST) and its immunohistochemistry. Describe the location, morphology, and important features of carcinoid tumors.	Pathology	Gastric tumors
GIT2-GE-023	Explain the causes and pathophysiology of vomiting, including central and peripheral pathways Formulate a differential diagnosis for patients presenting with vomiting. Identify red flag features requiring urgent evaluation. Enlist investigations. Outline management strategies.	Gastroenterology/ Medicine	Vomiting
GIT2-GE-024	Enumerate the causes of hematemesis. Identify risk factors for upper gastrointestinal bleeding. Describe the clinical presentations. Outline the investigations and procedures used to establish a diagnosis. Outline the emergency management of hematemesis.	Gastroenterology/ Medicine	Hematemesis

GIT2-GE-025	<p>Enumerate the causes of abdominal pain.</p> <p>Develop a differential diagnosis for abdominal pain.</p> <p>Outline the investigations required to establish a diagnosis.</p> <p>Describe the treatment options for abdominal pain.</p>	Gastroenterology/ Medicine	Abdominal pain
GIT2-GE-026	<p>Diagnose acid peptic disease based on symptoms, clinical presentation, and risk factors.</p> <p>Explain the role of Helicobacter pylori in the pathogenesis of acid peptic disease.</p> <p>Plan the diagnostic workup and management options.</p>	Gastroenterology/ Medicine	Acid peptic disease
GIT2-GE-027	<p>Classify the types of gastric cancer.</p> <p>Enlist the risk factors for gastric cancer.</p> <p>Describe clinical presentation.</p> <p>Plan the diagnostic workup for gastric cancer.</p> <p>Explain the staging of gastric carcinoma.</p> <p>Discuss the treatment options for gastric cancer.</p>	Gastroenterology/ Medicine	Gastric carcinoma
GIT2-S-028	<p>Describe the causes of duodenal obstruction.</p> <p>Diagnose duodenal tumours based on clinical presentation.</p> <p>Outline the investigations to confirm diagnosis.</p>	Surgery	Duodenal obstruction
GIT2-S-029	<p>Describe the management of obesity as a surgical disease.</p> <p>Explain the rationale for bariatric and metabolic surgery.</p> <p>Outline the eligibility criteria and summarize NICE guidelines for bariatric surgery.</p> <p>Describe the multidisciplinary assessment and multimodal treatment required before surgery.</p> <p>Enumerate the types of bariatric surgical procedures.</p> <p>Identify and manage perioperative complications.</p> <p>Describe the follow-up plan, including nutritional supplementation and biochemical monitoring.</p>	Surgery	Bariatric and metabolic surgery
GIT2-Ph-030	Classify Antacids	Pharmacology	Antacids

	<p>Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.</p> <p>Describe the milk-alkali syndrome.</p> <p>Explain the acid-rebound phenomenon caused by antacids.</p> <p>Differentiate between the different antacids.</p>		
GIT2-Ph-031	<p>Classify H2 receptor blockers.</p> <p>Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.</p>	Pharmacology	H2 receptor blockers
GIT2-Ph-032	<p>Classify Proton Pump Inhibitors (PPI)</p> <p>Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.</p> <p>Tabulate differences between PPIs and H2 receptor blockers.</p>	Pharmacology	Proton Pump Inhibitors (PPI)
GIT2-Ph-033	<p>Enumerate Mucosal Protective Agents and the drugs used for eradication of H. Pylori.</p> <p>Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.</p> <p>Describe triple regimen, quadruple regimen & sequential therapy for eradication of H. Pylori.</p>	Pharmacology	Mucosal Protective Agents
GIT2-Ph-034	<p>Classify anti-emetics.</p> <p>Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.</p> <p>Tabulate differences between metoclopramide and Domperidone.</p>	Pharmacology	Anti-emetics

SMALL & LARGE INTESTINE

<p>GIT2-Pa-035</p>	<p>Describe the morphological features of ischemic bowel disease with special emphasis on its causes and mutations involved.</p> <p>Enumerate the pathological causes of malabsorption syndrome.</p> <p>Describe the morphology, Marsh classification, and lab diagnosis of Celiac disease.</p> <p>Describe the pathogenesis and morphological features of Whipple disease.</p>	<p>Pathology</p>	<p>Diseases of the Small and Large Intestines</p>
<p>GIT2-Pa-036</p>	<p>Enumerate the common causative agents of infectious enterocolitis including bacterial, viral, and parasitic.</p> <p>Explain the pathogenesis of enterocolitis caused by Salmonella, Mycobacterium tuberculosis, and Clostridium difficile.</p>	<p>Microbiology</p>	<p>Causative agents of infectious enterocolitis</p>
<p>GIT2-Pa-037</p>	<p>Describe the pathogenesis, microscopic and macroscopic features, and complications of Crohn's disease and Ulcerative colitis.</p>	<p>Pathology</p>	<p>Crohn's disease and ulcerative colitis</p>
<p>GIT2-Pa-038</p>	<p>Classify the intestinal polyps.</p> <p>Describe the morphological features of:</p> <ol style="list-style-type: none"> i. Hyperplastic polyps ii. Inflammatory polyps iii. Hamartomatous polyps iv. Peutz-Jeghers syndrome <p>Classify polyposis syndromes and describe:</p> <ol style="list-style-type: none"> i. Complications ii. Genetic mutations iii. Extra-gastrointestinal manifestations iv. Morphology 	<p>Pathology</p>	<p>Intestinal polyps</p>
<p>GIT2-Pa-039</p>	<p>Classify neoplastic polyps and describe their morphological features in detail.</p> <p>Describe in detail the pathogenesis and morphological features of colorectal carcinoma.</p>	<p>Pathology</p>	<p>Neoplastic polyps and colorectal carcinoma</p>

	Enumerate immunohistochemical markers and TNM/AJCC staging.		
GIT2-Pa-040	Describe the etiology and morphological features of acute appendicitis. Classify the tumors of the appendix and discuss their clinical importance.	Pathology	Diseases of appendix
GIT2-GE-041	Enlist causes of acute and chronic diarrhea. Develop a differential diagnosis of diarrhea. Explain the pathophysiology of acute and chronic diarrhea.	Gastroenterology/Medicine	Diarrhea (acute and chronic)
GIT2-GE-042	Identify the common causes of acute gastroenteritis. Diagnose on the basis of characteristic symptoms and clinical presentation. Outline diagnostic investigations with management plan.	Gastroenterology/Medicine	Acute gastroenteritis
GIT2-GE-043	Classify malabsorption syndromes. Identify the symptoms and signs of malabsorption. Enlist investigations to establish the diagnosis. Describe treatment strategies for different malabsorption syndromes.	Gastroenterology/Medicine	Malabsorption syndromes
GIT2-GE-044	Classify inflammatory bowel disease. Identify the risk factors, clinical presentations, and associations of ulcerative colitis and Crohn's disease. List the investigations and treatment plans with follow-up for monitoring and long-term management.	Gastroenterology/Medicine	Inflammatory bowel disease
GIT2-GE-045	Define Irritable bowel syndrome (IBS). Describe the etiology and clinical presentation of IBS. Formulate a differential diagnosis for patients with suspected IBS. Outline investigations and treatment strategies.	Gastroenterology/Medicine	Irritable bowel syndrome (IBS)
GIT2-GE-046	Classify the types of small and large intestinal cancers. Identify the risk factors and clinical presentation.	Gastroenterology/Medicine	Intestinal cancers

	<p>Outline the staging systems used for intestinal cancers.</p> <p>Outline investigations and treatment options.</p>		
GIT2-GE-047	<p>Identify the causes of constipation.</p> <p>Formulate a differential diagnosis for patients presenting with constipation.</p> <p>Enlist investigations to establish the diagnosis.</p> <p>Outline treatment strategies for constipation.</p>	Gastroenterology/Medicine	Constipation
GIT2-GE-048	<p>Identify clinical presentation.</p> <p>Outline investigations and treatment strategies for abdominal tuberculosis.</p>	Gastroenterology/Medicine	Abdominal tuberculosis
GIT2-Ph-049	<p>Classify prokinetic drugs.</p> <p>Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.</p>	Pharmacology	Prokinetic drugs
GIT2-Ph-050	<p>Classify Laxative, Purgative, Cathartic stool, Softeners & Stimulant Purgatives.</p> <p>Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.</p> <p>Explain the role of lactulose in the treatment of Hepatic Encephalopathy.</p>	Pharmacology	Laxative and Purgative
GIT2-PS-051	<p>List causes of congenital (atresia's, neonatal volvulus,, malrotation,) and acquired intestinal obstruction.</p> <p>Define intussusception.</p> <p>Classify types of intussusception and pathophysiology.</p> <p>Identify common age group and etiology.</p> <p>Enumerate the classical triad of symptoms.</p> <p>Enlist diagnostic methods.</p> <p>Discuss importance of early diagnosis and complications of non/delayed treatment.</p> <p>Outline treatment plan.</p>	Pediatric Surgery	Intussusception and causes of intestinal obstruction in children
GIT2-PS-051a	<p>Define acute appendicitis.</p>	Pediatric Surgery	Appendicitis in children

	<p>Identify clinical features and complications of delayed treatment.</p> <p>Outline the diagnostic investigations and initial management.</p>		
GIT2-PS-051b	<p>Define inguinal hernia and hydrocele.</p> <p>Classify them in children.</p> <p>Describe the pathophysiology of communicating and non-communicating hydrocele.</p> <p>Enumerate clinical features of hernia and hydrocele.</p> <p>Differentiate between two.</p> <p>Outline principles of management with referral for treatment to Pediatric Surgical Setting.</p>	Pediatric Surgery	Hernia (inguinal & umbilical) and Hydrocoele
GIT2-PS-051c	<p>Define Phimosi s and Paraphimosi s.</p> <p>Differentiate physiological and pathological phimosi s.</p> <p>Enumerate complications.</p> <p>Outline management options.</p>	Pediatric Surgery	Phimosi s and paraphimosi s
GIT2-PS-051d	<p>Define vesical and cloacal exstrophy.</p> <p>Describe embryological basis.</p> <p>Enumerate clinical features.</p> <p>Outline management principles.</p>		Vesical and Cloacal Exstrophy
HEPATOBILLARY SYSTEM			
GIT2-Pa-052	<p>Enumerate the causes of jaundice with special emphasis on hereditary hyperbilirubinemias.</p> <p>Differentiate between cholestasi s and hepatocellular jaundice.</p> <p>Describe the pathological changes in liver cirrhosis that occur at the cellular and structural levels.</p> <p>Interpret liver function tests (LFTs) and correlate abnormal results.</p>	Pathology	Jaundice
GIT2-Pa-053	<p>Identify the etiologi s and pathogenesi s of viral hepatitis (A, B, C, D, and E), including their modes of transmission and effects on the liver.</p>	Pathology	Viral hepatitis

	Identify the clinical and pathological features of acute liver failure.		
GIT2-Pa-054	<p>Explain the pathogenesis and morphology of alcoholic liver disease (fatty liver, alcoholic hepatitis, and cirrhosis).</p> <p>Describe non-alcoholic fatty liver disease (NAFLD) and its progression to non-alcoholic steatohepatitis (NASH) and cirrhosis.</p> <p>Describe the differentiating features of primary biliary cholangitis, secondary biliary cirrhosis, and primary sclerosing cholangitis.</p>	Pathology	Alcoholic and non-alcoholic fatty liver disease
GIT2-Pa-055	<p>Classify the liver nodules and tumors along with salient morphological features.</p> <p>Discuss the pathogenesis of hepatocellular carcinoma (HCC), including risk factors like cirrhosis and hepatitis, precursor lesions, and morphological variants.</p> <p>Describe the differentiating features of HCC and cholangiocarcinoma along with immunohistochemistry.</p> <p>Explain the pathogenesis and risk factors contributing to the development of cholangiocarcinoma.</p>	Pathology	Pathogenesis of Hepatocellular carcinoma
GIT2-Pa-056	<p>Enumerate the types of gallstones.</p> <p>Explain the etiopathogenesis of gallstones.</p> <p>Explain the pathophysiology and morphology of acute and chronic cholecystitis.</p>	Pathology	Cholelithiasis
GIT2-Pa-057	<p>Describe the pathogenesis of acute pancreatitis, its morphology and lab diagnosis.</p> <p>Describe the morphology of chronic pancreatitis and its complications.</p>	Pathology	Pancreatitis
GIT2-Pa-058	Classify the neoplasms of the pancreas, precursor lesions to pancreatic cancers, and its morphology along with tumor markers.	Pathology	Pancreatic cancers
GIT2-GE-059	Define jaundice and describe its major causes.	Gastroenterology/Medicine	Jaundice

	<p>Differentiate between pre-hepatic, hepatic, and post-hepatic jaundice.</p> <p>Outline investigations to reach diagnosis.</p>		
GIT2-GE-060	<p>Describe etiology and clinical presentation.</p> <p>Enlist investigations to reach diagnosis.</p> <p>Outline management plan.</p> <p>Discuss prognosis and potential complications of hepatitis.</p>	Gastroenterology/Medicine	Acute and chronic hepatitis
GIT2-GE-061	<p>Describe non-alcoholic fatty liver disease (NAFLD) and NASH.</p> <p>Identify the risk factors and clinical features of NAFLD.</p> <p>Outline investigations and management plan for patients with NAFLD.</p>	Gastroenterology/Medicine	Management of NAFLD & NASH
GIT2-GE-062	<p>Identify risk factors and describe the clinical course, progression, and outcomes of cirrhosis.</p> <p>Differentiate between compensated and decompensated liver disease.</p> <p>Outline investigations and management strategies.</p> <p>Enlist potential complications.</p>	Gastroenterology/Medicine	Chronic liver disease
GIT2-GE-063	<p>Describe autoimmune hepatitis, Wilson's disease, hemochromatosis, and alcoholic liver disease with reference to etiology, risk factors, and clinical features.</p> <p>Enlist investigations and procedures to establish a diagnosis.</p> <p>Outline management strategies for these disorders.</p>	Gastroenterology/Medicine	Metabolic and Genetic Disorders of Liver
GIT2-GE-064	<p>Describe the types, risk factors, and clinical features of hepatocellular carcinoma (HCC).</p> <p>Enlist investigations for diagnosing and staging HCC.</p> <p>Outline the stages of HCC and discuss available treatment options.</p>	Gastroenterology/Medicine	Hepatocellular carcinoma
GIT2-S-065	<p>Describe the surgical anatomy and basic function of the gallbladder and bile ducts.</p> <p>Explain in simple terms the formation of gallstones and outline their surgical management.</p>	Surgery	Cholecystectomy

	Identify common disorders of the biliary tree.		
GIT2-S-066	Describe the surgical anatomy of the pancreas and important adjacent structures to preserve during surgery. Diagnose acute pancreatitis based on symptoms, signs, and risk factors. Outline the role of surgery in the management of pancreatitis.	Surgery	Pancreatitis and its management
GIT2-PS-066	Define primary peritonitis and differentiate from secondary peritonitis. List predisposing factors and common causative organisms. Describe clinical features. Outline investigations. State principles of management and early referral.	Pediatric Surgery	Primary peritonitis
SPLEEN			
GIT2-GE-067	Enumerate the causes of splenomegaly. Describe the morphology of splenic congestion and splenic rupture.	Pathology	Morphology of splenic congestion
GIT2-PS-068	Enlist the indications for splenectomy. Describe potential complications of splenectomy. Describe the potential advantages of laparoscopic splenectomy. Describe the benefits of splenic conservation. Describe the importance of prophylaxis against infection following splenectomy.	Pediatric Surgery/ General Surgery	Splenectomy
HEALTH & NUTRITION			
GIT2-CM-069	Describe nutrition. Classify food and nutrients. Define balanced diet. Discuss prudent diet and its components. Describe daily requirements of nutrients.	Community Medicine	Fundamentals of Nutrition and Balanced Diet

	Discuss measures to ensure healthy dietary intake.		
GIT2-CM-070	<p>Describe the role of macronutrients and micronutrients at different stages of life.</p> <p>Explain the importance of dietary fibers and their role in health.</p> <p>Discuss diseases related to deficiencies or excess of macronutrients, vitamins, and minerals.</p>	Community Medicine	Macronutrients and Micronutrients
GIT2-CM-071	<p>Describe the concept of malnutrition.</p> <p>Classify the types of malnutrition.</p> <p>Identify the causes of malnutrition.</p> <p>Discuss the impact of malnutrition at different stages of life.</p> <p>Describe strategies for control and prevention of malnutrition.</p> <p>Enlist specific preventive measures for malnutrition.</p>	Community Medicine	Malnutrition
GIT2-CM-072	<p>Discuss the nutritional requirements of children under 5 years of age.</p> <p>Discuss the nutritional requirements during pregnancy.</p> <p>Discuss the nutritional requirements during adolescence.</p> <p>Explain the consequences of poor nutrition in adolescence on growth, development, and long-term health.</p>	Community Medicine	Nutritional requirements
GIT2-CM-073	<p>Describe nutritional diseases and related public health programs.</p> <p>Discuss the role of food fortification in improving nutrition.</p> <p>Describe the concept and application of nutritional surveillance.</p> <p>Describe methods of nutritional assessment.</p>	Community Medicine	Public Health Nutrition Programs
GIT2-CM-074	<p>Discuss the concept of food adulteration, food additives, and their health implications.</p> <p>Classify common food-borne diseases.</p>	Community Medicine	Food Hygiene and Safety

	Describe strategies to prevent food-borne diseases.		
GIT2-S-075	<p>Explain the importance of assessing perioperative nutritional status and its implications.</p> <p>Describe the causes and complications of malnutrition in surgical patients.</p> <p>Discuss fluid balance management in the perioperative setting.</p> <p>Outline the nutritional requirements of surgical patients and options for nutritional support, including indications for enteral versus parenteral feeding.</p> <p>Explain the nutritional consequences of intestinal resection.</p>	Surgery	Perioperative Nutritional Management

PRACTICAL / LAB WORK

PATHOLOGY

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
GIT2-Pa-076	Identify the classical morphological features (gross and microscopic) of Barrett's esophagitis, gastric carcinoma, Celiac disease, familial adenomatous polyposis, Peutz Jegher's syndrome, adenocarcinoma colon, Crohn's disease, ulcerative colitis, acute appendicitis and salivary gland tumors (pleomorphic adenoma, Warthin's tumor).	Pathology	Gastrointestinal tract
GIT2-Pa-077	Identify the classical morphological features (gross and microscopic) of fatty liver, liver cirrhosis, hepatocellular carcinoma, gall stones, and chronic cholecystitis. Interpret the reports of abnormal liver function test and acute pancreatitis.		Gallbladder & Pancreas

PHARMACOLOGY

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
GIT2-Ph-078	Write down the prescription for i. Acid Peptic Disease ii. Cancer chemotherapy induced vomiting iii. Motion sickness iv. Irritable bowel disease v. Inflammatory bowel disease vi. Diarrhea	Pharmacology	Gastrointestinal tract



MODULE 26
ENT & EYE -I



ENT-I

MODULE RATIONALE

The inclusion of module related to otorhinolaryngology in the undergraduate medical curriculum is imperative to ensure that future physicians acquire the essential knowledge and skills to diagnose and manage both common and potentially serious otorhinolaryngological conditions. Such training not only contributes to improved patient care but also alleviates the burden on specialized ENT (ear, nose, throat) services, thereby enhancing overall healthcare delivery and efficiency. The objective of this module is to outline the essential knowledge, skills, attitudes, and competencies in otorhinolaryngology that must be attained during undergraduate medical training.

MODULE OUTCOMES

- Explain the pathophysiology and clinical features of common ear, nose, and throat disorders.
- Identify and diagnose prevalent otorhinolaryngological conditions through history-taking and clinical evaluation.
- Perform basic otorhinolaryngological examination techniques competently.
- Initiate appropriate first-line management for common ENT conditions and determine indications for timely referral to specialist care.
- Recognize and provide initial stabilization for otorhinolaryngological emergencies, such as airway obstruction and severe epistaxis, followed by appropriate referral.
- Communicate effectively with patients regarding ENT conditions, management options, and preventive strategies, ensuring clarity and patient-centered care.
- Demonstrate professionalism, ethical conduct, and a respectful attitude in the care of patients with otorhinolaryngological conditions

SUBJECTS INTEGRATED IN THE MODULE

1. Anatomy
2. Physiology
3. Pathology
4. Pharmacology
5. Oncology
6. Forensic Medicine

THEORY

ENT-I (EAR)

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC	
ENT1-Ear-001	<p>Classify the types of hearing loss.</p> <p>Explain the pathophysiological mechanisms underlying hearing loss.</p> <p>Differentiate between conductive and sensorineural hearing loss.</p> <p>Describe the indications, benefits, and limitations of hearing implants.</p>	ENT	Hearing Loss	
ENT1-Ear-002	<p>Diagnose Perichondritis of pinna on basis of clinical features and plan its management.</p>		ENT	Diseases of the External Ear
	<p>Define and classify Otitis externa.</p> <p>Describe the clinical presentation.</p> <p>Plan management.</p>			
	<p>Describe the etiology, clinical presentation, and treatment of Otomycosis.</p> <p>Differentiate Otomycosis from other causes of otitis externa.</p>			
	<p>Describe the composition of ear wax.</p> <p>Diagnose cerumen impaction based on clinical presentation.</p> <p>Outline the treatment options and precautions.</p> <p>Enlist complications associated with cerumen removal.</p>			
	<p>Diagnose foreign bodies impaction in the ear based on clinical presentation.</p> <p>Enlist the complications.</p> <p>Outline the methods for removal of foreign bodies in the ear.</p>			
	<p>Describe the etiology, clinical presentation, and treatment of auricular hematoma.</p>			

	<p>Identify frostbite of the ear based on clinical presentation with its management plan.</p> <p>Describe the etiology, clinical presentation, and treatment of lacerations and avulsion injuries of the pinna.</p>		
ENT1-Ear-003	<p>Enlist the etiological and risk factors of Acute Otitis Media.</p> <p>Diagnose acute otitis media based on clinical presentation.</p> <p>Outline the treatment plan.</p> <p>Enlist the complications.</p>	ENT	Diseases of the Middle Ear
	<p>Describe the etiology and clinical presentation of Chronic Otitis Media.</p> <p>Outline the management strategies.</p> <p>Enlist the potential complications.</p> <p>Outline the management plan of facial paralysis in otitis media.</p>		
	<p>Explain the pathophysiology and risk factors of Otosclerosis.</p> <p>Formulate differential diagnosis.</p> <p>Outline the management plan.</p>		
ENT1-Ear-004	<p>Enlist the causes of pre-lingual Sensorineural Hearing Loss.</p> <p>Explain the clinical presentation and diagnostic approach.</p> <p>Plan medical, rehabilitative, and surgical management.</p>		Diseases of Inner Ear
	<p>Explain the pathophysiology and clinical features of Benign Paroxysmal Positional Vertigo (BPPV).</p> <p>Outline management, including repositioning maneuvers and patient counseling.</p>		
	<p>Describe the etiology and clinical presentation of vestibular neuronitis.</p> <p>Differentiate vestibular neuronitis from central causes of vertigo.</p>	ENT	

	<p>Discuss management plan.</p> <p>Describe the etiology and predisposing factors of Meniere's disease.</p> <p>Describe the characteristic signs and symptoms.</p> <p>Outline the medical and surgical management options.</p> <p>Discuss the long-term impact of Meniere's disease on hearing and quality of life.</p> <p>Describe the etiology and risk factors of Presbycusis.</p> <p>Diagnose based on clinical presentation.</p> <p>Outline management plan including preventive measures.</p> <p>Describe the etiology and risk factors of noise-induced hearing loss (NIHL).</p> <p>Identify the clinical presentation and audiometric findings of NIHL.</p> <p>Outline management plan including prevention.</p>		
ENT1-Ear-005	<p>Enlist the common ototoxic drugs.</p> <p>Describe the mechanism of ototoxicity.</p> <p>Identify clinical presentation of ototoxic hearing loss.</p> <p>Outline strategies for monitoring, prevention, and management of ototoxicity.</p>	ENT/ Pharmacology	Ototoxic hearing loss
ENT1-Ear-006	<p>Identify clinical features of Glomus tumor.</p> <p>Enlist investigations.</p> <p>Discuss management options.</p>	ENT	Glomus tumor
ENT1-Ear-006	<p>Describe clinical features of temporal bone trauma.</p> <p>Enlist its possible complications.</p> <p>Outline relevant investigations and initial management plan.</p>	ENT	Temporal bone trauma
ENT1-Ear-007	<p>Describe causes and clinical features of facial nerve palsy.</p> <p>Outline management plan.</p> <p>Identify potential complications and prognostic factors of facial nerve palsy.</p>	ENT	Facial Nerve Palsy

ENT1- Ear-008	Describe following surgical procedures used in treatment of ear diseases and mention their indications. <ul style="list-style-type: none">i. Myringotomyii. Myringoplastyiii. Tympanoplastyiv. Cortical mastoidectomyv. Modified radical mastoidectomyvi. Radical Mastoidectomy	ENT	Surgical Procedures of Ear
------------------	---	-----	----------------------------------



EYE-I

MODULE RATIONALE

Ophthalmology is a vital medical specialty dedicated to the diagnosis, treatment, and prevention of eye diseases. It is essential for medical students to have a thorough understanding of the eye's basic anatomy, physiology, and pathology in order to manage common ocular conditions effectively. This module aims to equip medical students with the knowledge and clinical skills necessary to identify and manage a wide range of ophthalmic conditions frequently encountered in general practice and emergency settings.

MODULE OUTCOMES

- Identify common ophthalmic diseases and disorders encountered in OPD, IPD, multi-disciplinary and emergency settings.
- Apply fundamental clinical skills in the examination of the eye and adnexa, including visual acuity assessment and basic use of ophthalmic instruments.
- Formulate differential diagnosis and initial management plans for common ophthalmic conditions, including appropriate referral when necessary.
- Integrate knowledge of ophthalmic health into the broader context of systemic diseases and public health considerations.

SUBJECTS INTEGRATED IN THE MODULE

1. Medicine
2. Oncology
3. Pharmacology
4. Forensic Medicine
5. Rheumatology

THEORY

EYE-I

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
Eye1-001	<p>Describe the clinical presentation of orbital cellulitis.</p> <p>Enlist the common causes of orbital cellulitis.</p> <p>Outline the management plan for a patient with orbital cellulitis.</p> <p>List the potential complications of orbital cellulitis.</p> <p>Differentiate between different causes of Proptosis (Thyroid eye disease, IOID, Fungal, Tumors)</p> <p>Describe the clinical presentation of a blowout fracture</p> <p>Explain management of a Blowout Fracture</p>	Ophthalmology	Orbit
Eye1-002	<p>Explain the mechanism of tear production and drainage in the lacrimal apparatus.</p> <p>Differentiate between epiphora and lacrimation based on underlying mechanisms.</p>	Ophthalmology	Lacrimal Apparatus
	<p>Enumerate the symptoms and signs of acute and chronic dacryocystitis.</p> <p>List the causes of acute and chronic dacryocystitis</p> <p>Explain the pathophysiology of acute and chronic dacryocystitis.</p> <p>Outline the management plan for acute and chronic dacryocystitis.</p> <p>Describe causes, clinical presentation, and treatment of dacryoadenitis.</p>	Ophthalmology	
Eye1-003	<p>Differentiate between ectropion and entropion on the basis of clinical features.</p> <p>Enlist the clinical features of ectropion and entropion.</p> <p>Enlist clinical features of trichiasis and distichiasis.</p> <p>Discuss the management options for ectropion and entropion, trichiasis, distichiasis.</p>	Ophthalmology	Eyelids

	<p>Classify blepharitis.</p> <p>Identify the signs and symptoms of each type of blepharitis.</p> <p>Differentiate blepharitis from other eyelid conditions such as sty, chalazion and other eyelid swellings.</p> <p>Outline the management plan for blepharitis.</p>	Ophthalmology	
	<p>Describe the clinical presentation of sty.</p> <p>Differentiate sty from other eyelid swellings on the basis of clinical features and pathophysiology.</p> <p>List the etiological factors of sty.</p> <p>Outline appropriate treatment and patient advice.</p>	Ophthalmology	
	<p>Define chalazion and differentiate it from sty.</p> <p>Explain the underlying pathophysiology and causes.</p> <p>List the clinical features and possible complications.</p> <p>Outline the management options.</p> <p>Discuss preventive measures and patient counseling.</p>	Ophthalmology	
	<p>Define ptosis. (congenital and acquired)</p> <p>List the common causes of ptosis.</p> <p>Identify clinical conditions associated with ptosis.</p> <p>Describe surgical and non-surgical treatment options for ptosis.</p>	Ophthalmology/ Medicine	
Eye1-004	<p>Describe the clinical presentation of pterygium and pingecula.</p> <p>List the causes of pterygium and pingecula</p> <p>Outline the medical and surgical management of pterygium and pingecula.</p> <p>Discuss preventive measures and patient counseling.</p>	Ophthalmology	Conjunctiva
	<p>Classify conjunctivitis based on etiology.</p> <p>Describe the clinical presentation of infective conjunctivitis. (Bacterial, Viral, Trachoma)</p> <p>Identify possible differential diagnosis for 'pink eye'.</p> <p>Outline the management plan of infective conjunctivitis.</p>	Ophthalmology	

	<p>Describe the clinical presentation for allergic conjunctivitis.</p> <p>List the causes of allergic conjunctivitis.</p> <p>Outline the treatment plan for allergic conjunctivitis.</p>		
	<p>Define 'dry eyes'.</p> <p>Explain the pathophysiology of dry eyes.</p> <p>Identify the clinical conditions associated with dry eyes.</p> <p>Discuss the treatment options for dry eyes.</p>	Ophthalmology	
Eye1-005	<p>Diagnose episcleritis based on characteristic clinical findings.</p> <p>Explain the pathophysiology of episcleritis.</p> <p>Outline the treatment plan, including supportive care and pharmacological options.</p> <p>Differentiate episcleritis from scleritis and other causes of red eye.</p>	Ophthalmology	Sclera
	<p>Diagnose scleritis based on clinical features, including severity and pattern of pain and redness.</p> <p>Explain the pathophysiology of scleritis.</p> <p>Outline the management strategies, including systemic therapy and monitoring for complications.</p>	Ophthalmology	
Eye1-006	<p>Classify keratitis based on etiology.</p> <p>Describe signs and symptoms of keratitis.</p> <p>Outline the treatment options of keratitis based on etiology.</p> <p>Discuss the complications of keratitis.</p>	Ophthalmology	Cornea
	<p>Diagnose corneal ulcers based on etiology (bacterial, viral, fungal, acanthamoeba, autoimmune) symptoms, signs, specific investigations, and slit lamp exam.</p> <p>Explain the etiology of corneal ulcers along with risk factors.</p> <p>List the complications of corneal ulcers.</p> <p>Discuss the management of corneal ulcers according to etiology along with the preventive measures.</p>	Ophthalmology	

	<p>Describe the common indications and contraindications for contact lens use.</p> <p>Identify common complications related to contact lens wear.</p> <p>Outline preventive measures to avoid contact lens-related ocular problems.</p>		
	<p>Define photorefractive surgery and list its common types (e.g., Femto LASIK, LASIK, PRK, TPRK).</p> <p>List the indications and contraindications for photorefractive surgery.</p> <p>Identify the complications of photorefractive surgery.</p> <p>Outline postoperative care and patient counseling points.</p>	Ophthalmology	
	<p>Define keratoconus and describe its pathophysiology.</p> <p>List the risk factors associated with keratoconus.</p> <p>Identify the clinical features and signs of keratoconus.</p> <p>Discuss the management options for keratoconus including preventive strategies to slow disease progression.</p>	Ophthalmology	



BLOCK 11

MODULE 27

NEUROSCIENCES -II

MODULE RATIONALE

Building upon the foundational understanding developed in Neurosciences Module I (covered in Block 6), which focused on the basic sciences of CNS, Neurosciences Module II extends this knowledge toward clinical application. This module emphasizes neurology, pharmacology, pathology, and the clinical aspects of neurological disorders, enabling students to connect underlying mechanisms with clinical presentation and management. By integrating basic concepts with pharmacological and therapeutic approaches, the module promotes deeper comprehension of disease processes, rational drug use, and patient-centered care. It also encourages the development of clinical reasoning and critical thinking by linking structure, function, and dysfunction within the nervous system. Overall, Neurosciences Module II serves as a bridge between foundational sciences and clinical practice, ensuring vertical and horizontal integration across disciplines while preparing students for future clinical rotations and decision-making in neurological care.

MODULE OUTCOMES

- Explain the pathophysiological basis of common neurological disorders by linking structural and functional alterations in the nervous system to clinical manifestations.
- Describe the pharmacological basis of drugs used in neurological conditions, including their mechanisms of action, therapeutic uses, adverse effects, and rational prescribing principles.
- Integrate knowledge of basic neuroscience with clinical decision-making to interpret signs, symptoms, and investigations relevant to neurological diseases.
- Discuss the principles of multidisciplinary management in neurological disorders, incorporating pharmacological, rehabilitative, and preventive perspectives.
- Counsel patients with neurological diseases with empathy demonstrating effective communication skills.

SUBJECTS INTEGRATED IN THE MODULE

1. Neurology
2. Pathology
3. Pharmacology
4. General Medicine
5. Pediatric Surgery/ Neurosurgery

THEORY

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
NS2-Pa-001	<p>Explain the etiology and pathophysiological mechanisms of acute viral, lymphocytic, and purulent meningitis.</p> <p>Describe the etiology, pathogenesis, and clinical implications of a brain abscess.</p> <p>Discuss the causative factors and pathophysiology of chronic meningitis.</p> <p>Explain the pathogenesis and complications of tuberculous meningitis.</p> <p>Explain the etiology, transmission, and neuropathological changes associated with viral encephalitis.</p>	Pathology/ Microbiology	CNS Infections
NS2-Neu-002	<p>Identify signs and symptoms of meningitis.</p> <p>Enlist the diagnostic approach.</p> <p>Outline medical management plan.</p> <p>Identify the potential complications.</p>	Neurology/ Medicine	Meningitis
NS2-Neu-003	<p>List the common viral and non-viral causes of encephalitis.</p> <p>Identify the typical clinical presentation.</p> <p>Outline the diagnostic workup.</p> <p>Plan the management strategies</p> <p>Identify short- and long-term complications.</p>	Neurology/ Medicine	Encephalitis
NS2-Neu-004	<p>Define ischemic stroke.</p> <p>Diagnose ischemic stroke based on clinical presentation.</p> <p>Enlist investigations to determine the cause.</p> <p>Describe management including emergency intervention and prevention of ischemic stroke.</p>	Neurology/ Medicine	Ischemic stroke
NS2-Neu-005	<p>Define subarachnoid and intracerebral hemorrhage.</p> <p>Enlist causes and predisposing factors.</p>	Neurology/ Medicine	Subarachnoid and intracerebral hemorrhage

	<p>Identify key clinical manifestations and possible complications.</p> <p>Outline essential investigations with management and preventive measures.</p>		
NS2-PS-003	<p>Define neural tube defects and hydrocephalus.</p> <p>Classify types.</p> <p>Identify risk factors and clinical features.</p> <p>Outline management plan with early referral.</p>	Pediatric Surgery	Hydrocephalus and spinal malformations
NS2-Neu-004	<p>Define epilepsy.</p> <p>Describe clinical presentations of seizures.</p> <p>Enlist different investigative modalities for diagnosis of epilepsy.</p> <p>Outline the management plan.</p>	Neurology	Epilepsy
NS2-Ph-005	<p>Classify Anti-epileptics.</p> <p>Describe their mechanism of action, uses, adverse effects, drug interactions and contraindications.</p> <p>Enlist differences between sodium Valproate, Phenytoin, Carbamazepine, Gabapentin, Lamotrigine and Ethosuximide.</p> <p>Discuss role of antiseizure and benzodiazepines in essential tremors.</p>	Pharmacology	Anti-epileptics
NS2-Pa-006	<p>Classify central nervous system (CNS) tumors based on the WHO classification.</p> <p>Describe the genetic mutations, pathogenesis, morphology, and clinical manifestations of major primary brain tumors, including gliomas, ependymomas, medulloblastomas, and meningiomas.</p> <p>Discuss the pathogenesis, common primary sites, and clinical features of metastatic brain tumors.</p>	Pathology	CNS tumors
NS2-Pa-007	<p>Define and enlist the major types of neurodegenerative disorders affecting the central nervous system.</p>	Pathology	Neurodegenerative diseases

	<p>Explain the role of abnormal protein aggregation in the pathogenesis of neurodegenerative diseases.</p> <p>Describe the molecular genetics, pathogenic mechanisms, and morphological changes associated with Alzheimer's disease.</p> <p>Identify the clinical features and diagnostic criteria of Alzheimer's disease.</p> <p>Explain the molecular genetics and pathogenesis of Parkinson's disease.</p> <p>Describe the key morphological findings, clinical manifestations, and diagnostic criteria of Parkinson's disease.</p>		
NS2-Neu-008	<p>Describe the etiology and risk factors associated with Alzheimer's disease.</p> <p>Identify the key clinical features and stages of cognitive and behavioral decline.</p> <p>Differentiate Alzheimer's disease from other causes of dementia.</p> <p>Outline the diagnostic approach.</p> <p>Discuss the management strategies.</p> <p>Identify the common complications and their impact on patient quality of life and caregiver burden.</p>	Neurology/ Medicine	Alzheimer's disease
NS2-Ph-009	<p>Classify the drugs used in the management of Alzheimer's disease and other dementias.</p> <p>Explain the mechanism of action, pharmacological effects, therapeutic uses, and adverse effects of cholinesterase inhibitors.</p> <p>Describe the mechanism of action, clinical role, and side effects of NMDA receptor antagonist (Memantine).</p> <p>Discuss the rationale and benefits of combination therapy (cholinesterase inhibitor + memantine) in moderate to severe Alzheimer's disease.</p>	Pharmacology	Pharmacotherapy of Alzheimer's Disease and Dementia

NS2-Neu-010	<p>Describe the etiology and risk factors of Parkinson's disease.</p> <p>Diagnose Parkinson's disease based on the cardinal motor and non-motor symptoms.</p> <p>Describe the clinical stages of the disease.</p> <p>Differentiate Parkinson's disease from other parkinsonian syndromes.</p> <p>Outline the important investigations.</p> <p>Describe treatment options and complications.</p>	Neurology/ Medicine	Parkinson's disease
NS2-Ph-011	<p>Classify Anti-Parkinson drugs.</p> <p>Explain the mechanism of action, pharmacological effects, therapeutic uses, adverse effects, drug interactions, and contraindications of anti-Parkinsonian agents.</p> <p>Discuss the rationale, advantages, and disadvantages of combining Carbidopa with Levodopa therapy.</p> <p>Describe the On-Off phenomenon, its underlying mechanisms, and management strategies.</p> <p>Explain the etiology, clinical features, and pharmacological management of drug-induced parkinsonism.</p> <p>Outline the pharmacokinetics and therapeutic approaches for drug-induced and other dyskinesias.</p>	Pharmacology	Anti-Parkinson Drugs
NS2-Neu-012	<p>Classify motor neuron diseases.</p> <p>Describe the diagnostic criteria and key clinical features of motor neuron disease.</p> <p>Enlist relevant investigations.</p> <p>Explain supportive and disease-modifying treatment strategies.</p>	Neurology/ Medicine	Motor neuron disease
NS2-Ph-013	<p>Classify drugs used in the management of movement disorders (Parkinsonism, Huntington's disease, dystonias, tremors, and drug-induced dyskinesias).</p>	Pharmacology	Pharmacotherapy of Movement disorders

	<p>Describe the mechanism of action, pharmacological effects, clinical uses, adverse effects, drug interactions, and contraindications of drugs used for hyperkinetic movement disorders.</p> <p>Discuss pharmacological strategies for the management of drug-induced movement disorders, including acute dystonia, akathisia, and parkinsonism.</p> <p>Explain the principles of drug selection, rationale for combination therapy, and the use of newer therapeutic agents in movement disorders.</p>		
NS2-Pa-014	<p>Explain the pathophysiology of inflammatory neuropathies, including Guillain-Barré Syndrome (Acute Inflammatory Demyelinating Polyneuropathy).</p> <p>Describe the clinical features, pathological changes, and disease progression of Guillain-Barré Syndrome.</p> <p>Explain the pathophysiology and morphological changes of poliomyelitis, including anterior horn cell involvement.</p> <p>Describe the pathogenesis, morphological features, and clinical implications of prion diseases.</p>	Pathology	Guillain-Barré Syndrome, poliomyelitis & prion diseases
NS2-Neu-015	<p>Define neuropathy and classify peripheral neuropathies.</p> <p>Identify the clinical features of neuropathies.</p> <p>Explain the functional impact of neuropathies on gait, sensation, and daily activities.</p> <p>Outline the diagnostic approach and management plan.</p>	Neurology/ Medicine	Neuropathies
NS2-Pa-016	<p>Describe the structural and functional differences between Type I and Type II muscle fibers.</p> <p>Explain the pathogenesis, morphological features, and diagnostic criteria of inflammatory myopathies, including dermatomyositis and polymyositis.</p>	Pathology/ Neurology	Myopathies

	<p>Discuss the etiology, pathophysiology, and histopathological characteristics of inherited skeletal muscle diseases, including Duchenne and Becker muscular dystrophies.</p> <p>Correlate pathological findings with clinical presentation and disease progression in the above disorders.</p>		
NS2-Neu-017	<p>Define and classify paraplegia.</p> <p>Differentiate paraplegia from quadriplegia and hemiplegia.</p> <p>Differentiate between upper and lower motor neuron lesions.</p> <p>Identify the key clinical features that help localize the spinal cord lesion.</p> <p>Discuss the management and identify potential complications.</p>	Neurology/ Medicine	Paraplegia
NS2-Neu-018	<p>Describe multiple sclerosis with its types and clinical variants.</p> <p>Explain the etiology, immunopathogenesis, and risk factors associated with multiple sclerosis.</p> <p>Identify the characteristic clinical features.</p> <p>Outline the diagnostic approach.</p> <p>Describe the management strategies.</p>	Neurology/ Medicine	Multiple Sclerosis
NS2-Ph-019	<p>Describe the pharmacological classification of anti-migraine drugs.</p> <p>Explain the mechanism of action of triptans and ergot alkaloids in the management of migraine.</p> <p>Describe the pharmacokinetic properties and clinical uses of different triptans and ergot derivatives.</p> <p>Describe the adverse effects, contraindications, and drug interactions.</p>	Pharmacology	Anti-migraine drugs

<p>NS2-Ph-020</p>	<p>Classify local anesthetic agents based on their chemical structure and duration of action.</p> <p>Explain the mechanism of action, pharmacological effects, and clinical applications of local anesthetics.</p> <p>Compare amide and ester local anesthetics in terms of metabolism, stability, and allergic potential.</p> <p>Describe the rationale, benefits, and risks of adding vasoconstrictors to local anesthetic preparations.</p> <p>Identify commonly used agents for short-, intermediate-, and long-duration procedures, including minor and major peripheral nerve blocks.</p> <p>Discuss the adverse effects, contraindications, and significant drug interactions of local anesthetics.</p>	<p>Pharmacology/ Anesthesia</p>	<p>Local Anesthetics</p>
<p>NS2-Ph-021</p>	<p>Classify general anesthetic agents based on their route of administration and duration of action.</p> <p>Describe the clinical uses, adverse effects, contraindications, and major drug interactions of commonly used general anesthetics.</p> <p>Discuss the principles and agents used for the reversal and recovery from anesthesia.</p>	<p>Pharmacology/ Anesthesia</p>	<p>General Anesthetics</p>
<p>NS2-Neu-022</p>	<p>Define coma and unconsciousness.</p> <p>Describe the pathophysiology underlying loss of consciousness.</p> <p>Apply the Glasgow Coma Scale for assessment.</p> <p>Outline the diagnostic approach.</p> <p>Discuss the complications, prognosis, and criteria for brain death determination.</p>	<p>Neurology/ Medicine</p>	<p>Coma and unconsciousness</p>

PRACTICAL / LAB WORK

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
NS2-Pa-008	Interpret CSF reports, including cell count, protein, glucose, and microbiological findings	Pathology	CSF interpretation
NS2-Pa-009	Identify characteristic histopathological features of tuberculous meningitis.	Pathology	Tuberculous meningitis
NS2-Pa-010	Identify the classical characteristic morphological features of meningioma and glioblastoma.	Pathology	CNS tumors
NS2-Ra-001	Interpret ultrasound findings to identify features of hydrocephalus.	Radiology	Neuroimaging: hydrocephalus
NS2-Ra-002	Interpret CT and MRI images to identify intracranial hemorrhage, cerebral infarction, and CNS tumors.	Radiology	Neuroimaging: Stroke and CNS tumors



MODULE 28
PSYCHIATRY &
BEHAVIORAL SCIENCES

MODULE RATIONALE

The Psychiatry & Behavioral Sciences module equips medical students with a holistic understanding of health and illness by integrating psychological, social, cultural, and biological perspectives. It emphasizes the Bio-Psycho-Social model, communication skills, stress management, personality, coping mechanisms, ethics, professionalism, and the doctor-patient relationship to foster empathy and compassionate practice. Building on this foundation, students are introduced to the principles of psychiatry, gaining structured knowledge of common mental disorders including organic conditions, substance use, psychotic, mood, anxiety, trauma-related, developmental, and personality disorders along with their clinical presentation, diagnosis, and evidence-based management. Focus on pharmacological and non-pharmacological interventions ensures students develop the competence to provide comprehensive, patient-centered, and ethical care in healthcare settings.

MODULE OUTCOMES

- Apply the Bio-Psycho-Social model in assessing health and illness.
- Demonstrate effective communication, empathy, and professionalism during patient interactions.
- Analyze the influence of stress, personality, coping mechanisms, culture, and social factors on patient behaviour and treatment outcomes.
- Adhere to ethical principles, confidentiality, and cultural sensitivity in clinical practice.
- Describe the etiology, clinical features, and management of common psychiatric disorders and emergencies.
- Perform a psychiatric history and mental state examination.
- Formulate management plans for psychiatric conditions using both pharmacological and non-pharmacological approaches.
- Collaborate with interdisciplinary teams to ensure comprehensive patient management.

SUBJECTS INTEGRATED IN THE MODULE

1. Psychiatry
2. Behavioral Sciences
3. Pharmacology
4. Gynecology & Obstetrics
Community Medicine

THEORY

BEHAVIORAL SCIENCES

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
PsyBhS1 -BhS- 001	<p>Explain the bio-psycho-social model of health and its application in patient care.</p> <p>Differentiate normalcy versus abnormalcy.</p>	Behavioral Sciences	Bio-psycho-social model of health
PsyBhS1 -BhS- 002	<p>Describe sensation, perception, attention, and concentration, and explain their relevance in clinical practice.</p> <p>Define memory, describe its stages and types, and suggest methods to improve it.</p> <p>Define thinking and describe its types.</p> <p>Define cognition and describe its levels.</p> <p>Discuss problem-solving and decision-making steps, barriers, and strategies in clinical practice.</p>	Behavioral Sciences	Understanding Behavior
PsyBhS1 -BhS- 003	<p>Define personality and its types.</p> <p>Explain developmental theories of personality.</p> <p>Explain defense mechanisms.</p> <p>Explain its significance in clinical practice.</p> <p>Define intelligence and describe its types.</p> <p>Explain the relevance of IQ and EQ in a doctor's professional and personal life.</p> <p>Discuss methods to enhance emotional intelligence (EQ) and intellectual intelligence (IQ).</p>	Behavioral Sciences	Individual differences - Personality & Intelligence
PsyBhS1 -BhS- 004	<p>Elaborate emotions and motivation and explain their influence on health and illness behavior.</p> <p>Apply basic motivational strategies to enhance patient adherence and lifestyle modification.</p>	Behavioral Sciences	Emotions & Motivation
PsyBhS1 -BhS- 005	<p>Explain the relationship between stress, stressors, and illness.</p> <p>Define coping skills and describe their role in managing stress.</p>	Behavioral Sciences	Stress management

	Explain the concepts of adjustment and maladjustment in response to stress.		
PsyBhS1 -BhS- 006	Describe the concept of life events and their significance in daily life. Discuss conflict resolution, crisis intervention, and psychological first aid.	Behavioral Sciences	Life events - Psychotrauma
PsyBhS1 -BhS- 007	Discuss the concepts of transference, counter-transference, and boundaries in the doctor-patient relationship. Describe different models of doctor-patient relationship. Identify ethical dilemmas in doctor-patient relationships (e.g., confidentiality, end-of-life care, pharmaceutical interactions). Explain the rights of doctors and patients and discuss their importance in promoting ethical and safe medical practice.	Behavioral Sciences	Doctor-Patient Relationship
PsyBhS1 -BhS- 008	Define attitude, values, beliefs, and myths, and explain their influence on behavior. Explain the impact of social class, stigma, and the sick role on health. Describe health belief models and treatment adherence and their relevance to patient care. Describe cultural competence.	Behavioral Sciences	Culture and medical practice
PsyBhS1 -BhS- 009	Explain the process of grief and its impact on patients and families. Explain psychological reactions to illness and hospitalization. Explain strategies to manage them effectively.	Behavioral Sciences	Psychological reactions
PsyBhS1 -BhS- 010	Outline the stages of sleep and describe sleep disorders. Discuss non-pharmacological methods for sleep hygiene.	Behavioral Sciences	Sleep and consciousness

PsyBhS1 -BhS- 011	Define pain and describe its physical and psychological aspects relevant to patient care. Explain subjective factors influencing pain. Manage pain using non pharmacological interventions.	Behavioral Sciences	Pain
PsyBhS1 -BhS- 012	Define child-rearing practices and their influence on personality development. Explain the effects of child-rearing practices on health and illness.	Behavioral Sciences	Child rearing practices
PSYCHIATRY			
CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
PsyBhS1 -Psy-001	Describe mood and affect. Describe and classify hallucination. Describe and classify delusion. Describe the abnormalities of speech in psychiatric disorders. Describe obsession and compulsion.	Psychiatry	Introduction to Key Psychiatric Terms
PsyBhS1 -Psy-002	Classify the types of non-pharmacological interventions. Describe the principles and applications of common psychotherapies. Explain the importance of social and rehabilitative approaches. Discuss the role of somatic therapies and lifestyle modifications in psychiatry.	Psychiatry/ Behavioural sciences	Non pharmacological interventions in Psychiatry
PsyBhS1 -Psy-003	Differentiate between delirium and dementia. Discuss causes and types of dementias. State manifestations and risk associated with dementia. Enumerate mental state examination, and mini mental state examination findings of delirium and dementias.		Delirium and dementia

	<p>Discuss prognostic factors of memory related disorders.</p> <p>Outline a treatment plan including pharmacological and non-pharmacological interventions.</p>		
PsyBhS1 -Psy-004	<p>Define Generalized anxiety disorder (GAD) and describe common risk factors.</p> <p>Identify typical mental state examination findings of GAD.</p> <p>Differentiate GAD from eustress.</p> <p>Outline pharmacological and psychotherapeutic treatment of GAD.</p>	Psychiatry	Anxiety Disorders
	<p>Identify hallmark symptoms of panic disorder based on Mental Status Examination.</p> <p>Differentiate panic attacks from angina, myocardial infarction, and asthma.</p> <p>Describe strategies for supporting patients with panic disorder.</p>	Psychiatry	
	<p>Define and classify phobias.</p> <p>Outline treatment approaches for phobias, including psychological therapies and pharmacological options.</p>	Psychiatry	
PsyBhS1 -Ph-001	<p>Classify anxiolytic drugs.</p> <p>Explain the mechanism of action of different anxiolytic drugs.</p> <p>Discuss the pharmacokinetics and pharmacodynamics of anxiolytics.</p> <p>Identify the clinical indications of anxiolytic drugs.</p> <p>List the contraindications and precautions for the use of anxiolytic drugs.</p> <p>Describe the adverse effects and risks of dependence, tolerance, and withdrawal associated with anxiolytics.</p>	Pharmacology	Anxiolytic drugs

	<p>Classify sedative-hypnotic drugs.</p> <p>Explain the mechanism of action of sedative- hypnotics.</p> <p>Describe the pharmacokinetics and pharmacodynamics of commonly used sedative-hypnotics.</p> <p>Identify the clinical indications of sedative-hypnotics.</p> <p>List the contraindications to the use of sedative-hypnotics in clinical practice.</p> <p>Identify adverse effects of sedative-hypnotics.</p>		Sedative-hypnotics
PsyBhS1 -Psy-005	<p>Classify depressive disorders.</p> <p>Describe risk factors of depressive disorders.</p> <p>Diagnose moderate depressive disorder on the basis of mental state examination findings.</p> <p>Outline management plan including pharmacological options and psychotherapy.</p>	Psychiatry	Depressive Disorders
	<p>Describe suicide and deliberate self-harm, including associated factors.</p> <p>Describe management of suicide and deliberate self-harm.</p>	Psychiatry	
	<p>Differentiate postpartum depression from postpartum blues.</p> <p>Formulate a management plan for postpartum blues and postpartum depression.</p>	Psychiatry	
PsyBhS1 -Ph-002	<p>Classify anti-depressants.</p> <p>Describe their mechanism of action, pharmacological effects, uses, adverse effects, drug interactions and contraindications.</p> <p>Discuss rationale of choosing an antidepressant for a particular condition</p>	Pharmacology	Anti-depressants
PsyBhS1 -Psy-006	<p>Describe Bipolar I and Bipolar II disorders according to standard diagnostic criteria.</p> <p>Differentiate the clinical features of mania and hypomania.</p>	Psychiatry	Bipolar affective disorder

	<p>Differentiate bipolar disorders from schizophrenia and substance-induced mania on the basis of clinical presentation and course.</p> <p>Interpret mental state examination (MSE) findings in mania.</p> <p>Formulate a basic management plan for bipolar disorder.</p>		
PsyBhS1-Ph-003	<p>Classify and enumerate mood stabilizers.</p> <p>Describe their mechanism of action, pharmacological effects, uses, adverse effects, drug interactions and contraindications.</p>	Pharmacology	Mood Stabilizers
PsyBhS1-Psy-007	<p>Describe the etiology, risk factors, and underlying neurobiological, psychological, and social factors contributing to Obsessive-Compulsive Disorder (OCD).</p> <p>Enumerate the diagnostic criteria of OCD according to ICD-11/DSM-5 TR.</p> <p>Identify the common clinical features and course of illness.</p> <p>Interpret the characteristic findings on mental state examination in OCD.</p> <p>Discuss the impact of OCD on daily functioning and quality of life.</p> <p>Outline the treatment options including pharmacological and psychological approaches.</p>	Psychiatry	Obsessive-Compulsive and Related Disorders
	<p>Define Body Dysmorphic Disorder (BDD)</p> <p>Differentiate from BDD from eating disorders</p> <p>Explain the clinical findings of a case of BDD based on mental state examination.</p> <p>Outline the management plan to treat BDD.</p>	Psychiatry	
PsyBhS1-Psy-008	<p>Define and classify dissociative disorders</p> <p>Identify key clinical features of dissociative disorders</p> <p>Describe principles of management of dissociative disorders</p>	Psychiatry	Dissociative and somatoform disorders (conversion disorder)

	<p>Define and classify somatoform disorders with emphasis on conversion disorder</p> <p>Identify key clinical features of conversion disorder</p> <p>Describe principles of management of conversion disorder</p>		
PsyBhS1 -Psy-009	<p>Explain the characteristic mental state examination (MSE) findings in PTSD.</p> <p>Differentiate PTSD from acute stress disorder.</p> <p>Outline the management plan for PTSD.</p> <p>Define adjustment disorder.</p> <p>Identify the emotional and behavioral symptoms that occur within three months of an identifiable stressor.</p>	Psychiatry	Trauma- and Stressor-Related Disorders
PsyBhS1 -Psy-010	<p>Define schizophrenia.</p> <p>Describe the positive and negative symptoms of schizophrenia.</p> <p>Outline the differential diagnosis of schizophrenia.</p> <p>Explain the characteristic mental state examination (MSE) findings in schizophrenia.</p> <p>Outline the management plan to treat a patient of schizophrenia.</p>	Psychiatry	Schizophrenia and Psychotic Disorders
PsyBhS1 -Ph-004	<p>Classify antipsychotic drugs.</p> <p>Explain the mechanism of action of typical and atypical antipsychotics.</p> <p>Describe the pharmacokinetics and pharmacodynamics of antipsychotic drugs.</p> <p>Identify the clinical indications of antipsychotic drugs.</p> <p>List the contraindications and precautions for the use of antipsychotics.</p> <p>Describe the adverse effects of antipsychotics.</p>	Pharmacology	Antipsychotic Drugs
PsyBhS1 -Psy-011	<p>Define paranoid, schizoid, and schizotypal personality disorders.</p> <p>Describe the characteristic symptoms and behavioral patterns of each disorder.</p>	Psychiatry	Personality Disorders I

	<p>Interpret relevant findings on the mental state examination in these disorders.</p> <p>Differentiate Cluster A disorders from schizophrenia and delusional disorders.</p> <p>Outline the principles of management, including psychotherapy and pharmacotherapy where appropriate.</p>		
PsyBhS1-012	<p>Define antisocial, borderline, histrionic, and narcissistic, anxious avoidant, dependent, and obsessive compulsive personality disorders.</p> <p>Explain the clinical features and psychopathology of each disorder.</p> <p>Identify mental state examination findings typical of Cluster B and C personality disorders.</p> <p>Differentiate these disorders from mood disorders, substance use, and other psychiatric conditions.</p> <p>Summarize management strategies, including risk assessment, crisis intervention, and psychotherapy.</p>	Psychiatry	Personality Disorders II
PsyBhS1-013	<p>Classify commonly abused substances (e.g., alcohol, opioids, cannabis, stimulants, sedatives, caffeine, nicotine).</p> <p>Describe the clinical features and diagnostic criteria of substance-related disorders.</p> <p>Identify signs and symptoms of intoxication and withdrawal for common substances.</p> <p>Explain the psychological, social, and medical complications associated with substance use.</p> <p>Outline the approach to assessment, including history, examination, and mental state examination.</p> <p>Explain the principles of management for substance use disorders.</p> <p>Discuss preventive strategies and the role of psychoeducation in reducing substance use.</p> <p>Manage the patients of acute and chronic alcoholism.</p>	Psychiatry	Substance-Related Disorders

PsyBhS1 -Ph-005	<p>Classify CNS stimulants.</p> <p>Explain the mechanism of action.</p> <p>Discuss the clinical indications for the therapeutic use of CNS stimulants.</p> <p>Identify the common contraindications to CNS stimulant use.</p> <p>Describe the signs and symptoms of overdose of CNS stimulants.</p> <p>Summarize the adverse effects and toxic manifestations of CNS stimulants.</p>	Pharmacology	CNS Stimulants
PsyBhS1 -Ph-006	<p>Classify types of alcohol.</p> <p>Describe the mechanism of action, pharmacological effects, uses, adverse effects, drug interactions and contraindications of Ethyl Alcohol.</p> <p>Enlist the enzyme systems involved in ethanol and methanol metabolism.</p> <p>Describe treatment of methanol and ethanol poisoning with alcohol.</p> <p>Describe pharmacological treatment of acute alcohol intoxication, alcohol withdrawal syndrome and Wernicke Korsakoff syndrome</p> <p>Identify the clinical features of the disulfiram-ethanol reaction and list the drugs that produce a disulfiram-like effect when combined with alcohol.</p> <p>Describe fetal-alcohol syndrome.</p>	Pharmacology	Alcohol
PsyBhS1 -Psy-014	<p>Define and classify psychosexual disorders</p> <p>Identify key clinical features of psychosexual disorders</p> <p>Describe principles of management of psychosexual disorders</p>	Psychiatry	Psychosexual disorders
PsyBhS1 -Psy-015	<p>Describe the characteristic clinical features of anorexia nervosa.</p> <p>Differentiate anorexia nervosa from hyperthyroidism and depression.</p> <p>Explain the typical mental state examination findings.</p>	Psychiatry	Eating Disorders

	Outline the management plan to treat a patient diagnosed with anorexia nervosa.		
	Diagnose bulimia nervosa on the basis of signs and symptoms and mental state examination findings. Describe the binge-purge cycle. Outline management strategies, including pharmacotherapy and psychotherapy.	Psychiatry	
PsyBhS1 -Psy-016	Describe the clinical signs and symptoms in children and adolescents with Attention Deficit Hyperactivity Disorder (ADHD). Analyze mental state examination (MSE) findings in individuals with ADHD. Explain the etiological factors contributing to the development of ADHD. Differentiate ADHD from normal childhood behavior. Formulate a management plan to treat individuals with ADHD.	Psychiatry	Neurodevelopmental Disorders
	Describe the clinical presentation of Autism Spectrum Disorder (ASD) in children. Identify early signs of ASD. Interpret behavioral observations relevant to diagnosis during assessment. Develop a basic management plan for children with Autism Spectrum Disorder incorporating early intervention and multidisciplinary care.	Psychiatry	
	Differentiate types of learning disorders, including dyslexia, dysgraphia, and dyscalculia. Discuss the academic difficulties despite normal intelligence as a feature of learning disorders. Identify the emotional and behavioral consequences of learning disorders.	Psychiatry	

	<p>Outline the role of mental state examination in evaluating children with learning disorders.</p> <p>Explain the management strategies for learning disorders.</p>		
	<p>Define enuresis and differentiate between primary and secondary types.</p> <p>Explain the psychological and psychosocial factors that contribute to enuresis in children.</p> <p>Describe the emotional and behavioral consequences of enuresis.</p> <p>Identify psychiatric comorbidities commonly associated with enuresis.</p> <p>Outline the psychological and pharmacological management strategies for enuresis.</p>	Psychiatry	



BLOCK 11

MODULE 29

RENAL-II

MODULE RATIONALE

The Renal II module builds upon the foundational knowledge acquired in Renal I, which focused on the basic sciences of the renal system, including anatomy, physiology, and biochemistry. In this second phase, students will integrate and apply that foundational understanding to clinical contexts. The module emphasizes the recognition and interpretation of signs and symptoms of renal diseases, understanding their underlying pathophysiological mechanisms, and exploring diagnostic approaches and management principles. Through an integrated approach involving pathology, nephrology, radiology, and urology perspectives, students will develop a holistic understanding of renal disorders.

MODULE OUTCOMES

- Explain the pathophysiological mechanisms underlying common renal and urinary tract disorders.
- Correlate clinical features with the underlying renal pathology.
- Interpret relevant laboratory investigations and imaging findings to support diagnosis of renal and urinary diseases.
- Outline the basic principles of management and prevention of common renal conditions from nephrology and urology perspectives.
- Demonstrate essential clinical skills, including history taking, physical examination, and procedural observation related to renal disorders.
- Counsel patients and their families with empathy regarding disease understanding, lifestyle modification, and adherence to treatment plans.

SUBJECTS INTEGRATED IN THE MODULE

1. Pathology
2. Pharmacology
3. Nephrology
4. Urology

THEORY

GLOMERULAR DISEASES

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
Re2-Pa-001	<p>Describe the etiological factors causing nephrotic syndrome (primary and secondary including diabetic nephropathy).</p> <p>Explain the pathogenesis of proteinuria, hypoalbuminemia, and edema.</p> <p>Describe the gross and microscopic changes in glomeruli associated with nephrotic syndrome.</p> <p>Diagnose nephrotic syndrome based on clinical presentation and findings.</p>	Pathology	Nephrotic Syndrome
Re2-Pa-002	<p>Explain the etiopathogenesis and morphology of podocytopathies:</p> <ul style="list-style-type: none"> • Minimal Change Disease • Focal Segmental Glomerulosclerosis (FSGS) 	Pathology	Podocytopathies
Re2-Pa-003	<p>Enumerate the etiological factors including idiopathic and secondary causes.</p> <p>Explain the pathogenesis and morphology of membranous nephropathy.</p>	Pathology	Membranous Nephropathy
Re2-Neph-004	<p>Enumerate the common causes of nephritic syndrome.</p> <p>Explain the pathophysiological mechanisms of glomerular inflammation and injury.</p> <p>Correlate the clinical presentation with underlying morphological changes.</p> <p>Analyze the laboratory findings characteristic of nephritic presentations.</p> <p>Outline the management strategies and potential complications.</p>	Nephrology	Nephritic Syndrome

Re2-Pa-005	<p>Describe the etiology and precipitating infections leading to PSGN.</p> <p>Explain the immunopathogenesis involving immune complex deposition.</p> <p>Identify the gross and microscopic features characteristic of PSGN.</p>	Pathology	Post-Streptococcal Glomerulonephritis (PSGN)
Re2-Neph-006	<p>Describe the etiological factors and risk associations of IgA-mediated renal disease.</p> <p>Explain the pathogenesis focusing on IgA immune complex deposition in the mesangium and small vessels.</p> <p>Identify the characteristic gross and microscopic changes in renal tissue.</p> <p>Correlate histopathological features with clinical manifestations.</p> <p>Outline the relevant laboratory investigations for diagnosis, monitoring, and follow-up.</p> <p>Discuss the management plan.</p> <p>Describe prognostic factors and potential progression to chronic kidney disease.</p> <p>Differentiate IgA nephropathy from Henoch-Schönlein Purpura based on clinical presentation, systemic involvement, and severity.</p>	Nephrology/ Pathology	IgA Nephropathy (Berger's Disease) and Henoch - Schönlein Purpura (IgA Vasculitis)
Re2-Pa-007	<p>Enumerate the etiological and immunological types of RPGN.</p> <p>Explain the pathogenesis of crescent formation and rapid renal failure.</p> <p>Describe the gross and microscopic features of each type.</p>	Pathology	Rapidly Progressive Glomerulonephritis (RPGN)
TUBULOINTERSTITIAL DISORDERS			
Re2-Pa-008	<p>Define acute tubular necrosis and differentiate it from other causes of acute kidney injury.</p> <p>Describe the etiological factors of ischemic and nephrotoxic ATN.</p>	Pathology/ Nephrology	Acute tubular necrosis

	<p>Explain the pathogenesis and sequence of tubular injury and repair.</p> <p>Describe the gross and microscopic changes in ischemic and nephrotoxic ATN.</p> <p>Correlate pathological changes with clinical features and laboratory findings.</p> <p>Outline the principles of management and prognosis.</p>		
Re2-Pa-009	<p>Classify tubulointerstitial nephritis (TIN) into acute and chronic forms.</p> <p>Describe the etiological factors, predisposing conditions, and commonly implicated drugs causing renal injury.</p> <p>Explain the pathogenesis and mechanisms of tubular and interstitial injury, including drug-induced nephritis.</p> <p>Correlate pathological changes with clinical presentation and laboratory findings.</p> <p>Outline the principles of diagnosis, management, and prognosis for both idiopathic and drug-induced forms.</p>	Nephrology	Tubulointerstitial and drug-induced nephritis
Re2-Pa-010	<p>Describe the etiological and genetic factors of polycystic kidney disease.</p> <p>Explain the pathogenesis of cyst formation in PKD.</p> <p>Describe the gross and microscopic morphological features.</p> <p>Correlate pathological features with clinical manifestations.</p> <p>Enumerate the laboratory and imaging investigations used in diagnosis.</p> <p>Outline the principles of management and prognosis.</p>	Pathology	Polycystic kidney disease

RENAL FAILURE AND ITS PROGRESSION

Re2-Neph-001	<p>Describe the etiology and risk factors of Acute Renal Failure.</p> <p>Explain the underlying mechanism.</p> <p>Identify the clinical features and potential complications.</p> <p>Interpret the laboratory investigations.</p> <p>Outline the management plan.</p> <p>Discuss the role and limitations of diuretics in the management of Acute Renal Failure.</p>	Nephrology	Acute Renal failure
Re2-Neph-002	<p>Describe the etiology and risk factors of Chronic Renal Failure.</p> <p>Identify the clinical features and systemic manifestations.</p> <p>Interpret the laboratory investigations and diagnostic criteria.</p> <p>Outline management plan.</p>	Nephrology	Chronic Renal failure (Chronic Kidney Disease)
Re2-Neph-003	<p>Describe end-stage renal disease.</p> <p>Discuss the pathophysiology and progression of chronic kidney disease to ESRD.</p> <p>Enumerate the indications for initiating dialysis.</p> <p>Describe types of dialysis.</p> <p>Explain the purpose, and care of an arteriovenous fistula.</p> <p>Discuss the treatment options for ESRD.</p> <p>Identify the complications associated with dialysis and their management principles.</p> <p>Outline the principles of patient education and long-term follow-up in dialysis care.</p>	Nephrology	End-stage renal disease and Dialysis (hemodialysis and peritoneal dialysis)

METABOLIC AND SYSTEMIC RENAL DISORDERS

Re2-Neph-004	<p>Describe diabetic nephropathy with its clinical significance.</p> <p>Identify the structural and functional renal changes.</p>	Nephrology	Diabetic nephropathy
--------------	---	------------	----------------------

	<p>Enlist the laboratory investigations used for diagnosis and monitoring.</p> <p>Outline the principles of prevention, early detection, and management.</p> <p>Describe the complications and prognosis.</p>		
Re2-Neph-005	<p>Define hypertensive nephrosclerosis.</p> <p>Differentiate benign and malignant forms.</p> <p>Describe the structural and functional renal changes.</p> <p>Correlate clinical manifestations with renal function impairment.</p> <p>Outline investigations and management plan.</p> <p>Discuss the prognosis and long-term outcomes.</p>	Nephrology	Hypertensive nephrosclerosis
Re2-Neph-006	<p>Describe the role of kidneys in electrolyte and acid-base balance regulation.</p> <p>Explain the pathophysiological mechanisms underlying hypo- and hypernatremia, and hypo- and hyperkalemia.</p> <p>Describe the compensatory responses in metabolic acidosis and metabolic alkalosis.</p> <p>Interpret clinical and laboratory findings in common electrolyte and acid-base disorders.</p> <p>Correlate abnormalities in serum electrolytes and arterial blood gases with underlying renal dysfunction.</p> <p>Outline the investigations, management and complications.</p>	Nephrology	Electrolyte and Acid-Base Disorders
OBSTRUCTIVE AND INFECTIVE DISORDERS OF THE URINARY TRACT			
Re2-Uro-007	<p>Define obstructive uropathy and hydronephrosis.</p> <p>Describe etiology and clinical presentation.</p> <p>Enlist the investigations.</p> <p>Outline management plan.</p> <p>Identify complications.</p>	Urology/ Surgery	Obstructive Uropathy and Hydronephrosis

Re2-Uro-008	<p>Define urolithiasis and classify urinary stones by composition.</p> <p>Explain the pathogenesis and predisposing factors for stone formation.</p> <p>Describe the clinical presentation and diagnostic evaluation.</p> <p>Discuss the principles of medical and surgical management.</p> <p>Outline preventive strategies and patient education.</p>	Urology/ Surgery/ Pediatric Surgery	Urolithiasis
Re2-Neph-009	<p>Identify etiological factors and predisposing conditions of acute and chronic pyelonephritis.</p> <p>Explain the pathogenesis of ascending and hematogenous spread of infection.</p> <p>Correlate pathological features with clinical manifestations and complications.</p> <p>Outline relevant investigations and management plan.</p>	Nephrology	Acute and Chronic Pyelonephritis
Re2-Uro-010	<p>Classify urinary tract infections by site and severity.</p> <p>Explain the clinical features of acute cystitis and prostatitis.</p> <p>Discuss diagnostic investigations and interpretation of urine analysis.</p> <p>Outline management principles, antibiotic stewardship, and prevention.</p>	Urology	Cystitis and Prostatitis
Re2-Uro-011	<p>Define hematuria and differentiate between microscopic and macroscopic types.</p> <p>Enumerate common causes of hematuria.</p> <p>Describe the diagnostic approach and interpretation of investigations.</p> <p>Correlate clinical features with underlying renal or urological pathology.</p>	Urology/ Nephrology	Hematuria
FUNCTIONAL BLADDER DISORDERS			
Re2-Uro-012	<p>Define neurogenic bladder and describe its types based on neurological involvement.</p>	Urology	Neurogenic Bladder

	<p>Explain the pathophysiology of bladder dysfunction in neurological diseases.</p> <p>Correlate clinical features with the level of neural lesion.</p> <p>Discuss diagnostic methods and management principles, including catheterization and rehabilitation</p>		
Re2-Uro-013	<p>Define urinary retention and urinary incontinence.</p> <p>Classify types of incontinence based on mechanism.</p> <p>Describe the etiological factors and pathophysiology of each condition.</p> <p>Discuss clinical features, investigations, and management approaches.</p>	Urology	Urinary Retention and Incontinence
Re2-Ph-014	<p>Enumerate the drugs used in the management of urinary retention, including</p> <ol style="list-style-type: none"> i. α-adrenergic blockers ii. 5-α reductase inhibitors iii. Muscarinic agonists iv. Cholinesterase inhibitors v. Phosphodiesterase inhibitors <p>Explain the mechanism of action, indications, and adverse effects of each drug class in improving bladder emptying or relieving outlet obstruction.</p>	Pharmacology	Pharmacotherapy of Urinary Retention
Re2-Ph-015	<p>Enlist the drugs used in the management of urinary incontinence.</p> <p>Explain the mechanism of action of antimuscarinic agents and β3-adrenergic agonists in overactive bladder.</p> <p>Describe the role of duloxetine and estrogen in stress urinary incontinence.</p> <p>Outline the use of botulinum toxin in neurogenic detrusor overactivity.</p> <p>State the common adverse effects and contraindications of these drugs</p>	Pharmacology	Pharmacotherapy of Urinary Incontinence

	Discuss the rationale for drug selection based on the type of urinary incontinence (OAB, stress, mixed, neurogenic).		
PROSTATE AND MALE GENITOURINARY DISORDERS			
Re2-Pa-007	Explain the etiology, pathogenesis, and morphology of benign prostatic hyperplasia (BPH), prostatitis, and prostate cancer. Identify the tumor marker for prostate cancer and its use in diagnosis and monitoring.	Pathology	
Re2-Uro-008	Describe the anatomy and physiology of the prostate gland. Differentiate between benign and malignant prostatic diseases. Describe clinical features of: <ul style="list-style-type: none"> • BPH • Prostatitis • Prostate cancer Discuss diagnostic evaluation, including PSA testing and imaging. Outline management plan.	Urology	Prostatic Diseases (BPH, Prostatitis, Prostate Cancer)
Re2-PS-008a	Enlist contraindications to circumcision. Plan circumcision (methods). Discuss counselling points regarding timing of surgery and follow-up.	Pediatric Surgery	Circumcision
RENAL, UROTHELIAL, AND TESTICULAR TUMORS			
Re2-Pa-009	Classify renal tumors into benign and malignant types. Describe the etiological factors and risk associations of renal cell carcinoma. Explain the pathogenesis and molecular mechanisms involved in renal tumor development. Describe the gross and microscopic features of renal cell carcinoma.	Pathology/ Nephrology	Renal Cell Carcinoma (RCC)

	<p>Correlate pathological features with clinical manifestations and complications.</p> <p>Discuss the prognostic factors influencing outcome and survival.</p> <p>Outline the principles of diagnosis and management.</p>		
Re2-Pa-010	<p>Define Wilms' tumor and describe its epidemiological features.</p> <p>Explain the genetic and developmental basis of its pathogenesis.</p> <p>Describe the gross and microscopic morphological features of Wilms' tumor.</p> <p>Correlate the pathological findings with clinical manifestations.</p> <p>Discuss the prognostic factors influencing outcome and survival.</p> <p>Outline the basic principles of diagnosis and management.</p>	Pathology/ Nephrology	Wilms Tumor (Nephroblastoma)
Re2-Pa-011	<p>Describe the etiology and risk factors of Urothelial cell carcinoma.</p> <p>Explain the pathogenesis and morphological features (gross and microscopic).</p>	Pathology	Urothelial cell carcinoma
Re2-Uro-012	<p>Describe the clinical features and common presentations of Urothelial cell carcinoma</p> <p>Enlist the diagnostic investigations used in the evaluation.</p> <p>Outline management plan and factors affecting prognosis.</p>	Urology	
Re2-Pa-013	<p>Classify testicular tumors.</p> <p>Describe etiology, pathogenesis, and morphology of germ cell and sex cord tumors of testis.</p> <p>Describe the lab diagnosis of testicular tumors including tumor markers.</p>	Pathology	Testicular tumors

TRAUMA AND EMERGENCY UROLOGY

Re2-Uro-014	<p>Describe the mechanisms and patterns of renal, ureteric, bladder, and urethral trauma.</p> <p>Discuss clinical presentation and diagnostic evaluation.</p> <p>Outline principles of initial management and surgical repair.</p> <p>Identify the potential complications and rehabilitation needs.</p>	Urology	Genitourinary Injuries
-------------	--	---------	------------------------

CONGENITAL GENITOURINARY ANOMALIES

Re2-Uro-015	<p>Describe the embryological basis and classification of congenital urinary tract anomalies including PUJ obstruction and vesicoureteric reflux.</p> <p>Explain the pathophysiology and potential renal complications.</p> <p>Identify the diagnostic modalities.</p> <p>Outline management plan.</p> <p>Counsel parents regarding prognosis, long-term renal monitoring, and preventive strategies.</p>	Urology	PUJ obstruction and vesicoureteric reflux
Re2-PS-016	<p>Define Posterior urethral valve.</p> <p>Describe clinical features.</p> <p>Outline investigations and management plan.</p>	Pediatric Surgery	Posterior urethral valve
Re2-PS-017	<p>Define and classify hypospadias and epispadias.</p> <p>Identify associated anomalies.</p> <p>Outline management plan.</p>	Pediatric Surgery	Hypospadias and epispadias
Re2-PS-018	<p>Classify the types of Undescended testis.</p> <p>Identify complications.</p> <p>Outline management and timing of surgery and referral.</p>	Pediatric Surgery	Undescended testis
Re2-PS-019	<p>Describe testicular torsion considering it as surgical emergency.</p> <p>Describe its pathophysiology.</p> <p>Identify the clinical presentation.</p> <p>Outline investigations and management plan including timely referral.</p>	Pediatric Surgery	Torsion testis

PRACTICAL / LAB WORK

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
Re2-Pa-020	Interpret urine analysis report, including protein, RBCs, casts, infection markers, and microscopic examination of urine sediment.	Pathology	Urine Examination
Re2-Pa-021	Interpret renal function tests, including serum creatinine, blood urea, electrolytes, and eGFR.	Pathology	Renal Function Test
Re2-Pa-022	Identify the classical microscopic features of nephritic diseases (PSGN) and nephrotic diseases (minimal change, membranous, FSGS). (pictorial)	Pathology	Glomerulonephritis
Re2-Pa-023	Identify the classical gross and microscopic features of cystic disease of kidney, renal cell carcinoma, Wilm's tumor, and urothelial neoplasm. (pictorial)	Pathology	Cystic diseases and renal tumors
Re2-Pa-024	Identify the classical gross and microscopic features of seminoma, teratoma, and benign prostatic hyperplasia (BPH). (pictorial)	Pathology	Testicular tumors



MODULE 30
ENT & EYE-II



ENT -II

MODULE RATIONALE

The inclusion of module related to otorhinolaryngology in the undergraduate medical curriculum is imperative to ensure that future physicians acquire the essential knowledge and skills to diagnose and manage both common and potentially serious otorhinolaryngological conditions. Such training not only contributes to improved patient care but also alleviates the burden on specialized ENT (ear, nose, throat) services, thereby enhancing overall healthcare delivery and efficiency. The objective of this module is to outline the essential knowledge, skills, attitudes, and competencies in otorhinolaryngology that must be attained during undergraduate medical training.

MODULE OUTCOMES

- Explain the pathophysiology and clinical features of common ear, nose, and throat disorders.
- Identify and diagnose prevalent otorhinolaryngological conditions through history-taking and clinical evaluation.
- Perform basic otorhinolaryngological examination techniques competently.
- Initiate appropriate first-line management for common ENT conditions and determine indications for timely referral to specialist care.
- Recognize and provide initial stabilization for otorhinolaryngological emergencies, such as airway obstruction and severe epistaxis, followed by appropriate referral.
- Communicate effectively with patients regarding ENT conditions, management options, and preventive strategies, ensuring clarity and patient-centered care.
- Demonstrate professionalism, ethical conduct, and a respectful attitude in the care of patients with otorhinolaryngological conditions

SUBJECTS INTEGRATED IN THE MODULE

Anatomy

Physiology

Pharmacology

Forensic Medicine

THEORY

ENT-II (NOSE)

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
ENT2-Nose-001	<p>Identify important structures in the surgical anatomy of the nose that require care during surgery.</p> <p>Describe the surgical anatomy of the paranasal sinuses, emphasizing relations with vital structures.</p> <p>Describe mucociliary clearance and its role in sinus health and postoperative outcomes.</p> <p>Correlate surgical anatomy and physiology with common clinical conditions (e.g., epistaxis, sinusitis) and their surgical management.</p>	ENT/Anatomy/ Physiology	Surgical anatomy and physiology of nose and paranasal sinuses
ENT2-Nose-002	<p>Describe the clinical features, management, and complications of following infections.</p> <ol style="list-style-type: none"> i. Boil ii. Cellulitis iii. Vestibulitis <p>Diagnose on basis of the clinical features, outline management plan, and discuss the complications of following:</p> <ol style="list-style-type: none"> i. Foreign bodies in nose ii. Maggots nose iii. Rhinolith 	ENT	Diseases of the External Nose and Nasal Vestibule
ENT2-Nose-003	<p>Differentiate between simple snoring and obstructive sleep apnea syndrome (OSAS).</p> <p>Explain the underlying mechanisms and causes.</p> <p>Describe the clinical presentation and complications.</p> <p>Identify the diagnostic methods and investigations.</p> <p>Discuss the various treatment options.</p>		Snoring and Sleep Apnea
ENT2-Nose-004	<p>Identify the etiology of Deviated Nasal Septum (DNS) and its types.</p> <p>Describe clinical presentation.</p>		Nasal Septum Deformities

	<p>Enlist the surgical procedures to correct DNS.</p> <p>Identify complications of nasal septal surgery.</p> <p>Enlist the causes of Septal Perforation.</p> <p>Describe its clinical presentation.</p> <p>Enlist investigations to rule out cause of septal perforation.</p> <p>Outline the management plan.</p> <p>Enlist the causes of Septal Abscess.</p> <p>Identify its clinical presentation and complications.</p> <p>Outline the treatment of septal abscess.</p>		
ENT2-Nose-005	<p>Define and classify Rhinitis.</p> <p>Describe clinical features of infective rhinitis with management.</p> <p>Describe the clinical features of following types of non-infective rhinitis and their management:</p> <ol style="list-style-type: none"> i. Allergic Rhinitis ii. Vasomotor Rhinitis iii. Atrophic Rhinitis iv. Hypertrophic Rhinitis v. Rhinitis Medicamentosa 	ENT	Rhinitis (Infective and Non-infective)
ENT2-Nose-006	<p>Define Sinusitis.</p> <p>Describe clinical presentation.</p> <p>Enlist investigations.</p> <p>Describe the treatment of acute and chronic Sinusitis.</p> <p>Enlist the surgical procedures done in case of chronic Sinusitis.</p> <p>Identify complications of Sinusitis.</p>		Infections of the Paranasal Sinuses
ENT2-Nose-007	<p>Define Nasal Polyp.</p> <p>Describe its etiology and clinical features.</p> <p>Differentiate between Antro choanal and ethmoidal polyps.</p> <p>Outline the management plan.</p>	ENT	Nasal Polyps
ENT2-Nose-008	<p>Enlist the causes of Epistaxis.</p> <p>Describe its clinical features.</p> <p>Outline initial management and preventive strategies.</p>		Epistaxis

<p>ENT2- Nose- 009</p>	<p>Identify clinical features of maxillofacial trauma. Enlist necessary investigations. Outline steps for initial management. Discuss the management of the following:</p> <ol style="list-style-type: none"> i. Fracture nasal bone ii. Mandibular fracture iii. Maxillary bone fracture iv. Zygomatic fracture v. Orbital blowout fracture <p>Enlist the etiology of CSF Rhinorrhoea. Describe its clinical presentation. Outline investigations and management plan. Describe the medico-legal implications of maxillofacial trauma, including proper documentation, reporting requirements, and preservation of evidence for legal purposes. (Integrate with Forensic Medicine-see annexure A)</p>	<p>ENT/Forensic medicine</p>	<p>Facial Trauma (Maxillofacial)</p>
<p>ENT2- Nose- 010</p>	<p>Describe the clinical features and ENT manifestations of Nasal Tuberculosis. Explain the pathology, clinical presentation, and complications of leprosy involving the nose. Discuss the clinical features, diagnosis, and management of invasive Aspergillosis of the paranasal sinuses. Describe the presentation, rapid progression, and surgical importance of Mucormycosis. Explain the nasal and systemic manifestations of Wegener’s granulomatosis and its diagnostic approach. Describe ENT features of Systemic Lupus Erythematosus with emphasis on nasal involvement. Discuss the clinical features and diagnostic findings of Sarcoidosis affecting the nose and paranasal sinuses.</p>	<p>ENT</p>	<p>Granulomatous Disorders of Nose & Paranasal Sinuses</p>

ENT2- Nose- 011	<p>Describe the pathology, clinical features, and surgical importance of Inverted Papilloma.</p> <p>Explain the clinical presentation, diagnosis, and management principles of Transitional cell carcinoma of the sinonasal region.</p> <p>Correlate the surgical anatomy of the sinonasal region with the spread and complications of these neoplasms.</p>	ENT/Pathology	Sino nasal neoplasm
-----------------------	---	---------------	------------------------



EYE-II

MODULE RATIONALE

Ophthalmology is a vital medical specialty dedicated to the diagnosis, treatment, and prevention of eye diseases. It is essential for medical students to have a thorough understanding of the eye's basic anatomy, physiology, and pathology in order to manage common ocular conditions effectively. This module aims to equip medical students with the knowledge and clinical skills necessary to identify and manage a wide range of ophthalmic conditions frequently encountered in general practice and emergency settings.

MODULE OUTCOMES

- Identify common ophthalmic diseases and disorders encountered in OPD, IPD, multi-disciplinary and emergency settings.
- Apply fundamental clinical skills in the examination of the eye and adnexa, including visual acuity assessment and basic use of ophthalmic instruments.
- Formulate differential diagnosis and initial management plans for common ophthalmic conditions, including appropriate referral when necessary.
- Integrate knowledge of ophthalmic health into the broader context of systemic diseases and public health considerations.

SUBJECTS INTEGRATED IN THE MODULE

Medicine

Pharmacology

Forensic Medicine

Rheumatology

THEORY

EYE-II

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
Eye2-001	<p>Define uveitis and classify based on anatomical location and etiology.</p> <p>Describe the pathophysiology of uveitis.</p> <p>Identify the key clinical features of uveitis.</p> <p>Differentiate uveitis from other causes of red eye using history and clinical examination.</p> <p>Explain the principles of treatment, including corticosteroid therapy, immunosuppressive agents, and management of complications.</p>	Ophthalmology	Uveal tract
Eye2-002	<p>Describe the normal pupillary reactions (direct light reflex, consensual light reflex, and accommodation reflex).</p> <p>Describe abnormal pupillary reactions (Marcus Gunn pupil/RAPD, Argyll Robertson pupil, Adie's pupil and Horner's syndrome with their underlying causes).</p>		Pupil
Eye2-003	<p>Classify cataract.</p> <p>Describe cataract secondary to systemic diseases.</p> <p>Explain the symptoms, signs, investigations, and management plan for congenital cataract.</p> <p>Diagnose acquired cataract based on symptoms, signs, pathophysiology and investigation findings.</p> <p>Justify selection of treatment options for acquired cataract.</p> <p>Enumerate the per and post-operative complications of cataract surgery</p> <p>Explain congenital cataract secondary to TORCH infections.</p>		Lens
Eye2-004	<p>Define glaucoma.</p> <p>Classify the different types of glaucoma.</p>	Ophthalmology	Glaucoma

	<p>Describe the anatomy of the anterior chamber angle and aqueous humor outflow/ Drainage pathways in relation to glaucoma.</p> <p>Explain the etiology and pathophysiology of various types of glaucoma. (open, close, primary, secondary, congenital, acquired)</p> <p>Enumerate the different types of secondary glaucoma.</p> <p>Describe the details of lens induced glaucoma.</p> <p>Identify the characteristic clinical features of angle-closure glaucoma./ different types of glaucoma (open, close, primary, secondary, congenital, acquired)</p> <p>Formulate the differential diagnosis of glaucoma.</p> <p>Outline the diagnostic investigations used for glaucoma.</p> <p>Outline the treatment plan for angle-closure glaucoma.</p> <p>Outline the treatment plan for open-angle and other types of glaucoma.</p> <p>Explain pathophysiology of congenital glaucoma</p> <p>Outline the treatment plan for congenital glaucoma</p>		
	<p>Classify anti-glaucoma medications.</p> <p>Explain the mechanisms of action of antiglaucoma drugs and their effect on intraocular pressure.</p> <p>Discuss the indications, contraindications, and adverse effects of antiglaucoma medications.</p> <p>Write prescription of glaucoma.(Pharmacology)</p>	<p>Ophthalmology/ Pharmacology</p>	
<p>Eye2-005</p>	<p>Define retinitis pigmentosa and describe its pathophysiology.</p> <p>Identify the characteristic signs and symptoms, including night blindness, peripheral field loss, and typical fundus changes (classical triad).</p> <p>Outline the treatment and supportive management options for patients with retinitis pigmentosa.</p> <p>Discuss the important counselling points in retinitis pigmentosa.</p>	<p>Ophthalmology</p>	<p>Retina and Vitreous</p>

	<p>Describe the pathophysiology of diabetic retinopathy, including microvascular changes.</p> <p>Outline the clinical signs and imaging methods used for diagnosis, including fundus examination and optical coherence tomography, fundus fluorescein angiography, ultrasound B scan.</p> <p>Explain the principles of management, including glycemic control, laser photocoagulation, intravitreal therapy, and vitrectomy.</p> <hr/> <p>Define retinal detachment and classify its types.</p> <p>Describe the pathophysiology and risk factors for retinal detachment.</p> <p>Recognize the clinical features and warning symptoms of different types of retinal detachments.</p> <p>Outline the diagnostic methods, including direct and indirect funduscopy/ ophthalmoscopy and imaging including ultrasound B scan and OCT.</p> <p>Explain the principles of management, including medical and surgical options and postoperative care.</p> <hr/> <p>Define retinopathy of prematurity and describe its pathophysiology.</p> <p>Identify the risk factors and etiological factors associated with retinopathy of prematurity.</p> <p>Recognize/ Explain the clinical features, grading and complications of retinopathy of prematurity.</p> <p>Outline the methods for diagnosis and screening protocols in retinopathy of prematurity.</p> <p>Describe the management options, including medical, laser, and surgical interventions.</p> <p>Explain preventive strategies and the importance of timely screening in at-risk infants.</p>	Ophthalmology	
Eye2-006	<p>Define refractive errors and describe their impact on vision.</p> <p>Differentiate the main types (myopia, hyperopia, astigmatism, and presbyopia).</p>	Ophthalmology	Refractive errors

	<p>Explain the optical and anatomical basis of each refractive error.</p> <p>Identify key clinical features and diagnostic methods used to detect refractive errors.</p> <p>Outline the main management options, including spectacles, contact lenses, and refractive surgery.</p>		
--	--	--	--



BLOCK 12

MODULE 31

ENDOCRINOLOGY &

REPRODUCTION-II

MODULE RATIONALE

Endocrinology and Reproduction II builds upon the foundation laid in Endocrinology and Reproduction I (Block 5), in which the anatomy and physiology of the endocrine organs and the functional biochemistry of their hormones were taught in an integrated fashion with reference to common diseases occurring in the Pakistani community. This second module advances from normal physiology to the study of pathology, related pharmacology, and clinical aspects of endocrine, gynecological, and urological disorders. It emphasizes integration of basic sciences with clinical application to strengthen diagnostic reasoning and therapeutic decision-making. In addition to patient-level care, the module incorporates community medicine and public health perspectives, focusing on prevention, early detection, and health promotion strategies for prevalent conditions such as diabetes, thyroid disorders, infertility, menstrual health problems, and reproductive cancers. Through this integration, students will develop a holistic understanding of endocrine and reproductive health, equipping them to address these issues both in clinical practice and at the population level.

MODULE OUTCOMES

- Explain the pathophysiology of common endocrine, gynecological, and urological disorders.
- Correlate pathology, pharmacology, and clinical features of endocrine and reproductive system disorders to strengthen diagnostic reasoning.
- Demonstrate an understanding of pharmacological principles in the management of endocrine, gynecological, and urological conditions.
- Perform focused clinical assessments, including history taking and physical examination, to evaluate endocrine and reproductive health problems.
- Interpret essential laboratory and imaging investigations in the diagnosis of common conditions.
- Demonstrate professional communication and counseling skills by educating patients and families about disease, treatment options, and preventive measures.

SUBJECTS INTEGRATED IN THE MODULE

Endocrinology/Medicine

Gynecology

Pharmacology

Pathology

Urology

THEORY

CODE	SPECIFIC LEARNING OUTCOMES	DISCIPLINE	TOPIC
HYPOTHALAMIC AND PITUTARY DISORDERS			
EnR-En-001	<p>Diagnose diabetes insipidus on the basis of characteristic symptoms and clinical presentation.</p> <p>Differentiate between central and nephrogenic types.</p> <p>Outline the investigations to reach the diagnosis.</p> <p>Formulate a management plan for central and nephrogenic cases.</p> <p>Identify potential complications if left untreated.</p>	Endocrinology/ Medicine	Diabetes Insipidus
EnR-En-002	<p>Describe the clinical features of precocious puberty.</p> <p>Differentiate between its central and peripheral causes.</p> <p>Develop a stepwise diagnostic and management plan for a patient presenting with precocious puberty.</p>	Gynaecology / Endocrinology	Precocious Puberty
EnR-En-003	<p>Diagnose delayed puberty based on absence of secondary sexual characteristics by expected age.</p> <p>Explain the pathophysiology of GnRH deficiency.</p> <p>Develop a stepwise diagnostic and management plan for a patient presenting with precocious puberty.</p>	Gynaecology / Endocrinology	Delayed Puberty
EnR-En-004	<p>Identify the clinical features of dwarfism due to growth hormone deficiency.</p> <p>Explain the underlying mechanisms leading to the disorder.</p> <p>List the investigations for diagnosing the condition.</p> <p>Plan the management of dwarfism caused by growth hormone deficiency.</p> <p>Identify possible complications associated with untreated cases.</p>	Endocrinology/ Medicine	Dwarfism
EnR-En-005	<p>Diagnose gigantism on the basis of characteristic signs and symptoms.</p>	Endocrinology/ Medicine	Gigantism & Acromegaly

	<p>Describe its etiology.</p> <p>Outline investigation and discuss management plan.</p> <p>Identify potential complications.</p> <p>Diagnose acromegaly on the basis of characteristic signs and symptoms.</p> <p>Differentiate acromegaly from gigantism.</p> <p>Describe the underlying etiology.</p> <p>Outline the approach to investigation and discuss management strategies.</p> <p>Enlist complications.</p>		
EnR-Pa-006	<p>Classify pituitary adenomas.</p> <p>Describe etiopathogenesis of pituitary adenomas.</p> <p>Describe their gross and microscopic pathological features.</p> <p>Correlate the clinical features with the type of hormone secreted (prolactinoma, somatotroph adenoma, corticotroph adenoma).</p> <p>Discuss the complications.</p> <p>Outline the diagnostic approach including hormonal assays, imaging findings, and histopathology.</p>	Pathology	Pituitary Adenomas
EnR-En-007	<p>Diagnose SIADH based on signs and symptoms.</p> <p>Explain underlying mechanism leading to the development of SIADH.</p> <p>List the investigations and plan management.</p> <p>List the potential complications of SIADH.</p>	Endocrinology/ Medicine	SIADH
EnR-En-008	<p>Describe the role of melatonin in regulating circadian rhythm.</p> <p>Recognize clinical implications of melatonin deficiency or excess.</p> <p>Outline the use of melatonin supplements in clinical practice.</p>	Endocrinology /Medicine	Pineal Dysfunction and Sleep Disorders
EnR-Ph-009	<p>Classify hypothalamic and pituitary hormones and state their functions.</p> <p>Describe the pharmacokinetics of pituitary and hypothalamic hormones.</p>	Pharmacology	Hypothalamic and Pituitary Hormones

	<p>Explain the mechanism of action of these hormones.</p> <p>Discuss the pharmacological effects of pituitary and hypothalamic hormones.</p> <p>Identify their clinical uses.</p> <p>List potential adverse effects.</p> <p>Describe drug interactions involving hypothalamic and pituitary hormones.</p> <p>Enlist contraindications for the use of hypothalamic and pituitary hormones.</p>		
EnR-Ph-010	<p>Enlist prolactin antagonists (dopamine agonists).</p> <p>Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.</p>	Pharmacology	Prolactin Antagonists (Dopamine Agonists)
EnR-Ph-011	<p>Describe the pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications of oxytocin.</p>	Pharmacology	Oxytocin
EnR-Ph-012	<p>Describe the pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications of vasopressin.</p> <p>Enumerate vasopressin antagonists and describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.</p>	Pharmacology	Vasopressin and Vasopressin Antagonists

THYROID AND PARATHYROID DISORDERS

CODE	SPECIFIC LEARNING OUTCOMES	DISCIPLINE	TOPIC
EnR-En-013	<p>Enlist causes of hypothyroidism.</p> <p>Discuss the pathophysiology of decreased thyroid hormone production.</p> <p>Identify the clinical features and complications of hypothyroidism.</p> <p>Interpret diagnostic tests of TSH, T₃, T₄.</p>	Endocrinology /Medicine	Hypothyroidism

	Outline treatment plan and long-term follow-up.		
EnR-En-014	<p>Explain the pathophysiology of excessive thyroid hormone production and its systemic effects.</p> <p>Enlist etiology of hyperthyroidism.</p> <p>Explain the autoimmune mechanism and clinical triad of Graves' disease.</p> <p>Diagnose hyperthyroidism based on the symptoms and signs, laboratory and imaging diagnostic findings.</p> <p>Discuss medical and surgical management strategies.</p> <p>Explain the pathophysiology, precipitating factors, clinical features, and emergency management of thyroid storm.</p> <p>Explain the importance of long-term monitoring and patient education regarding medication adherence and follow-up.</p>	Endocrinology /Medicine	Hyperthyroidism
EnR-Pa-015	<p>Classify thyroid tumors based on histopathological types: papillary, follicular, medullary, anaplastic.</p> <p>Identify clinical presentation, risk factors, and diagnostic approaches including molecular testing.</p> <p>Identify prognostic indicators and follow-up requirements.</p>	Pathology	Thyroid Neoplasms
EnR-Ph-016	<p>Describe different thyroid preparations.</p> <p>Describe the pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications of thyroid preparations.</p>	Pharmacology	Thyroid Preparations
EnR-Ph-017	<p>Classify anti-thyroid drugs.</p> <p>Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.</p>	Pharmacology	Anti-Thyroid Drugs
EnR-Ph-018	Describe the Jod-Basedow phenomenon caused by iodides.	Pharmacology	Iodides and Related Phenomena

EnR-Ph-019	<p>Explain the use of beta-blockers in the treatment of hyperthyroidism.</p> <p>Explain the rationale for the use of different drugs in thyroid storm.</p>	Pharmacology	Adjuvant Drugs in Hyperthyroidism
EnR-En-020	<p>Identify the clinical features of hyperparathyroidism.</p> <p>Interpret biochemical findings in hyperparathyroidism.</p> <p>Explain the pathophysiological basis of symptoms in relation to calcium and bone metabolism.</p> <p>Discuss the complications of untreated hyperparathyroidism.</p> <p>Outline the management plan.</p>	Endocrinology/ Medicine	Hyperparathyroidism
EnR-En-021	<p>Explain the causes of hypoparathyroidism.</p> <p>Describe the pathophysiology of hypocalcemia due to PTH deficiency.</p> <p>Identify clinical features such as tetany, Chvostek's and Trousseau's signs.</p> <p>Interpret laboratory findings.</p> <p>Outline acute and chronic management plan.</p>	Endocrinology/ Medicine	Hypoparathyroidism
EnR-Ph-022	<p>Enumerate vitamin D preparations.</p> <p>Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.</p>	Pharmacology	Vitamin D Preparations
EnR-Ph-023	<p>Enumerate drugs used for the treatment of hypercalcemia.</p> <p>Describe their mechanism of action, clinical uses, and adverse effects (e.g., calcitonin, bisphosphonates, corticosteroids).</p>	Pharmacology	Drugs Used in the Treatment of Hypercalcemia
EnR-Ph-024	<p>Enlist bisphosphonates.</p> <p>Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.</p>	Pharmacology	Bisphosphonates

PANCREATIC DISORDERS

CODE	SPECIFIC LEARNING OUTCOMES	DISCIPLINE	TOPIC
EnR-En-025	<p>Describe the underlying pathophysiology of pancreatic β-cells leading to insulin deficiency.</p> <p>Diagnose Type 1 Diabetes Mellitus based on clinical presentation and diagnostic findings.</p> <p>Identify acute complications of T1DM.</p> <p>Describe the pathophysiology, clinical manifestations, and laboratory findings of diabetic ketoacidosis.</p> <p>Outline the management principles of Type 1 Diabetes Mellitus, focusing on insulin therapy, dietary regulation, lifestyle modification, and self-monitoring of blood glucose.</p>	Endocrinology/ Medicine/ Pathology	Diabetes Mellitus Type 1
EnR-En-026	<p>Identify clinical presentation of Type 2 Diabetes and differentiate it from type 1 diabetes.</p> <p>Describe the pathophysiology of insulin resistance and relative insulin deficiency.</p> <p>Identify risk factors.</p> <p>Discuss diagnosis and monitoring.</p> <p>Outline management strategies and patient counselling.</p>		Diabetes Mellitus Type 2
EnR-Ph-027	Classify oral antidiabetic drugs	Pharmacology	Oral Antidiabetic Drugs
EnR-Ph-029	<p>Classify insulins.</p> <p>Describe the pharmacokinetics of different insulin preparations.</p> <p>Explain the mechanism of action of insulin.</p> <p>Describe the pharmacological effects and efficacy of insulin.</p> <p>Enumerate the clinical uses of insulin.</p> <p>Discuss adverse effects, drug interactions, and contraindications of insulin.</p>	Pharmacology	Insulin

	Describe the concept and causes of insulin resistance.		
EnR-Ph-030	Classify sulfonylureas. Explain the mechanism of action of sulfonylureas. Enumerate their clinical uses. Describe their adverse effects.	Pharmacology	Sulfonylureas
EnR-Ph-031	Classify biguanides. Explain the mechanism of action of biguanides. Enumerate their clinical uses. Describe their adverse effects.	Pharmacology	Biguanides
EnR-Ph-032	Classify thiazolidinediones. Explain the mechanism of action of thiazolidinediones. Enlist their clinical uses and adverse effects.	Pharmacology	Thiazolidinediones
EnR-Ph-033	Classify alpha-glucosidase inhibitors and amylin analogues. Explain their mechanism of action. Enlist their clinical uses and adverse effects.	Pharmacology	Alpha-Glucosidase Inhibitors and Amylin Analogues
EnR-Ph-034	Classify incretin-based drugs and SGLT2 inhibitors. Explain their mechanism of action. Enumerate their clinical uses and adverse effects.	Pharmacology	Incretin-Based Drugs and SGLT2 Inhibitors
EnR-En-035	Explain the pathophysiology of insulinoma. Identify clinical features of hypoglycemia. Describe Whipple's triad and its diagnostic significance. Outline investigations and discuss management.	Endocrinology/ Medicine	Insulinoma
EnR-En-036	Explain the pathophysiology of glucagonoma. Diagnose glucagonoma based on its clinical presentation and specific diagnostic findings. Discuss its management plan.	Endocrinology/ Medicine	Glucagonoma
ADRENAL GLAND DISORDERS			
CODE	SPECIFIC LEARNING OUTCOMES	DISCIPLINE	TOPIC

EnR-En-037	<p>Describe the pathophysiology of Cushing's Syndrome. Differentiate between Cushing's syndrome and Cushing's disease.</p> <p>Diagnose Cushing's syndrome based on key clinical features.</p> <p>Interpret relevant diagnostic investigations including cortisol levels and dexamethasone suppression test.</p> <p>Outline the principles of management, including surgical and medical options.</p>	Endocrinology/ Medicine	Cushing's Syndrome
EnR-En-038	<p>Explain the pathophysiology of adrenal insufficiency leading to Addison's disease.</p> <p>Diagnose Addison's disease based on key clinical presentation.</p> <p>Interpret diagnostic tests including serum cortisol, ACTH, and electrolyte levels.</p> <p>Outline the management plan.</p>	Endocrinology/ Medicine	Addison's Disease
EnR-En-039	<p>Explain the underlying pathophysiology of Conn's Syndrome.</p> <p>Identify the key clinical manifestations and correlate them with the underlying biochemical changes.</p> <p>Interpret the laboratory findings and diagnostic tests used to confirm Conn's syndrome.</p> <p>Outline the principles of management, including medical and surgical treatment options.</p>	Endocrinology/ Pathology	Conn's Syndrome
EnR-Pa-040	<p>Classify adrenal tumors.</p> <p>Describe the etiopathogenesis of pheochromocytoma.</p> <p>Explain the morphological features of pheochromocytoma.</p> <p>Describe the clinical manifestations due to excess catecholamine secretion.</p> <p>Interpret relevant laboratory and imaging findings used in the diagnosis of adrenal tumors.</p>	Pathology/ Endocrinology	Tumors of the adrenal cortex and medulla

	Outline the principles of management, including surgical, medical, and supportive treatment approaches.		
EnR-Ph-041	Classify corticosteroids. Describe the pharmacokinetics, mechanism of action, pharmacological effects, clinical uses, adverse effects, drug interactions, and contraindications of corticosteroids. Justify the tapering off of corticosteroids to prevent adrenal suppression and withdrawal effects.	Pharmacology	Corticosteroids
EnR-Ph-042	Classify corticosteroid antagonists (e.g., receptor antagonists and synthesis inhibitors). Describe their pharmacokinetics, mechanism of action, pharmacological effects, clinical uses, adverse effects, drug interactions, and contraindications.	Pharmacology	Corticosteroid antagonists
EnR-Ph-043	Identify the clinical indications for Hormone Replacement Therapy (HRT) and evaluate its potential risks and benefits for post-menopausal women. Discuss the patient education aspects regarding HRT, including lifestyle modifications and alternative therapies. Enlist estrogen antagonists including SERMs and describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions, and contraindications.	Pharmacology	Hormone replacement therapy
BREAST AND REPRODUCTIVE DISORDERS			
CODE	SPECIFIC LEARNING OUTCOMES	DISCIPLINE	TOPIC
EnR-Ph-044	Classify benign epithelial lesions for breast. Describe morphological changes of non proliferative and proliferative diseases of breast.	Pathology	Breast

	<p>Classify benign, premalignant, and malignant tumors of breast.</p> <p>Enumerate molecular types of breast carcinoma.</p> <p>Describe the incidence, epidemiology, risk factors, pathogenesis, and morphology of breast carcinomas.</p> <p>Describe the prognostic and predictive factors for invasive carcinoma of breast.</p> <p>Describe grading and staging of breast carcinoma.</p> <p>Describe the role of FNAC, biopsy, and immunohistochemistry in diagnosis of breast cancer.</p> <p>Enumerate stromal tumors of breast.</p> <p>Describe the morphology of fibroadenoma and Phyllodes tumors.</p>		
EnR-En-045	<p>Describe causes of Hyperprolactinemia.</p> <p>Explain the pathophysiology of hyperprolactinemia.</p> <p>Identify clinical presentation and interpret diagnostic tests.</p> <p>Outline management plan.</p>	Endocrinology/ Medicine	Hyperprolactinemia
EnR-Pa-046	<p>Describe the morphological features of uterine fibroids.</p> <p>Classify the types of fibroids based on location: submucosal, intramural, subserosal, and pedunculated.</p> <p>Explain the pathogenesis of fibroid development, including hormonal influences (estrogen and progesterone) and genetic factors.</p>	Pathology	Uterine Fibroids
EnR-Gyn-047	<p>Define female Subfertility and its significance in reproductive health</p> <p>Describe type of Subfertility (primary, secondary).</p> <p>Describe the common causes of female Subfertility, including ovulatory disorders, structural abnormalities, and endocrine issues.</p> <p>Discuss the impact of lifestyle factors on female fertility.</p>	Gynaecology	Female Subfertility

<p>EnR-Ph-048</p>	<p>Classify drugs used for treatment of subfertility. Enlist progesterone antagonists. Describe pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions and contraindications of progestogen antagonists. Enlist androgen and antiandrogen preparations Describe pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions and contraindications. Enumerate estrogen & progestogen preparations. Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions and contraindications. Classify Contraceptives. Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions and contraindications. Enlist estrogen antagonists. Describe their pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions and contraindications. Describe use of Clomiphene in treatment of Subfertility. Describe the use of AntiEstrogen (Letrozole) in the treatment of Subfertility. Tabulate differences between Clomiphene and Letrozole.</p>	<p>Pharmacology</p>	<p>Treatment of subfertility</p>
<p>EnR-Ph-049</p>	<p>Explain the pathophysiology of male subfertility, including the role of testosterone and other hormones. Discuss the clinical features associated with male subfertility and hypogonadism, including symptoms and signs.</p>	<p>Urology/ Endocrinology</p>	<p>Male Subfertility</p>

	<p>Enlist the investigations.</p> <p>Interpret the Semen Analysis parameter.</p>		
EnR-Ph-050	<p>Enumerate anabolic steroids.</p> <p>Describe pharmacokinetics, mechanism of action, pharmacological effects, uses, adverse effects, drug interactions and contraindications of Testosterone</p>	Pharmacology	Anabolic steroids
EnR-Pa-051	<p>Define premalignant uterine conditions, including endometrial hyperplasia and its types.</p> <p>Describe the pathophysiology and histological classification of endometrial hyperplasia.</p> <p>Describe the pathophysiology and histological features of Hydatidiform mole.</p> <p>Explain the pathological mechanisms underlying progression from atypical endometrial hyperplasia to endometrial carcinoma.</p> <p>Classify uterine carcinoma based on histological type (endometrial carcinoma, uterine sarcoma) and describe its pathophysiology and staging.</p> <p>Discuss the prognosis of uterine carcinoma based on stage, grade, and histological type.</p>	Pathology	Premalignant and Malignant Conditions of Uterus
EnR-Pa-052	<p>Define benign cervical lesions and CIN.</p> <p>Differentiate between benign and premalignant cervical lesions based on histopathology.</p> <p>Explain the principles of cervical cytology, including Pap smear technique, interpretation, and the Bethesda reporting system.</p> <p>Describe the pathological significance of HPV infection in cervical lesions.</p> <p>Identify indications for cervical biopsy during colposcopy.</p>	Pathology	Benign and Premalignant Lesions of the Cervix
EnR-Pa-053	<p>Define benign ovarian cysts and classify them (functional cysts, dermoid cysts).</p> <p>Describe the pathophysiology and histological features of functional ovarian cysts (follicular and corpus luteum cysts).</p>	Pathology	Benign and malignant ovarian tumors

	<p>Define malignant ovarian neoplasms and categorize them into epithelial, germ cell, and sex-cord stromal tumors.</p> <p>Explain the pathophysiology and molecular mechanisms involved in ovarian tumor development.</p>		
--	---	--	--

PRACTICAL / LAB WORK

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
EnR-Pa-053	Identify classical microscopic features of papillary carcinoma of thyroid. Interpret the report of abnormal thyroid function test.	Pathology	Thyroid cancer & Thyroid function test
EnR-Pa-054	Diagnose Diabetes Milletus on the basis of lab investigations.	Pathology	Lab investigations for Diabetes Milletus
EnR-Pa-055	Identify classical gross and microscopic features of endometrial carcinoma and uterine fibroids. Identify classical gross and microscopic features of ovarian cyst (serous and mucinous), and ovarian teratoma.	Pathology	Female genital pathology
EnR-Pa-056	Identify classical gross and microscopic features of fibroadenoma and breast carcinoma.	Pathology	Breast tumors



MODULE 32
DERMATOLOGY

MODULE RATIONALE

Skin diseases are among the most common health problems and significantly impact patients' quality of life. A sound understanding of dermatological conditions is therefore essential for every medical graduate. This module is designed to provide medical students with fundamental knowledge and clinical skills in dermatology, integrated with related basic sciences. It emphasizes the recognition of common skin disorders, underlying pathophysiological mechanisms, and principles of management, while highlighting links with systemic diseases. Early clinical exposure, case-based discussions, and integration with disciplines such as microbiology, pathology, pharmacology, and internal medicine will prepare students to diagnose, manage, and appropriately refer patients with dermatological problems

MODULE OUTCOMES

- Identify and describe common dermatological disorders and their clinical presentations.
- Correlate pathological features with clinical manifestations to formulate differential diagnoses.
- Develop basic management and treatment plans for common dermatological conditions.
- Provide patient counseling on disease course, prevention, and lifestyle modifications.
- Apply principles of referral and recognize cases requiring specialist intervention.

SUBJECTS INTEGRATED IN THE MODULE

Dermatology

Pathology

Microbiology

Pharmacology

Community Medicine

THEORY

DERMATOLOGY

CODE	SPECIFIC LEARNING OUTCOMES	DISCIPLINE	TOPIC
Derm2-001	<p>Describe the morphological features of following skin lesions: Macule, Papule, Nodule, Plaque, Wheal, Vesicles and bullae, Pustule, Cyst, Scale, Crust, Fissuring, Erosion, Ulceration, Excoriation, Lichenification, Annular lesions, Discoid lesions, Atrophy, scar, and keloid.</p> <p>Describe and differentiate dermatological features including desquamation, burrow, comedone, telangiectasia, reticulate, petechiae, purpura, and ecchymosis.</p>	Dermatology	Skin lesions
Derm2-002	<p>Describe the etiology and mode of transmission of <i>Sarcoptes scabiei</i>.</p> <p>Identify clinical presentation of scabies</p> <p>Differentiate scabies from other pruritic dermatoses.</p> <p>Outline the treatment of scabies including preventive measures.</p>	Dermatology/ Community medicine	Scabies
Derm2-003	<p>Explain the etiology and types of lice infestation.</p> <p>Describe clinical presentation.</p> <p>Differentiate pediculosis from dandruff, scabies, and seborrheic dermatitis.</p> <p>Outline treatment strategies with preventive measures.</p>	Dermatology/ Community medicine	Pediculosis
Derm2-004	<p>Classify dermatitis.</p> <p>Enlist the common forms of endogenous and exogenous eczema.</p>	Dermatology	Eczema/dermatitis
Derm2-005	<p>Describe the etiology and predisposing factors of atopic dermatitis.</p> <p>Identify the clinical features.</p> <p>Differentiate atopic dermatitis from seborrheic dermatitis, scabies, and contact dermatitis on basis of clinical features.</p> <p>Outline treatment and preventive strategies.</p>	Dermatology	Atopic Dermatitis

Derm2-006	<p>Explain the etiology and role of Malassezia, sebum, immune factors.</p> <p>Identify clinical features of seborrheic dermatitis.</p> <p>Differentiate seborrheic dermatitis from psoriasis, atopic dermatitis, and pediculosis.</p> <p>Outline treatment and preventive strategies for relapse control.</p>	Dermatology	Seborrheic Dermatitis
Derm2-007	<p>Differentiate between irritant and allergic contact dermatitis in terms of etiopathogenesis, and clinical features.</p> <p>Identify the clinical features of contact dermatitis.</p> <p>Differentiate contact dermatitis from atopic dermatitis, urticaria, and scabies.</p> <p>Outline treatment plan and preventive measures.</p>	Dermatology	Contact Dermatitis
Derm2-008	<p>Describe the etiology and pathophysiology of urticaria.</p> <p>Identify clinical features.</p> <p>Differentiate urticaria from contact dermatitis, scabies, and drug reactions on basis of sign and symptoms.</p> <p>Outline emergency management for angioedema/anaphylaxis.</p>	Dermatology/ Medicine	Urticaria
Derm2-009	<p>Define bullous disorders.</p> <p>Classify immune-mediated bullous disorders.</p> <p>Explain the pathogenesis of:</p> <ol style="list-style-type: none"> i. Pemphigus vulgaris ii. Bullous pemphigoid iii. Dermatitis herpetiformis <p>Describe the clinical presentation and lesion morphology of each disorder.</p> <p>Differentiate between these disorders on the basis of site, blister type, and mucosal involvement.</p> <p>Enlist appropriate diagnostic tests.</p> <p>Outline management plan.</p> <p>Enlist potential complications and their preventive measures.</p>	Dermatology	Bullous disorders
	Define epidermolysis bullosa.	Dermatology	

	<p>Explain the underlying molecular and genetic mechanisms leading to skin fragility in EB.</p> <p>Describe the clinical features and complications associated with EB.</p> <p>Outline the diagnostic approaches and principles of management.</p>		
	<p>Define infective bullous disorders.</p> <p>Classify them based on causative agents.</p> <p>Identify the etiological factors and common pathogens.</p> <p>Describe characteristic clinical features of major infective bullous disorders (bullous impetigo and staphylococcal scalded skin syndrome) with complications.</p> <p>Outline the principles of management.</p>	Dermatology	
Derm2-010	<p>Explain the etiopathogenesis of acne vulgaris.</p> <p>Identify the clinical features and types of acne lesions.</p> <p>Differentiate acne vulgaris from other acneiform eruptions.</p> <p>Outline the treatment plan including preventive and long-term management strategies.</p> <p>Explain mechanism of action and adverse effects of drugs used in acne.</p>	Dermatology/ Pharmacology	Acne Vulgaris
Derm2-011	<p>Describe the etiopathogenesis of psoriasis.</p> <p>Identify the clinical features and common variants.</p> <p>Outline treatment modalities with preventive and lifestyle strategies.</p>	Dermatology	Psoriasis
Derm2-012	<p>Describe the etiopathogenesis of lichen planus.</p> <p>Identify the classical clinical features.</p> <p>Enlist the differential diagnosis of lichen planus.</p> <p>Outline the treatment plan.</p> <p>Discuss preventive and long-term considerations, including malignant transformation risk.</p>	Dermatology/ Pathology	Lichen Planus
Derm2-013	<p>Differentiate erythema multiforme and erythema nodosum in terms of etiology, clinical features, morphology,</p>	Dermatology	Erythema Multiforme and erythema nodosum

	distribution, associated conditions, and principles of management.		
Derm2-014	Identify drug causing Stevens-Johnson syndrome. Describe the characteristic signs and symptoms. Outline management plan.		Stevens-Johnson Syndrome (SJS)
Derm2-015	Describe toxic epidermal necrolysis with its pathophysiology. Identify the common causative drugs and triggers of TEN. Identify the hallmark clinical features including extent of epidermal detachment and systemic involvement. Identify complications of TEN and their impact on prognosis. Outline the principles of intensive treatment and supportive care in TEN.	Dermatology/ Pharmacology	Toxic Epidermal Necrolysis (TEN)
Derm2-016	Describe the role of Staphylococcus aureus as a causative organism in skin infections. Describe the clinical patterns including impetigo, bullous impetigo, boils (abscesses), bacterial folliculitis, and infected eczema. Outline the diagnostic considerations, complications, and management principles. Identify acute bacterial skin infections caused by Streptococcus pyogenes. Describe their clinical patterns including non-bullous impetigo, ecthyma, and erysipelas. Identify the role of group A β -hemolytic streptococci (and occasionally groups B, C, G) as causative organisms. Outline the clinical course, complications, and management including systemic antibiotics.	Dermatology/ Microbiology	Acute bacterial skin infections
Derm2-017	Describe the etiological agent and routes of infection of cutaneous tuberculosis. Identify the major clinical forms of cutaneous tuberculosis. Outline the diagnostic approach and treatment.	Dermatology/ Microbiology	

	<p>Describe the causative organism, transmission, and pathogenesis of leprosy.</p> <p>Identify the clinical spectrum of leprosy and cardinal signs of diagnosis.</p> <p>Explain the complications and deformities resulting from nerve involvement in leprosy.</p> <p>Outline the diagnostic approach and management principles.</p>	Dermatology/ Microbiology	
Derm2-018	<p>Describe the etiology and types of warts.</p> <p>Identify the clinical presentation of warts.</p> <p>Enlist the differential diagnosis.</p> <p>Outline the management options with preventive measures.</p>	Dermatology	Viral skin infections
	<p>Explain the etiology and mode of transmission of molluscum contagiosum virus.</p> <p>Identify the clinical features and distribution of molluscum contagiosum lesions.</p> <p>Differentiate molluscum contagiosum from warts, milia, and basal cell carcinoma on basis of clinical features.</p> <p>Discuss treatment options and prevention strategies.</p>	Dermatology/ Microbiology	
	<p>Explain the etiopathogenesis of herpes zoster (Shingles) including reactivation of varicella-zoster virus.</p> <p>Describe the clinical features, dermatomal distribution, and prodromal symptoms.</p> <p>Differentiate herpes zoster from HSV, contact dermatitis, and impetigo on basis of clinical features.</p> <p>Outline management and prevention strategies.</p>	Dermatology/ Microbiology	
	<p>Identify the etiology and types of herpes simplex.</p> <p>Discuss the clinical presentation of primary and recurrent HSV infections.</p> <p>Discuss differential diagnosis of herpes simplex.</p> <p>Outline the management plan.</p>	Dermatology/ Microbiology	
Derm2-019	<p>Describe the etiology of tinea.</p> <p>Discuss the clinical features of different types of tinea.</p>	Dermatology	Fungal skin infections

	<p>Differentiate tinea from eczema, psoriasis, seborrheic dermatitis, and candidiasis.</p> <p>Outline the diagnostic approach, treatment options, and preventive measures.</p>		
	<p>Explain the etiology of Pityriasis Versicolor and predisposing factors.</p> <p>Describe the clinical presentation.</p> <p>Differentiate pityriasis versicolor from vitiligo.</p> <p>Outline diagnostic tests and management plan.</p>	Dermatology	
Derm2-020	<p>Classify the types of leishmaniasis.</p> <p>Describe the clinical features of cutaneous, mucocutaneous, and visceral leishmaniasis.</p> <p>Enlist its complications.</p> <p>Outline the diagnostic methods, treatment options and preventive measures.</p>	Parasitology/ Dermatology	Protozoal skin infection
Derm2-021	<p>Define vitiligo and describe its epidemiology.</p> <p>Explain the underlying pathogenetic mechanisms.</p> <p>Describe its clinical features.</p> <p>Make differential diagnosis of hypopigmented skin lesions.</p> <p>Discuss the management options.</p> <p>Outline the psychosocial impact of vitiligo.</p>	Dermatology	Pigmentation Disorders
	<p>Define melasma and describe its etiology and epidemiology.</p> <p>Describe the clinical features with its treatment options.</p> <p>Describe adverse effects of de-melanizing agents.</p>	Dermatology	
	<p>Define albinism and explain its genetic basis.</p> <p>Describe the clinical features.</p> <p>Outline management plan.</p>	Dermatology	
Derm2-022	<p>Describe the role of sunscreen in protecting skin.</p> <p>Explain the importance of Sun Protection Factor (SPF) and choosing an appropriate SPF for daily use.</p> <p>Describe the correct method of applying sunscreen, including quantity, timing, and reapplication.</p>	Dermatology	Use of sunscreen

Derm2-023	<p>Describe the clinical features of onychomycosis and paronychia.</p> <p>Describe nail changes in psoriasis and lichen planus.</p> <p>Identify common traumatic nail changes.</p> <p>Describe systemic associations of nail changes.</p> <p>Describe the importance of emollients and early antifungal treatment in nail care.</p>	Dermatology/ Medicine	Disorders of nails
Derm2-024	<p>Define alopecia areata.</p> <p>Explain the etiological and immunological basis of alopecia areata.</p> <p>Describe the clinical features and patterns of presentation.</p> <p>Outline the differential diagnosis.</p> <p>Discuss the management options for alopecia areata.</p>	Dermatology	Disorders of hairs
	<p>Define and classify androgenic alopecia.</p> <p>Explain the hormonal and genetic factors contributing to androgenic alopecia.</p> <p>Describe the clinical features and diagnostic criteria.</p> <p>Outline the management plan.</p>	Dermatology	
	<p>Define hirsutism and differentiate it from hypertrichosis.</p> <p>Identify the common causes of hirsutism.</p> <p>Outline the diagnostic workup for hirsutism.</p> <p>Discuss medical, cosmetic, and lifestyle-based management strategies.</p>	Dermatology/ Medicine	
Derm2-025	<p>Discuss types of naevi with reference to clinical and morphological features.</p> <p>Differentiate benign nevi from malignant melanoma on the basis of clinical signs.</p>	Pathology/ Dermatology	Naevi
Derm2-026	<p>Describe the signs and symptoms of malignant melanoma.</p> <p>Enlist the risk factors.</p> <p>Outline the diagnostic investigations and management.</p> <p>Explain the importance of early detection for survival outcomes.</p>	Pathology/ Dermatology	Cutaneous tumors

	<p>Describe the clinical features of basal cell carcinoma. Discuss diagnostic methods and outline the management.</p>	<p>Pathology/ Dermatology</p>	
	<p>Enlist the predisposing factors for squamous cell carcinoma. Describe the clinical presentation. Identify diagnostic approaches with treatment options.</p>	<p>Pathology/ Dermatology</p>	



MODULE 33
ENT & EYE-III



ENT-III

MODULE RATIONALE

The inclusion of module related to otorhinolaryngology in the undergraduate medical curriculum is imperative to ensure that future physicians acquire the essential knowledge and skills to diagnose and manage both common and potentially serious otorhinolaryngological conditions. Such training not only contributes to improved patient care but also alleviates the burden on specialized ENT (ear, nose, throat) services, thereby enhancing overall healthcare delivery and efficiency. The objective of this module is to outline the essential knowledge, skills, attitudes, and competencies in otorhinolaryngology that must be attained during undergraduate medical training.

MODULE OUTCOMES

- Explain the pathophysiology and clinical features of common ear, nose, and throat disorders.
- Identify and diagnose prevalent otorhinolaryngological conditions through history-taking and clinical evaluation.
- Perform basic otorhinolaryngological examination techniques competently.
- Initiate appropriate first-line management for common ENT conditions and determine indications for timely referral to specialist care.
- Recognize and provide initial stabilization for otorhinolaryngological emergencies, such as airway obstruction and severe epistaxis, followed by appropriate referral.
- Communicate effectively with patients regarding ENT conditions, management options, and preventive strategies, ensuring clarity and patient-centered care.
- Demonstrate professionalism, ethical conduct, and a respectful attitude in the care of patients with otorhinolaryngological conditions

SUBJECTS INTEGRATED IN THE MODULE

Anatomy

Physiology

Pathology

Pharmacology

Oncology

Forensic Medicine

THEORY

ENT-III (THROAT)

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
ENT-Throat-001	<p>Enlist cystic lesions of oral cavity.</p> <p>Discuss differential diagnosis of following cystic lesions of oral cavity and their treatment</p> <ol style="list-style-type: none"> i. Mucoceles ii. Ranula iii. Dermoid cyst 	ENT	Cystic lesions of oral cavity
ENT-Throat-002	<p>Identify the clinical features and order investigations of sialadenitis, sialolithiasis, and sialectasis.</p> <p>Outline the treatment plan for sialadenitis, sialolithiasis, and sialectasis</p>		Salivary Gland Disorders
ENT-Throat-003	<p>Describe the etiology and risk factors of aphthous ulcer.</p> <p>Explain the morphological features of aphthous ulcer.</p> <p>Differentiate aphthous ulcers from other oral ulcers.</p> <p>Outline the management plan of aphthous ulcer.</p>		Aphthous ulcer
ENT-Throat-004	<p>Describe the etiology, predisposing factors, and clinical features of Vincent's angina.</p> <p>Differentiate Vincent's angina from diphtheria.</p> <p>Discuss the diagnostic approach, including clinical examination and smear findings.</p> <p>Enlist the complications associated with Vincent's angina.</p> <p>Outline the management plan of Vincent's angina.</p>		Vincent's angina
ENT-Throat-005	<p>Describe the clinical features, differential diagnosis, and management of leukoplakia and erythroplakia of the tongue.</p>		Leukoplakia and erythroplakia
ENT-Throat-006	<p>Describe the surgical anatomy of the nasopharynx, oropharynx, and hypopharynx.</p> <p>Identify important anatomical relations and structures at risk during surgery.</p>		ENT/Anatomy

ENT-Throat-007	Describe predisposing factors and the clinical presentations and treatment of acute & chronic pharyngitis.	ENT	Pharyngitis
ENT-Throat-008	Enumerate the disorders that may present with a white patch or membrane over the tonsils. Identify the clinical features and order investigations required for diagnosis of diphtheria. Discuss the possible complications resulting from diphtheria and its prevention. Plan the management of faucial diphtheria.	ENT/Paediatrics	Membranous pharyngitis/ Diphtheria
ENT-Throat-009	Describe the clinical features of acute and chronic tonsillitis. Outline the treatment of acute & chronic tonsillitis. Enlist the indications and contraindications of tonsillectomy. Discuss the pre-operative preparation, post-operative care, and management of complications in tonsillectomy. Identify the clinical signs and symptoms of peritonsillar abscess and outline its management	ENT	Tonsillitis
ENT-Throat-010	Enlist the etiology of adenoid hypertrophy. Identify the clinical features and order the investigations required for diagnosis of adenoiditis. Describe the management of adenoiditis. Enlist the indications, contraindications and complications of adenoidectomy		Adenoids
ENT-Throat-011	Describe the clinical features, investigations, and surgical management of juvenile nasopharyngeal angiofibroma. Explain the clinical presentation, diagnostic work-up, and treatment of nasopharyngeal carcinoma.	ENT/Oncology	Neoplasms of nasopharynx
ENT-Throat-012	Define Plummer-Vinson syndrome and its classical triad.	ENT/Pathology	Plummer-Vinson syndrome

	<p>Explain the pathophysiological role of iron deficiency in the development of mucosal atrophy and esophageal webs.</p> <p>Describe the clinical features and possible complications of PVS.</p> <p>Outline the management plan of PVS.</p>		
ENT-Throat-013	<p>Describe the causes, clinical features, and management of acute laryngitis.</p> <p>Discuss the etiology, clinical features, and treatment of chronic laryngitis.</p>	ENT	Acute and chronic laryngitis
ENT-Throat-014	<p>Describe the etiology and pathophysiology of acute laryngo-tracheobronchitis.</p> <p>Identify its clinical.</p> <p>Differentiate from other causes of stridor.</p> <p>Outline the management plan. Describe the emergency measure in acute laryngo- tracheobronchitis.</p>	ENT/Paediatrics	Stridor/Croup
ENT-Throat-015	<p>Enumerate the causes of vocal cord paralysis.</p> <p>Identify the clinical features of unilateral and bilateral abductor paralysis.</p> <p>Diagnose the unilateral and bilateral adductor paralysis.on basis of clinical features.</p> <p>Discuss the principles of management of vocal cord paralysis.</p> <p>Explain the role of speech therapy in the management of vocal cord paralysis.</p>	ENT	Hoarseness - vocal cord paralysis
ENT-Throat-016	<p>Describe the etiology of vocal nodules.</p> <p>Explain the pathophysiology of vocal nodules.</p> <p>Identify the clinical features of vocal nodules.</p> <p>Outline the management principles of vocal nodules.</p> <p>Describe the etiology of vocal polyps.</p> <p>Explain the pathophysiology of vocal polyps.</p> <p>Recognize the clinical features of vocal polyps.</p> <p>Discuss the management of vocal polyps.</p>		Hoarseness - Vocal nodules Vocal polyps

<p>ENT- Throat- 017</p>	<p>Describe the clinical presentation of acute Epiglottitis. Enumerate the complications of Acute Epiglottitis. Outline the principles of emergency management of acute epiglottitis with emphasis on airway protection. Describe the role of antibiotics and supportive care in Acute Epiglottitis.</p>		<p>Acute Epiglottitis</p>
<p>ENT- Throat- 018</p>	<p>Enlist congenital disorders of Larynx . Describe the clinical features, diagnosis, and natural course of laryngomalacia. Discuss the presentation, complications, and management of juvenile recurrent laryngeal papillomatosis.</p>		<p>Congenital conditions of Larynx</p>
<p>ENT- Throat- 019</p>	<p>Describe the etiology and predisposing factors of following neck infections:</p> <ul style="list-style-type: none"> i. Cervical lymphadenitis and abscess ii. Cold abscess iii. Ludwig’s angina iv. Parapharyngeal abscess v. Retropharyngeal abscess vi. Peritonsillar abscess <p>Describe the clinical presentation of neck space infections including warning signs. Interpret investigations (laboratory and imaging) required for the diagnosis of neck infections. Formulate a management plan for neck space infections. Explain the potential complications of untreated neck infections.</p>	<p>ENT</p>	<p>Infections of Head and Neck Spaces</p>
<p>ENT- Throat- 020</p>	<p>Enlist the common types and sources of aero-digestive tract foreign bodies. Describe the clinical presentation of a patient presenting with aero-digestive tract foreign bodies. Discuss the diagnostic approach in a patient with suspected aero-digestive tract foreign bodies.</p>	<p>ENT/ Emergency medicine</p>	<p>Aero-digestive tract foreign bodies.</p>

	Outline the initial emergency measures definitive management of aero-digestive tract foreign bodies with possible complications of delayed diagnosis or mismanagement.		
ENT- Throat- 021	Identify common signs and symptoms of laryngeal tumors. Describe appropriate investigations to confirm diagnosis Explain basic management options.	ENT	Laryngeal tumors
ENT- Throat- 022	Enlist indications of tracheostomy Describe pre-procedure assessment and preparation. Outline the steps of tracheostomy. Describe postoperative care and monitoring. Identify common complications of tracheostomy.	ENT	Tracheostomy



EYE-III

MODULE RATIONALE

Ophthalmology is a vital medical specialty dedicated to the diagnosis, treatment, and prevention of eye diseases. It is essential for medical students to have a thorough understanding of the eye's basic anatomy, physiology, and pathology in order to manage common ocular conditions effectively. This module aims to equip medical students with the knowledge and clinical skills necessary to identify and manage a wide range of ophthalmic conditions frequently encountered in general practice and emergency settings.

MODULE OUTCOMES

- Identify common ophthalmic diseases and disorders encountered in OPD, IPD, multi-disciplinary and emergency settings.
- Apply fundamental clinical skills in the examination of the eye and adnexa, including visual acuity assessment and basic use of ophthalmic instruments.
- Formulate differential diagnosis and initial management plans for common ophthalmic conditions, including appropriate referral when necessary.
- Integrate knowledge of ophthalmic health into the broader context of systemic diseases and public health considerations.

SUBJECTS INTEGRATED IN THE MODULE

Medicine

Oncology

Pharmacology

Forensic Medicine

Rheumatology

THEORY

EYE-III

CODE	SPECIFIC LEARNING OUTCOMES	INTEGRATING DISCIPLINE	TOPIC
Eye3-001	<p>Define and classify strabismus.</p> <p>Classify Concomitant (non- paralytic) squint</p> <p>Explain the causes and types of non-paralytic squint.</p> <p>Recognize the clinical presentation and diagnostic signs of non-paralytic squint.</p> <p>Plan a management strategy for non-paralytic squint, including medical and surgical correction.</p> <hr/> <p>Classify In-Concomitant (paralytic) squint.</p> <p>Describe the etiology and pathophysiology of paralytic squint.</p> <p>Identify the clinical features and diagnostic signs of paralytic squint.</p> <p>Differentiate paralytic/ In-Concomitant squint from non-paralytic/Concomitant squint based on history and examination.</p> <p>Outline the management plan for paralytic squint, including medical and surgical options.</p> <p>Describe the ocular manifestation of Myasthenia gravis.</p>	Ophthalmology	Squint/ Strabismus
Eye3-002	<p>Describe the underlying pathophysiology of papilledema in relation to raised intracranial pressure.</p> <p>List common causes of papilledema.</p> <p>Describe the clinical features of papilledema, including fundoscopic signs.</p> <p>List the differential diagnosis of papilledema.</p> <p>Discuss the principles of management of papilledema, including treating the underlying cause, reducing intracranial pressure, and preventing permanent vision loss.</p>		Neuro- ophthalmology

	<p>Describe the underlying pathophysiology of papilledema in relation to raised intracranial pressure. List common causes of papilledema.</p> <p>Describe the clinical features of papilledema, including fundoscopic signs.</p> <p>List the differential diagnosis of papilledema.</p> <p>Discuss the principles of management of papilledema, including treating the underlying cause, reducing intracranial pressure, and preventing permanent vision loss.</p>		
	<p>Define optic atrophy.</p> <p>Describe the etiology and classification of optic atrophy.</p> <p>Explain the underlying pathophysiology leading to optic nerve degeneration.</p> <p>Identify the clinical features and fundoscopic findings of optic atrophy.</p> <p>Discuss the relevant investigations used to diagnose optic atrophy.</p> <p>Formulate a differential diagnosis for optic atrophy.</p>	Ophthalmology	
	<p>Define optic neuritis.</p> <p>List the causes and types of optic neuritis. Identify the signs and symptoms of optic neuritis.</p> <p>Outline the key investigations including fundoscopy, visual field testing, MRI, and blood tests for systemic associations.</p> <p>Describe the principles of management of optic neuritis.</p>		
Eye3-003	<p>List the common causes and clinical features of oculomotor, trochlear, and abducens nerve palsies.</p> <p>Discuss the clinical significance of pupil involvement in oculomotor nerve palsy.</p> <p>Describe the ocular manifestations of facial nerve (VII) palsy such as lagophthalmos, impaired blink reflex, and exposure keratitis.</p>		

	<p>Identify ocular complications that may arise from cranial nerve palsies.</p> <p>Outline the management plan and strategies to protect the eye in these nerve palsies.</p>		
Eye3-004	<p>Describe the anatomical course of the visual pathway.</p> <p>Correlate lesions at different levels of the visual pathway with characteristic visual field defects.</p> <p>Differentiate common visual field defects based on lesion location.</p>	Ophthalmology/ Emergency Medicine/ Forensic Medicine	Ocular trauma
Eye3-005	<p>Describe the clinical manifestations of different types of ocular trauma. (burns, chemical injuries, blunt trauma, penetrating trauma)</p> <p>Discuss the early and late complications of ocular trauma.</p> <p>Describe the management plan for corneal and conjunctival foreign bodies.</p> <p>Describe the indications for referral of ocular injuries.</p> <p>Discuss the management plans for ocular burns and chemical injuries.</p> <p>Explain the medicolegal responsibilities of physicians in documentation, reporting, and evidence preservation (including photographs and medico-legal certificates) in cases of ocular trauma related to assault, accidents, and occupational injuries.</p>	Ophthalmology/ Medicine	Systemic diseases
	<p>Enlist the symptoms and signs of thyroid eye disease.</p> <p>Explain its underlying pathophysiology.</p> <p>Discuss possible complications of thyroid eye disease.</p> <p>Outline relevant investigations, including blood tests, eye-related tests, and imaging.</p> <p>Formulate a comprehensive treatment plan for a patient with thyroid eye disease, including medical treatment and ocular interventions.</p>	Ophthalmology/ Nutrition	
	<p>Describe the ocular manifestations of vitamin A deficiency including night blindness, conjunctival and</p>	Ophthalmology/ Medicine	

	<p>corneal xerosis, Bitot's spots, keratomalacia, xerophthalmia.</p> <p>Identify the methods of diagnosis including clinical signs.</p> <p>Discuss the management plan and prevention of ocular disease due to vitamin A deficiency.</p>		
	<p>Describe the ocular manifestations of hypertension and diabetes.</p> <p>Differentiate the vascular changes in hypertensive retinopathy from those in diabetic retinopathy</p> <p>Describe stages of hypertensive retinopathy</p> <p>Describe stages of diabetic retinopathy</p> <p>Outline the management plan for ocular complications in hypertension and diabetes.</p>	Ophthalmology/ Rheumatology	
	<p>Enlist the common collagen vascular diseases (e.g., rheumatoid arthritis, systemic lupus erythematosus, ankylosing spondylitis, Wegener's granulomatosis) associated with ocular involvement.</p> <p>Describe the ocular manifestations of collagen vascular diseases.</p>	Ophthalmology/ Oncology	
Eye3-006	<p>Describe epidemiology and risk factors of retinoblastoma.</p> <p>Identify the common clinical signs and symptoms of retinoblastoma.</p> <p>Explain the diagnostic methods used in retinoblastoma, including fundoscopy and imaging.</p> <p>Discuss the available treatment options (enucleation, chemotherapy, radiotherapy, focal therapy, and intra-arterial chemotherapy).</p> <p>Outline the prognosis and long-term outcomes of retinoblastoma.</p> <p>Counsel patients and families regarding genetic counseling, risk of bilateral disease, and the importance of early detection.</p>	Ophthalmology/ Oncology	Ophthalmic Oncology

<p>Eye3-006</p>	<p>Identify the risk factors and common signs and symptoms of (eyelid tumors including basal cell carcinoma, squamous cell carcinoma, sebaceous gland carcinoma, melanoma) ocular squamous cell carcinoma.</p> <p>Discuss the treatment plan for eyelid tumors.-</p>	<p>Ophthalmology/ Pharmacology</p>	<p>Ophthalmic Therapeutics</p>
<p>Eye3-007</p>	<p>Antibiotics, Antivirals, and Antifungals:</p> <ul style="list-style-type: none"> • List commonly used topical and systemic agents in ophthalmology. • Describe their indications in eye infections (e.g., conjunctivitis, keratitis, endophthalmitis). • Discuss contraindications, dosage forms, and common adverse effects. <p>Local Anesthetics:</p> <ul style="list-style-type: none"> • Explain the mechanism of action of ocular local anesthetics. • Identify their clinical uses (e.g., tonometry, minor surgical procedures). • Recognize adverse effects and precautions in ophthalmic use. <p>Fluorescein Dye:</p> <ul style="list-style-type: none"> • State the uses of fluorescein in ophthalmology (e.g., corneal ulcer, angiography). • Recognize adverse reactions and limitations. <p>Mydriatics and Cycloplegics:</p> <ul style="list-style-type: none"> • Differentiate between mydriatics and cycloplegics. • Discuss indications for their use (e.g., refraction, uveitis, fundoscopy). • Identify contraindications (e.g., narrow-angle glaucoma) and adverse effects. <p>Corticosteroids:</p> <ul style="list-style-type: none"> • Describe the role of topical steroids in ocular inflammation. 	<p>Ophthalmology</p>	<p>Diagnostics</p>

	<p>Discuss indications, contraindications, and potential complications (e.g., cataract, glaucoma, infections).</p>		
	<p>Explain the principle and clinical applications of visual field testing.</p> <p>Describe the procedure and diagnostic value of fundus fluorescein angiography (FFA).</p> <p>Explain the principle of optical coherence tomography (OCT) and its role in anterior segment, retinal and optic nerve disorders.</p> <p>Describe the principle of corneal topography and its applications in corneal and refractive conditions.</p> <p>Explain the principle and use of ultrasound A scan</p> <p>Describe the principle of ultrasound B scan and its applications in diagnosing posterior segment diseases.</p>		



TABLE OF SPECIFICATION

Block-X

Modules	Theory		Practical			
	MCQs <i>(1 mark each)</i>	Marks	OSCE <i>(8 marks each)</i>	OSVE <i>(10 marks each)</i>	Short Case <i>(20 marks each)</i>	Marks
Community Medicine-II & Family health-II	25 + 15	40	2	1	-	26
GIT & Nutrition-II	35 + 5	40	2	1	-	26
Eye-I	30	30	3	-	1	44
ENT-I	30	30	3	-	1	44
Total	140 MCQs	140 Marks	10 stations x 8= 80 Marks	2 stations x 10= 20 Marks	2 short cases x 20=40 Marks	140 Marks

Grand Total=280 Marks

Block-XI

Modules	Theory		Practical			
	MCQs <i>(1 mark each)</i>	Marks	OSCE <i>(8 marks each)</i>	OSVE <i>(10 marks each)</i>	Short Case <i>(20 marks each)</i>	Marks
Neuroscience-II	38	38	3	1	-	34
Psychiatry & Behavioural Sciences	20+07	27	2	-	-	16
Renal-II	25	25	1	1	-	18
Eye-II	25	25	2	-	1	36
ENT-II	25	25	2	-	1	36
Total	140 MCQs	140 Marks	10 stations x 8= 80 Marks	2 stations x 10= 20 Marks	2 short cases x 20=40 Marks	140 Marks

Grand Total=280 Marks

Block-XII

Modules	Theory		Practical			
	MCQs <i>(1 mark each)</i>	Marks	OSCE <i>(8 marks each)</i>	OSVE <i>(10 marks each)</i>	Short Case <i>(20 marks each)</i>	Marks
Endocrine & Reproduction-II	47	47	2	2	-	36
Dermatology	23	23	2	-	-	16
Eye-III	35	35	3	-	1	44
ENT-III	35	35	3	-	1	44
Total	140 MCQs	140 Marks	10 stations x 8= 80 Marks	2 stations x 10= 20 Marks	2 short cases x 20=40 Marks	140 Marks
Grand Total=280 Marks						



PERLS -4

PROFESSIONALISM

Block	Topic	Learning Objectives	Teaching mode/ Task
X	Social accountability	Discuss the concept of social accountability in healthcare, focusing on the responsibility of healthcare professionals to address the community's health needs and contribute to public well-being.	Students presentations on said topics.
	Addressing a local health issue as health professional	Analyze a local health issue and formulate a concise action plan describing how healthcare professionals can contribute to addressing it.	Students presentations on said topics.
	A Professional Doctor	Demonstrate a professional doctor-like persona by adopting appropriate clinical attire, maintaining confident and respectful body language, and communicating with patients and colleagues clearly, empathetically, and ethically.	-
XI	Mental Health of Doctors	Identify everyday stressors faced by healthcare professionals Discuss the Importance for maintaining mental well-being as a healthcare professional Explore strategies to manage stress, prevent burnout, and promote resilience in the demanding healthcare field.	Interactive lecture
	Compassion and Empathy in Health Profession	Discuss the importance of compassion and empathy in patient care and how these qualities enhance the patient-provider relationship and improve health outcomes.	

		Describe strategies for building empathy and compassion, e.g. active listening, perspective-taking, mindfulness training, and reflective practice.	
XII	Providing information for Elective Procedures	Provide accurate and clear information to patients regarding elective procedures, ensuring informed understanding of indications, benefits, risks, alternatives, and post-procedure expectations.	Interactive lecture/small group discussion
		Evaluate a clinical scenario in maternal or neonatal care, identifying how patient-centred care principles were applied to ensure the patient's preferences and needs were respected throughout the treatment process.	Students presentations on said topics.

ETHICS

Block	Topic	Learning Objectives	Teaching mode/ Task
X	Principles of Community Ethics	Learn the ethical principles that guide community health practices, including respect for autonomy, justice, and fairness in allocating health resources.	Students presentations on said topics.
		Evaluate an ethical dilemma in community healthcare (e.g., vaccination distribution or resource allocation) and propose a solution based on ethical principles.	Students presentations on said topics.
	Organ Transplant Ethics	Describe ethical principles involved in organ transplantation, including issues related to patient autonomy, consent, allocation of scarce resources, and cultural/religious perspectives on organ donation.	Interactive lecture
	Equitable Access to Care	Discuss the ethical principles of equitable access to eye care services, focusing on the challenges and responsibilities of providing fair healthcare to all patients, regardless of socio-economic status, geographic location, or cultural background.	Interactive lecture
Case study of successful equitable access to care.		Case based discussion	
XI	Autonomy in dialysis, Renal transplant ethics	Analyze a case study for the ethical principles of autonomy as they relate to patient decision-making in dialysis and renal transplantation, including the challenges and implications of these principles in clinical practice	Case based discussion

	Informed Consent and Patient Autonomy	Describe ethical principles of informed consent and patient autonomy in ENT care, focusing on ensuring patients are fully informed and empowered to make decisions about their treatment.	Case based discussion
		Analyze a case about preprocedural informed consent.	
XII	Ethical Issues in Infertility & Abortions	Understand the ethical challenges surrounding infertility treatments and abortion, including patient autonomy, religious and cultural considerations, and the ethical responsibilities of healthcare providers.	Interactive lecture/ case based discussion
		Analyze cases related to infertility or abortion, identifying the ethical dilemmas involved, such as patient autonomy, consent, and cultural or religious beliefs, and propose ethical solutions based on professional guidelines.	
	Autonomy in cosmetic surgery, consent in elective procedures	Critically evaluate case studies involving autonomy and consent in cosmetic surgery and elective procedures, analyzing the ethical dilemmas that arise and proposing solutions to enhance patient autonomy and informed consent processes.	Interactive lecture/ case based discussion

RESEARCH

Block	Topic	Learning Objectives	Teaching mode/ Task
<p><i>*Research (R) in the PERL curriculum will be delivered by the Department of Community Medicine as a longitudinal component from the first to the fourth year of the MBBS program. At the end of the fourth year, students' research projects will be assessed through a dedicated PERL station.</i></p>			
X	Data collection	Collect data in field/clinical settings. Apply quality control during data collection.	Group work
	Data Management using Excel/SPSS	Perform data entry, and basic analysis using software. Enter and manage data using Excel/SPSS basics. Explain basics of descriptive statistics (mean, median, mode, SD, rates). Interpret outputs (frequencies, charts, p-values, CI, chi-square, t-test). Discuss the principles of inference and significance.	Interactive lecture/ hands on training
XI	Research manuscript writing	Write a complete scientific article (Introduction, Methods, Results, Discussion).	Group work (dedicated time slot in timetable to complete the task in current block)
XII	Proofreading and submission of research article	Prepare tables, graphs, and reference lists using referencing software.	Group work under supervision of supervisor
		Revise and proofread drafts with peer and mentor feedback.	
		Select a relevant journal. Submit research to a journal or conference. Prepare and deliver an oral/poster presentation at institutional/research day.	

LEADERSHIP

Block	Topic	Learning Objectives	Teaching mode/ Task
X	Professional Identity Formation	Explore professional identity formation through the lens of the PMDC 7-Star Doctor framework, reflecting on the essential roles of a healthcare professional and conducting a self-assessment of progress in these areas.	Interactive lecture
		Perform a self-rating based on their current professional development, identifying areas for growth in the PMDC 7-star Doctor Framework.	
XI	Digital Transformation in Healthcare	Explore the impact of digital transformation in healthcare, including the roles of telemedicine, digital health tools, AI, and the importance of data privacy in modern healthcare delivery.	Student presentations
	Public Trust and Leadership in Society	Explore the role of healthcare professionals as leaders in society, focusing on how building public trust is essential for effective leadership and the responsibilities of healthcare professionals in maintaining this trust.	
		Explore the role of healthcare professionals as leaders in society, focusing on how building public trust is essential for effective	Student presentations

		<p>leadership and the responsibilities of healthcare professionals in maintaining this trust.</p>	
		<p>Analyze a case where public trust in healthcare leadership was challenged, identifying key leadership strategies that could rebuild trust and strengthen the healthcare professional's role in society, identifying key leadership strategies that could rebuild trust and strengthen the healthcare professional's role in society.</p>	<p>Case based discussion/ student presentations</p>
<p>XII</p>	<p>Role Modelling/ Mentoring Session VIII</p>	<p>Participate in a mentoring session where they will discuss their strengths and weaknesses with their mentor, receive feedback, and collaboratively create an action plan for personal and professional development</p>	<p>Mentoring session</p>



EXPOSITORY

Module Rationale

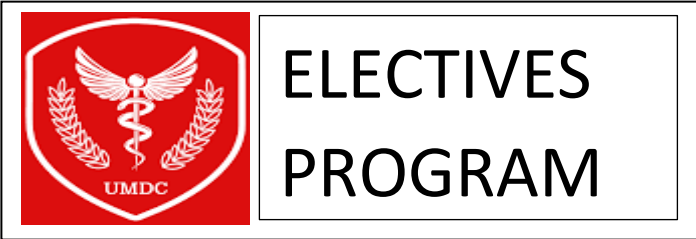
To integrate Expository Writing with an Introduction to Information Technology (IT) course for undergraduate medical students, we can align the IT skills taught each year with the writing tasks and objectives. The aim is to enhance students' digital literacy and writing skills,

This integrated spiral of Expository Writing and IT ensures that as students advance in their medical education, they also develop digital literacy skills. These skills complement their writing abilities and prepare them for modern medical practice, where digital communication, research, and data management are essential. By the end of the 4-year program, students will be proficient in writing and using technology to support their work as

Year 4: Capstone: Medical Expository Writing and Scholarly Projects + IT: Advanced Research and Publishing Tools

THEORY

Code	Subject: Expository writing & IT		Total Hours =10
	Specific Learning Outcome	Integrating Disciplines	Topics
EXP-04	<p>Expository Writing Focus:</p> <ol style="list-style-type: none"> 1. To write full-length research papers and case studies. 2. To prepare abstracts and manuscripts for submission to journals or conferences. 3. To create patient education materials. <p>IT Integration: IT Skills:</p> <ol style="list-style-type: none"> 4. To use advanced research tools (PubMed, EndNote), medical data analysis (SPSS, R), and digital publishing (LaTeX for formatting research articles). <p>Writing Application:</p> <ol style="list-style-type: none"> 5. To apply advanced citation tools (EndNote, Mendeley) to manage extensive references in research papers. 6. To use data analysis tools for research-related writing, integrating statistical results into reports. 7. To prepare manuscripts using publishing tools and ensure correct formatting for journal submission. 8. To create patient-friendly materials using digital design tools (Canva, Microsoft Publisher) to enhance communication. 	<p>PERLS, Pharmacology, Community Medicine, Pathology, Forensic Medicine</p>	<ol style="list-style-type: none"> i. Writing and formatting full-length research papers ii. Preparing abstracts and manuscripts iii. Statistical analysis (SPSS, R) - Introduction to LaTeX for journal formatting iv. Design patient education materials (Canva)



**ELECTIVES
PROGRAM**

Electives Policy (UHS)

Preamble

The University of Health Sciences (UHS), Lahore, had incorporated the elective rotations in the **Curriculum 2K23**. This year the class of 2023 will be reaching the fourth year which is the designated year for the elective rotations. University of Health Sciences Lahore's commitment to modernizing undergraduate medical education, has integrated electives into the **Curriculum 2K23**.

Vice Chancellor, University of Health Sciences, has the vision to develop a culture across all affiliated colleges and healthcare system for collaborative practices and context-based learning. One of the cardinal steps in this regard is the inculcation of the undergraduate clinical electives. The electives program will enable all the students to be able to look beyond their own unique institutions and have a grasp on the diversity of learning situations.

The electives program of the **Curriculum 2K23** will provide students with structured opportunities to explore clinical and non-clinical domains of medicine beyond the prescribed curriculum. It will help the medical students to customize part of their education in alignment with personal career goals, broaden their exposure to diverse healthcare settings, and develop professional competencies necessary for international medical practice.

This policy applies to all **48 affiliated medical colleges of UHS, Lahore**. The Electives Program will serve to enhance the educational experience of MBBS students for flexibility, self-directed learning, and professional exploration within a structured framework.

Objectives

By undertaking electives, students will:

- Gain exposure to disciplines not extensively covered during core rotations.
- Develop self-directed learning habits and critical inquiry skills.
- Understand healthcare delivery in diverse settings, including underserved communities.
- Explore areas of personal interest for informed postgraduate career decisions.

Structure and Duration

- **Timing:** Electives will be undertaken during the **summer break** of the 4th academic year
- **Duration:** Two to four weeks.
 - **Option 1:** Two weeks Clinical
 - **Option 2:** Two weeks Clinical + Two Weeks Non Clinical

- **Option 2:** Four weeks Clinical.
- **Sites:** Electives may be conducted at:
 - UHS-affiliated medical colleges (other than parent institution).
 - University-approved hospitals and healthcare facilities.
 - Recognized research organizations, NGOs, or community health setups.
 - International institutions (subject to approval by the Department of Medical Education UHS).

Roles and Responsibilities

University of Health Sciences, Lahore

- Issue and update the electives policy and guidelines.
- Maintain and circulate a list of approved institutions offering electives.
- Establish mechanisms for monitoring, evaluation, and conflict resolution.
- Record successful elective completion in the University database and transcripts.

Parent Institution

- Orient students regarding elective opportunities, processes, and expectations.
- Guide students in elective selection aligning with career and learning goals.
- Maintain communication with host institutions regarding placements.
- Incorporate elective reports and supervisor feedback into student records.
- Intimate the details of the electives and the attending students to UHS.
- **Department of Medical Education** of every affiliated college will have the process of electives, documentation requirements and procedure of collaboration approved by their respective **academic council**.

Host Institution / Healthcare Setup

- Provide structured, supervised learning opportunities.
- Declare the curriculum / learning opportunities and structure of the electives explicitly on their website.
- Assign a faculty supervisor/mentor to oversee student activities.

- Ensure students have access to relevant learning resources and safe environments.
- Monitor attendance, performance, and professional behavior.
- Issue a **Certificate of Completion** and provide feedback to the parent institution.

Student

- Take personal responsibility for elective planning, timely applications, and compliance with procedures.
- Abide by all professional, ethical, and institutional norms of the host institution.
- Maintain a **logbook/portfolio** of activities and reflections.
- Submit a structured **Elective Report** to the parent college within two weeks of completion.

Student Guide

Opportunities for Students

The electives program of the **Curriculum 2K23** will engage the fourth-year students in diverse clinical experiences to broaden their skills through exposure to various specialties and sub-specialties. The program will also provide opportunities to participate in research, medical education, community health, or public health initiatives for the students' professional development and understanding of healthcare systems. The students will also be able to establish valuable connections with professionals and institutions at both national and international levels, enhancing a collaborative potential. The entire workup will strengthen individuals' portfolio for competitive postgraduate opportunities.

How to maximize the benefits

Students should:

- Choose electives aligned with their professional interests and future career goals.
- Engage actively and responsibly in all assigned activities.
- Keep a reflective journal to capture insights and experiences.
- Seek regular feedback from elective supervisors.
- Respect culture, values, and rules of the host institute.

Eligibility and Application Process

To ensure fairness, quality, and alignment with the University's academic standards, only students who meet the following criteria shall be eligible for electives:

- **Academic Standing**
 - Students must have successfully cleared the Third Professional MBBS Examination of the University of Health Sciences, Lahore.
 - Students must be in good academic standing, with no outstanding academic deficiencies, failures, or incomplete courses.
- **Conduct and Discipline**
 - Students must have a record free from major disciplinary violations.
 - A formal certification of “good conduct” from the parent college administration is required.
- **Health and Fitness**
 - Students must provide a Health Clearance Certificate from the parent college medical officer/health authority, certifying that they are fit to participate in the elective.
- **Administrative Requirements**
 - Applications must be submitted within the announced deadlines (at least three months prior to the start of electives).
 - Electives must be planned in consultation with the Departmental Heads and the Electives Coordinator at the parent college.
- **Special Provisions**
 - For overseas electives, students must demonstrate good academic and research standing, provide valid travel/health insurance, and ensure that the host institution is recognized by relevant national/international accreditation bodies.
- **Application Procedure:**
 - Students complete an **Elective Application Form** and **Elective Documentation** available from the Department of Medical Education of the parent institute.
 - Required documents as approved by the institutions’ academic council and as published by the Department of Medical Education will
 - Parent college submit the electives report to the UHS within 2 weeks of completion.
- **Deadline for individual electives approval:** As decided by the Director Medical Education

Documentation Requirements

Documents Required for Electives Application

The following documents must be submitted along with the application form:

- Completed Elective Application Form (UHS format).

- Learning Agreement signed by student, parent college, and host institution.
- Two recent passport-size photographs.
- Proof of passing Third Professional MBBS Examination.
- Statement of Purpose (Motivation Letter) (500-700 words).
- Health Clearance Certificate (from parent college/authorized medical officer).
- Letter of Good Standing from the Principal/Vice Principal/Head of Institution.
- Elective Preferences (up to three departments/institutions, in order of priority).
- For international electives:
 - Proof of acceptance from the host institution.
 - Insurance certificate (health/travel/accident).
 - Copy of valid passport & visa.
- The following documents must be submitted after the completion of electives:
 - Portfolio/Logbook documenting activities, reflections, and supervisor's weekly feedback.
 - Certificate of Completion issued by host institution.
 - Final Elective Report (2,000 words) summarizing learning outcomes, challenges, and reflections.

Policy on Conduct and Safety

- Students must strictly follow the **Code of Conduct** of **University of Health Science Lahore**, parent college, and host institution.
- Dress code, punctuality, confidentiality, and professional etiquette are compulsory.
- Students are responsible for their **travel, accommodation, and living expenses**.
- For electives outside Pakistan, valid **health/accident insurance** and international travel clearance are mandatory.
- Misconduct, absenteeism, or breach of rules will result in disciplinary action and may invalidate the elective.

Types of Electives

Clinical Electives

- Core disciplines: Medicine, Surgery, Pediatrics, Obstetrics & Gynecology, Psychiatry, Dermatology.
- Subspecialties: Emergency Medicine, Cardiology, Neurology, Orthopedics, etc.

Non-Clinical Electives

- Basic Sciences (Anatomy, Physiology, Biochemistry, Pharmacology, Pathology, Forensic Medicine).
- Research projects (clinical or laboratory-based).
- Medical Education and Curriculum Development.
- Public/Community Health, Epidemiology, Health Policy.
- Ethics, Humanities, and Global Health.

Learning Outcomes

Upon completion, students will be able to:

- Demonstrate additional knowledge and clinical/non-clinical skills specific to chosen elective.
- Apply principles of professionalism, ethics, and patient safety in diverse settings.
- Reflect critically on their elective experiences and articulate their impact on career planning.
- Exhibit effective teamwork and communication with multidisciplinary professionals.
- Produce scholarly work (portfolio/report) meeting UHS academic standards.

Credit and Recognition

- Completion is documented in the University transcript and student portfolio.
- Exceptional elective projects may be recognized with **University Elective Awards**
- Opportunity for presentation at the **UHS Conferences**.

Post-Electives Process

At the conclusion of the elective period, students must fulfill the following requirements to ensure credit and recognition:

1. Supervisor Evaluation

- The host institution supervisor will complete a structured evaluation form, rating student attendance, engagement, professionalism, and learning achievements.
- This evaluation will be submitted to the parent college's Electives Coordinator.

2. Certificate of Completion

- The host institution shall issue an official certificate confirming successful completion of the elective, with dates, department, and supervisor signature/stamp.
- This certificate must be submitted to the parent college administration within two weeks of return.

3. Elective Logbook & Portfolio

- Students must maintain and submit the logbook/portfolio documenting daily/weekly activities, reflections, and supervisor signatures.

4. Final Elective Report

- **Each student must submit a comprehensive written report (2,000 words) summarizing:**
 - Activities undertaken.
 - Skills and knowledge gained.
 - Reflections on personal and professional growth.
 - Challenges faced and strategies for overcoming them.
 - Recommendations for future electives.
- This report must be submitted to the parent college electives coordinator.

5. Feedback Mechanism

- Students will complete a Post-Elective Feedback Form regarding the quality, supervision, and relevance of the elective.
- Feedback will inform the University's quality assurance process for host institutions.

6. Recognition and Credit

- Upon verification of documentation and satisfactory assessment, UHS will record the elective completion in the official student transcript.
- Outstanding elective reports/projects may be nominated for University Awards or presentation at the Annual UHS Medical Education Conference

Frequently Asked Questions (FAQs)

Q1. Can I do all four weeks in clinical rotations?

Yes. Students may opt for four weeks of clinical electives.

Q2. Are international electives allowed?

Yes, subject to required documentation, and host institution recognition.

Q3. Who arranges placements?

Students initiate placements, while parent colleges and UHS facilitate verification and approval.

Q4. Are electives graded?

Electives are not numerically graded but assessed on **satisfactory completion** through reports, logbooks, and supervisor feedback.

Approval and Implementation

This document constitutes the **official Electives Policy** of the University of Health Sciences, Lahore. All affiliated medical colleges are required to adopt and implement this policy uniformly. UHS will periodically review and revise the policy to ensure ongoing relevance and effectiveness in medical education.



**SKILL
ACQUISITION
WORKSHOPS**

Workshop Schedule for MBBS students

The Following **Skill Acquisition Workshops** are included in the “Modular Integrated Curriculum 2K23 Final Version”:

Sr. No.	Course Name	Academic Year	Duration	Eligibility
1.	Basic Life Support	1 st Year / 2 nd Year	2 days	Eligibility requirement for appearing in the 4 th Professional Examination
2.	Advanced Life Support	3 rd Year / 4 th Year	1 day	Eligibility requirement for appearing in the Surgical Clerkship examination
3.	Cardiac First Response	3 rd Year / 4 th Year	1 day	Eligibility requirement for appearing in the Medicine Clerkship examination
4.	Trauma first responders	3 rd Year / 4 th Year	1 day	Eligibility requirement for appearing in the Surgical Clerkship examination
5.	Emergency Neonatal Resuscitation	3 rd Year / 4 th Year	1 day	Eligibility requirement for appearing in the Pediatrics Clerkship examination
6.	Emergency Obstetrics Resuscitation	3 rd Year / 4 th Year	1 day	Eligibility requirement for appearing in the Gynecology / Obstetrics Clerkship Examination

