Study Guide

Gastrointestinal Module-I

Department of Medical Education

2025

Second Year MBBS

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Director Medical Education Asst. Director Medical Education	Curriculum Committee	Vice Chancellor

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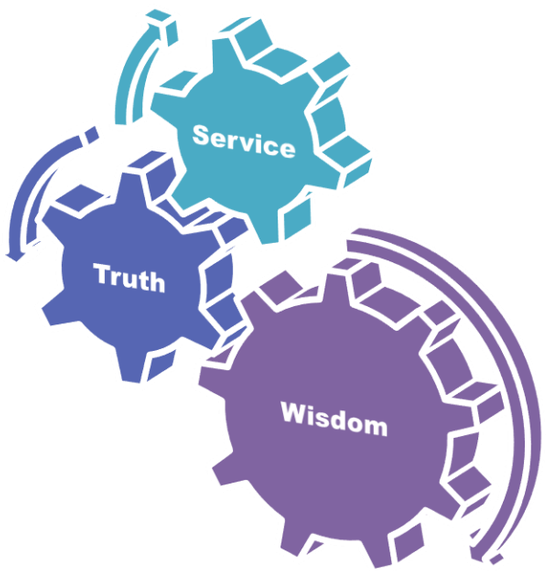
University Moto, Vision, Values & Goals

RMU Motto



Mission Statement

To impart evidence-based research-oriented health professional education in order to provide best possible patient care and inculcate the values of mutual respect, ethical practice of healthcare and social accountability.

Vision and Values

Highly recognized and accredited centre of excellence in Medical Education, using evidence-based training techniques for development of highly competent health professionals, who are lifelong experiential learner and are socially accountable.

Goals of the Undergraduate Integrated Modular Curriculum

The Undergraduate Integrated Learning Program is geared to provide you with quality medical education in an environment designed to:

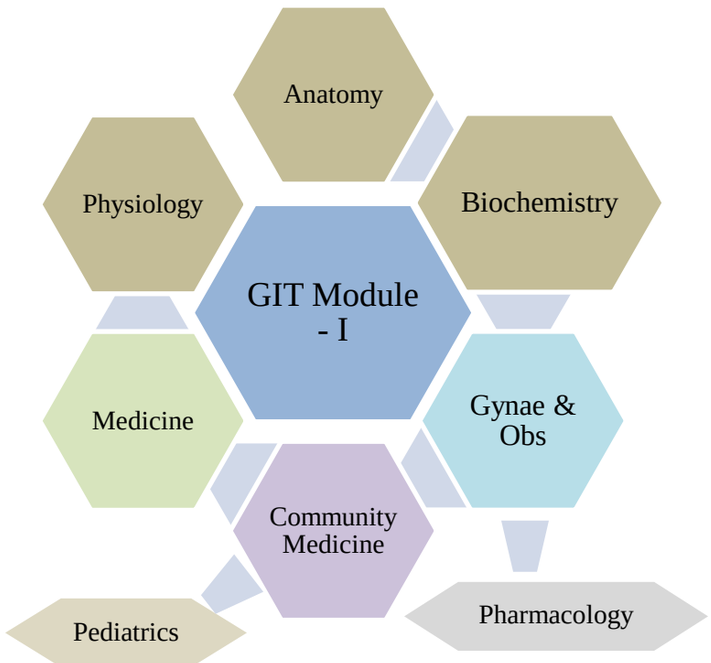
- Provide thorough grounding in the basic theoretical concepts underpinning the practice of medicine.
- Develop and polish the skills required for providing medical services at all levels of the Health care delivery system.
- Help you attain and maintain the highest possible levels of ethical and professional conduct in your future life.
- Kindle a spirit of inquiry and acquisition of knowledge to help you attain personal and professional growth & excellence.

Second Year MBBS 2025

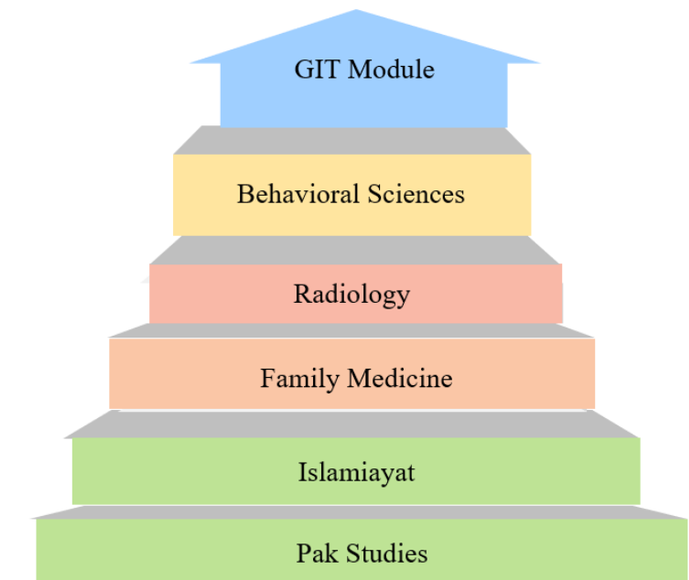
Study Guide

GIT Module - I

Integration



Disciplines in GIT Module - I



Spiral / General Education Cluster Courses

Discipline Wise Details of Modular Content

Integration					
Themes					
Block	**Module**	**General Anatomy**	**Embryology**	**Histology**	**Gross Anatomy**
I	Anatomy	-	Tongue, Body Cavities, Gastrointestinal System	Digestive Tract & associated organs (Junqueira)	Oral Cavity, Abdomen and associated visceras
	Biochemistry	Carbohydrate metabolism, GIT digestive juices, Digestion and absorption, GIT Hormones LFTs, Jundice & Nutrition,			
	Physiology	General Principles of Gastrointestinal Function—Motility, Nervous Control, and Blood Circulation Propulsion and Mixing of Food in the Alimentary Tract Secretory Functions of the Alimentary Tract, Digestion and Absorption in the Gastrointestinal Tract Physiology of Gastrointestinal Disorders			
	Orientation Session				
	Department of Medical Education (DME)	• Orientation Session on Curricular Reform RMU & Feedback of Year 2024			
	Spiral Courses				
	Pak Studies	• Nazria Pakistan • Allah SWT ki Hakmiyat ka Nifaz • Two Nation Theory • Establishment of an Islamic state			
	Islamiyat	• Toheed Related Quranic Verses & their Explanation • Toheed & Shirk • Risalat Related Quranic Verses & Their Explanation			
	Research (IUGRC)	• Introduction to descriptive statistics (Research-I) • Classification of different types of Data (Research-II) • Scales of Data measurement (Research-III) • Measures of central Tendency (Research-IV) • Geriatrics (Research-V) • Synopsis wrting session (Research Practical Session I)			
	Radiology	• Medical imaging of abdomen- I • Medical imaging of abdomen-II			
	Family Medicine	• Common Abdominal diseases			
	Behavioral Sciences	• Learning & Memory			

		• Eating Disorders
	Vertical Integration	
	• Community Medicine	Clinically content relevant to GIT Module - I • Concept of health & disease • Epidemiology of Infectious Diseases& Basic Concepts
	• Gynae and OBS	• Physiologic Changes in the GIT in Pregnancy • Jaundice/Obstetric Cholestasis in Pregnancy
	• Medicine	• Jaundice • Inflammatory Bowel Diseases
	• Surgery	• Acute Abdomin • Gall Stones
	• Pediatrics	• Acute and Chronic Diarrhea Cute & Choronic Diaherrea
	• Pharmacology	• Anti Diarrheal Drugs
	• Pathology	• Pathologies of Intestine
Clinical Relevance		
	• Clinical Presentation and Management of Peptic Ulcer Disease • Mechanisms of Malabsorption Syndromes (e.g., celiac disease) • Diagnosis and Management of Gastroesophageal Reflux Disease (GERD) • Pathophysiology of Inflammatory Bowel Diseases (e.g., Crohn's disease, ulcerative colitis) • Clinical Features of Appendicitis and Surgical Decision-Making • Gastrointestinal Bleeding: Causes and Initial Management • Jaundice: Differentiation and Clinical Evaluation • Liver Cirrhosis and its Complications (e.g., ascites, hepatic encephalopathy) • Gallstones: Pathogenesis and Surgical Indications • Mechanisms of Diarrhea and Dehydration Management	

Table of Contents

GIT Module - I Team

Module Name : GIT Module - I
Duration of module : 06 Weeks
Coordinator : Dr. Uzma Kiyani
Co-coordinator : Dr. Shazia Nosheen
Reviewed by : Module Committee

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2.	Director DME	Prof. Dr. Ifra Saeed
3.	Convener Curriculum	Prof. Dr. Naeem Akhter
4.	Chairperson Anatomy & Dean Basic Sciences	Prof. Dr. Ayesha Yousaf
5.	Additional Director (Assessment) DME	Dr. Arsalan Manzoor Mughal
6.	Chairperson Physiology	Prof. Dr. Samia Sarwar
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13.	Focal Person Behavioral Sciences	Dr. Saadia Yasir
14.	Focal Person Community Medicine	Dr. Afifa Kulsoom
15.	Focal Person Quran Translation Lectures	Dr. Uzma Zafar
16.	Focal Person Family Medicine	Dr. Sadia Khan

Module Task Force Team		
1.	Coordinator	Dr. Uzma Kiyani (Senior Demonstrator of Physiology)
2.	DME Focal Person	Dr. Farzana Fatima
3.	Co-coordinator	Dr. Minahil Haq (Senior Demostrator of Anatomy)
4.	Co-Coordinator	Dr. Shazia Nosheen (Senior Demonstrator of Physiology)
5.	Co-coordinator	Dr. Uzma Zafar (APWMO of Biochemistry)

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3.	Assistant Director DME	Dr. Farzana Fatima
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Module I -GIT Module - I

Rationale: GIT Module - I has been designed to unravel the basic structure function of the alimentary system along with its embryological development and anomalies. The composition of the food is complex and little of it is water soluble. Therefore, it cannot enter body fluids. Hence it needs to be broken down into its chemical components before it can be absorbed. Four activities of the GIT tract can be identified for this process to occur. These are:

Motility: The term is used to describe the movements of the GIT tract. These movements are responsible for breaking down and pushing the food along the alimentary tract and to its destination as feces.

Secretion: Different secretion of the GIT are concerned with breakdown of food into its digestive particles

Digestion: Break down of food into small pieces. It is produced by the mechanical activity of the alimentary tract. The surface of the food is exposed to enzymatic activity.

Absorption: The transfer of nutrients or the digestive products from the lumen to blood or the lymph.

Disruption of any of its activities can lead to disease states such as pain, peptic ulceration, diarrhea & constipation.

Coordination of all these functions is brought about hormones of GIT and exocrine pancreas.

Module Outcomes

At the end of this module the student should be able to:

Knowledge

- Explain the structural & developmental organization of GIT.
- Explain the composition, functions, mechanism & control of following gastrointestinal secretions: salivary, gastric, pancreatic, biliary, small & large intestines.
- Explain the swallowing and motility patterns in the GIT & its role in mixing, propulsion & evacuation of feces.
- Describe the mechanism of absorption of various nutrients and their role in malabsorption syndrome.
- Explain the physiological anatomy, biochemistry functions and dysfunctions of Liver.
- Explain the formation, function & control of secretion of bile.
- Explain the GIT hormones (structure, function) & their role in secretion and motility.
- Apply the knowledge of the basic sciences to understand pathophysiology of common GIT diseases.
- Appreciate concepts & importance of

- **Family Medicine**
- **Biomedical Ethics**
- **Artificial Intelligence**
- **Research**

Skills

- Dissect various parts of GIT, and related structures including peritoneum, to demonstrate their gross Anatomy and relationship to each other.
- Identify different organs of GIT under microscope and on model.

Attitude

- Demonstrate a **professional attitude, team-building** spirit and **good communication skills.**

This module will run in 6 weeks duration. The content will be covered through introduction of topics. Instructional strategies are given in the timetable and learning objectives are given in the study guides. Study guides will be uploaded on the university website. Good luck!

SECTION - I

Terms & Abbreviations

Contents

Tables & Figures

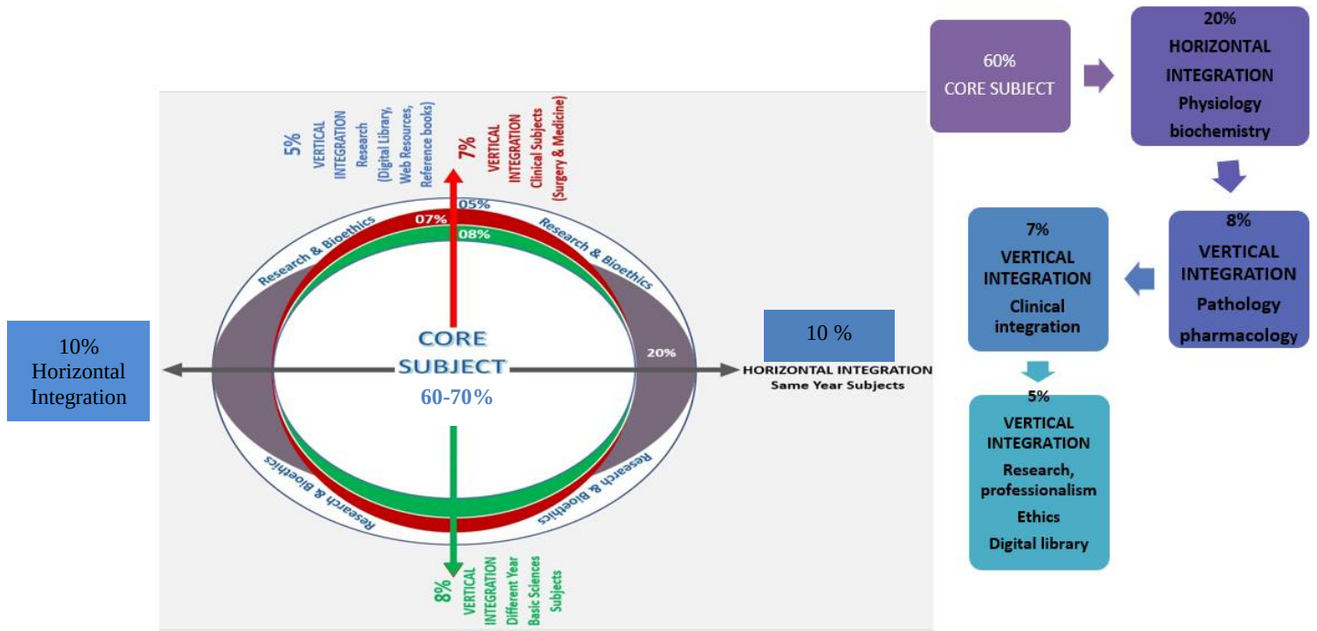
Table1. Domains of Learning According to Blooms Taxonomy

Sr. #	Abbreviation	Domains of learning
1.	C	**Cognitive Domain:** knowledge and mental skills.
	• C1	Remembering
	• C2	Understanding
	• C3	Applying
	• C4	Analyzing
	• C5	Evaluating
	• C6	Creating
2.	P	**Psychomotor Domain:** motor skills.
	• P1	Imitation
	• P2	Manipulation
	• P3	Precision
	• P4	Articulation
	• P5	Naturalization
3.	A	**Affective Domain:** feelings, values, dispositions, attitudes, etc
	• A1	Receive
	• A2	Respond
	• A3	Value
	• A4	Organize
	• A5	Internalize

Teaching and Learning Methodologies / Strategies

Large Group Interactive Session (LGIS)

The large group interactive session is structured format of Prof Umar Model of Integrated lecture. It will the followed for delivery of all LGIS. The lecturer will introduce a topic or common clinical condition and explains the underlying phenomena through questions, pictures, videos of patients, interviews, and exercises, etc. Students are actively involved in the learning process.



Prof Umar's Model of Integrated Lecture

Small Group Discussion (SGD)

This format helps students to clarify concepts acquire skills and attitudes. Sessions are structured with the help of specific exercises such as patient case, interviews or discussion topics or power point presentations. Students exchange opinions and apply knowledge gained from lectures, SGDs and self study. The facilitator role is to ask probing questions, summarize and help to clarify the concepts.

Table 2. Standardization of teaching content in Small Group Discussions

S. No	Topics	Approximate %
1	Title Of SGD	
2	Learning Objectives from Study Guides	
3	Horizontal Integration	5%+5%=10%
4	Core Concepts of the topic	60%
5	Vertical Integration	20%
6	Related Advance Research points	3%
7	Related Ethical points	2%

Table 3. Steps of Implementation of Small Group Discussions

Step 1	Sharing of Learning objectives by using students Study guides	First 5 minutes
Step 2	Asking students pre-planned questions from previous teaching session to develop co-relation (these questions will be standardized)	5minutes
Step 3	Students divided into groups of three and allocation of learning objectives	5minutes
Step 4	ACTIVITY: Students will discuss the learning objectives among themselves	15 minutes
Step 5	Each group of students will present its learning objectives	20 min
Step 6	Discussion of learning content in the main group	30min
Step 7	Clarification of concept by the facilitator by asking structured questions from learning content	15 min
Step 8	Questions on core concepts	
Step 9	Questions on horizontal integration	
Step 10	Questions on vertical integration	
Step 11	Questions on related research article	
Step 12	Questions on related ethics content	
Step 13	Students Assessment on online MS teams (5 MCQs)	5 min
Step 14	Summarization of main points by the facilitator	5 min
Step 15	Students feedback on the SGD and entry into log book	5 min
Step 16	Ending remarks	

Self-Directed Learning (SDL)

- Self- directed learning is a process where students take primary charge of planning, continuing, and evaluating their learning experiences.
- Time Home assignment
- Learning objectives will be defined
- Learning resources will be given to students = Textbook (page no), web site
- Assessment:

  i Will be online on LMS (Mid module/ end of Module)

  ii.OSPE station

Case Based Learning (CBL)

- It's a learner centered model which engages students in discussion of specific scenarios that typically resemble real world examples.
- Case scenario will be given to the students
- Will engage students in discussion of specific scenarios that resemble or typically are real-world examples.
- Learning objectives will be given to the students and will be based on
  i. To provide students with a relevant opportunity to see theory in practice
  ii. Require students to analyze data in order to reach a conclusion.
  iii. Develop analytic, communicative, and collaborative skills along with content knowledge.

Problem Based Learning (PBL)

- Problem-based learning (PBL) is a student-centered approach in which students learn about a subject by working in groups to solve an open-ended problem.
- This problem is what drives the motivation and the learning.

The 7- Jump-Format of PBL (Masstricht Medical School)	
Step 7	Synthesize & Report
Step 6	Collect Information from outside
Step 5	Generate learning Issues
Step 4	Discuss and Organize Ideas
Step 3	Brainstorming to Identify Explanations
Step 2	Define the Problem
Step 1	Clarify the Terms and Concepts of the Problem Scenario
Problem- Scenario	

Figure 2. PBL 7 Jumps Model

Practical Sessions/Skill Lab (SKL)

Practical Session/ Skill Lab (SKL)	
Demonstration/ power point presentation 4-5 slide	10-15 minutes
Practical work	25-30 minutes
Write/ draw and get it checked by teacher	20-25 minutes
05 mcqs at the end of the practical	10 minutes
At the end of module practical copy will be signed by head of department	
At the end of block the practical copy will be signed by Head of Department Dean Medical education department QEC	

SECTION – II

Learning Objectives, Teaching Strategies & Assessments

Contents

- **Horizontally Integrated Basic Sciences (Anatomy, Physiology & Biochemistry)**
- **Large Group Interactive Session:**
  - Anatomy (LGIS)
  - Physiology (LGIS)
  - Biochemistry (LGIS)
- **Small Group Discussions**
  - Anatomy (SGD)
  - Physiology (SGD)
  - Biochemistry (SGD)
- **Self-Directed Topic, Learning Objectives & References**
  - Anatomy (SDL)
  - Physiology (SDL)
  - Biochemistry (SDL)
- **Skill Laboratory**
  - Anatomy
  - Physiology
  - Biochemistry
- **Learning Management System (LMS)**
  - Anatomy (LMS)
  - Physiology (LMS)
  - Biochemistry (LMS)

Horizontally Integrated Basic Sciences (Anatomy, Physiology & Biochemistry)

(Knowledge)

Anatomy Large Group Interactive Session (LGIS)

Theory						
Code	**Topic**	**Learning Objectives At the end of lecture students should be able to**	**Calgary Gauges**	**Learning Domain**	**Teaching Strategy**	**Assessment Tool**
Embryology						
M1-GIT-A-001	Development of Tongue	• Describe the development of pharyngeal apparatus	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
		• Enlist the sources for development of different parts of tongue.	Must Know	C1		
		• Explain the development of tongue along with its nerve supply.	Must Know	C2		
		• Describe the congenital anomalies associated with tongue	Should Know	C2		
		• Describe the developmental basis of physiological and biochemical mechanisms involved in perception and transmission of taste sensation	Must Know	C2		
		• Correlate with the clinical conditions	Should Know	C3		
		• Understand curative and preventive heath care measures	Nice to know	C3		
		• Practice the principles of bioethetics	Nice to know	C3		
		• Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Nice to know	C3 C3 C3		
M1-GIT-A-002	Development of Body cavities I & II	• Enumerate different body cavities	Must Know	C1	LGIS	SAQ MCQ VIVA OSPE
		• Describe division of embryonic body cavity	Must Know	C2		
		• Discuss formation and significance of pleuropericardial membranes and pleuroperitoneal membranes	Must Know	C2		
		• Describe muscular ingrowth from Lateral body walls	Must Know	C2		
		• Correlate with the clinical conditions	Should Know	C3		
		• Understand curative and preventive heath care measures	Nice to know	C3		
		• Practice the principles of bioethetics	Nice to know	C3		
		• Apply strategic use of A.I in health care measures. • Read relevant research articles. • Use HEC digital library	Nice to know	C3 C3 C3		

M1-GIT-A-003	Development of Salivary glands	• Explain different stages of development of salivary glands	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
		• Enlist the sourse for development of different type of salivary gland	Must Know	C1		
		• Explain development of its nerve supply	Must Know	C2		
		• Describe the congenital anomalies associated with salivary glands	Must Know	C2		
		• Correlate with the clinical conditions	Should Know	C3		
		• Understand curative and preventive heath care measures	Nice to know	C3		
		• Practice the principles of bioethetics		C3		
		• Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library		C3 C3 C3		
M1-GIT-A-004	Development of Esophagus	• Discuss the formation of tracheoesophageal septum and its importance	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
		• Describe salient features of esophageal development	Must Know	C2		
		• Describe congenital anomalies of esophagus	Must Know	C2		
		• Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of swallowing	Must Know	C2		
		• Correlate with the clinical conditions	Should Know	C3		
		• Understand curative and preventive heath care measures	Nice to know	C3		
		• Practice the principles of bioethetics	Nice to know	C3		
		• Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Nice to know	C3		
M1-GIT-A-005	Development of Stomach	• Explain the development of stomach	Must Know	C2	LGIS	SAQ MCQ VIVA
		• Discuss rotations and positional shifts of stomach & their effect on nerve supply and peritoneal attachments	Must Know	C2		
		• Explain formation of omental bursa.	Must Know	C2		
		• Describe congenital anomalies of stomach	Must Know	C2		

		• Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of digestion in the stomach • Discuss pernicious anemia	Must Know	C2 C2		OSPE
		• Correlate with the clinical conditions	Should Know	C3		
		• Understand curative and preventive heath care measures	Nice to know	C3		
		• Practice the principles of bioethetics	Nice to know	C3		
		• Apply strategic use of A.I in health care	Nice to know	C3		
		• Read relevant research articles	Nice to know	C3		
		• Use of HEC digital library	Nice to know	C3		
M1-GIT-A-006	Development of Liver	• Describe formation of hepatic diverticulum	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
		• Describe histogenesis of liver during intrauterine life	Must Know	C2		
		• Describe formation of various ligaments of liver.	Must Know	C2		
		• Discuss congenital abnormalities of liver	Must Know	C3		
		• Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of detoxification in the liver	Must Know	C2		
		• Correlate with the clinical conditions	Should Know	C3		
		• Understand curative and preventive heath care measures	Nice to know	C3		
		• Practice the principles of bioethetics	Nice to know	C3		
		• Apply strategic use of A.I in health care	Nice to know	C3		
		• Read relevant research articles	Nice to know	C3		
		• Use of HEC digital library	Nice to know	C3		
M1-GIT-A-007	Gall bladder, pancreas and Biliary apparatus	• Discuss development of Gall bladder	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
		• Describe /congenital anomalies of gall bladder	Must Know	C2		
		• Discuss development and congenital anomalies of pancreas	Must Know	C2		
		• Describe development of extrahepatic biliary apparatus and its parts with abnormalities	Must Know	C2		
		• Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of production of bile and pancreatic vsecretions	Must Know	C2		
		• Correlate with the clinical conditions	Should Know	C3		

		• Understand curative and preventive heath care measures	Nice to know	C3		
		• Practice the principles of bioethetics	Nice to know	C3		
		• Apply strategic use of A.I in health care	Nice to know	C3		
		• Read relevant research articles	Nice to know	C3		
		• Use of HEC digital library	Nice to know	C3		
M1-GIT-A-008	Development of small intestine	• Describe development of mid gut, midgut loop and rotation of midgut loop.	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
		• Explain physiological umbilical hernia and return of mid gut to abdomen.	Must Know	C2		
		• Describe fixation of intestines and transformations in peritoneal dispositions after mid gut loop return.	Must Know	C2		
		• Describe congenital anomalies and clinical correlation of mid gut development.	Must Know	C2		
		• Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3		
M1-GIT-A-009	Development of large intestine	• Enlist parts of large intestine.	Must Know	C1	LGIS	SAQ MCQ VIVA OSPE
		• Describe partitioning of cloaca and cloacal membrane.	Must Know	C2		
		• Describe development of anal canal.	Must Know	C2		
		• Describe congenital anomalies of large intestine. • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Must Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3 C3		
Histology						
M1-GIT-A-0010	Tongue	• Discuss surfaces of tongue with their histological features	Must Know	C2	LGIS	SAQ
		• Describe different papillae of tongue with their location &	Must Know	C2		

		features				MCQ VIVA OSPE
		• Explain histological features of taste buds	Must Know	C2		
		• Discuss leukoplakia and oral thrush • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3		
M1-GIT-A-0011	Salivary glands	• Enlist major salivary glands	Must Know	C1	LGIS	SAQ MCQ VIVA OSPE
		• Explain histological structure of salivary glands	Must Know	C2		
		• Discuss different cells forming parenchyma of salivary glands	Must Know	C2		
		• Discuss histology of duct system	Must Know	C2		
		• Differentiate between major salivary glands on histological basis	Must Know	C2		
		• Discuss effects of viral infections on salivary glands • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3 C3		
M1-GIT-A-0012	General organization of GIT	• Describe the developmental basis of physiological and biochemical mechanisms involved in perception and transmission of taste sensation	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
		• Describe the histological characteristics of each layer with functional significance	Must Know	C2		
		• Discuss associated clinicals (megacolon, chagas disease) • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Should Know Should Know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3 C3		
		• Describe the histological layers of esophagus.	Must Know	C2		

M1-GIT-A-0013	Esophagus	• Compare between various portions of esophagus histologically.	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
		• Discuss GERD • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3		
M1-GIT-A-0014	Stomach	• Describe the histological layers of different parts of stomach	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
		• Describe histological differences of different parts of the gastric glands	Must Know	C2		
		• Describe the structure and function of different cells of gastric glands	Must Know	C2		
		• Explain clinical conditions associated with stomach histologically	Should Know	C2		
		• Discuss pernicious anemia • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3		
M1-GIT-A-0015	Liver	• Discuss in detail the histological organization of liver	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
		• Explain the structure of liver lobule, portal triads& hepatic acinus and its functional importance	Must Know	C2		
		• Discuss histological features of hepatocytes.	Must Know	C2		
		• Explain Hepatic cords, central vein, portal triad, hepatic venules, hepatic arterioles, bile duct & liver sinusoids.	Must Know	C2		
		• Discuss the blood supply of the liver.	Must Know	C2		
		• Explain different cells of the liver tissue	Must Know	C2		
		• Describe clinical aspects of liver on histological grounds	Should Know	C3		
		• Discuss cirrhosis, fatty liver	Should Know	C2		

		• Discuss jaundice • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Should Know Nice to know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3		
M1-GIT-A-0016	Pancreas & Gall Bladder	• Differentiate between exocrine and endocrine pancreas. • Discuss the cellular structure and function of exocrine pancreatic acinus and ducts. • Discuss acute & chronic pancreatitis and pancreatic cancer • Explain the histological features of the gallbladder. • Discuss cholelithiasis • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Must Know Must Know Must Know Must Know Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C2 C2 C2 C2 C3 C3 C3 C3 C3 C3	LGIS	SAQ MCQ VIVA OSPE
M1-GIT-A-0017	Small Intestine	• Differentiate the histological features of duodenum, jejunum and ileum • Discuss the location and function of villi, crypts of liberkuhn and microvilli in different parts of small intestine • Discuss different cells lining the epithelium of small intestine • Discuss histological aspects of celiac disease and crohn disease • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Must Know Must Know Must Know Must Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know Nice to Know	C2 C2 C2 C2 C3 C3 C3 C3 C3 C3 C3	LGIS	SAQ MCQ VIVA OSPE
		• Describe histological features of parts of large intestine.	Must Know	C2	LGIS	SAQ

M1-GIT-A-0018	Large Intestine I (General Histological Features)	• Discuss cells lining the epithelium • Explain concept of tenaei coli. • Differentiate histological structure of the large intestine from the small intestine. • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Must Know Must Know Must Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C2 C2 C3 C3 C3 C3 C3 C3		MCQ VIVA OSPE
M1-GIT-A-0019	Large Intestine II (Histological Features of different parts)	• Describe histological features of appendix, caecum, rectum and anal canal • Discuss clinical conditions (Colorectal cancer) • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Must Know Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3 C3	LGIS	SAQ MCQ VIVA OSPE

(Knowledge)

Anatomy Small Group Discussion (SGDs)

Code	Topic	Learning Objectives Students Should Be Able To	Calgary Gauge	C/P/A	Teaching Strategy	Assessment Tool
M1-GIT-A-0020	Topographical organization of Gastrointestinal tract	• Enlist components of gastrointestinal tract	Must Know	C1	Skill lab	SAQ MCQ VIVA OSPE/OSCE
		• Mark the planes dividing the abdomen into nine quadrants	Should Know	P		
		• Enumerate the parts of GIT lying in the various quadrants • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C1 C3 C3 C3 C3 C3 C3		

M1-GIT-A-0021	Oral Cavity, tongue and salivary glands,	• Define the boundaries of oral cavity	Must Know	C1	Skill lab	SAQ MCQ VIVA OSPE
		• Tabulate the Extrinsic and Intrinsic muscles of the tongue, anatomical location and clinical importance of tongue	Must Know	C2		
		• Brief Introduction of salivary glands with their anatomical location • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Must Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C1 C3 C3 C3 C3 C3 C3		
M1-GIT-A-0022	Anterolateral abdominal wall	• Explain the layers of abdominal wall.	Must Know	C2	Skill lab	SAQ MCQ VIVA OSPE
		• Explain the fascia and muscles of abdominal wall.	Must Know	C2		
		• Describe nerve supply of anterior and lateral abdominal wall.	Must Know	C2		
		• Explain the segmental sympathetic supplies	Must Know	C2		
		• Correlate the Anatomical knowledge with Abdominal Hernias • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3 C3		
M1-GIT-A-0023	Rectus sheath,	• Describe Formation of rectus sheath	Must Know	C2	Skill lab	SAQ MCQ VIVA OSPE
		• Enlist contents of rectus sheath	Must Know	C1		
		• Discuss associated clinical anatomy • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3		

M1-GIT-A-0024	Inguinal Region & Inguinal Hernias	• Describe Walls of Inguinal Canal	Must Know	C2		
		• Explain Deep & Superficial Inguinal Ring	Must Know	C2		
		• Enumerate Structures passing through the inguinal canal	Must Know	C1	Skill lab	SAQ MCQ VIVA OSPE/OSCE
		• Enlist Coverings of spermatic cord	Must Know	C1		
		• Explain Mechanics of the inguinal Canal	Must Know	C2		
		• Describe boundaries of Hassalbachs triangle	Must Know	C2		
		• Define hernia	Should Know	C1		
		• Differentiate indirect from direct inguinal hernia • Map outline of inguinal canal on simulated patient /model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Should Know Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 P+A C3 C3 C3 C3 C3 C3		
M1-GIT-A-0025	Testes, scrotum	• Define Anatomy of Testes and Scrotum	Must Know	C1	Skill lab	SAQ MCQ VIVA OSPE
		• Differentiate between Protective Coverings of Testes & scrotum	Must Know	C2		
		• Enumerate Nerve & blood supply of these Structures	Must Know	C1		
		• Discuss the parts of epididymis	Must Know	C2		
		• Discuss Spermatocoele, Varicocoele, Hematocoele, hydrocoele, Testicular torsion • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3		
M1-GIT-A-0026	Peritoneum & Peritoneal Cavity	• Define peritoneum	Must Know	C1	Skill lab	SAQ MCQ VIVA OSPE
		• Explain the different folds of peritoneum.	Must Know	C2		
		• Describe greater and lesser sacs	Must Know	C2		
		• Enlist the intra and retroperitoneal viscera	Must Know	C1		
		• Discuss vertical tracings of peritoneum • Correlate with the clinical conditions • Understand curative and preventive heath care measures.	Must Know Should Know Nice to know	C2 C3 C3		

		• Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3		
M1-GIT-A-0027	Subdivisons of Peritoneal Cavity	• Describe arrangement of peritoneum in transverse & Longitudinal section of abdomen	Must Know	C2	Skill lab	SAQ MCQ VIVA OSPE
		• Describe arrangement of peritoneum in transverse section of male pelvis	Must Know	C2		
		• Explain arrangement of peritoneum in transverse section of female pelvis	Must Know	C2		
		• Explain the layers, folds, recesses and compartments of peritoneum with their clinical importance	Must Know	C2		
		• Describe peritonitis	Should Know	C3		
		• Enumerate the signs and symptoms of peritonitis	Should Know	C3		
		• Treat peritonitis by antibiotics and peritoneal dialysis • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3 C3		
M1-GIT-A-0028	Esophagus	• Discuss gross features of abdominal part of esophagus	Must Know	C2	Skill lab	SAQ MCQ VIVA OSPE
		• Enumerate their peritoneal & visceral relations.	Must Know	C1		
		• Explain blood supply, lymphatic drainage & nerve supply of esophagus	Must Know	C2		
		• Discuss Esophageal varices • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3		
M1-GIT-A-0029	Stomach	• Explain gross features of stomach.	Must Know	C2		SAQ MCQ
		• Discuss blood supply, lymphatic drainage & nerve supply of stomach	Must Know	C2		

		• Explain peritoneal & visceral relations of stomach	Must Know	C2	Skill lab	VIVA OSPE/OSCE
		• Discuss greater and lesser omentum	Must Know	C2		
		• Describe formation and boundaries of epiploic foramen • Map outline of stomach on simulated patient /model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Must Know Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3 C3 C3		
M1-GIT-A-0030	Small Intestine (Duodenum)	• Describe the different parts ofduodenum with their anatomical differences	Must Know	C2	Skill lab	SAQ MCQ VIVA OSPE
		• Enumerate the relations of different parts of duodenum	Must Know	C1		
		• Discuss its clinical importance • Map outline of duodenum on simulated patient /model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Should Know Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3 C3 C3		
M1-GIT-A-0031	Small Intestine (Jejunum and Ileum)	• Describe jejunum and ileum with their anatomical features	Must Know	C2	Skill lab	SAQ MCQ VIVA OSPE
		• Discuss mesentery and its attachment	Must Know	C2		
		• Discuss its clinical importance • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3		
M1-GIT-A-0032	Large Intestine & Appendix	• Enlist various parts of large intestine	Must Know	C1		
		• Demonstrate gross anatomical features of different parts of large intestine	Must Know	C2		

		• Enlist intra and retroperitoneal parts of large intestine	Must Know	C1	Skill lab	SAQ MCQ VIVA OSPE
		• Discuss gross features of caecum	Must Know	C2		
		• Describe gross anatomy of appendix	Must Know	C2		
		• Enlist different anatomical positions of vermiform appendix.	Should Know	C1		
		• Mark McBurney's point	Should Know	P		
		• Demonstrate McBurney's incision	Should Know	P		
		• Discuss common features, differential diagnosis of acute appendicitis and appendicectomy • Map outline of Transverse and descending colon on simulatrs patient /model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Should Know Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 P+A C3 C3 C3 C3 C3 C3		
M1-GIT-A-0033	Liver, Portal hypertension, Portosystemic Anastomosis	• Describe the anatomical structure of liver.	Must Know	C2	Skill lab	SAQ MCQ VIVA OSPE
		• Describe the lobes, surfaces and segments of liver	Must Know	C2		
		• Describe peritoneal reflections, ligaments and bare area of liver.	Must Know	C2		
		• Enumerate visceral relations of liver.	Must Know	C1		
		• Enlist the structures in porta hepatis.	Must Know	C1		
		• Discuss Sub hepatic abscess & Live Biopsy	Must Know	C2		
		• Discuss formation, course and parts of portal vein	Must Know	C2		
		• Enumerate relations and tributaries of portal vein	Must Know	C1		
		• Define portal hypertension	Should Know	C1		
		• Describe sites of the portocaval anastomosis and their clinical significance	Should Know	C2		
		• Explain role of portocaval shunts • Map outline of liver on simulated patient /model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles	Should Know Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3 C3 C3		

		• Use HEC digital library				
M1-GIT-A-0034	Gallbladder and Biliary apparatus	• Describe location & size of gall bladder	Must Know	C2	Skill lab	SAQ MCQ VIVA OSPE/OSCE
		• Enumerate relations of gallbladder.	Must Know	C1		
		• Describe clinical conditions related to gallbladder	Should Know	C2		
		• Enlist different components of Extra-hepatic biliary System	Must Know	C1		
		• Discuss the right & left hepatic ducts, common hepatic duct, cystic ducts, bile duct	Must Know	C2		
		• Explain differences between Intra & Extra Hepatic Biliary Systems.	Must Know	C2		
		• Discuss clinicals related with biliary apparatus	Should Know	C2		
		• Discuss accessory hepatic ducts • Map outline of gallbladder & Bile duct on simulated patient /model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Must Know Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3 C3 C3		
M1-GIT-A-0035	Spleen	• Discuss anatomical location and features of spleen with its blood supply, and lymphatic drainage	Must Know	C2	Skill lab	SAQ MCQ VIVA OSPE
		• Explain Rupture of spleen & its effects • Map outline of spleen on simulated patient /model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care	Should Know Should Know Should Know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3		

		• Read relevant research articles • Use of HEC digital library	Nice to know Nice to know	C3 C3		
M1-GIT-A-0036	Pancreas	• Recall location, shape, dimensions and extent of pancreas	Must Know	C2	Skill lab	SAQ MCQ VIVA OSPE/OSCE
		• Discuss parts, ducts and relations of pancreas	Must Know	C2		
		• Describe arterial supply of pancreas	Must Know	C2		
		• Explain applied aspects of pancreas • Map outline of pancrease on simulated patient/ model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Should Know Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3 C3 C3		
M1-GIT-A-0037	Vasculature of GIT	• Describe the position and the vertebral levels of aorta in the abdomen.	Must Know	C2	Skill lab	SAQ MCQ VIVA OSPE/OSCE
		• Enlist the main branches of the aorta and its territories.	Must Know	C1		
		• Explain the applied anatomy of the aorta	Must Know	C1		
		• Explain origin, course, branches and distribution of celiac trunk • Map outline of abdominal aorta, coeliac trunk, superior &inferior mesenteric artery on simulated patient/ model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Must Know Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3 C3 C3		
M1-GIT-A-0038	Nerve supply and Lymphatic drainage of GIT	• Discus enteric nervous system with formation of plexuses and its parasympathetic role	Must Know	C2	Skill lab	SAQ MCQ VIVA OSPE
		• Enlist the types of lymph nodes draining the abdomen	Must Know	C1		
		• Describe lymphatic drainage of GIT with special reference to lymphatic trunks, cisterna chyli & the thoracic duct • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care	Must Know Should Know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3		

		• Read relevant research articles • Use of HEC digital library	Nice to know Nice to know	C3 C3		
M1-GIT-A-0039	Cross Sectional Anatomy	• Identify different visceras located at different levels of vertebral coloumn; T10, T11, T12, L1, L2 • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Must Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C1 C3 C3 C3 C3 C3 C3	Skill lab	SAQ MCQ VIVA OSPE
M1-GIT-A-0040	Rectum	• Discuss the location and extent of rectum	Must Know	C2	Skill lab	SCQ MCQ VIVA OSPE
		• Describe the internal and external features of rectum	Must Know	C2		
		• Discuss peritoneal reflections rectouterine, rectovesical fossae and their clinical significance	Must Know	C2		
		• Enumerate relations of rectum	Must Know	C1		
		• Discuss blood supply, nerve supply, venous and lymphatic drainage	Must Know	C1		
		• Describe the basis and features of rectal prolapsed • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Should Know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3 C3		
M1-GIT-A-0041	Anal canal	• Discuss location and extent of anal canal	Must Know	C2	Skill lab	SAQ MCQ VIVA OSPE
		• Describe external and internal features of Anal Canal	Must Know	C2		
		• Discuss features of anal sphincters	Must Know	C2		
		• Tabulate relations of the anal canal with the surrounding structures	Must Know	C2		
		• Describe the Blood supply, venous and lymphatic drainage & innervations of anal canal	Must Know	C2		
		• Discuss anal continence	Must Know	C2		
		• Differentiate between internal and external haemorrhoids • Correlate with the clinical conditions • Understand curative and preventive heath care measures.	Should Know Should Know Nice to know	C3 C3 C3		

		• Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3		
M1-GIT-A-0042	Radiological Anatomy	• Identify structures on a normal X-ray abdomen • Appreciate Air fluid shadows. • Mark anatomical landmarks. • Correlate the clinical conditions • Understand the preventive and curative health care measures • Practice the principles of Bioethics • Apply Strategic use of AI in health care • Read relevant research articles	Must Know Must Know Must Know Must Know Nice to know Nice to know Nice to know Nice to know	C2 C2 C2 C3 C3 C3 C3 C3	Skill lab	OSPE

(Knowledge)

Anatomy Self Directed Learning (SDL)

Code	Topics of SDL	Learning Objectives Students Should Be Able To	Learning Resources
M1-GIT-A-0043	Layers of Antero lateral abdominal wall & its defects	• Explain the layers of abdominal wall. • Explain the fascia and muscles of abdominal wall. • Describe nerve supply of anterior and lateral abdominal wall. • Explain the segmental sympathetic supplies	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 183,184-216). ❖ https://3d4medical.com/
M1-GIT-A-0044	Applied Anatomy of Rectus sheath	• Describe Formation of rectus sheath • Enlist contents of rectus sheath	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 188-201). ❖ https://teachmeanatomy.info/
M1-GIT-A-0045	Applied Anatomy of Inguinal region & Hernias	• Describe Walls & detailed anatomy of Inguinal Canal • Explain Deep & Superficial Inguinal Ring • Associated Clinicals	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 197, 202-203, 212-213). ❖ https://3d4medical.com/
		• Define peritoneum • Explain the different folds of peritoneum.	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 219-221,).

M1-GIT-A-0046	Peritoneal Dialysis/Peritonial Lavage	• Describe greater and lesser sacs • Enlist the intra and retroperitoneal viscera • Discuss vertical tracings of peritoneum • Describe arrangement of peritoneum in transverse & Longitudinal section of abdomen • Describe arrangement of peritoneum in transverse section of male pelvis • Explain arrangement of peritoneum in transverse section of female pelvis • Explain the layers, folds, recesses and compartments of peritoneum with their clinical importance • Describe peritonitis • Enumerate the signs and symptoms of peritonitis • Treat peritonitis by antibiotics and peritoneal dialysis	❖ https://teachmeanatomy.info/
M1-GIT-A-0047	Crohn's Disease, Celiac Disease, Irritable Bowel Sydrome	• Describe the different parts of duodenum with their anatomical differences • Enumerate the relations of different parts of duodenum • Discuss its clinical importance • Anatomy of Jejunum & Ileum	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 239, 241, 244, 245, 325, 436). ❖ https://www.kenhub.com/en/library/anatomy/the-digestive-system
M1-GIT-A-0048	Diverticulum, Intussusception	• Enlist various parts of large intestine • Demonstrate gross anatomical features of different parts of large intestine • Enlist intra and retroperitoneal parts of large intestine	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 227,246,248, 325). ❖ https://www.kenhub.com/en/library/anatomy/the-digestive-system
M1-GIT-A-0049	Liver Biopsy, Liver Abscess and hepatitis	• Describe formation of hepatic diverticulum • Describe histogenesis of liver during intrauterine life • Describe formation of various ligaments of liver. • Discuss congenital abnormalities of liver • Differentiate between exocrine and endocrine pancreas. • Discuss the cellular structure and function of exocrine pancreatic acinus and ducts.	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 267-268, 272-278, 282,323, 395). ❖ https://www.kenhub.com/en/library/anatomy/the-digestive-system

M1-GIT-A-0050	Applied Anatomy of Vasculature of GIT (Blood Supply, Venous drainage, Lymphatic drainage)	• Explain the applied anatomy of the aorta • Explain origin, course, branches and distribution of celiac trunk • Discuss formation, course and parts of portal vein • Enumerate relations and tributaries of portal vein • Define portal hypertension • Discuss Major Lymphatic Channels	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 228-233, 249-250, 263-285). ❖ http://www.anatomyzone.com 3D **anatomy**
M1-GIT-A-0051	Hemorrhoids & Anal Fissure	• Discuss the location and extent of rectum • Describe the internal and external features of rectum • Discuss peritoneal reflections rectouterine, rectovesical fossae and their clinical significance • Enumerate relations of rectum • Discuss blood supply, nerve supply, venous and lymphatic drainage • Describe the basis and features of rectal prolapsed • Discuss location and extent of anal canal • Describe external and internal features of Anal Canal • Discuss features of anal sphincters • Tabulate relations of the anal canal with the surrounding structures • Describe the Blood supply, venous and lymphatic drainage & innervations of anal canal • Discuss anal continence • Differentiate between internal and external hemorrhoids	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 239, 248,253 368-371,436,438). ❖ http://www.anatomyzone.com 3D **anatomy**
M1-GIT-A-0052	Applied Anatomy of Innervation of Abdominal Viscera's	• Discuss cutaneous & Somatic innervation of GIT • Describe Autonomic innervation of GIT	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 301-305). ❖ http://www.anatomyzone.com 3D **anatomy**

(Psychomotor)

Histology Practicals Skill Laboratory (SKL)

Code	Topic	At the end of practical students should be able to	Calgary Gauges	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-A-0053	Tongue & salivary glands	• Focus & Identify slides of tongue & glands under microscope	Should Know	P	Skill lab	OSPE/OSCE
		• Illustrate histological structure of tongue & salivary glands	Must Know	C2		
		• Write two points of identification	Must Know	C1		
M1-GIT-A-0054	Esophagus	• Focus & Identify slide of Esophagus under microscope	Should Know	P	Skill lab	OSPE/OSCE
		• Illustrate histological structure of Esophagus	Must Know	C2		
		• Write two points of identification	Must Know	C1		
M1-GIT-A-0055	Stomach	• Focus & Identify slide of Stomach under microscope	Should Know	P	Skill lab	OSPE/OSCE
		• Illustrate histological structure of Stomach	Must Know	C2		
		• Write two points of identification	Must Know	C1		
		• Differentiate mucosa of cardiac, fundus, body and pyloric end of stomach	Must Know	C2		
M1-GIT-A-0056	Liver, Gall bladder & Pancreas	• Focus & Identify slides of Liver, Gall bladder &Pancreas under microscope	Should Know	P	Skill labs	OSPE/OSCE
		• Illustrate histological structures of Liver, Gallbladder & Pancreas	Must Know	C2		
		• Write two points of identification	Must Know	C1		
M1-GIT-A-0057	Small Intestine	• Focus & Identify slide of small intestine under microscope	Should Know	P	Skill lab	OSPE/OSCE
		• Illustrate histological structure of small intestine	Must Know	C2		
		• Write two points of identification	Must Know	C1		
M1-GIT-A-0058	Large Intestine	• Focus & Identify slide of Large Intestine under microscope	Should Know	P	Skill lab	OSPE/OSCE
		• Illustrate histological structure of large intestine	Must Know	C2		
		• Write two points of identification	Must Know	C1		

Anatomy LGIS Syllabus of Learning Management System (LMS)

Code	Topic	Learning Objectives At the end of lecture students should be able to	Calgary Gauge	Learning Domain	References
		Embryology			
M1-GIT-A-0059	Development of Tongue	• Describe the development of pharyngeal apparatus	Should Know	C2	• **Embryology:** - KLM Embryology Developing Human 11th Edition • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024
		• Enlist the sources for development of different parts of tongue.	Should Know	C1	
		• Explain the development of tongue along with its nerve supply.	Should Know	C2	
		• Describe the congenital anomalies associated with tongue	Must Know	C2	
		• Describe the developmental basis of physiological and biochemical mechanisms involved in perception and transmission of taste sensation	Should Know	C2	
		• Correlate with the clinical conditions	Must Know	C3	
		• Understand curative and preventive heath care measures	Nice to know	C3	
		• Practice the principles of bioethetics	Nice to know	C3	
		• Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Nice to know	C3 C3 C3	
M1-GIT-A-0060	Development of Body cavities I & II	• Enumerate different body cavities	Should Know	C1	• **Embryology:** - KLM Embryology Developing Human 11th Edition • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024
		• Describe division of embryonic body cavity	Should Know	C2	
		• Discuss formation and significance of pleuropericardial membranes and pleuroperitoneal membranes	Should Know	C2	
		• Describe muscular ingrowth from Lateral body walls	Should Know	C2	
		• Correlate with the clinical conditions	Must Know	C3	
		• Understand curative and preventive heath care measures	Nice to know	C3	
		• Practice the principles of bioethetics	Nice to know	C3	
		• Apply strategic use of A.I in health care measures. • Read relevant research articles. • Use HEC digital library	Nice to know	C3 C3 C3	
M1-GIT-A-0061	Development of Salivary	• Explain different stages of development of salivary glands	Should Know	C2	

	glands	• Enlist the sourse for development of different type of salivary gland	Should Know	C1	• **Embryology:**- KLM Embryology Developing Human 11th Edition • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024 • **Embryology:** - KLM Embryology Developing Human 11th Edition • **USMLE Q Bank Step 1** (Volume 1) 2023-2034
		• Explain development of its nerve supply	Should Know	C2	
		• Describe the congenital anomalies associated with salivary glands	Should Know	C2	
		• Correlate with the clinical conditions	Must Know	C3	
		• Understand curative and preventive heath care measures	Nice to know	C3	
		• Practice the principles of bioethetics		C3	
		• Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library		C3 C3 C3	
M1-GIT-A-0062	Development of Esophagus	• Discuss the formation of tracheoesophageal septum and its importance	Should Know	C2	• **Embryology:** - KLM Embryology Developing Human 11th Edition • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024
		• Describe salient features of esophageal development	Should Know	C2	
		• Describe congenital anomalies of esophagus	Should Know	C2	
		• Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of swallowing	Should Know	C2	
		• Correlate with the clinical conditions	Must Know	C3	
		• Understand curative and preventive heath care measures	Nice to know	C3	
		• Practice the principles of bioethetics	Nice to know	C3	
		• Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Nice to know	C3	
M1-GIT-A-0063	Development of Stomach	• Explain the development of stomach	Should Know	C2	• **Embryology:**- KLM Embryology Developing Human 11th Edition • **USMLE Q Bank Step 1** (Volume 1) 2023-2034
		• Discuss rotations and positional shifts of stomach & their effect on nerve supply and peritoneal attachments	Should Know	C2	
		• Explain formation of omental bursa.	Should Know	C2	
		• Describe congenital anomalies of stomach	Should Know	C2	
		• Describe the developmental basis for the physiological	Should Know	C2	

		and biochemical mechanisms involved in the process of digestion in the stomach • Discuss pernicious anemia		C2	**UWORLD Step 1** (Volume 3) 2023-2024
		• Correlate with the clinical conditions	Must Know	C3	
		• Understand curative and preventive heath care measures	Nice to know	C3	
		• Practice the principles of bioethetics	Nice to know	C3	
		• Apply strategic use of A.I in health care	Nice to know	C3	
		• Read relevant research articles	Nice to know	C3	
		• Use of HEC digital library	Nice to know	C3	
M1-GIT-A-0064	Development of Liver	• Describe formation of hepatic diverticulum	Should Know	C2	• **Embryology:** - KLM Embryology Developing Human 11th Edition • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024
		• Describe histogenesis of liver during intrauterine life	Should Know	C2	
		• Describe formation of various ligaments of liver.	Should Know	C2	
		• Discuss congenital abnormalities of liver	Should Know	C3	
		• Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of detoxification in the liver	Should Know	C2	
		• Correlate with the clinical conditions	Must Know	C3	
		• Understand curative and preventive heath care measures	Nice to know	C3	
		• Practice the principles of bioethetics	Nice to know	C3	
		• Apply strategic use of A.I in health care	Nice to know	C3	
		• Read relevant research articles	Nice to know	C3	
		• Use of HEC digital library	Nice to know	C3	
M1-GIT-A-0065	Gall bladder, pancreas and Biliary apparatus	• Discuss development of Gall bladder	Should Know	C2	• **Embryology:** - KLM Embryology Developing Human 11th Edition • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024
		• Describe /congenital anomalies of gall bladder	Should Know	C2	
		• Discuss development and congenital anomalies of pancreas	Should Know	C2	
		• Describe development of extrahepatic biliary apparatus and its parts with abnormalities	Should Know	C2	
		• Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of production of bile and pancreatic vsecretions	Should Know	C2	
		• Correlate with the clinical conditions	Must Know	C3	

		• Understand curative and preventive heath care measures	Nice to know	C3	
		• Practice the principles of bioethetics	Nice to know	C3	
		• Apply strategic use of A.I in health care	Nice to know	C3	
		• Read relevant research articles	Nice to know	C3	
		• Use of HEC digital library	Nice to know	C3	
M1-GIT-A-0066	Development of small intestine	• Describe development of mid gut, midgut loop and rotation of midgut loop.	Should Know	C2	• **Embryology:**- KLM Embryology Developing Human 11th Edition • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024
		• Explain physiological umbilical hernia and return of mid gut to abdomen.	Should Know	C2	
		• Describe fixation of intestines and transformations in peritoneal dispositions after mid gut loop return.	Should Know	C2	
		• Describe congenital anomalies and clinical correlation of mid gut development.	Should Know	C2	
		• Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3	
M1-GIT-A-0067	Development of large intestine	• Enlist parts of large intestine.	Should Know	C1	• **Embryology:** - KLM Embryology Developing Human 11th Edition • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024
		• Describe partitioning of cloaca and cloacal membrane.	Should Know	C2	
		• Describe development of anal canal.	Should Know	C2	
		• Describe congenital anomalies of large intestine. • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Should Know Must Know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3 C3	
M1-GIT-A-0068	Tongue	• Discuss surfaces of tongue with their histological features	Should Know	C2	• **Histology: -**Junqueira's Basic Histology 18th Edition

		• Describe different papillae of tongue with their location & features	Should Know	C2	• **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024 •
		• Explain histological features of taste buds	Should Know	C2	
		• Discuss leukoplakia and oral thrush • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Must Know Must Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3	
M1-GIT-A-0069	Salivary glands	• Enlist major salivary glands	Should Know	C1	• **Histology: -**Junqueira's Basic Histology 18th Edition **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024 •
		• Explain histological structure of salivary glands	Should Know	C2	
		• Discuss different cells forming parenchyma of salivary glands	Should Know	C2	
		• Discuss histology of duct system	Should Know	C2	
		• Differentiate between major salivary glands on histological basis	Should Know	C2	
		• Discuss effects of viral infections on salivary glands • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Must Know Must Know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3 C3	
M1-GIT-A-0070	General organization of GIT	• Describe the developmental basis of physiological and biochemical mechanisms involved in perception and transmission of taste sensation	Should Know	C2	• **Histology: -**Junqueira's Basic Histology 18th Edition **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024 •
		• Describe the histological characteristics of each layer with functional significance	Should Know	C2	
		• Discuss associated clinicals (megacolon, chagas disease) • Correlate with the clinical conditions	Must Know Must Know Nice to know	C3 C3 C3	

		• Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Nice to know Nice to know Nice to know	C3 C3 C3 C3	
M1-GIT-A-0071	Esophagus	• Describe the histological layers of esophagus.	Should Know	C2	• **Histology: -**Junqueira's Basic Histology 18th Edition **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024 •
		• Compare between various portions of esophagus histologically.	Should Know	C2	
		• Discuss GERD • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Must Know Must Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3	
M1-GIT-A-0072	Stomach	• Describe the histological layers of different parts of stomach	Should Know	C2	• **Histology: -**Junqueira's Basic Histology 18th Edition **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024 •
		• Describe histological differences of different parts of the gastric glands	Should Know	C2	
		• Describe the structure and function of different cells of gastric glands	Should Know	C2	
		• Explain clinical conditions associated with stomach histologically	Must know	C2	
		• Discuss pernicious anemia • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3	
M1-GIT-A-0073	Liver	• Discuss in detail the histological organization of liver	Should Know	C2	• **Histology: -**Junqueira's Basic Histology 18th Edition **USMLE Q Bank Step 1** (Volume 1) 2023-2034
		• Explain the structure of liver lobule, portal triads& hepatic acinus and its functional importance	Should Know	C2	
		• Discuss histological features of hepatocytes.	Should Know	C2	

		• Explain Hepatic cords, central vein, portal triad, hepatic venules, hepatic arterioles, bile duct & liver sinusoids.	Should Know	C2	• **UWORLD Step 1** (Volume 3) 2023-2024 •
		• Discuss the blood supply of the liver.	Should Know	C2	
		• Explain different cells of the liver tissue	Should Know	C2	
		• Describe clinical aspects of liver on histological grounds	Must know	C3	
		• Discuss cirrhosis, fatty liver	Must know	C2	
		• Discuss jaundice • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Must know Nice to know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3	
M1-GIT-A-0074	Pancreas & Gall Bladder	• Differentiate between exocrine and endocrine pancreas. • Discuss the cellular structure and function of exocrine pancreatic acinus and ducts. • Discuss acute & chronic pancreatitis and pancreatic cancer • Explain the histological features of the gallbladder. • Discuss cholelithiasis • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Should know Should know Should know Should know Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C2 C2 C2 C2 C3 C3 C3 C3 C3 C3	• **Histology:** -Junqueira's Basic Histology 18th Edition **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024 •
M1-GIT-A-0075	Small Intestine	• Differentiate the histological features of duodenum, jejunum and ileum • Discuss the location and function of villi, crypts of liberkuhn and microvilli in different parts of small intestine • Discuss different cells lining the epithelium of small intestine	Should know Should know Should know Should know Must know	C2 C2 C2 C2 C3	• **Histology:** -Junqueira's Basic Histology 18th Edition **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024

		• Discuss histological aspects of celiac disease and crohn disease • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Nice to know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3	•
M1-GIT-A-0076	Large Intestine I (General Histological Features)	• Describe histological features of parts of large intestine. • Discuss cells lining the epithelium • Explain concept of tenaei coli. • Differentiate histological structure of the large intestine from the small intestine. • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Should know Should know Should know Should know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C2 C2 C2 C3 C3 C3 C3 C3 C3	• **Histology :-**Junqueira's Basic Histology 18th Edition **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024 •
M1-GIT-A-0077	Large Intestine II (Histological Features of different parts)	• Describe histological features of appendix, caecum, rectum and anal canal • Discuss clinical conditions (Colorectal cancer) • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Should know Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3 C3	• **Histology :-**Junqueira's Basic Histology 18th Edition **USMLE Q Bank Step 1** (Volume 1) 2023-2034 • **UWORLD Step 1** (Volume 3) 2023-2024 •

Anatomy SGDs Syllabus of Learning Management System (LMS)

Code	Topic	Learning Objectives Students Should Be Able To	Importance	C/P/A	
M1-GIT-A-0078	Topographical organization of Gastrointestinal tract	• Enlist components of gastrointestinal tract	Should know	C1	• **Gross Anatomy** :- KLM clinically oriented anatomy edition 10 • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 **UWORLD Step 1** (Volume 3) 2023-2024
		• Mark the planes dividing the abdomen into nine quadrants	Must know	P	
		• Enumerate the parts of GIT lying in the various quadrants • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C1 C3 C3 C3 C3 C3 C3	
M1-GIT-A-0079	Oral Cavity, tongue and salivary glands,	• Define the boundaries of oral cavity	Should know	C1	• **Gross Anatomy** :- KLM clinically oriented anatomy edition 10 • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 **UWORLD Step 1** (Volume 3) 2023-2024
		• Tabulate the Extrinsic and Intrinsic muscles of the tongue, anatomical location and clinical importance of tongue	Should know	C2	
		• Brief Introduction of salivary glands with their anatomical location • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics	Should know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C1 C3 C3 C3 C3 C3 C3	

		• Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library			
M1-GIT-A-0080	Anterolateral abdominal wall	• Explain the layers of abdominal wall.	Should know	C2	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 183,184-216). https://3d4medical.com/
		• Explain the fascia and muscles of abdominal wall.	Should know	C2	
		• Describe nerve supply of anterior and lateral abdominal wall.	Should know	C2	
		• Explain the segmental sympathetic supplies	Should know	C2	
		• Correlate the Anatomical knowledge with Abdominal Hernias • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3 C3	
M1-GIT-A-0081	Rectus sheath,	• Describe Formation of rectus sheath	Should know	C2	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 188-201). https://teachmeanatomy.info/
		• Enlist contents of rectus sheath	Should know	C1	
		• Discuss associated clinical anatomy • Correlate with the clinical conditions • Understand curative and	Must know Must know Nice to know Nice to know	C2 C3 C3 C3	

		preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Nice to know Nice to know Nice to know	C3 C3 C3	
M1-GIT-A-0082	Inguinal Region & Inguinal Hernias	• Describe Walls of Inguinal Canal	Should know	C2	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 197, 202-203, 212-213). ❖ https://3d4medical.com/
		• Explain Deep & Superficial Inguinal Ring	Should know	C2	
		• Enumerate Structures passing through the inguinal canal	Should know	C1	
		• Enlist Coverings of spermatic cord	Should know	C1	
		• Explain Mechanics of the inguinal Canal	Should know	C2	
		• Describe boundaries of Hassalbachs triangle	Should know	C2	
		• Define hernia	Must know	C1	
		• Differentiate indirect from direct inguinal hernia • Map outline of inguinal canal on simulated patient /model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Must know Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 P+A C3 C3 C3 C3 C3 C3	
M1-GIT-A-0083	Testes, scrotum	• Define Anatomy of Testes and Scrotum	Should know	C1	• **Gross Anatomy** :- KLM clinically oriented

		• Differentiate between Protective Coverings of Testes & scrotum	Should know	C2	anatomy edition 10 • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 **UWORLD Step 1** (Volume 3) 2023-2024
		• Enumerate Nerve & blood supply of these Structures	Should know	C1	
		• Discuss the parts of epididymis	Should know	C2	
		• Discuss Spermatocoele, Varicocoele, Hematocoele, hydrocoele, Testicular torsion • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3	
M1-GIT-A-0084	Peritoneum & Peritoneal Cavity	• Define peritoneum	Should know	C1	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 219-221,). https://teachmeanatomy.info/
		• Explain the different folds of peritoneum.	Should know	C2	
		• Describe greater and lesser sacs	Should know	C2	
		• Enlist the intra and retroperitoneal viscera	Should know	C1	
		• Discuss vertical tracings of peritoneum • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in	Should know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3	

		health care • Read relevant research articles • Use of HEC digital library			
M1-GIT-A-0085	Subdivisons of Peritoneal Cavity	• Describe arrangement of peritoneum in transverse & Longitudinal section of abdomen	Should know	C2	• **Gross Anatomy** :- KLM clinically oriented anatomy edition 10 • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 **UWORLD Step 1** (Volume 3) 2023-2024
		• Describe arrangement of peritoneum in transverse section of male pelvis	Should know	C2	
		• Explain arrangement of peritoneum in transverse section of female pelvis	Should know	C2	
		• Explain the layers, folds, recesses and compartments of peritoneum with their clinical importance	Should know	C2	
		• Describe peritonitis	Must know	C3	
		• Enumerate the signs and symptoms of peritonitis	Must know	C3	
		• Treat peritonitis by antibiotics and peritoneal dialysis • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3 C3	
M1-GIT-A-0086	Esophagus	• Discuss gross features of abdominal part of esophagus	Should know	C2	• **Gross Anatomy** :- KLM clinically oriented anatomy edition 10
		• Enumerate their peritoneal &	Should know	C1	

		visceral relations.			• **USMLE Q Bank Step 1** (Volume 1) 2023-2034 **UWORLD Step 1** (Volume 3) 2023-2024
		• Explain blood supply, lymphatic drainage & nerve supply of esophagus	Should know	C2	
		• Discuss Esophageal varices • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3	
M1-GIT-A-0087	Stomach	• Explain gross features of stomach.	Should know	C2	• **Gross Anatomy** :- KLM clinically oriented anatomy edition 10 • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 **UWORLD Step 1** (Volume 3) 2023-2024
		• Discuss blood supply, lymphatic drainage & nerve supply of stomach	Should know	C2	
		• Explain peritoneal & visceral relations of stomach	Should know	C2	
		• Discuss greater and lesser omentum	Should know	C2	
		• Describe formation and boundaries of epiploic foramen • Map outline of stomach on simulated patient /model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics	Should know Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3 C3 C3 C3	

		• Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library			
M1-GIT-A-0088	Small Intestine (Duodenum)	• Describe the different parts ofduodenum with their anatomical differences	Should know	C2	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 239, 241, 244, 245, 325, 436). https://www.kenhub.com/en/library/anatomy/the-digestive-system
		• Enumerate the relations of different parts of duodenum	Should know	C1	
		• Discuss its clinical importance • Map outline of duodenum on simulated patient /model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Must know Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3 C3 C3 C3	
M1-GIT-A-0089	Small Intestine (Jejunum and Ileum)	• Describe jejunum and ileum with their anatomical features	Should know	C2	
		• Discuss mesentery and its attachment	Should know	C2	
		• Discuss its clinical importance • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics	Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3 C3	• **Gross Anatomy** :- KLM clinically oriented anatomy edition 10 • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 **UWORLD Step 1** (Volume 3) 2023-2024

		• Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library			
M1-GIT-A-0090	Large Intestine & Appendix	• Enlist various parts of large intestine	Should know	C1	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 227,246,248, 325). https://www.kenhub.com/en/library/anatomy/the-digestive-system
		• Demonstrate gross anatomical features of different parts of large intestine	Should know	C2	
		• Enlist intra and retroperitoneal parts of large intestine	Should know	C1	
		• Discuss gross features of caecum	Should know	C2	
		• Describe gross anatomy of appendix	Should know	C2	
		• Enlist different anatomical positions of vermiform appendix.	Must know	C1	
		• Mark McBurney's point	Must know	P	
		• Demonstrate McBurney's incision	Must know	P	
		• Discuss common features, differential diagnosis of acute appendicitis and appendicectomy • Map outline of Transverse and descending colon on simulatrs patient /model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Must know Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 P+A C3 C3 C3 C3 C3 C3	

M1-GIT-A-0091	Liver, Portal hypertension, Portosystemic Anastomosis	• Describe the anatomical structure of liver.	Should know	C2	• **Gross Anatomy** :- KLM clinically oriented anatomy edition 10 • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 **UWORLD Step 1** (Volume 3) 2023-2024
		• Describe the lobes, surfaces and segments of liver	Should know	C2	
		• Describe peritoneal reflections, ligaments and bare area of liver.	Should know	C2	
		• Enumerate visceral relations of liver.	Should know	C1	
		• Enlist the structures in porta hepatis.	Should know	C1	
		• Discuss Sub hepatic abscess & Live Biopsy	Should know	C2	
		• Discuss formation, course and parts of portal vein	Should know	C2	
		• Enumerate relations and tributaries of portal vein	Should know	C1	
		• Define portal hypertension	Must know	C1	
		• Describe sites of the portocaval anastomosis and their clinical significance	Must know	C2	
		• Explain role of portocaval shunts • Map outline of liver on simulated patient /model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Must know Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3 C3 C3	
M1-GIT-A-0092	Gallbladder and	• Describe location & size of gall	Should know	C2	• **Gross Anatomy** :- KLM

	Biliary apparatus	bladder			clinically oriented anatomy edition 10 • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 **UWORLD Step 1** (Volume 3) 2023-2024
		• Enumerate relations of gallbladder.	Should know	C1	
		• Describe clinical conditions related to gallbladder	Must know	C2	
		• Enlist different components of Extra-hepatic biliary System	Should know	C1	
		• Discuss the right & left hepatic ducts, common hepatic duct, cystic ducts, bile duct	Should know	C2	
		• Explain differences between Intra & Extra Hepatic Biliary Systems.	Should know	C2	
		• Discuss clinicals related with biliary apparatus	Must know	C2	
		• Discuss accessory hepatic ducts • Map outline of gallbladder & Bile duct on simulated patient /model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Should know Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3 C3 C3	
M1-GIT-A-0093	Spleen	• Discuss anatomical location and features of spleen with its blood supply, and lymphatic drainage	Should know	C2	• **Gross Anatomy** :- KLM clinically oriented anatomy edition 10 • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 **UWORLD Step 1** (Volume 3) 2023-2024
		• Explain Rupture of spleen & its effects • Map outline of spleen on simulated patient /model	Must know Must know Must know Nice to know Nice to know	C2 P+A C3 C3 C3	

		• Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Nice to know Nice to know Nice to know	C3 C3 C3	
M1-GIT-A-0094	Pancreas	• Recall location, shape, dimensions and extent of pancreas	Should know	C2	• **Gross Anatomy** :- KLM clinically oriented anatomy edition 10 • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 **UWORLD Step 1** (Volume 3) 2023-2024
		• Discuss parts, ducts and relations of pancreas	Should know	C2	
		• Describe arterial supply of pancreas	Should know	C2	
		• Explain applied aspects of pancreas • Map outline of pancrease on simulated patient/ model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Must know Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3 C3 C3	
M1-GIT-A-0095	Vasculature of GIT	• Describe the position and the vertebral levels of aorta in the abdomen.	Should know	C2	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 228-233, 249-250, 263-285). http://www.anatomyzone.co

					m 3D **anatomy**
		• Enlist the main branches of the aorta and its territories.	Should know	C1	
		• Explain the applied anatomy of the aorta	Should know	C1	
		• Explain origin, course, branches and distribution of celiac trunk • Map outline of abdominal aorta, coeliac trunk, superior &inferior mesenteric artery on simulated patient/ model • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Should know Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3 C3 C3	
M1-GIT-A-0096	Nerve supply and Lymphatic drainage of GIT	• Discus enteric nervous system with formation of plexuses and its parasympathetic role	Should know	C2	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 301-305). http://www.anatomyzone.com 3D **anatomy**
		• Enlist the types of lymph nodes draining the abdomen	Should know	C1	
		• Describe lymphatic drainage of GIT with special reference to lymphatic trunks, cisterna chyli & the thoracic duct • Correlate with the clinical conditions • Understand curative and preventive heath care measures.	Should know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3	

		• Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library			
M1-GIT-A-0097	Cross Sectional Anatomy	• Identify different visceras located at different levels of vertebral coloumn; T10, T11,T12,L1,L2 • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Should know Must Know Nice to know Nice to know Nice to know Nice to know Nice to know	C1 C3 C3 C3 C3 C3 C3	• **Gross Anatomy** :- KLM clinically oriented anatomy edition 10 • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 **UWORLD Step 1** (Volume 3) 2023-2024
M1-GIT-A-0098	Rectum	• Discuss the location and extent of rectum	Should know	C2	❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 239, 248,253 368-371,436,438). http://www.anatomyzone.com 3D **anatomy**
		• Describe the internal and external features of rectum	Should know	C2	
		• Discuss peritoneal reflections rectouterine, rectovesical fossae and their clinical significance	Should know	C2	
		• Enumerate relations of rectum	Should know	C1	
		• Discuss blood supply, nerve supply, venous and lymphatic drainage	Should know	C1	
		• Describe the basis and features of rectal prolapsed • Correlate with the clinical conditions	Must know Nice to know Nice to know Nice to know	C3 C3 C3 C3	

		• Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Nice to know	C3 C3 C3	
M1-GIT-A-0099	Anal canal	• Discuss location and extent of anal canal	Should know	C2	• **Gross Anatomy** :- KLM clinically oriented anatomy edition 10 • **USMLE Q Bank Step 1** (Volume 1) 2023-2034 **UWORLD Step 1** (Volume 3) 2023-2024
		• Describe external and internal features of Anal Canal	Should know	C2	
		• Discuss features of anal sphincters	Should know	C2	
		• Tabulate relations of the anal canal with the surrounding structures	Should know	C2	
		• Describe the Blood supply, venous and lymphatic drainage & innervations of anal canal	Should know	C2	
		• Discuss anal continence	Should know	C2	
		• Differentiate between internal and external haemorrhoids • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3 C3	
M1-GIT-A-00200	Radiological Anatomy	• Identify structures on a normal X-ray abdomen • Appreciate Air fluid shadows.	Should know Should know Should know	C2 C2 C2	• **Gross Anatomy** :- KLM clinically oriented anatomy edition 10

		• Mark anatomical landmarks. • Correlate the clinical conditions • Understand the preventive and curative health care measures • Practice the principles of Bioethics • Apply Strategic use of AI in health care • Read relevant research articles	Should know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3	• **USMLE Q Bank Step 1** (Volume 1) 2023-2034 **UWORLD Step 1** (Volume 3) 2023-2024

Anatomy Histology Syllabus of Learning Management System (LMS)

Code	Topic	At the end of practical students should be able to	Calgary Gauge	Learning Domain	
M1-GIT-A-00201	Tongue & salivary glands	• Focus & Identify slides of tongue & glands under microscope	Must know	P	• **Histology :-**Junqueira's Basic Histology 18th Edition **USMLE Q Bank Step 1** (Volume 1) 2023-2034
		• Illustrate histological structure of tongue & salivary glands	Should know	C2	
		• Write two points of identification	Must know	C1	
M1-GIT-A-00202	Esophagus	• Focus & Identify slide of Esophagus under microscope	Must know	P	
		• Illustrate histological structure of Esophagus	Should know	C2	
		• Write two points of identification	Must know	C1	
M1-GIT-A-00203	Stomach	• Focus & Identify slide of Stomach under microscope	Must know	P	
		• Illustrate histological structure of Stomach	Should know	C2	
		• Write two points of identification	Must know	C1	
		• Differentiate mucosa of cardiac, fundus, body and pyloric end of stomach	Must know	C2	
M1-GIT-A-00204	Liver, Gall bladder & Pancreas	• Focus & Identify slides of Liver, Gall bladder &Pancreas under microscope	Must know	P	

		• Illustrate histological structures of Liver, Gallbladder & Pancreas	Should know	C2	
		• Write two points of identification	Must know	C1	
M1-GIT-A-00205	Small Intestine	• Focus & Identify slide of small intestine under microscope	Must know	P	
		• Illustrate histological structure of small intestine	Should know	C2	
		• Write two points of identification	Must know	C1	
M1-GIT-A-00206	Large Intestine	• Focus & Identify slide of Large Intestine under microscope	Must know	P	
		• Illustrate histological structure of large intestine	Should know	C2	
		• Write two points of identification	Must know	C1	

(Knowledge)

Physiology Large Group Interactive Session (LGIS)

Code	Topic	Learning Objectives At the end of lecture students should be able to	Calgary Gauge	Grade	Learning Domain	Teaching Strategy	Assessment Tools
M1-GIT-P-001	Introduction to GIT, Electrical activity in GIT Movements of GIT	• Explain the physiologic anatomy ofGIT	Must know	A	C2	LGIS	SEQ MCQ VIVA
		• Summarize the functions of GIT	Must know	A	C1		
		• Explain the electrical activity of GIT smooth muscle	Must know	A	C2		
		• Describe the concept of slow waves and spike potentials	Must know	A	C1		
		• Explain resting membrane potential and factors affecting RMP	Must know	A	C2		
		• Explain role of calcium ions in muscle contraction	Should know	B	C2		
		• Describe tonic contraction in GIT smooth muscles	Should know	B	C1		
		• Enumerate different types of movements in GIT	Should know	B	C1		
		• Define propulsive movements	Must know	A	C1		
		• Define mixing movements	Must know	A	C1		
		• Describe sites of peristaltic movement in GIT	Should know	B	C1		
		• Describe stimulus, mechanism and direction of peristaltic movement	Should know	B	C1		
		• Discuss role of Myenteric plexus in peristaltic movement	Must know	A	C2		
		• Explain peristaltic reflex and Law of gut	Must know	A	C2		
		• Describe mechanism and function performed by mixing movements	Must know	A	C1		
M1-GIT-P-002	Enteric nervous system and GIT reflexes	• Describe physiological anatomy of enteric nervous system	Must know	A	C1	LGIS	SEQ MCQ VIVA
		• Enlist functions of enteric nervous system	Must know	A	C1		
		• Compare and contrast Myenteric and Meissner‘s plexus	Must know	A	C2		
		• Enumerate neurotransmitters of enteric nervous system	Must know	A	C1		
		• Describe the autonomic regulation of enteric nervous system	Must know	A	C1		
		• Enumerate afferent sensory connections of enteric nervous system	Must know	A	C1		
		• Discuss the physiology of GIT reflexes	Must know	A	C2		
		• Explain GIT reflexes integrated at the level of gut wall, prevertebral sympathetic ganglia and spinal	Must know	A	C2		

		cord/brain stem					
M1-GIT-P-003	Control of GIT motility and factors affecting GIT blood flow	• Enumerate hormones of GIT	Must know	A	C2	LGIS	SEQ MCQ VIVA
		• Describe the hormonal control of GIT motility	Must know	A	C1		
		• Explain site of secretion, stimuli for secretion and actions of Gastrin, Cholecystokinin, Secretin, Gastric inhibitory peptide and Motilin	Must know	A	C2		
		• Discuss the factors affecting GIT blood flow	Should know	B	C2		
		• Recall anatomy of GIT blood supply	Should know	B	C1		
		• Explain splanchnic circulation and hepatic portal circulation	Must know	A	C2		
		• Describe the significance of blood flow to liver through portal vein	Must know	A	C1		
		• Describe special organization of blood flow through intestinal villus	Should know	B	C1		
		• Explain factors affecting gastrointestinal blood flow	Must know	A	C2		
		• Describe counter current blood flow in villi.	Must know	A	C1		
		• Explain nervous control of GIT blood supply	Must know	A	C2		
		• Discuss physiological importance of sympathetic vasoconstriction in GIT under special conditions	Must know	A	C2		
M1-GIT-P-004	Swallowing1 and (Mastication and Saliva)	• Describe the secretion and composition of saliva and its physiologic roles	Must know	A	C1	LGIS	SEQ MCQ VIVA
		• Describe the nervous regulation of saliva	Must know	A	C1		
		• Describe mastication	Must know	A	C1		
		• Enumerate functions of mastication	Must know	A	C1		
		• Explain role of teeth and muscles of mastication	Should know	B	C2		
		• Describe the steps and nervous control center of chewing reflex	Must know	A	C1		
		• Introduceswallowing	Must know	A	C1		
		• Enumerate stages ofswallowing (voluntary/involuntary)	Must know	A	C1		
		• Explain in detail each stage ofswallowing ○ Voluntary stage Mechanism ○ Pharyngeal stage (reflex act) ▪ Stimulus, receptors,afferents, center, efferent, effectors, response	Must know	A	C2		

		▪ Relate pharyngeal stagewith process ofrespiration ▪ Esophagealstage					
		• Primary peristalsis Secondary peristalsis (stimulus, afferent, center, efferent, response)	Must know	A	C2		
M1-GIT-P-005	Swallowing -II	• Describe physiological anatomy and function of Lower esophageal sphincter	Should know	B	C1	LGIS	SEQ MCQ VIVA
		• Explain receptive relaxation of stomach with nervous pathway	Must know	A	C2		
		• Describe physiological anatomy and function of distal end of esophagus	Should know	B	C1		
	Clinical disorders of swallowing (Achalasia cardia, vomiting & nausea)	• Define Achalasia cardia	Must know	A	C1	LGIS	SEQ MCQ VIVA
		• Describe causes, effects and treatment of achalasia cardia	Should know	B	C1		
		• Define vomiting	Must know	A	C1		
		• Describe stimuli & nervous pathway of vomiting	Must know	A	C1		
		• Discuss act of vomiting	Should know	B	C2		
		• Describe chemoreceptor trigger zone	Must know	A	C1		
		• Define nausea	Should know	B	C1		
		• Enlist causes of nausea	Should know	B	C2		
M1-GIT-P-006	Regulation of Stomach emptying	• Discuss in detail gastric factors that promote emptying and duodenal factors that inhibit emptying	Should know	B	C2	LGIS	SEQ MCQ VIVA
		• Explain the role of enterogastric nervous reflexes and hormonal feedback	Must know	A	C2		
M1-GIT-P-007	Motor functions of stomach	• Recall physiological anatomy of stomach	Should know		C1	LGIS	SEQ MCQ VIVA
		• Describe motor functions of stomachin detail 1. Storage 2. Mixing and propulsion of foodchyme and Hungercontractions 3. Stomachemptying 4. Role of pyloricpump	Must know	A	C1		
		• Discuss role of pyloricsphincter	Must know	A	C2		

M1-GIT-P-008	Gastric juice-I and Digestion in stomach Physiological barrier protecting development of peptic ulcer	• Describe the secretion of gastricjuice. a. Describe the basic mechanism ofHCl secretion. b. Describe the secretion andactivation ofpepsinogen c. Describe the secretion ofintrinsic factor d. Describe the secretion of mucousand gastrin e. Describe the regulation of gastricacid and pepsinogensecretion	Should know	B	C1	LGIS	SEQ MCQ VIVA
		• Summarize the digestive process occurring in stomach	Should know	B	C1		
		• Discuss the role of gastric juice, hormones and enzymes acting in stomach	Should know	B	C2		
		• Discuss sites, causes and physiological factors preventing peptic ulcer	Should know	B	C2		
M1-GIT-P-009	Liver & gall bladder, liver and biliary secretions	• Recall physiological anatomy of liver & portal circulation	Must know	A	C1	LGIS	SEQ MCQ VIVA
		• Describe in detail metabolic and non-metabolic functions of liver	Should know	B	C1		
		• Explain the mechanism of secretion of bile.	Must know	A	C2		
		• Explain the functions of biliary tree.	Should know	B	C2		
		• Describe the composition of bile.	Must know	A	C1		
		• Explain the role of bile in fat digestion.	Must know	A	C2		
		• Explain the formation of gall stones.	Should know	B	C2		
M1-GIT-P-0010	LFTs and jaundice	• Enlist liver functions test	Should know	B	C1	LGIS	SEQ MCQ VIVA
		• Describe liver function tests	Nice to know	C	C1		
		• Discuss in detail pathophysiology of jaundice	Must know	A	C2		
M1-GIT-P-0011	Cirrhosis & portal hypertension	• Describe causes and effects of cirrhosis	Must know	A	C1	LGIS	SEQ MCQ VIVA
		• Describe causes and effects of portal hypertension	Must know	A	C1		
M1-GIT-P-0012	Physiology of pancreas Pancreatic secretions	• Discuss composition of pancreatic secretions	Should know	B	C2	LGIS	SEQ MCQ VIVA
		• Describe mechanism of secretion of bicarbonate ions	Should know	B	C1		
		• Describe the regulation and phases of pancreatic secretion.	NICE TO KNOW	C	C1		

(Knowledge)

Physiology Small Group Discussion (SGDs)

Code	Topic	Learning Objectives Students Should Be Able To	Calgary Gauge	Learning Domain	Teaching Strategy	Assessment Tools
M1-GIT-P-0013	Introduction to GIT	• Enlist general four functions performed by GIT	Must Know	C1	SGD	SEQ MCQ VIVA
		• Recall physiological anatomy and blood flow through GIT	Should Know	C1		
		• Briefly discuss electrical activity of GIT smooth muscle	Must Know	C1		
M1-GIT-P-0014	Swallowing	• Discuss in detail the three stages of swallowing	Must Know	C2	SGD	SEQ MCQ VIVA
		• Briefly discuss physiological anatomy of lower esophageal sphincter and distal end of esophagus and state their functional importance	Must Know	C2		
M1-GIT-P-0015	Functions of stomach	• Recall physiological anatomy of stomach	Should Know	C1	SGD	SEQ MCQ VIVA
		• Describe motor functions of stomach including storage, mixing, propulsion and stomach emptying.	Must Know	C1		
		• Discuss in detail gastric factors that promote emptying	Must Know	C2		
		• Explain the role of enterogastric nervous reflexes and hormonal feedback.	Must Know	C2		
M1-GIT-P-0016	Liver functions	• Recall physiological anatomy of liver	Should Know	C1	SGD	SEQ MCQ VIVA
		• Discuss formation and storage of bile	Should know	C2		
		• Enlist and describe all functions performed by liver	Must Know	C1		
M1-GIT-P-0017	Digestion and absorption	• Describe in detail the process of digestion of carbohydrates, proteins and fats with special emphasis on enzymes involved at each step	Should Know	C1	SGD	SEQ MCQ VIVA
		• Discuss special features of small and large intestine to promote absorptive process and mechanism of absorption in detail	Must Know	C2		

M1-GIT-P-0018	Large intestine	• Recall movements and functions of large intestine	Must Know	C1	SGD	SEQ MCQ VIVA
		• Enumerate causes of empty rectum	Should Know	C1		
		• Explain defecation reflex, its importance and nervous control	Must Know	C2		
		• Explain GIT reflexes integrated at the level of gut wall, prevertebral sympathetic ganglia and spinal cord/brain stem.	Must Know	C2		

(Knowledge)
Physiology Self Directed Learning (SDL)

Code	Topics Of SDL	Learning Objectives Students Should Be Able To	Learning Resources
M1-GIT-P-0019	Introduction to GIT, electrical activity in GIT, Enteric Nervous System and GIT reflexes	• Introduction • Role of GIT in control system • Concept of Enteric nervous system • GIT reflexes and its clinical correlation	❖ Ganong's Review of Medical Physiology.25TH Edition. Overview of gastrointestinal function and regulation (Chapter 25, Page 453,467,472). ❖ Human Physiology by Dee Unglaub Silver thorn. 8TH Edition. The Digestive System (Chapter 21Page 691,700) ❖ Physiology by Linda S. Costanzo 6th Edition. Gastrointestinal Physiology (Chapter 8. Page 339) ❖ Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Section 6.Gastrointestinal System. (Chapter 43, Page 681) ❖ Textbook of Medical Physiology by Guyton & Hall.14th Edition. Gastrointestinal Physiology. Section 12. (Chapter 63, Page 787)
M1-GIT-P-0020	Gastric secretion, digestion in stomach, peptic ulcer and gastritis	• Gastric secretion and role in digestion • Peptic ulcer disease • Type of gastritis and clinical importanceof gastritis • Investigations to diagnose gastritis	❖ Ganong's Review of Medical Physiology. Overview of gastrointestinal function and regulation(Chapter 25, Page 455). ❖ Physiology by Linda S. Costanzo 6th Edition. Gastrointestinal Physiology (Chapter 8. Page 356,360) ❖ Physiological Basis of Medical Practice

			by Best & Taylor's.13th Edition. Section 6.Gastrointestinal System. (Chapter 44, Page 706) (Chapter 45, Page 720,726) ❖ Textbook of Medical Physiology by Guyton & Hall.14th Edition. Gastrointestinal Physiology. Section 12. (Chapter 65, Page 809,811)
M1-GIT-P-0021	Small intestine motility and malabsorption (sprue, paralytic ileusand Crohn's disease)	❖ Factors affecting motility of smallintestine ❖ Concept of absorption of nutrients ❖ Importance of history in diagnosis ofvarious malabsorption diseases ❖ Inflammatory bowel disease	❖ Ganong's Review of Medical Physiology.25TH Edition, Gastrointestinal motility. (Chapter 27, Page 495) ❖ Human Physiology by Dee Unglaub Silver thorn. 8TH Edition. The Digestive System (Chapter 21,Page 697) ❖ Physiology by Linda S. Costanzo 6th Edition. Gastrointestinal Physiology (Chapter 8. Page 348) ❖ Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Section 6.Gastrointestinal System. (Chapter 44,Page 690,710)
			❖ Textbook of Medical Physiology by Guyton & Hall.14th Edition. Gastrointestinal Physiology. Section 12. (Chapter 64, Page 797,802)
M1-GIT-P-0022	Intestinal secretion and its functions, pancreatic juice, its composition and functions	• Intestinal secretions and action • Anatomy of pancreas and its blood supply • Composition of pancreatic juice and itsrole in absorption • Function of pancreas	❖ Ganong's Review of Medical Physiology.25TH Edition.Overview of gastrointestinal function and regulation (Chapter 25,Page 460). ❖ Human Physiology by Dee Unglaub Silver thorn. 8TH Edition. The Digestive System (Chapter 21,Page 709) ❖ Physiology by Linda S. Costanzo 6th Edition. Gastrointestinal Physiology (Chapter 8. Page 366,371) ❖ Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Section 6.Gastrointestinal System. (Chapter 45,Page 738,739) ❖ Textbook of Medical Physiology by Guyton & Hall.14th Edition. Gastrointestinal Physiology. Section 12. (Chapter 65,Page 814,820)

M1-GIT-P-0023	Pancreatitis, overall mechanism of digestion and absorption of intestine (amino acids, fatty acids and glucose)	• Pancreatitis • Conclusion of digestion and absorption ofnutrients. • Clinical correlation with pancreaticenzymes. • Hormones secreted by pancreas	❖ Ganong's Review of Medical Physiology.25TH Edition. Digestion, Absorption and Nutritional Principles. (Chapter 2, Page 475) ❖ Human Physiology by Dee Unglaub Silver thorn. 8TH Edition. The Digestive System (Chapter 21,Page 703-710,715) ❖ Physiology by Linda S. Costanzo 6th Edition. Gastrointestinal Physiology (Chapter 8. Page 374) ❖ Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Section 6.Gastrointestinal System. (Chapter 47,Page 770)(Chapter 48,Page 785) ❖ Textbook of Medical Physiology by Guyton & Hall.14th Edition. Gastrointestinal Physiology. Section 12. (Chapter 66, Page 823)
M1-GIT-P-0024	Motor function of large gut,defecation reflex	• Motor function of large gut • Inflammatory bowel disease • Defecation reflex • Concept of Hemorrhoids	❖ Ganong's Review of Medical Physiology.25TH Edition, Gastrointestinal motility. (Chapter 27, Page 495) ❖ Human Physiology by Dee Unglaub Silver thorn. 8TH Edition. The Digestive System (Chapter 21,Page 720) ❖ Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Section 6.Gastrointestinal System. (Chapter 44,Page 713) ❖ Textbook of Medical Physiology by Guyton & Hall.14th Edition. Gastrointestinal Physiology. Section 12. (Chapter 64,Page 804)
M1-GIT-P-0025	Pathophysiology (vomiting, diarrhea, constipation, ulcerative colitis, megacolon and carcinoma of colon)	• Symptomsrelated to GIT • Clinical role of various symptoms • Overview of Carcinoma of stomach, smalland large intestine	❖ Ganong's Review of Medical Physiology.25TH Edition, Gastrointestinal motility. (Chapter 27,Page495) ❖ Physiology by Linda S. Costanzo 6th Edition. Gastrointestinal Physiology (Chapter 8. Page 385) ❖ Textbook of Medical Physiology by Guyton & Hall.14th Edition. Gastrointestinal Physiology. Section 12. (Chapter 67, Page 833)

(Psychomotor)

Physiology Practicals Skill Laboratory (SKL)

Code	Topic	At the end of this skill lab, student should be able to illustrate:	Calgary Gauge	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-P-0026	Sense of taste	• Apparatus identification	Must Know	P	Skill lab	OSPE
		• Principle	Must Know	C1		
		• Procedure	Must Know	P		
		• Precautions	Should Know	C1		
		• Recall taste modalities, taste pathway & abnormalities of taste	Must Know	C1		
M1-GIT-P-0027	Examination of sense of smell	• Apparatus identification	Must Know	P	Skill lab	OSPE
		• Principle	Must Know	C1		
		• Procedure	Must Know	P		
		• Precautions	Should Know	C1		
		• Recall Olfactory pathways and abnormalities of olfaction	Must Know	C1		
M1-GIT-P-0028	Examination of superficial reflexes	• Apparatus identification	Must Know	C1	Skill lab	OSPE
		• Principle	Must Know	C1		
		• Procedure	Must Know	A,P		
		• Precautions	Should Know	P		
		• Recall reflex arc	Should Know	C1		
		• Recall effects of UMNL & LMNL on reflexes	Should Know	C1		
M1-GIT-P-0029	Examination of deep reflexes	• Apparatus identification	Must Know	C1	Skill lab	OSPE
		• Principle	Must know	C1		
		• Procedure	Must Know	A,P		
		• Precautions	Should Know	P		
		• Recall reflex arc	Should Know	C1		
		• Recall effects of UMNL & LMNL on reflexes	Should Know	C1		

(Knowledge)

Biochemistry Large Group Interactive Session (LGIS)

Code	Topic	Learning Objectives At The End Of Lecture Students Should Be Able To	Calgary Gauge	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-B-001	Introduction to Carbohydrate metabolism	• Understand metabolic pathways	Should Know	C2	LGIS	MCQs, SAQs Viva
		• Discuss glucose entry into the cells	Should Know	C2		
M1-GIT-B-002	Glycolysis and Fates of Pyruvate	• Explain types, reactions and regulation of Glycolysis	Must Know	C2	LGIS	MCQs, SAQs Viva
		• Describe fates of Pyruvate	Must Know	C2		
		• Explain related clinical disorders	Nice to Know	C3		
M1-GIT-B-003	Gluconeogenesis	• Discuss substrates, reactions and regulation of Gluconeogenesis	Must Know	C2	LGIS	MCQs, SAQs Viva
M1-GIT-B-004	Glycogen metabolism	• Explain the steps and regulation of glycogenesis and glycogenolysis	Must Know	C2	LGIS	MCQs, SAQs Viva
M1-GIT-B-005	Metabolism of Individual Sugars	Describe the metabolism of individual sugars	Must Know	C2	LGIS	MCQs, SAQs Viva
		Explain related clinical disorders	Should Know	C3		
M1-GIT-B-006	HMP Shunt and G6PD deficiency	Explain the pathway of HMP shunt	Must Know	C2	LGIS	MCQs, SAQs Viva
		Discuss uses of NADPH	Must Know	C2		
		Describe G6PD deficiency	Must Know	C3		
M1-GIT-B-007	GIT Digestive juices and Hormones	Describe the composition and role of digestive juices	Must Know	C2	LGIS	MCQs, SAQs Viva
		Explain role of gastrointestinal hormones	Should Know	C2		
		Understand related clinical disorders	Nice to Know	C3		
M1-GIT-B-008	Nutrition	Understand BMI and BMR	Must Know	C2	LGIS	MCQs, SAQs Viva
		Explain the role of different dietary constituents	Must Know	C2		
		Understand related clinical disorders	Should Know	C3		
M1-GIT-B-009	LFTs and Jaundice	Discuss Liver function tests and Jaundice	Must Know	C3	LGIS	MCQs, SAQs Viva
M1-GIT-B-0010	Digestion and	Explain the digestion and absorption of carbohydrates, lipids and proteins	Should Know	C2	LGIS	MCQs, SAQs

	Absorption	Discuss the role of different digestive enzymes	Should Know	C2		Viva
		Describe related clinical disorders	Should Know	C3		

(Knowledge)

Biochemistry Small Group Discussion (SGDs)

Code	Topic	Learning Objectives Students Should Be Able To	Calgary Gauge	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-B-0011	Saliva	• Explain formation, composition & biochemical functions	Should Know	C2	SGD	MCQs SAQs Viva
M1-GIT-B-0012	Gluconeogenesis & its regulation	• Discuss substrates, reactions and regulation of Gluconeogenesis	Must Know	C2	SGD	MCQs SAQs Viva
M1-GIT-B-0013	LFT's Jaundice	• Discuss Liver function tests and Jaundice	Must Know	C3	SGD	MCQs SAQs Viva

(Knowledge)

Biochemistry Self Directed Learning (SDL)

Code	Topics of SDL	Learning Objectives Students Should Be Able To	References
M1-GIT-B-0014	Carbohydrate Metabolism & Glycolysis	• Understand stages of metabolism • Explain transport of glucose across cell memebrane • Describe steps of glycolysis • Discuss regulation of committed steps • Explain energy calculation in anaerobic and aerobic conditions • Understand pyruvate kinase deficiency	❖ Reference Book: Lippincott's Illustrated reviews of Biochemistry 8th Edition Chapter#8, Page 100.
M1-GIT-B-0015	TCA Cycle & Gluconeogenesis	• Describe steps of TCA cycle • Discuss substrates, steps and regulation of gluconeogenesis	❖ Reference Book: Lippincott's Illustrated reviews of Biochemistry 8th Edition Chapter#9, Page 120. ❖ Reference Book: Lippincott's Illustrated reviews of Biochemistry 8th Edition Chapter#10, Page 128.
M1-GIT-B-0016	Glycogen metabolism	• Explain synthesis and breakdown of glycogen • Discuss glycogen storage diseases	❖ Reference Book: Lippincott's Illustrated reviews of Biochemistry 8th Edition

			Chapter#11, Page 137.
M1-GIT-B-0017	Individual Sugars	• Descibe the metabolism of individual sugar • Explain related clinal disorder	❖ Essentials of Medical Biochemistry Book by Mushtaq Ahmed Edition 9th Volume#1, Chapter#7, Page 186 ❖ Reference Book: Lippincott's Illustrated reviews of Biochemistry 8th Edition Chapter#19, Page 276, 77.
M1-GIT-B-0018	Digestion of Lipids by Pancreatic Enzymes	• Explain the digestion and absorption of lipids • Discuss the role of pancreatic enzymes in lipid digestion	❖

(Psychomotor)

Biochemistry Practicals Skill Laboratory (SKL)

Code	Topic	At the End of Practical Students Should Be Able To	Calgary Gauge	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-B-0019	Saliva-I	• Understand Normal constituents of saliva Discuss effects of saliva on digestion of starch	Must Know	P	Skill Lab	OSPE
M1-GIT-B-0020	Silva-II	• Discus the role of silva in digestion of carbohydrates	Should Know	P	Skill Lab	OSPE
M1-GIT-B-0021	Bile	• Descirbe the composition and role of bile in disgestion	Must Know	P	Skill Lab	OSPE
		• Understand related disorder	Should Know	P		
M1-GIT-B-0022	Estimation of ALT & ALP	• Perform estimation of ALT	Must Know	P	Skill Lab	OSPE
		• Perform estimation of ALP	Must Know	P		
M1-GIT-B-0023	Analysis of Food Component (Wheat)	• Perform to analyse the different constituents of wheat	Must Know	P	Skill Lab	OSPE

Biochemistry LGIS Syllabus of Learning Management System (LMS)

Code	Topic	Learning Objectives At the End of Assessment Students Should be able to	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-B-0024	Introduction to carbohydrate Metabolism	• Introduction and stages of Metabolism • Differentiation between Anabolism and Catabolism • Transportr of glucose across the cell. (Glucose Transporters)	C2 C2 C2	LGIS	MCQs
M1-GIT-B-0025	Metabolism of monosaccharide & Disaccharide (Fructose, Lactose, Galactose)	• Explain the Metabolism of Fructose, Lactose, Galactose and there related clinical Disotders.	C2	LGIS	MCQs
M1-GIT-B-0026	Glycolysis	• Steps of Glycolysis • Regulation of the Committed Steps • Enetgy calculation in Anaerobic Gylcolosis.	C2 C2 C2	LGIS	MCQs
M1-GIT-B-0027	Fate of Pyruvate	• Pate of Pyruvate • Ciru's Lactic Acid Cycle & Lactic Acidosis	C2 C2	LGIS	MCQs
M1-GIT-B-0028	Function of NADPH and deficiency of G6PD	• Describe hexose monophosphate pathway • Explain functions of NADPH with G6PD deficiency	C2 C2	LGIS	MCQs
M1-GIT-B-0029	Glycogen Metabolism	• Explain synthesis and breakdown of glycogen • Discuss glycogen storage diseases	C2 C3	LGIS	MCQs
M1-GIT-B-0030	Gastric Juice	• Explain composition, function, formation of gastric juice and related disorders • Peptic ulcer disease	C2 C3	LGIS	MCQs
M1-GIT-B-0031	Bile and Pancreatic Juice	• Describe composition, function, formation of bile and related disorders • Describe composition, function and formation of pancreatic juice and related disorder	C2 C2	LGIS	MCQs
M1-GIT-B-0032	GIT Hormones and Succus Entericus	• Understand the sources, functions, and regulation of gastrointestinal hormones. • Describe the composition, secretion, and role of succus entericus in digestion.	C2 C2	LGIS	MCQs
M1-GIT-B-0033	Nutrition	• Understand the roles of macronutrients and micronutrients in energy production and overall health. • Describe the consequences of nutrient deficiencies and excesses in the human body	C2 C2	LGIS	MCQs
M1-GIT-B-0034	Citric acid cycle	• Describe steps, regulations, energy calculations and	C2	LGIS	MCQs

		significance of CAC • Deficiences of coenzymes of pyruvate dehydrogenase complex	C3		
M1-GIT-B-0035	Digestion and Absorption of lipids, proteins and carbohydrates	• Explain the enzymatic processes involved in the digestion of lipids, proteins, and carbohydrates. • Describe the pathophysiology of related disorders	C2 C3	LGIS	MCQs

Biochemistry SGDs Syllabus of Learning Management System (LMS)

Code	Topic	Learning Objectives At the End of Assessment Students Should be able to	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-B-0036	Gluconeogenesis and its regulation	• Describe the steps and regulations of gluconeogenesis	C2	SGD	MCQs
M1-GIT-B-0037	LFTs and Jaundice	• Describe types of jaundice • Understand and interpret LFTs	C2 C2	SGD	MCQs
M1-GIT-B-0038	Saliva	• Explain formation, composition and biochemical functions of saliva.	C2	SGD	MCQs

Biochemistry SDL Syllabus of Learning Management System (LMS)

Code	Topic	Learning Objectives At the End of Assessment Students Should be able to	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-B-0039	Pyruvate Kinase Deficiency	• Understand Role of Pyruvate Kinase • Discuss Pathogenesis of PK Deficiency • Understand Clinical Features of PK Deficiency	C1 C2 C3	SDL	MCQs
M1-GIT-B-0040	Clinical disorders related to HMP Shunt	• Explain applied aspects and importance of HMP shunt • Discuss the role of NADPH in phagocytosis	C2 C3	SDL	MCQs
M1-GIT-B-0041	Glycogen storage diseases	• Describe the sign and symptoms and deficient enzymes of glycogen storage diseases	C3	SDL	MCQs
M1-GIT-B-0042	Clinical aspects of Digestive Juices	• Understand the disorder of salivary glands • Discuss clinical aspects related to gastric and pancreatic juice • Understand the pathogenesis of gall stones	C2 C2 C2	SDL	MCQs
M1-GIT-B-0043	Clinical disorders related to digestion and absorption	• Explain disorders i.e. lactose intolerance, cystinuria, hartnup disorder, steatorrhea and cystic fibrosis	C3	SDL	MCQs

Biochemistry Practical Syllabus of Learning Management System (LMS)

Code	Topic	Learning Objectives At the End of Assessment Students Should be able to	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-B-0044	Glucose 6 phosphate dehydrogenase deficiency	• Explain the biochemical basis of G6PD deficiency and related disorders	C3	CBL	MCQs
M1-GIT-B-0045	Lactose intolerance	• Explain enzymatic deficiency and its related genetic factor • Explain the treatment of lactose intolerance	C2 C2	CBL	MCQs

SECTION - III

Basic and Clinical Sciences (Vertical Integration)

Content

- **Case Based Learning (CBLs)**
- **Vertical Integration LGIS**

Case Based Learning (CBL)

Subject	Topic	At the End Of Lecture Students Should Be Able To	Learning Domain
Anatomy	• Acute Appendicitis	Apply basic knowledge of subject to study clinical case.	C3
	• Liver Cirrhosis	Apply basic knowledge of subject to study clinical case.	C3
Physiology	• Peptic Ulcer	Apply basic knowledge of subject to study clinical case.	C3
	• Food Poisoning	Apply basic knowledge of subject to study clinical case.	C3
Biochemistry	• Glucose 6 Phosphate Dehydrogenase Deficiency	Apply basic knowledge of subject to study clinical case.	C3
	• Lactose Intolerance	Apply basic knowledge of subject to study clinical case.	C3

Large Group Interactive Sessions (LGIS)

Department of Medical Education (DME)

Code	Topic	Learning Objectives At the end of the lecture the student should be able to	Teaching Strategy	Assessment Tool
M1-GIT-VI(DME)-001	Orientation of Integrated Modular system, Intoduction to study guides and RMU Policies	• Understand the concept of integration • Understand the orientation of integrated modular curriculum of RMU • How to use Study Guides • Introduction to different policies of RMU	LGIS	MCQs

Community Medicine

Code	Topic	Learning Objectives	Cognitive Domain	Teaching Strategy	Assessment Tool
M1-GIT-VI(CM)-001	Concept of Health and Disease	By the end of the session students will be able to. • Define Health • Identify different phases of Health • Elaborate concepts of Health • Acknowledge Dimensions of Health • Elucidate Dimensions of health • Appreciate Determinants of Health • Describe the types of determinants	C1 C1 C1 C1 C1 C2 C2	LGIS	MCQs
M1-GIT-VI(CM)-002	Basic Concepts of Infectious Disease Epidemiology	• Define important terms related to infectious disease epidemiology. • Differentiate between epidemic, endemic and pandemic • Describe the dynamics of transmission of disease • Explain the concept of incubation period and its importance. • Demonstrate the incidence of water related diseases in Pakistan and other developing countries	C1 C2 C2 C2 C1	LGIS	MCQs

Medicine

Code	Topic	At the end of the lecture, students should be able to	Learning Domain	Learning Strategy	Assessment Tools
M1-GIT-VI(M)-001	Peptic ulcer	• Describe Mechanism of digestion in stomach	C1	LGIS	MCQs
		• Describe Mechanism of APD and GERD	C2		
		• Discuss Peptic ulcer formation	C2		
		• Enlist Clinical features	C2		
		• Enlist Investigations	C1		
		• Describe management	C2		
M1-GIT-VI(M)-002	Jaundice	• Enlist types of Jaundice	C1	LGIS	MCQs
		• Discuss changes in Liver	C2		
		• Describe clinical features	C2		
		• Enlist investigations	C1		
		• Discuss management	C2		
M1-GIT-VI(M)-003	Inflammatory bowel disease	• Describe features of IBD	C2	LGIS	MCQs
		• Classify IBD	C2		
		• Describe pathogenesis of IBD	C2		
		• Describe histological diagnosis of IBD	C1		
		• Enlist complication of IBD	C1		

Surgery

Code	Topic	At the end of the lecture, students should be able to	Learning Domain	Learning Strategy	Assessment Tools
M1-GIT-VI(S)-001	Acute Abdomin	• Identify the clinical features of acute abdomen, including its presentation, common causes, and potential complications.	C1	LGIS	MCQs
		• Describe the role of laboratory investigations, imaging studies (such as ultrasound and CT scan)	C2		
		• Describe the general principles of management of acute abdomen	C2		
M1-GIT-VI(S)-002	Gall Stones	• Identify the causes, types, and risk factors of gallstones.	C1	LGIS	MCQs
		• Understand the clinical presentation, diagnostic	C2		

		methods, and complications associated with gallstones.			
		• Describe the management options, including medical and surgical interventions, for patients with gallstones.	C2		

Peadiatrics

Theory					
Code	**Topic**	**Learning Objectives At the end of the lecture the student should be able to**	**Learning Domain**	**Teaching Strategy**	**Assessment Tool**
M1-GIT-VI(Peads)-001	Acute and Chronic Diarrhea Cute & Choronic Diaherrea	• Understand the diagnostic approach for both acute and chronic diarrhea, including the use of stool analysis, blood tests, and imaging when appropriate.	C2	LGIS	MCQs
		• Explain the management strategies for acute and chronic diarrhea, emphasizing fluid and electrolyte replacement, pharmacological interventions, and addressing the underlying causes.	C2	LGIS	MCQs

Pharmacology

Theory					
Code	**Topic**	**Learning Objectives At the end of the lecture the student should be able to**	**Learning Domain**	**Teaching Strategy**	**Assessment Tool**
M1-GIT-VI(Pharm)-001	Anti Diarrheal Drugs	• Classify the antidiarrheal drugs	C1	LGIS	MCQs
		• Describe the mechanism of action and clinical uses of antidiarrheal drugs	C2	LGIS	MCQs
		• Describe the adverse effects and contraindications ofthese drugs	C2		
		• Recognize the role of probiotics and prebiotics in managing diarrhea	C2		

Pathology

Theory					
Code	**Topic**	**Learning Objectives** **At the end of the lecture the student should be able to**	**Learning Domain**	**Teaching Strategy**	**Assessment Tool**
M1-GIT-VI(Path)-001	Pathologies of Intestine	• Understand the normal structure and function of the intestine, and how these are altered in disease states.	C1	LGIS	MCQs
		• Explain the pathophysiology of common intestinal disorders, including infections, inflammations, and neoplasms.	C2	LGIS	MCQs
		• Identify the clinical features and diagnostic approaches for inflammatory bowel diseases, intestinal infections, and tumors.	C2		

SECTION - IV

Spiral Courses

Content

- **Longitudinal Themes**
    - **The Holy Quran Translation**
    - **Biomedical Ethics & Professionlism**
    - **Behavioural Sciences**
    - **Family Medicine**
    - **Artificial Intelligence (Innovation)**
    - **Integrated Undergraduate Research Curriculum (IUGRC)**
    - **Enterpeneurship**
    - **Digital Literacy Module**
    - **Early Clinical Exposure (ECE)**

Introduction to Spiral Courses

The Holy Quran Translation

A course of Islamic Studies provides students with a comprehensive overview of the fundamental aspects of Islam, its history, beliefs, practices, and influence on society and familiarize students with a solid foundation in understanding the religion of Islam from an academic and cultural perspective. Ethics, in integrated form will shape the core of the course to foster among students the universal ethical values promoted by Islam

Bioethics

Biomedical ethics, also known as bioethics, is a field of study that addresses the ethical, social, and legal issues arising from medicine and the life sciences. It applies moral principles and decision-making frameworks to the practice of clinical medicine, biomedical research, and health policy. Biomedical ethics seeks to navigate the complex ethical dilemmas posed by advances in medical technology, research methodologies, and healthcare practices. Key areas of focus include patient rights and autonomy, confidentiality, informed consent, end-of-life care, resource allocation, and the ethics of genetic engineering, among others.

Biomedical ethics within medical universities plays a pivotal role in shaping the moral framework through which future healthcare professionals navigate the complex and often challenging decisions they will face in their careers. This critical discipline integrates ethical theories and principles with clinical practice, research, and healthcare policy, fostering a deep understanding of the ethical dimensions of medicine. By embedding biomedical ethics into the curriculum, Rawalpindi medical university equips students with the tools to critically analyze and address ethical dilemmas, ranging from patient confidentiality and informed consent to end-of-life care and the equitable distribution of healthcare resources.

This education goes beyond theoretical knowledge, encouraging students to apply ethical reasoning in practical scenarios, thus preparing them for the moral complexities of the medical field. Biomedical ethics also promotes a culture of empathy, respect, and integrity, ensuring that future medical practitioners not only excel in their technical skills but also uphold the highest ethical standards in patient care and research. Through seminars, case studies, and interdisciplinary collaborations, students are encouraged to engage in ethical discourse, reflecting on the societal impact of medical advancements and the responsibility of medical professionals to society. This foundational aspect of medical education cultivates a generation of healthcare professionals committed to ethical excellence, patient advocacy, and the pursuit of equitable healthcare for all.

Professionalism

Professionalism in medicine refers to the set of values, behaviors, and relationships that underpin the trust the public has in doctors and other healthcare professionals. It encompasses a commitment to competence, integrity, ethical conduct, accountability, and putting the interests of patients above one's own. Professionalism involves adhering to high standards of practice, including maintaining patient confidentiality, communicating effectively and respectfully with patients and colleagues, and continually engaging in self-improvement and professional development. It also includes a responsibility to improve access to high-quality healthcare and to contribute to the welfare of the community and the betterment of public health. In essence, professionalism in medicine is foundational to the quality of care provided to patients and is critical for maintaining the trust that is essential for the doctor-patient relationship.

Rawalpindi Medical University emphasizes the importance of professionalism in medicine, integrating it throughout its curriculum to ensure that students embody the core values of respect, accountability, and compassion in their interactions with patients, colleagues, and the community. This focus on professionalism is designed to prepare students for the complexities of the healthcare environment, instilling in them a deep sense of responsibility to their patients, adherence to ethical principles, and a commitment to continuous learning and improvement. Through a combination of theoretical learning, practical training, and mentorship, RMU encourages its students to exemplify professionalism in every aspect of their medical practice. Workshops, seminars, and clinical rotations further reinforce these values, providing students with real-world experiences that highlight the importance of maintaining professional conduct in challenging situations. RMU's approach to professionalism not only shapes competent and ethical medical professionals but also contributes to the broader mission of improving healthcare standards and patient outcomes. By prioritizing professionalism, Rawalpindi Medical University plays a crucial role in advancing the medical profession and ensuring that its graduates are well-equipped to meet the demands of a rapidly evolving healthcare landscape with honor and integrity.

Communication Skills

Communication skill for health professionals involves the ability to effectively convey and receive information, thoughts, and feelings with patients, their families, and other healthcare professionals. It encompasses a range of competencies including active listening, clear and compassionate verbal and non-verbal expression, empathy, the ability to explain medical conditions and treatments in an understandable way, and the skill to negotiate and resolve conflicts. Effective communication is essential for establishing trust, ensuring patient understanding and compliance with treatment plans, making informed decisions, and providing holistic care. It directly impacts patient satisfaction, health outcomes, and the overall efficiency of healthcare delivery

At Rawalpindi Medical University (RMU), the development of communication skills is regarded as a fundamental aspect of medical education, recognizing its critical importance in enhancing patient care, teamwork, and interdisciplinary collaboration. RMU is dedicated to equipping its students with exceptional communication abilities, enabling them to effectively interact with patients, their families, and healthcare colleagues. The curriculum is thoughtfully designed to incorporate various interactive and experiential learning opportunities, such as role-playing, patient interviews, and group discussions, which allow students to practice and refine their communication skills in a supportive environment.

By integrating communication skills training throughout its programs, RMU not only enhances the interpersonal competencies of its future healthcare professionals but also contributes to improving the overall quality of healthcare delivery. Graduates from RMU are distinguished not just by their clinical expertise but also by their ability to connect with patients and colleagues, making them highly effective and compassionate practitioners.

Behavioral Sceinces

Behavioral sciences in medicine focus on understanding and addressing the psychological and social aspects of health and illness. This interdisciplinary field combines insights from psychology, sociology, anthropology, and other disciplines to enhance medical care and patient outcomes. It explores how behavior, emotions, and social factors influence health, disease, and medical treatment. By incorporating behavioral science principles into medical practice, healthcare professionals can better understand patients' perspectives, improve communication, and promote positive health behaviors, ultimately contributing to more comprehensive and effective patient care.

Family Medicine

Family medicine is a medical specialty dedicated to providing comprehensive health care for people of all ages and genders. It is characterized by a long-term, patient-centered approach, building sustained relationships with patients and offering continuous care across all stages of life. It focuses on treating the whole person within the context of the family and the community, emphasizing preventive care, disease management, and health promotion.

The Family Medicine Curriculum at Rawalpindi Medical University (RMU) marks a significant stride towards holistic healthcare education, aiming to prepare medical graduates for the comprehensive and evolving needs of family practice. This curriculum is designed to offer a broad perspective on healthcare, focusing on preventive care, chronic disease management, community health, and the treatment of acute conditions across all ages, genders, and diseases. Emphasizing a patient-centered approach, the curriculum ensures that students develop a deep understanding of the importance of continuity of care, patient advocacy, and the ability to work within diverse community settings.

RMU's Family Medicine Curriculum integrates theoretical knowledge with practical experience. Students are exposed to a variety of learning environments, including community health centers, outpatient clinics, and inpatient settings, providing them with a well-rounded understanding of the different facets of family medicine. This hands-on approach is complemented by interactive sessions, workshops, and seminars that cover a wide range of topics from behavioral health to geriatric care, ensuring students are well-equipped to address the comprehensive health needs of individuals and families.

Artificial Intelligence

To realize the dreams and impact of AI requires autonomous systems that learn to make good decisions. Reinforcement learning is one powerful paradigm for doing so, and it is relevant to an enormous range of tasks, including robotics, game playing, consumer modeling and healthcare. This class will provide a solid introduction to the field of reinforcement learning and students will learn about the core challenges and approaches, including generalization and exploration. Through a combination of lectures, and written and coding assignments, students will become well versed in key ideas and techniques for RL. Assignments will include the basics of reinforcement learning as well as deep reinforcement learning — an extremely promising new area that combines deep learning techniques with reinforcement learning. In addition, students will advance their understanding and the field of RL through a final project.

Integrated Undergraduate Research Curriculum

The integrated undergraduate research curriculum (IUGRC) of RMU occupies a definite space in schedule of each of the five years in rational and incremental way. It has horizontal harmonization as well as multidisciplinary research work potentials. In the first-year teachings are more introductory & inspirational rather than instructional. The teachings explain what & why of research and what capacities are minimally required to comprehend research & undertake research. Some research dignitaries' lecture are specifically arranged for sharing their experiences and inspiring the students. Students are specifically assessed through their individual compulsory written feedback (reflection) after the scheduled teachings end.

Entrepreneurship

Entrepreneurship is the process of designing, launching, and running a new business, which typically starts as a small enterprise offering a product, process, or service for sale or hire. It involves identifying a market opportunity, gathering resources, developing a business plan, and managing the business's operations, growth, and development.

Entrepreneurship in medical universities represents a burgeoning field where the innovative spirit intersects with healthcare to forge advancements that can transform patient care, medical education, and healthcare delivery. This unique amalgamation of medical expertise and entrepreneurial acumen empowers students, faculty, and alumni to develop groundbreaking medical technologies, healthcare solutions, and startups that address critical challenges in the health sector. By integrating entrepreneurship into the curriculum, Rawalpindi Medical university is not only expanding the traditional scope of medical education but also fostering a culture of innovation and problem-solving. This enables future healthcare professionals to not only excel in clinical skills but also in business strategies, leadership, and innovation management.

Such initiatives often lead to the creation of medical devices, digital health platforms, and therapeutic solutions that can significantly improve patient outcomes and make healthcare more accessible and efficient. Through incubators, accelerators, and partnerships with the industry, medical universities are becoming hotbeds for healthcare innovation, driving economic growth, and contributing to the broader ecosystem of medical research and entrepreneurial success.

Digital Literacy Module

Digital literacy means having the skills one needs to live, learn, and work in a society where communication and access to information is increasingly through digital technologies like internet platforms, social media, and mobile devices.

Early Clinical Exposure (ECE)

Early clinical exposure helps students understand the relevance of their preclinical studies by providing real-world contexts. This can enhance motivation and engagement by showing students the practical application of their theoretical knowledge. Early exposure allows students to begin developing essential clinical skills from the start of their education. This includes not only technical skills but also crucial soft skills such as communication, empathy, and professionalism. Direct interaction with patients early in their education helps students appreciate the complexities of patient care, including the psychological and social aspects of illness. Early exposure to various specialties can aid students in making informed decisions about their future career paths within medicine.

Early clinical experiences contribute to the development of a professional identity, helping students see themselves as future physicians and understand the responsibilities and ethics associated with the profession. This can help reduce the anxiety associated with clinical work by familiarizing students with the clinical environment. It can build confidence in their abilities to interact with patients and healthcare professionals. Engaging with real-life clinical situations early on encourages the development of critical thinking and problem-solving skills, which are essential for medical practice. It helps bridge the gap between theoretical knowledge and practical application, leading to a more integrated and holistic approach to medical education. It allows students to observe and understand how healthcare systems operate, including the challenges and limitations faced in different settings.: Early patient interaction emphasizes the importance of patient-centered care from the outset, underscoring the importance of treating patients as individuals with unique needs and backgrounds. Practical experiences can enhance long-term retention of knowledge as students are able to connect theoretical learning with clinical experiences.: Early clinical experiences often involve working in multidisciplinary teams, which fosters a sense of collaboration and understanding of different roles within healthcare.

In summary, early clinical exposure in medical education is pivotal for the holistic development of medical students, providing them with a strong foundation of practical skills, professional attitudes, and a deep understanding of patient-centered care.

The Islamiyat

Code	Topic	Learning Objectives At the end of the lecture the student should be able to	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(ISL)-001	Toheed Related Quranic Verses & their Explanation	• Understand the concept of Tawheed as presented in the Quran, and its significance in Islamic theology.	C2	LGIS	SAQ
		• Identify key Quranic verses related to Tawheed, focusing on the concepts of divine unity, power, and sovereignty.	C2	LGIS	SAQ
M1-GIT-SI(ISL)-002	Toheed & Shirk	• Understand the concept of Tawheed (Oneness of Allah) and its fundamental importance in Islamic belief and practice.	C2	LGIS	SAQ
		• Explain the different types of Shirk and their theological implications in Islam.	C2	LGIS	SAQ
M1-GIT-SI(ISL)-003	Risalat Related Quranic Verses & Their Explanation	• Understand the concept of Risalat in Islam, focusing on the role and responsibilities of the Prophets as conveyed in the Quran.	C2	LGIS	SAQ
		• Identify key Quranic verses related to Risalat and explain their meanings, emphasizing the messages delivered by the Prophets.	C2	LGIS	SAQ

Pak Studies

Code	Topic	Learning Objectives At the end of the lecture the student should be able to	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(PKS)-001	Nazria Pakistan	• Understand the concept of Nazria Pakistan, including its historical, cultural, and religious foundations.	C2	LGIS	SAQ
M1-GIT-SI(PKS)-002	Allah SWT ki Hakmiyat ka Nifaz	• Understand the concept of Allah's Hakmiyat and its significance in Islamic teachings, emphasizing divine authority in all aspects of life.	C2	LGIS	SAQ
M1-GIT-SI(PKS)-003	Two Nation Theory	• Explain the significance of the Two Nation Theory in the creation of Pakistan, emphasizing the cultural, religious, and political differences between Muslims and Hindus in the Indian subcontinent.	C2	LGIS	SAQ
M1-GIT-SI(PKS)-004	Establishment of an Islamic state	• Understand the concept of an Islamic state, focusing on its foundational principles based on Islamic teachings, governance, and law.	C2	LGIS	SAQ

Behavioral Sciences

Code	Topic	At the End of Lecture Students Should Be Able To	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(BS)-001	Medically Unexplained Symptoms / Stress Diarrhea, Non-Ulcer Dyspepsia	• To be able to Idetify the role Psychological factors in the aetiology of health problems	C1	LGIS	MCQs
		• To be able to describe the role of Psychological factors in Precipitation of Illness. • To identify clinical presentation of medically (MUS) un explained symtoms / Stess Diarrhea, Non-Ulcer Dyspepsia	C2 C2		
M1-GIT-SI(BS)-002	Learning	• To define Learning. • To describe the types of Learning i.e Classical and Operant conditioning. • To relate the concept of different types of learning in everyday practice, disease causation and psychotherapy	C1 C2 C3	LGIS	MCQs
M1-GIT-SI(BS)-003	Memory	• To define the types of memory. • To explain the areas in brain responsible for memory storage and Retrieval. • To describe ways to improve memory	C2 C2 C3	LGIS	MCQs

Family Medicine

Code	Topic	Learning Objectives At the end of the lecture the student should be able to	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(FMed)-001	Common Abdominal Diseases	• Discuss what is abdominal pain	C2	LGIS-1	MCQs
		• Discuss its causes			
		• Disscus diagnosis & principle of management			

Radiology

Code	Topic	At the end of lecture student should be able to	Learning Domain	Teaching Strategy	Assessment Tools
	Medical imaging of	• Identify normal and abnormal radiographs of abdomen (AP view)	C1		

M1-GIT-SI(R)-001	abdomen- I	• Identify filling defects (Barium meal and Barium enema)	C1	LGIS	MCQs
		• Recognize the correct and incorrect positioning of feeding tubes	C1		
M1-GIT-SI(R)-002	Medical imaging of abdomen- II	• Identify normal and abnormal CT Scan MRI abdomen	C1	LGIS	MCQs

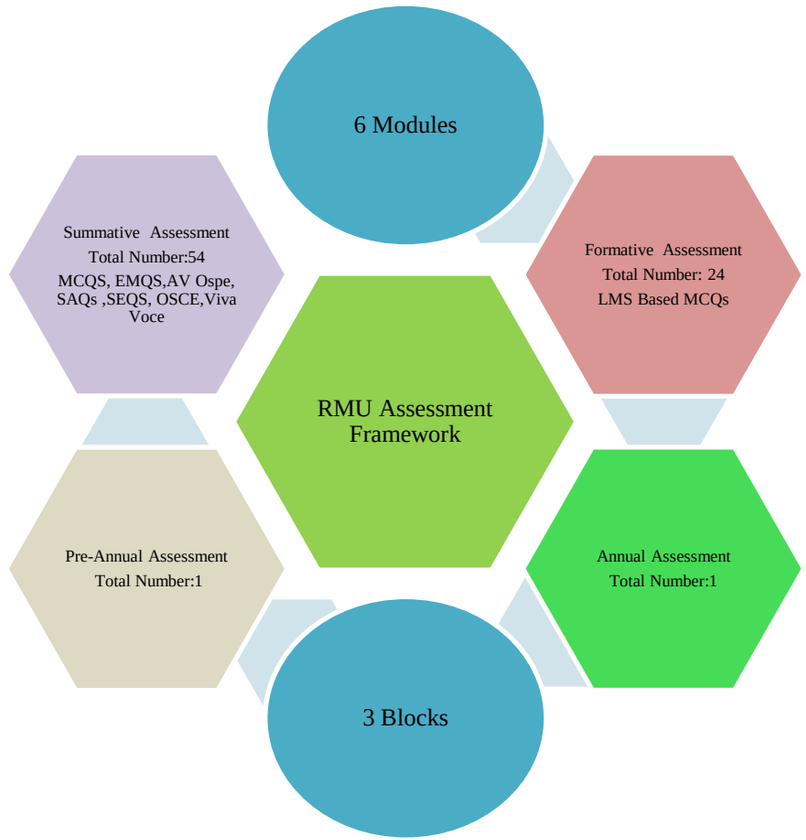
Integrated Undergraduate Research Curriculum (IUGRC)

Code	Topic	Learning Objectives	Cognitive Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(IUGRC) -001	IUGRC Descriptive Statistics 1 Introduction to descriptive statistics	• Define & enlist uses of statistical knowledge in research & healthcare profession. • Differentiate descriptive statistics form inferential statistics • Appreciate value of information & precision in scientific decision making • Describe the concept of data, variable & sources of data with respect to descriptive statistics	C1 C2 C1 C2	LGIS	MCQs
M1-GIT-SI(IUGRC) -002	IUGRC Descriptive Statistics 2 Classification of different types of data	• Classify data and types of data with examples • Enlist data types with examples in medical background • Enlist different method of data presentation (tables, graphs, diagrams, pie chart, Bar graph, histo gram. line diagram scatter diagram, statistical maps, pictogram and ogive curve) according to type of data	C2 C1 C1	LGIS	MCQs
M1-GIT-SI(IUGRC) -003	IUGRC Descriptive Statistics 3 Scales of Data Measurement	• Define a scale of measurement • Classify data according to their scale of measurement • Distinguish between discrete and continuous variable	C1 C3 C2	LGIS	MCQs
M1-GIT-SI(IUGRC) -004	IUGRC Descriptive Statistics 4 Measures of central	• Explain concept of Measures of central tendency with illustrations form medical background • Compute and Interpret results of different measures of central tendency form a given data file	C2 C3	LGIS	MCQs

	tendency	• Explain concept of Measures of dispersion with illustrations form medical background • Compute and Interpret results of different measures of dispersion from a given data file	C1 C3		
M1-GIT-SI(IUGRC) -005	Geriatrics	• Differentiate between geriatrics and gerontology • Explain the public health importance of geriatrics • Enlist common health and other problems related to old age • Recommend preventive, rehabilitative measures for older age health problems • Appreciate the role of health physicians in giving health advise to elderly	C2 C2 C1 C2 C1	LGIS	MCQs

SECTION - V

Assessment Policies



Assessment

Assessment is the systematic basis for making inferences about the learning and development of students. It is the process of defining, selecting, designing, collecting, analyzing,interpreting, and using information to increase students' learning and development.

Assessment Policy

Scope

This policy is applicable to all the students of the MBBS program of RMU for all modes of teaching (on campus/online/any other) from the date of approval by the RMUAcademic Council.

1. **Guiding principles**

- RMU has the responsibility to ensure to all the stakeholders that students have achieved the identified outcomes of the medical degree course.
- Assessment requires a variety of methods; no single method can completely ensure that the requisite competence level has been achieved. Hence each assessmentinstrument must be selected based on its utility index.
- Feedback, ensuring that the feedback loop is closed, should be provided to students following all assessments to ensure that students identify gaps in their learning andfaculty can review future curricular and assessment content.
- The quality of the entire assessment including confidentiality of the assessment process must be ensured.
- The assessment process should be clear and transparent so that students know in advance the expectations (from students) and consequences of the assessment.
- Details of the conduct of examinations are available in the Examination policy document.

2. **Purposes of Assessment**.

- To ensure appropriate competence has been achieved.
- Feedback to students regarding their readiness and deficiencies
- Feedback to faculty to evaluate the effectiveness of the teaching program.

3. Forms of assessments

3.1 Formative Assessment

A formative assessment refers to a low-stakes assessment that does not normally contribute towards a student's final grade. Assessment for learning is carried out throughout modules and clerkships using various strategies (at the discretion of module coordinators and clerkship directors feedback. Weekly assessment of Large Group Interactive Session (LGIS) and Self-Directed Learning (SDL) Sessions will be conducted on LMS (learning management system). The LMS result will be shared by module coordinator and DME through vice chancellor on weekly basis

3.2 Summative Assessment

A summative assessment is performed at the end of a unit that allows a teacher to measure a student's understanding, typically against a standardized criterion. These Assessment includes End of Module Assessment (EMA), End of Block Assessment (EBA), Pre- Annual Assessment (PAA) and Annual Professional Assessment (APA). Each Assessment comprises of theory component and a practical component.

3.2.1 Components of Assessment

- Cognitive competence is tested in the theory component using the following tool of assessment
  - USMLE/ PLAB Type / Multiple Choice Questions (MCQs)
  - USMLE/ PLAB Type / Extended Match Questions (EMQ)
  - Short Answer Questions (SAQs)
  - Short Essay Questions (SEQs)
- Competence in psychomotor and affect domains is tested in practical component using the following tools of assessment
  - Audio Visual OSPE (AVOSPE): This comprises of stations using PowerPoint slides with images animations and videos
  - Laboratory OSPE (Lab OSPE): This comprises of stations focused on practical (hands on performance) components from core subject areas
  - Integrated OSPE (I OSPE): This comprises of stations, from each core subject, emphasizing horizontal and vertical integration
  - Objective Structured Clinical Examinations (OSCE): This comprises of stations, dedicated to Early Clinical Exposure (ECE), Simulated Patients (SP), models, ALPHA and clinical component of core subjects

- Objective Structured Viva Examinations (OSVE): This comprises of table viva for each core subject. Students will be evaluated by internal and external examiner using a structured marking rubric, with each viva

3.2.2 End of Module Assessment (EMA)

- End of module assessments will be conducted at the end of each module.
- The module teams will be responsible for the assessment plan including assessment strategies, timings, and other essentials

3.2.3 End of Block Assessment (EBA)

- End of block assessments will be conducted at the end of each block.
- The block teams will be responsible for the assessment plan including assessment strategies, timings, and other essentials
- 80% attendance in each subject will be mandatory
- Student must pass in all LMS, mid module assessments to appear in EBA
- There will be no remedial classes for attendance compensation
- There will be no remedial of assessment in case of poor academic performance

Table of Specification (TOS) For Module Examination for Second Year MBBS

Domains: C-Core Subject (70%) Levels C1-C2, HV- Horizontal & Vertical Integration (20%) Levels C2-C3, S- Spiral Integration (10%) Levels C2-C3

End of Module Assessment	Subject	Theory (Cognitive) Assessment																			Practical (Skill & Attitude) Assessment											Grand Total	Total Time of Module Assessment
		MCQs					EMQs			SAQs					SEQs				Marks	Total Marks Theory	Total Time	AV OSPE					Time	AED Reflective Writing	OSVE			Total Practical Marks		
		C	HV	S	Total	Marks	C	Total	Marks	C	HV	S	Total	Marks	C	HV	S	Total				C	HV	S	Total	Marks			Viva	Copy	Total			
First Module	Anatomy	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
	Physiology	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
	Biochemistry	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
Formative- Weekly LMS Based Assessment of 30 MCQs (10 MCQs per Subject)																																	

End of Module Assessment	Subject	Theory (Cognitive) Assessment																			Practical (Skill & Attitude) Assessment											Grand Total	Total Time of Module Assessment
		MCQs					EMQs			SAQs					SEQs				Marks	Total Marks Theory	Total Time	AV OSPE					Time	AED Reflective Writing	OSVE			Total Practical Marks		
		C	HV	S	Total	Marks	C	Total	Marks	C	HV	S	Total	Marks	C	HV	S	Total				C	HV	S	Total	Marks			Viva	Copy	Total			
Second Module	Anatomy	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
	Physiology	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
	Biochemistry	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
Formative- Weekly LMS Based Assessmen tof 30 MCQs (10 MCQs per Subject)																																	

Block	Subjects	LMS Based Assessment MCQs					OSPE						Grand Total	Total Block Time
							LabOSPE	IOSPE	COSPE	Total	Marks	Time		
		C	HV	S	Total	Time	C	HV	S					
BLOCK	Anatomy	21	6	3	30	30 min	14	4	2	20	60	6 HRS	90	10 HRS
	Physiology	21	6	3	30	30 min	14	4	2	20	60	6 HRS	90	10 HRS
	Biochemistry	21	6	3	30	30 min	14	4	2	20	60	6 HRS	90	10 HRS
50% Questions/OSPE Stations/Viva Stations will be from Foundation Module and 50% Questions will be from MSK-1 Module														
For Each assessment student will have to individually pass Theory and Practical components														

Weekly LMS Assessment			
Subjects	Anatomy	Physiology	Biochemist
No of MCQs*	30	30	30
Marks/MCQ	30	30	30
*MCQ=1 Mark each, 1 min each			

Marks per Item

MCQ=1	EMQ= 5	SAQ= 5	SEQ= 9	AVOSPE= 5		OSPE= 3
OSPE Time=1 Round of 40 Students =80 min						
3 Round of 40 Students =240 min						
OSVE=Time per student=5mins						

3.2.4 Continuous Internal Assessment (CIA)

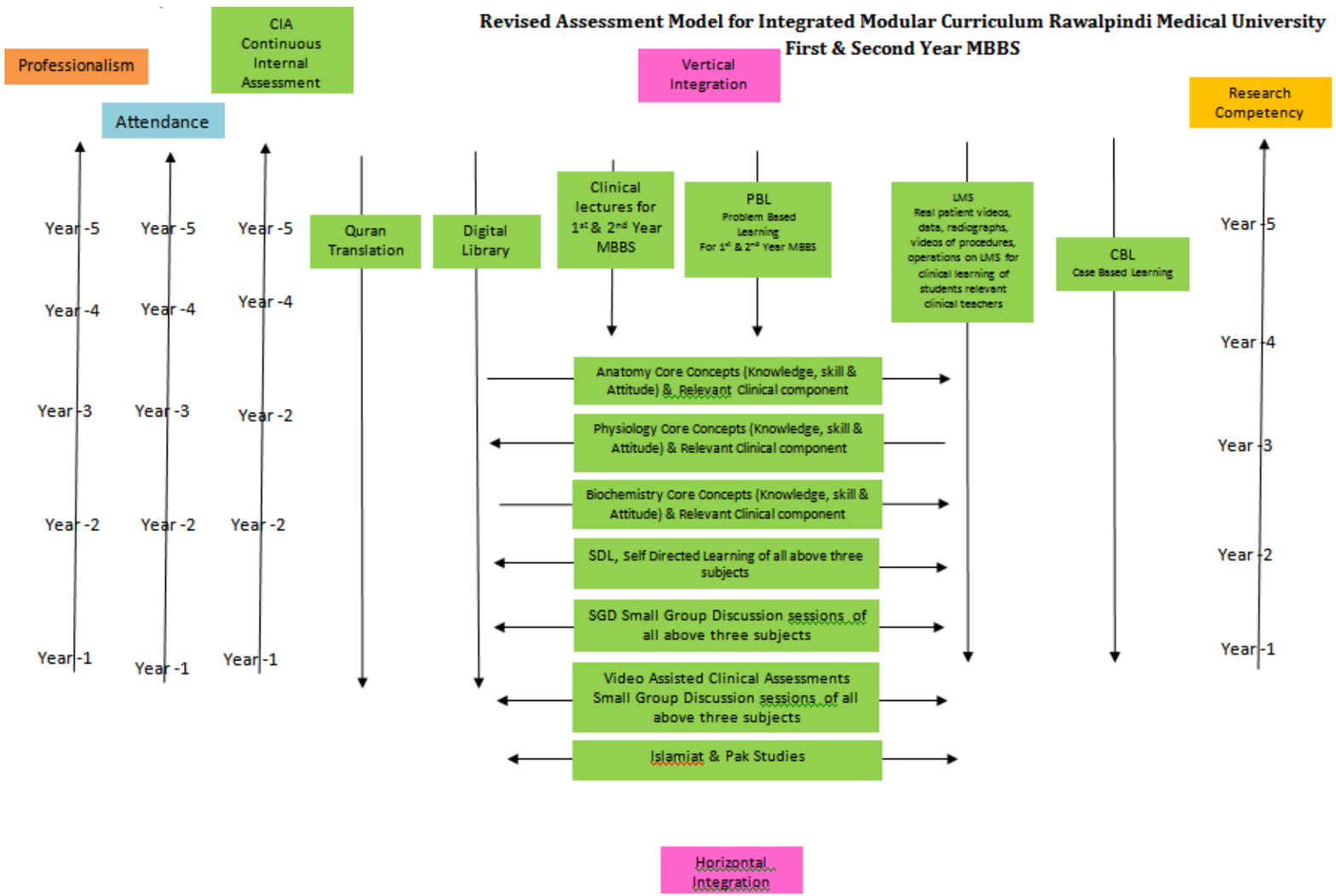
Continuous Internal Assessment means the assessment based on tests and assignments given to the students during an academic period.

Break up of internal assessment is as follows:

Blocks	Subjects	Total marks	Module 1	Module 2	Total marks
Block 1 90 Marks	Anatomy	30 marks	15 marks	15 marks	90 Marks
	Physiology	30 marks	15 marks	15 marks	
	Biochemistry	30 marks	15 marks	15 marks	
Block 2 90 Marks	Anatomy	30 marks	15 marks	15 marks	90 Marks
	Physiology	30 marks	15 marks	15 marks	
	Biochemistry	30 marks	15 marks	15 marks	
Block 3 90 Marks	Anatomy	30 marks	15 marks	15 marks	90 Marks
	Physiology	30 marks	15 marks	15 marks	
	Biochemistry	30 marks	15 marks	15 marks	
				Total marks	270 Marks

Once internal assessment is compiled it CANNOT be altered under ANY circumstance unless a clerical/ human error is detected. He will repeat classes and skillsThere will be no change in calculated internal assessment scores for supplementary University examination.

I. Diagrammatic Presentation of Various Components of Clinically Oriented Integrated Modular Curriculum of Rawalpindi Medical University



Reference: The Integrated & Clinically Oriented Assessment Model For Under Graduates Rawalpindi Medical University "Mumtahin" "ممتحن" (The Examiner)

No. of Assessments of Anatomy for Second Year MBBS (Block- I):

Block	Sr. #	Module – 1 GIT Module - I Components	Type of Assessments	Total Assessments Time			No. of Assessments	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
Block – I	1	End Module Examinations (SEQs, SAQs, EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	30 Minutes	1 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	Weekly LMS based Assessment (MCQs based)	Formative	30 Minutes				
	Total			**3 Hours & 05 Minutes**			**3 Assessments**	
	Sr. #	**Module – 2 Renal Module Components**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	End Module Examinations (SEQs,SAQs,EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	60 Minutes	2 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	2 Weekly LMS based Assessment (MCQs based)	Formative	2 x 30 Minutes				
	Total			**3 Hours & 35 Minutes**			**4 Assessments**	
	Sr. #	**Block – I Assessment**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	Objectively Structured Practical Examination (OSPE)	Summative	5 Hours	5 Hours & 30 minutes			2 Summative
	2	LMS Based Block Assessment (MCQs based)	Summative	30 Minutes				
		Total		**5 Hours & 30 Minutes**			**2 Assessments**	

No. of Assessments of Anatomy for Second Year MBBS (Block- II):

Block	Sr. #	Module – 3 Reproduction Module Components	Type of Assessments	Total Assessments Time			No. of Assessments	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
Block – II	1	End Module Examinations (SEQs, SAQs, EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	30 Minutes	1 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	Weekly LMS based Assessment (MCQs based)	Formative	30 Minutes				
	Total			**3 Hours & 05 Minutes**			**3 Assessments**	
	Sr. #	**Module – 4 CNS Module Components**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	End Module Examinations (SEQs,SAQs,EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	60 Minutes	2 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	2 Weekly LMS based Assessment (MCQs based)	Formative	2 x 30 Minutes				
	Total			**3 Hours & 35 Minutes**			**4 Assessments**	
	Sr. #	**Block – II Assessment**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	Objectively Structured Practical Examination (OSPE)	Summative	5 Hours	5 Hours & 30 minutes			2 Summative
	2	LMS Based Block Assessment (MCQs based)	Summative	30 Minutes				
		Total		**5 Hours & 30 Minutes**			**2 Assessments**	

No. of Assessments of Anatomy for Second Year MBBS (Block- III):

Block	Sr. #	Module – 5 Special Senses Module Components	Type of Assessments	Total Assessments Time			No. of Assessments	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
Block – III	1	End Module Examinations (SEQs,SAQs,EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	30 Minutes	1 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	Weekly LMS based Assessment (MCQs based)	Formative	30 Minutes				
	Total			**3 Hours & 05 Minutes**			**3 Assessments**	
	Sr. #	**Module – 6 Endocrinology Module Components**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	End Module Examinations (SEQs,SAQs,EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	60 Minutes	2 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	2 Weekly LMS based Assessment (MCQs based)	Formative	2 x 30 Minutes				
	Total			**3 Hours & 35 Minutes**			**4 Assessments**	
	Sr. #	**Block – III Assessment**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	Objectively Structured Practical Examination (OSPE)	Summative	5 Hours	5 Hours & 30 minutes			2 Summative
	2	LMS Based Block Assessment (MCQs based)	Summative	30 Minutes				
		Total		**5 Hours & 30 Minutes**			**2 Assessments**	

Total Time of Anatomy Assessments for Second Year MBBS:

Module	Summative Assessment Time	Formative Assessment Time	Total Assessments Time
GIT Module - I	2 Hours & 35 minutes	30 Minutes	**3 Hours & 05 Minutes**
Renal Module	2 Hours & 35 minutes	60 Minutes	**3 Hours & 35 Minutes**
Block -I	**5 Hours & 30 Minutes**		**5 Hours & 30 Minutes**
Reproduction Module	2 Hours & 35 minutes	30 Minutes	**3 Hours & 05 Minutes**
CNS Module	2 Hours & 35 minutes	60 Minutes	**3 Hours & 35 Minutes**
Block -II	**5 Hours & 30 Minutes**		**5 Hours & 30 Minutes**
Special Senses Module	2 Hours & 35 minutes	30 Minutes	**3 Hours & 05 Minutes**
Endocrinology Module	2 Hours & 35 minutes	60 Minutes	**3 Hours & 35 Minutes**
Block -III	**5 Hours & 30 Minutes**		**5 Hours & 30 Minutes**
Pre-Annual Examination		……	7 Hours & 45 Minutes
Second Professional		……	3 Hours & 45 Minutes
Grand Total	**31 Hours & 30 Minutes**	**4 hours and 30 minutes**	**48 Hours**

Total Teaching Hours vs Total Assessment Hours

Ratio of Teaching Hours to Assessments Hours	Grand Total Teaching Hours 250 Hours:	Grand Total Assessment Hours **48 Hours**
	5:1	

No. of Assessments of Physiology for Second Year MBBS (Block- I):

Block	Sr. #	Module – 1 GIT Module - I Components	Type of Assessments	Total Assessments Time			No. of Assessments	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
Block – I	1	End Module Examinations (SEQs, SAQs, EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	30 Minutes	1 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	Weekly LMS based Assessment (MCQs based)	Formative	30 Minutes				
	Total			**3 Hours & 05 Minutes**			**3 Assessments**	
	Sr. #	**Module – 2 Renal Module Components**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	End Module Examinations (SEQs,SAQs,EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	60 Minutes	2 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	2 Weekly LMS based Assessment (MCQs based)	Formative	2 x 30 Minutes				
	Total			**3 Hours & 35 Minutes**			**4 Assessments**	
	Sr. #	**Block – I Assessment**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	Objectively Structured Practical Examination (OSPE)	Summative	5 Hours	5 Hours & 30 minutes			2 Summative
	2	LMS Based Block Assessment (MCQs based)	Summative	30 Minutes				
		Total		**5 Hours & 30 Minutes**			**2 Assessments**	

No. of Assessments of Physiology for Second Year MBBS (Block- II)

Block	Sr. #	Module – 3 Reproduction Module Components	Type of Assessments	Total Assessments Time			No. of Assessments	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
Block – II	1	End Module Examinations (SEQs, SAQs, EMQs, MCQs Av OSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	30 Minutes	1 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	Weekly LMS based Assessment (MCQs based)	Formative	30 Minutes				
	Total			**3 Hours & 05 Minutes**			**3 Assessments**	
	Sr. #	**Module – 4 CNS Module Components**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	End Module Examinations (SEQs,SAQs,EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	60 Minutes	2 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	2 Weekly LMS based Assessment (MCQs based)	Formative	2 x 30 Minutes				
	Total			**3 Hours & 35 Minutes**			**4 Assessments**	
	Sr. #	**Block – II Assessment**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	Objectively Structured Practical Examination (OSPE)	Summative	5 Hours	5 Hours & 30 minutes			2 Summative
	2	LMS Based Block Assessment (MCQs based)	Summative	30 Minutes				
		Total		**5 Hours & 30 Minutes**			**2 Assessments**	

No. of Assessments of Physiology for Second Year MBBS (Block- III):

Block	Sr. #	Module – 5 Special Senses Module Components	Type of Assessments	Total Assessments Time			No. of Assessments	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
Block – III	1	End Module Examinations (SEQs, SAQs, EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	30 Minutes	1 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	Weekly LMS based Assessment (MCQs based)	Formative	30 Minutes				
	Total			**3 Hours & 05 Minutes**			**3 Assessments**	
	Sr. #	**Module – 6 Endocrinology Module Components**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	End Module Examinations (SEQs, SAQs, EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	60 Minutes	2 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	2 Weekly LMS based Assessment (MCQs based)	Formative	2 x 30 Minutes				
	Total			**3 Hours & 35 Minutes**			**4 Assessments**	
	Sr. #	**Block – III Assessment**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	Objectively Structured Practical Examination (OSPE)	Summative	5 Hours	5 Hours & 30 minutes			2 Summative
	2	LMS Based Block Assessment (MCQs based)	Summative	30 Minutes				
		Total		**5 Hours & 30 Minutes**			**2 Assessments**	

Total Time of Physiology Assessments for Second Year MBBS:

Module	Summative Assessment Time	Formative Assessment Time	Total Assessments Time
GIT Module - I	2 Hours & 35 minutes	30 Minutes	**3 Hours & 05 Minutes**
Renal Module	2 Hours & 35 minutes	60 Minutes	**3 Hours & 35 Minutes**
Block -I	**5 Hours & 30 Minutes**		**5 Hours & 30 Minutes**
Reproduction Module	2 Hours & 35 minutes	30 Minutes	**3 Hours & 05 Minutes**
CNS Module	2 Hours & 35 minutes	60 Minutes	**3 Hours & 35 Minutes**
Block -II	**5 Hours & 30 Minutes**		**5 Hours & 30 Minutes**
Special Senses Module	2 Hours & 35 minutes	30 Minutes	**3 Hours & 05 Minutes**
Endocrinology Module	2 Hours & 35 minutes	60 Minutes	**3 Hours & 35 Minutes**
Block -III	**5 Hours & 30 Minutes**		**5 Hours & 30 Minutes**
Pre-Annual Examination		……	7 Hours & 45 Minutes
Second Professional		……	3 Hours & 45 Minutes
Grand Total	**31 Hours & 30 Minutes**	**4 hours and 30 minutes**	**48 Hours**

Total Teaching Hours vs Total Assessment Hours

Ratio of Teaching Hours to Assessments Hours	Grand Total Teaching Hours 225 hours:	Grand Total Assessment Hours 48 Hours
	9:2	

No. of Assessments of Biochemistry for Second Year MBBS (Block- I):

Block	Sr. #	Module – 1 GIT Module - I Components	Type of Assessments	Total Assessments Time			No. of Assessments	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
Block – I	1	End Module Examinations (SEQs, SAQs, EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	30 Minutes	1 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	Weekly LMS based Assessment (MCQs based)	Formative	30 Minutes				
	Total			**3 Hours & 05 Minutes**			**3 Assessments**	
	Sr. #	**Module – 2 Renal Module Components**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	End Module Examinations (SEQs,SAQs,EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	60 Minutes	2 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	2 Weekly LMS based Assessment (MCQs based)	Formative	2 x 30 Minutes				
	Total			**3 Hours & 35 Minutes**			**4 Assessments**	
	Sr. #	**Block – I Assessment**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	Objectively Structured Practical Examination (OSPE)	Summative	5 Hours	5 Hours & 30 minutes			2 Summative
	2	LMS Based Block Assessment (MCQs based)	Summative	30 Minutes				
		Total		**5 Hours & 30 Minutes**			**2 Assessments**	

No. of Assessments of Biochemistry for Second Year MBBS (Block- II):

Block	Sr. #	Module – 3 Reproduction Module Components	Type of Assessments	Total Assessments Time			No. of Assessments	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
Block – II	1	End Module Examinations (SEQs,SAQs,EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	30 Minutes	1 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	Weekly LMS based Assessment (MCQs based)	Formative	30 Minutes				
	Total			**3 Hours & 05 Minutes**			**3 Assessments**	
	Sr. #	**Module – 4 CNS Module Components**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	End Module Examinations (SEQs,SAQs,EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	60 Minutes	2 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	2 Weekly LMS based Assessment (MCQs based)	Formative	2 x 30 Minutes				
	Total			**3 Hours & 35 Minutes**			**4 Assessments**	
	Sr. #	**Block – II Assessment**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	Objectively Structured Practical Examination (OSPE)	Summative	5 Hours	5 Hours & 30 minutes			2 Summative
	2	LMS Based Block Assessment (MCQs based)	Summative	30 Minutes				
		Total		**5 Hours & 30 Minutes**			**2 Assessments**	

No. of Assessments of Biochemistry for Second Year MBBS (Block- III):

Block	Sr. #	Module – 5 Special Senses Module Components	Type of Assessments	Total Assessments Time			No. of Assessments	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
Block – III	1	End Module Examinations (SEQs,SAQs,EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	30 Minutes	1 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	Weekly LMS based Assessment (MCQs based)	Formative	30 Minutes				
	Total			**3 Hours & 05 Minutes**			**3 Assessments**	
	Sr. #	**Module – 6 Endocrinology Module Components**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	End Module Examinations (SEQs,SAQs,EMQs, MCQs AvOSPE Based)	Summative	2 Hours 25 minutes	2 Hours & 35 minutes	60 Minutes	2 Formative	2 Summative
	2	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	3	2 Weekly LMS based Assessment (MCQs based)	Formative	2 x 30 Minutes				
	Total			**3 Hours & 35 Minutes**			**4 Assessments**	
	Sr. #	**Block – III Assessment**	**Type of Assessments**	**Total Assessments Time**			**No. of Assessments**	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
	1	Objectively Structured Practical Examination (OSPE)	Summative	5 Hours	5 Hours & 30 minutes			2 Summative
	2	LMS Based Block Assessment (MCQs based)	Summative	30 Minutes				
		Total		**5 Hours & 30 Minutes**			**2 Assessments**	

Total Time of Biochemistry Assessments for Second Year MBBS:

Module	Summative Assessment Time	Formative Assessment Time	Total Assessments Time
GIT Module - I	2 Hours & 35 minutes	30 Minutes	3 Hours & 05 Minutes
Renal Module	2 Hours & 35 minutes	60 Minutes	3 Hours & 35 Minutes
Block -I	5 Hours & 30 Minutes		5 Hours & 30 Minutes
Reproduction Module	2 Hours & 35 minutes	30 Minutes	3 Hours & 05 Minutes
CNS Module	2 Hours & 35 minutes	60 Minutes	3 Hours & 35 Minutes
Block -II	5 Hours & 30 Minutes		5 Hours & 30 Minutes
Special Senses Module	2 Hours & 35 minutes	30 Minutes	3 Hours & 05 Minutes
Endocrinology Module	2 Hours & 35 minutes	60 Minutes	3 Hours & 35 Minutes
Block -III	5 Hours & 30 Minutes		5 Hours & 30 Minutes
Pre-Annual Examination		……	7 Hours & 45 Minutes
Second Professional		……	3 Hours & 45 Minutes
Grand Total	**31 Hours & 30 Minutes**	**4 hours and 30 minutes**	**48 Hours**

Total Teaching Hours vs Total Assessment Hours

Ratio of Teaching Hours to Assessments Hours	Grand Total Teaching Hours 125 Hours:	Grand Total Assessment Hours 48 Hours
	5:2	

No. of Assessments of Clinical Component (Vertical and Horizontal Integration) for Second Year MBBS (Block- I):

Block	Sr. #	Module – 1 GIT Module - I Components	Type of Assessments	Total Assessments Time		No. of Assessments
				Assessment Time	Formative Assessment Time	
Block – I	1	Mid Module Examination (MCQs Based)	Formative	15 Minutes	45 Minutes	2 Formative
	2	End Module Examination (MCQs Based)	Formative	30 Minutes		
	Total			**45 Minutes**		**2 Assessments**
	Sr. #	**Module – 2 Renal Module Components**	**Type of Assessments**	**Total Assessments Time**		**No. of Assessments**
				Assessment Time	Formative Assessment Time	
	1	Mid Module Examination (MCQs Based)	Formative	15 Minutes	45 Minutes	2 Formative
	2	End Module Examination (MCQs Based)	Formative	30 Minutes		
	Total			**45 Minutes**		**2 Assessments**

No. of Assessments of Clinical Component (Vertical and Horizontal Integration) for Second Year MBBS (Block- II):

Block	Sr. #	Module – 3 Reproduction Module Components	Type of Assessments	Total Assessments Time		No. of Assessments
				Assessment Time	Formative Assessment Time	
Block – II	1	Mid Module Examination (MCQs Based)	Formative	15 Minutes	45 Minutes	2 Formative
	2	End Module Examination (MCQs Based)	Formative	30 Minutes		
	Total			**45 Minutes**		**2 Assessments**
	Sr. #	**Module – 4 CNS Module Components**	**Type of Assessments**	**Total Assessments Time**		**No. of Assessments**
				Assessment Time	Formative Assessment Time	
	1	Mid Module Examination (MCQs Based)	Formative	15 Minutes	45 Minutes	2 Formative
	2	End Module Examination (MCQs Based)	Formative	30 Minutes		
	Total			**45 Minutes**		**2 Assessments**

No. of Assessments of Clinical Component (Vertical and Horizontal Integration) for Second Year MBBS (Block- III):

Block	Sr. #	Module – 5 Special Senses Module Components	Type of Assessments	Total Assessments Time		No. of Assessments
				Assessment Time	Formative Assessment Time	
Block – III	1	Mid Module Examination (MCQs Based)	Formative	15 Minutes	45 Minutes	2 Formative
	2	End Module Examination (MCQs Based)	Formative	30 Minutes		
	Total			**45 Minutes**		**2 Assessments**
	Sr. #	**Module – 6 Endocrinology Module Components**	**Type of Assessments**	**Total Assessments Time**		**No. of Assessments**
				Assessment Time	Formative Assessment Time	
	1	Mid Module Examination (MCQs Based)	Formative	15 Minutes	45 Minutes	2 Formative
	2	End Module Examination (MCQs Based)	Formative	30 Minutes		
	Total			**45 Minutes**		**2 Assessments**

Total Time of Clinical Component (Vertical and Horizontal Integration) Assessments for Second Year MBBS:

Module	Formative Assessment Time	Total Assessments Time
GIT Module - I	45 Minutes	45 Minutes
Renal Module	45 Minutes	45 Minutes
Block -I		
Reproduction Module	45 Minutes	45 Minutes
CNS Module	45 Minutes	45 Minutes
Block -II		
Special Senses Module	45 Minutes	45 Minutes
Endocrinology Module	45 Minutes	45 Minutes
Block -III		
Pre-Annual Examination	……	35 Minutes
Second Professional	……	60 Minutes
Grand Total	**4 hours and 30 minutes**	**6 hours and 5 minutes**

Total Teaching Hours vs Total Assessment Hours

Ratio of Teaching Hours to Assessments Hours	Grand Total Teaching Hours 97 Hours:	Grand Total Assessment Hours 6 Hours
	19:1	

3.2.4 Pre- Annual Assessment (PAA)

- It is mandatory to appear in all EBA to appear in PAA
- Transcript / good character certificate from head of departments will be needed to appear in pre-annual assessment.

Proposed Table of Specifications for 2nd Pre-Annual Examination 2025

- Total Marks: 845

Total marks =800 Marks			
Subjects		% Weightage of subjects	Marks distribution as per weightage
	Anatomy	28%	240 Marks
	Physiology	28%	240 Marks
	Biochemistry	28%	240 Marks
	Integrated Subjects Community Medicine & Public Health/Research Behavioural Sciences Pathology Pharmacology Radiology Family Medicine Surgery Medicine Gynae & Obs Orthopedics Pediatrics Surgery Opthalmology Otorhinolaryngology	14 %	115 Marks
	Early Clinical Exposure (ECE)	1%	5 Marks
	ALPHA(Artificial Intelligence, Leadership, Professionalism, Humanities & Arts) GEC (General Education Cluster)	1%	5 Marks
	Total Marks		845 Marks

Notes:

- The total marks for final Annual Assessment (Professional examination) are 900 as per UHS
- The total marks for Pre-Annual Assessment are 800 as OSVE is not being used as assessment tool.
- As per analysis of Module/Block results throughout the academic year, the passing percentage of students is generally higher in OSVE than in other assessment tools. For comprehensive assessment this tool will not be used in Pre- Annual Assessment.as per decision of assessment committee OSVE is not included

A - Blockwise Distribution of Marks

Total Marks	BLOCK I Marks	BLOCK II Marks	BLOCK III Marks	Total Marks
845 Marks	285 Marks	285 Marks	275 Marks	845 Marks

B - Subject wise marks breakup in Blocks

Subjects	Block I	Block II	Block III	Total Marks
Anatomy	80 Marks	80 Marks	80 Marks	240 Marks (28%)
Physiology	80 Marks	80 Marks	80 Marks	240 Marks (28%)
Biochemistry	80 Marks	80 Marks	80 Marks	240 Marks (28%)
Integrated Subjects	45 Marks	45 Marks	35 Marks	125 Marks (16%)

C - Subject wise Break up of Marks for Second year MBBS - Block -I

Block	Subjects	Theory (Knowledge)	Practical (Skill/attitude)	Total marks	Total marks (Core subjects + Integrated Subjects)
Block I	Anatomy	50	30	80 marks	240+ 45 = 285 marks
	Physiology	50	30	80 marks	
	Biochemistry	50	30	80 marks	

(Core subjects + Integrated Subjects) 285 Marks	Total			240 marks	
	Integrated Subjects			45 Marks	
	Community Medicine /Research	6 Marks			
	Behavioural Sciences	3 Marks			
	Pathology	2 Marks			
	Pharmacology	3 Marks			
	Radiology	2 Marks			
	Gynae & Obs	4 Marks			
	Medicine	2 Marks			
	Family Medicine	2 Marks			
	Paediatrics	4 Marks			
	Surgery	2 Marks			
	ECE		5 Marks		
	ALPHA and GEC		5 Marks		
Total marks		240+ 45 = 285 marks			

D - Subject wise Break up of Marks for Second year MBBS - Block -II

Block	**Subjects**	**Theory (Knowledge)**	**Practical (Skill/attitude)**	**Total marks**	**Total marks (Core subjects + Integrated Subjects)**
Block II (Core subjects + Integrated Subjects)	Anatomy	50	30	80 marks	240+ 45 = 285 marks
	Physiology	50	30	80 marks	
	Biochemistry	50	30	80 marks	
	Total			240 marks	
	Integrated Subjects			45 Marks	
	Community	4 Marks			

285 Marks	Medicine /Research				
	Family Medicine	3 Marks			
	Orthopedics	3 Marks			
	Radiology	3 Marks			
	Medicine	3 Marks			
	Gynae & Obs	3 Marks			
	Behavioural Sciences	4 Marks			
	Pathology	2 Marks			
	ECE		5 Marks		
	ALPHA and GEC		5 Marks		
Total marks		240+ 45 = 285 marks			

E - Subject wise Break up of Marks for Second year MBBS - Block -III

Block	**Subjects**	**Theory (Knowledge)**	**Practical (Skill/attitude)**	**Total marks**	**Total marks (Core subjects + Integrated Subjects)**
Block III	Anatomy	50	30	80 marks	
	Physiology	50	30	80 marks	
	Biochemistry	50	30	80 marks	
Total marks (Core subjects + Integrated Subjects)	Total			240 marks	240+35 = 275 marks
	Integrated Subjects				
	Community Medicine	2 Marks			
	Behavioural Sciences	2Marks			
	Medicine	3 Marks		35 Marks	
	Family medicine	3 Marks			
	Gynae & Obs	2 Marks			
275 Marks	Radiology	2 Marks			
	Pediatrics	2 Marks			

	Otorhinolaryngology	3 Marks			
	Opthalmology	2 Marks			
	Pathology	2Marks			
	Pharmacology	2 Marks			
	ECE		5 Marks		
	ALPHA and GEC		5 Marks		
Total marks		240+35 = 275 marks			
GRAND TOTAL MARKS		800			

F - Modular distribution of Marks for Module 1(GIT Module - I) & Module 2(Renal Module) - Block -I

Block -I Theory Component (Knowledge)

Subjects	MCQs			EMQ			SAQ			SEQ			Total marks
	Module -1	Module-2	Marks	Module -1	Module-2	Marks	Module -1	Module-2	Marks	Module -1	Module-2	Marks	
Anatomy	13	12	25	-	01	5	01	01	10	0.5	0.5	10	50
Physiology	12	13	25		01	5	01	01	10		01	10	50
Biochemistry	15	10	25	-	01	5	01	01	10	01	-	10	50
Vertically & Spirally Integrated Subjects			35	-		-	-		-	-		-	35
Total	**110**		**110**	**3**		**15**	**6**		**30**	**3**		**30**	**185**

Block -I Practical Component (Skill & Attitude)

Subjects	Lab OSPE			Iospe			OSCE			Total stations	Total marks
	Number of Stations of Module -1	Number of Stations of Module -2	Marks	Number of Stations of Module -1	Number of Stations of Module -2	Marks	Number of Stations of Module -1	Number of Stations of Module -2	Marks		
Anatomy	01	02	15	01		5	01	01	10	6	30
Physiology	01	02	15		01	5	01	01	10	6	30
Biochemistry	01	02	15	-	01	5	01	01	10	6	30
ECE	-		-	-		-		01	5	1	5
ALPHA-Research	-		-	-		-		01	5	1	5
Total	9		45	3		15	8		40	20	100

G- Modular distribution of Marks for Module 3 (Reproduction Module) & Module 4(CNS module) - Block -II

Block -II Theory Component (Knowledge)

Subjects	MCQs			EMQ			SAQ			SEQ			Total marks
	Module -1	Module-2	Marks	Module -1	Module-2	Marks	Module -1	Module-2	Marks	Module -1	Module-2	Marks	
Anatomy	12	13	25		01	5	01	01	10	0.5	0.5	10	50
Physiology	12	13	25		01	5	01	01	10		01	10	50
Biochemistry	10	15	25		01	5	01	01	10		01	10	50
Vertically & Spirally Integrated Subjects			35	-		-	-		-	-		-	35
Total	110		110	3		15	6		30	3		30	185

Block -II Practical Component (Skill & Attitude)

Subjects	LabOSPE			Iospe			OSCE			Total stations	Total marks
	Number of Stations of Module -1	Number of Stations of Module -2	Marks	Number of Stations of Module -1	Number of Stations of Module -2	Marks	Number of Stations of Module -1	Number of Stations of Module -2	Marks		
Anatomy	02	01	15	-	01	5	01	01	10	6	30
Physiology	01	02	15		01	5	01	01	10	6	30
Biochemistry	01	02	15	01	-	5	01	01	10	6	30
ECE	-		-	-		-		01	5	1	5
ALPHA-Research	-		-	-		-		01	5	1	5
Total	9		45	3		15	8		40	20	100

H - Modular distribution of Marks for Module 5 (Special Senses Module) &Module 6 (Endocrinology Module) - Block -III

Block -III Theory Component (Knowledge)

Subjects	MCQs			EMQ			SAQ			SEQ			Total marks
	Module -1	Module-2	Marks	Module -1	Module-2	Marks	Module -1	Module-2	Marks	Module -1	Module-2	Marks	
Anatomy	13	12	25	01	-	5	01	01	10	0.5	0.5	10	50
Physiology	13	12	25	01		5	01	01	10	01		10	50
Biochemistry	13	12	25	01	-	5	01	01	10	01	-	10	50
Vertically & Spirally Integrated Subjects			25	-		-	-		-	-		-	25
Total	100		100	3		15	6		30	3		30	175

Block -III Practical Component (Skill & Attitude)

Subjects	LabOSPE			I OSPE			OSCE			Total stations	Total marks
	Number of Stations of Module -1	Number of Stations of Module -2	Marks	Number of Stations of Module -1	Number of Stations of Module -2	Marks	Number of Stations of Module -1	Number of Stations of Module -2	Marks		
Anatomy	02	01	15	-	01	5	01	01	10	6	30
Physiology	02	01	15	01	-	5	01	01	10	6	30
Biochemistry	02	01	15	-	01	5	01	01	10	6	30
ECE	-		-	-		-		01	5	1	5
ALPHA-Research	-		-	-		-		01	5	1	5
Total	9		45	3		15	8		40	20	100

Calculation for Pre-Annual Assessment Implementation for Second Year MBBS 2025

Block -I	Theory component (Knowledge)				Practical component (Skill & Attitude)			Total time required for Block – I pre-annual assessment is 8 hrs and 25 minutes
	MCQs	SAQs	SEQs	EMQs	Lab OSPE	I OSPE	OSCE	
Total number of questions	110	6	3	3	9	3	8	
Time required for each component	110 x 1 min	6 x 10 min	3 x 10 min	3 x 5 min	9 x2.5 min	3 x 2.5 min	8 x 2.5 min	
	110 mins	60 mins	30 mins	25 mins	22.5 mins	7.5 mins	20 mins	
Total time	110+60+30+25 = 225 mins (4hrs and 25 mins)				22.5+7.5+20 = 50 mins/ round of 20 students 4 hrs			
					If the OSPE is conducted simultaneously at 4 venues: In 50 minutes, 20 students can complete the OSPE at each venue, totaling 80 students across all venues. With 5 rounds at 4 venues, the entire class can complete the OSPE within 4 hours.			

Block -II	Theory component (Knowledge)				Practical component (Skill & Attitude)			Total time required for Block – II pre-annual assessment is 8 hrs and 25 minutes
	MCQs	SAQs	SEQs	EMQs	Lab OSPE	I OSPE	OSCE	
Total number of questions	110	6	3	3	9	3	8	
Time required for each component	110 x 1 min	6 x 10 min	3 x 10 min	3 x 5 min	9 x2.5 min	3 x 2.5 min	8 x 2.5 min	
	110 mins	60 mins	30 mins	25 mins	22.5 mins	7.5 mins	20 mins	
Total time	110+60+30+25 = 225 mins (4hrs and 25 mins)				22.5+7.5+20 = 50 mins/ round of 20 students 4 hrs			
					If the OSPE is conducted simultaneously at 4 venues: In 50 minutes, 20 students can complete the OSPE at each venue, totaling 80 students across all venues. With 5 rounds at 4 venues, the entire class can complete the OSPE within 4 hours.			

Block -III	Theory component (Knowledge)				Practical component (Skill & Attitude)			Total time required for Block – III pre-annual assessment is 8 hrs and 15 minutes
	MCQs	SAQs	SEQs	EMQs	Lab OSPE	I OSPE	OSCE	
Total number of questions	100	6	3	3	9	3	8	
Time required for each component	100 x 1 min	6 x 10 min	3 x 10 min	3 x 5 min	9 x2.5 min	3 x 2.5 min	8 x 2.5 min	
	100 mins	60 mins	30 mins	25 mins	22.5 mins	7.5 mins	20 mins	
Total time	100+60+30+25 = 225 mins (4hrs and 15 mins)				22.5+7.5+20 = 50 mins/ round of 20 students 4 hrs			
					If the OSPE is conducted simultaneously at 4 venues: In 50 minutes, 20 students can complete the OSPE at each venue, totaling 80 students across all venues. With 5 rounds at 4 venues, the entire class can complete the OSPE within 4 hours.			

3.2.5 Annual Professional Assessment (APA)

- Minimum 50% score in pre-annual assessment is required to appear in annual professional examination.
- Annual professional exam weightage will be 70%
- Continuous internal assessment weightage will be 30%
- 60% marks will be needed to pass annual professional examination.
- Written and practical /OSPE/OSCE should be passed separately.

Regulations

- Final Annual Assessment shall be open to any student who:
  - Has been enrolled/registered and completed one academic year preceding the concerned Final Annual Assessment in Rawalpindi Medical University.
  - Has his/her name submitted to the Controller of Examinations for assessment purposes by the Principal of the College and meets all prerequisites for the assessment.
  - Has his/her internal assessment marks for all Blocks submitted to the Controller of Examinations by the Principal of the College along with the admission form.
  - Produces good character certificate the following certificates duly verified by the Principal:
- Candidates not meeting the above requirements shall not be allowed to appear in the Final Annual Assessment but may sit for the supplementary examination if they fulfill all remaining requirements and stay enrolled as regular students up to the next examination.
- To pass the Final Annual Assessment, students must achieve at least 50% in both the Written and Oral/Practical/Clinical assessments, as well as a 50% aggregate score
  simultaneously.
- Candidates scoring 85% or above in any paper will be awarded a "distinction" in that Block, provided they achieve at least 80% in the Written component. Candidates must pass all papers in the Final Annual Assessment concurrently to receive any distinctions.
- A candidate who fails one or more papers in the Final Annual Assessment may temporarily join the next professional class until the supplementary examination but will not be promoted permanently without passing all papers.

- Students taking the supplementary examination for the Second time due to an absence in the annual examination, if failing any paper, will be retained in their current class.
- Any student failing to clear the Second or Second Final Annual Assessment MBBS within four attempts will be ineligible to continue or reapply for MBBS or BDS admission.
- Examination applications must be submitted to the Controller of Examination via the College Principal, with the required fee and documentation.
- College must submit question papers, internal assessment marks, and attendance records for each block to the Examinations Department of Rawalpindi Medical University.
- Revised internal assessments are only permissible for detained students. Continuous assessment records must be maintained by college departments.
- Examination fees are to be paid through the Principal, using a bank draft, pay order, or crossed cheque made out to the Treasurer, Rawalpindi Medical University.
- One annual and one supplementary examination for Second and Second Final Annual Assessment MBBS are allowed per academic session. Under exceptional circumstances, such as national emergencies, a special examination may be arranged with the Syndicate and Board of Governors' approval.

Reference: UHS INTEGRATED CURRICULUM VERSION 2

Statutes:

- **Scheduling:** The Second Professional MBBS will be held at the end of Second year whereas the Second Professional MBBS shall be held at the end of Second year.
- **Subjects:** Every candidate is required to appear in the following subjects in each Block

  a. **Core subjects-** Integrated Anatomy, Integrated Physiology, Integrated Biochemistry

  b. **Vertically integrated Subjects-** Community Medicine C Public Health,

  Behavioral Sciences, Pathology, Pharmacology, associated Clinical Subjects

  c. **Spirally Integrated subjects-** General Education Cluster (GEC),ALPHA (Artificial Intelligence, Leadership, Professionalism, Humanities and Arts), Early

Clinical Exposure (ECE) and Research.

- **Assessments:** There will be three papers in Second Annual Professional Examination and four papers in the Second Annual professional Examination.

Paper	Second year MBBS	Second year MBBS
Paper-1	Block -I	Block -I
Paper-2	Block- II	Block- II
Paper-3	Block-III	Block-III
Paper-4	-------	GEC (Islamic Studies C Pakistan Studies)

a. Second Professional Examination Total Marks = G00*

i. Block I Assessment Total Marks = 300

ii. Block II Assessment Total Marks = 300

iii. Block III Assessment Total Marks = 300

b. Second Professional Examination- 1000 Marks*

i. Block I Assessment Total Marks = 300

ii. Block II Assessment Total Marks = 300

iii. Block III Assessment Total Marks = 300

iv. GEC Assessment (Islamic Studies C Pakistan Studies)Total Marks = 100

***Marks Adopted from University of Health Sciences (UHS)

Reference: **https://www.uhs.edu.pk/downloads/2k23mbbscurriculum.pdf**

- **Continuous Internal Assessment (CIA):**

Continuous Internal Assessment shall carry total marks = 270 (30% of the total allocated marks= 900) for Second and second year MBBS .CIA for each block is 90 marks and this score will be equally distributed to the written Assessment (45marks) and practical assessment(45 marks).

- **Block Assessment Components**: the components of Block Assessment shall be as follows:
  - **a. One theory Paper (K)** having two sections

i. **Section:1** One best type Multiple choice questions of 75 Marks (1 mark for each MCQ) and time allocated will be 90 Minutes. The integration ratio in

MCQs will be 70% core content, 10% horizontal integration, and 20% vertical integration .There will be no negative marking

ii. **Section:2** will have Structured Essay Questions of 5 marks each and time allocated for 1 SEQ will be 10 minutes**.**

Second year MBBS	**Number of MCQs**	**Number of SEQs**
Block -I	75	6
Block -II	75	6
Block -III	75	6
Second Year MBBS	**Number of MCQs**	**Number of SEQs**
Block -I	70	7
Block -II	75	6
Block -III	80	5

b. Practical Component (Skill and Attitude): The assessment will include an Objective Structured Practical Examination (OSPE) with a total of 15 stations, time allocated for each station will be 4 minutes.

i. **Laboratory OSPE (Lab OSPE):** This section will consist of stations focused on practical (hands on performance) components from core subject areas, each station carries 5 marks.

ii.**Integrated OSPE (I OSPE):** This section will include stations, from each core subject, emphasizing horizontal and vertical integration, each station carries 5 marks

i. **Objective Structured Clinical Examinations (OSCE):** This section comprises of stations, dedicated to Early Clinical Exposure (ECE) , Simulated Patients (SP), models, ALPHA and clinical component of core subjects each station carries 5 marks.

ii.**Objective Structured Viva Examinations (OSVE):** This section will consist of table viva for each core subject. Students will be evaluated by internal and external examiner using a structured marking rubric, with each viva carries15 marks.

Second year MBBS	**Number of LabOSPE Stations**	**Number of iOSPE Stations**	**Number of OSCE Stations**	**Number of table VIVA**
Block -I	5	3	4	3
Block -II	5	3	4	3
Block -III	4	3	5	3
Second Year MBBS	**Number of LabOSPE**	**Number of iOSPE Stations**	**Number of OSCE Stations**	**Number of table**

	Stations			VIVA
Block -I	4	3	5	3
Block -II	5	3	4	3
Block -III	5	3	4	3

- **Annual Examination Eligibility Criteria:** Eligibility to appear in Annual Professional will be as per RMU Assessment Policy approved by the Academic Council and Syndicate.
- **Passing Criteria:** A student will be declared pass in a block assessment if he/she scores 50% and above marks in each block assessment component (Theory and Practical) and 50% and above marks in each Core Subject (Anatomy, Physiology C Biochemistry).
- **Supplementary Examination Criteria:** The student who fails in any component of a block assessment will have to appear in the supplementary examination of the entire block.

Table of Abbreviation

CIA	Continuous Internal Assessment
I-OSPE	Integrated OSPE
LabOSPE	Laboratory Objective Structured Practical Examination
OSCE	Objective Structured Clinical Examinations
OSVE	Objective Structured Viva Examinations
ECE	Early Clinical Exposure
ALPHA	(Artificial Intelligence, Leadership, Professionalism, Humanities C Arts
GEC	General Education Cluster
K	Knowledge

Annual Assessment Plan of Second Year MBBS 2025 (Batch 51)

- Total Second Professional Marks: 900
- Continuous Internal Assessment (30%) =270 Marks
- Annual Marks: (70%) =630 Marks

A: Original Distribution of CIA (Continuous Internal Assessment) Marks (270 Marks)

Blocks	Subjects	Total marks	Module 1	Module 2	Total marks
Block 1 90 Marks	Anatomy	30 marks	15 marks	15 marks	90 Marks
	Physiology	30 marks	15 marks	15 marks	
	Biochemistry	30 marks	15 marks	15 marks	
Block 2 90 Marks	Anatomy	30 marks	15 marks	15 marks	90 Marks
	Physiology	30 marks	15 marks	15 marks	
	Biochemistry	30 marks	15 marks	15 marks	
Block 3 90 Marks	Anatomy	30 marks	15 marks	15 marks	90 Marks
	Physiology	30 marks	15 marks	15 marks	
	Biochemistry	30 marks	15 marks	15 marks	
				Total marks	**270 Marks**

B: Extrapolated marks to be calculated from Summative assessments throughout the Academic Year 2025

Blocks	Modules	Anatomy	Physiology	Biochemistry	Total
Block 1 1470 Marks	Module 1	200	200	200	600
	Module 2	200	200	200	600
	Block Exam	90	90	90	270
	Total	**490**	**490**	**490**	**1470**
Block 2 1470 Marks	Module 1	200	200	200	600
	Module 2	200	200	200	600
	Block Exam	90	90	90	270
	Total	**490**	**490**	**490**	**1470**
Block 3 1470 Marks	Module 1	200	200	200	600
	Module 2	200	200	200	600
	Block Exam	90	90	90	270
	Total	**490**	**490**	**490**	**1470**
Total Marks		**1470**	**1470**	**1470**	**4410**

Note:

- Total Operational marks =4410 converted to 270 marks and per block 1470 marks will be converted to 90 marks for Annual professional marks calculation.
- The CIA should be submitted to Examination cell in round off values.
- Evidence of CIA Marks along with papers should be retained in the department that can be reproduced on request by examination cell if required.

Reference: https://www.uhs.edu.pk/downloads/2k23mbbscurriculumv20.pdf

Annual Second Professional Examinations 2025

- Total Second Professional Marks: 900
- Continuous Internal Assessment (30%) =270 Marks
- Annual Marks: (70%) =630 Marks

A: Second Professional Examination (70%)

A: Second Professional Examination (70%) Total marks = 630 Marks		
Subjects	**% Weightage of subjects**	**Marks distribution as per weightage**
Anatomy	35%	218 Marks
Physiology	30%	192 Marks
Biochemistry	23%	137 Marks
Integrated Subjects • Community Medicine C Public Health/Research • Behavioural Sciences • Pathology • Pharmacology • Radiology • Family Medicine • Surgery • Medicine • Gynae C Obs • Orthopedics • Pediatrics • Surgery • Opthalmology • Otorhinolaryngology	11%	73 Marks

• Early Clinical Exposure • ALPHA and General Education Cluster (GEC)	2%	10 Marks
Total Marks		**630 Marks**

B: Blockwise Distribution of Marks

Total Annual Professional Marks (70%)	**BLOCK 1 Marks**	**BLOCK 2 Marks**	**BLOCK 3 Marks**	**Total Marks**
630 Marks	210 Marks	210 Marks	210 Marks	630 Marks

- Reference: https://www.uhs.edu.pk/downloads/2k23mbbscurriculumv20.pdf

C: Subject Wise Marks Breakup in Blocks

Subjects	**Block 1**	**Block 2**	**Block 3**	**Total Marks**
Anatomy	85 Marks	78 Marks	55 Marks	218 Marks (35%)
Physiology	45 Marks	64 Marks	83 Marks	192 Marks (30%)
Biochemistry	53 Marks	39 Marks	45 Marks	137 Marks (23%)
Integrated Subjects	27 Marks	29 Marks	27 Marks	83 Marks (13%)

D: Subject Wise Distribution of Marks for Second Year MBBS

Block	Subjects	Theory	Practical	Total marks	Total marks Core Subject + Integrated Subjects
Block 1 210 Marks	Anatomy	45 marks	40 marks	85 marks	183+27 = 210 marks
	Physiology	20 marks	25 marks	45 marks	
	Biochemistry	23 marks	30 marks	53 marks	
	Total	88	95	**183 marks**	
	Integrated Subjects			27 Marks	
	• Community Medicine /Research	4 Marks			
	• Behavioural Sciences	2 Marks			
	• Pathology	2 Marks			
	• Pharmacology	3 Marks			
	• Radiology	1 Marks			
	• Gynae C Obs	1 Marks			
	• Medicine	1 Marks			
	• Family Medicine	1 Marks			
	• Paediatrics	1 Marks			
	• Surgery	1 Marks			
	• ECE		5 Marks		
	• ALPHA and GEC		5 Marks		
Total marks		**183+27 = 210 marks**			

Block	Subjects	Theory	Practical	Total marks	Total marks Core Subject + Integrated Subjects
Block 2	Anatomy	38 marks	40 marks	78 marks	181+29 = 210 marks
	Physiology	34 marks	30 marks	64 marks	
	Biochemistry	14 marks	25 marks	39 marks	
	Total	86	95	**181 Marks**	
	Integrated Subjects				

210 Marks	• Community Medicine /Research	4 Marks		**29 Marks**	
	• Family Medicine	1 Marks			
	• Orthopedics	2 Marks			
	• Radiology	2 Marks			
	• Medicine	3 Marks			
	• Gynae C Obs	1 Marks			
	• Behavioural Sciences	4 Marks			
	• Pathology	2 Marks			
	• ECE		5 Marks		
	• ALPHA and GEC		5 Marks		
Total marks		**181+29 = 210 marks**			

Block	**Subjects**	**Theory**	**Practical**	**Total marks**	**Total marks Core Subject + Integrated Subjects**
Block 3 **210 Marks**	Anatomy	25 marks	30 marks	55 marks	**183+27 = 210 marks**
	Physiology	48 marks	35 marks	83 marks	
	Biochemistry	15 marks	30 marks	45 marks	
	Total	88	95	**183 marks**	
	Integrated Subjects			**27 Marks**	
	• Community Medicine	3 Marks			
	• Behavioural Sciences	2 Marks			
	• Medicine	2 Marks			
	• Family medicine	1 Marks			
	• Gynae C Obs	1 Marks			
	• Radiology	1 Marks			
	• Pediatrics	1 Marks			
	• Otorhinolaryngology	1 Marks			
	• Opthalmology	1 Marks			
	• Pathology	2 Marks			
	• Pharmacology	2 Marks			

• ECE		5 Marks	
• ALPHA and GEC		5 Marks	
Total marks	**183+27 = 210 marks**		
GRAND TOTAL MARKS	**630 Marks**		

E: Block Wise Distribution of Marks for Second Year MBBS (Batch 51) (Annual Professional Marks + CIA)

Subject	**Theory**			**Practical**			**Total Marks**
	Component	**No of Items**	**Marks**	**Component**	**No of Items**	**Marks**	
Block 1 **(GIT s Renal)** **Total Annual marks=210**	Section I- MCQ Section II- SEQ 6	75	75 30	LabOSPE iOSPE OSCE OSVE	5 3 4 3	25 15 20 45	210
CIA = 90 Marks	Continuous Internal Assessment (30%)		45	Continuous Internal Assessment (30%)		45	90
Total Annual marks+ **CIA =210+90= 300**	**Total Marks**		**150**	**Total Marks**		**150**	**300**
Block 2 **(Reproduction, CNS)** **Total Annual marks=210**	Section I- MCQ Section II- SEQ	75 6	75 30	LabOSPE iOSPE OSCE OSVE	5 3 4 3	25 15 20 45	210
CIA = 90 Marks	Continuous Internal Assessment (30%)		45	Continuous Internal Assessment (30%)		45	90
Total Annual marks+ **CIA =210+90= 300**	**Total Marks**		**150**	**Total Marks**		**150**	**300**
Block 3 **(Special Senses , Endocrinology)** **Total Annual**	Section I- MCQ Section II-	75 6	75 30	LabOSPE iOSPE OSCE	4 3 5	20 15 25	210

marks=210	SEQ			OSVE	3	45	
CIA = G0 Marks	Continuous Internal Assessment (30%)		45	Continuous Internal Assessment (30%)		45	90
Total Annual marks + CIA =210+G0= 300	**Total Marks**		**150**	**Total Marks**		**150**	300
						Grand Total Marks	**G00**

F: 2nd Professional Examination 2025 (Batch 51)

Block 1 Assessment Breakup (GIT, Renal Module)

Themes	**Discipline**	**Theory**				**Practical (OSPE)**			**OSVE**	**Marks**	**%**	**Total Marks per subject**	
		No of MCQs (1 marks each)	**No of SEQs (5 marks each)**	**Marks**	**%**	**No of Stations of LabOSPE (5 marks each)**	**No of Stations of iOSPE (5 marks each)**	**No of Stations of OSCE (5 marks each)**	**OSVE (15 Marks)**			**Marks**	**%**
Cores Horizontally Integrated Subjects	Anatomy C Applied /Clinical	30	3	45	30	3	1	1	1	40	32	85	40
	Physiology C Applied/Clinical	10	2	20	26	1	1	-	1	25	29	45	21
	Biochemistry C Applied/clinical	18	1	23	26	1	1	1	1	30	29	53	25
Vertically Integrated Subjects	Community Medicine C Public Health/Research	4	-	3	4	-	-	-	-	-	-	4	14
	Behavioural Sciences	2	-	1	2	-	-	-	-	-	-	2	
	Pathology	2	-	2	2	-	-	-	-	-	-	2	
	Radiology	1		1								1	
	Gynae C Obs	1		1								1	
	Medicine	1		1								1	
	Family Medicine	1		1								1	
	Paediatrics	1		1								1	
	Surgery	1		1								1	

	Pharmacology	3	-	3	3	-	-		-	-	-	3	
Spirally Integrated Subjects	ECE	-	-	-		-	-	1	-	5	5	5	
	ALPHA and GEC	-	-	-		-	-	1	-	5	5	5	
Total		**75**	**6x5=30**	**105**	**100**	**5x5=25**	**3x5=15**	**4x5=20**	**3x15=45**	**105**	**100**	**210**	**100**
Total		**105**				**105**					**105+105=210**		

G: 2nd Professional Examination 2025 (Batch 51)

Block 2 Assessment

Reproduction, CNS Modules

Theme	**Subject**	**Theory**			**Practical**			**OSVE**		**Total Marks per subject**	
		No of MCQs (1 marks each)	**No of SEQs (5 marks each)**	**Marks**	**No of Stations of LabOSPE (5 marks each)**	**No of Stations of iOSPE (5 marks each)**	**No of Stations of OSCE (5 marks each)**	**OSVE (15 Marks)**	**Marks**	**Total Marks**	**%**
Cores Horizontally Integrated Subjects	Anatomy C Applied /Clinical	23	3	38	3	1	1	1	40	78	37
	Physiology C Applied/Clinical	24	2	29	1	1	1	1	30	64	30
	Biochemistry C Applied/clinical	9	1	14	1	1	-	1	25	39	18
Vertically Integrated Subjects	Community Medicine C Public Health	4	-	4	-	-	-	-	-	4	15
	Behavioural Sciences	4	-	4	-	-	-	-	-	4	
	Pathology	2	-	2	-	-	-	-	-	2	
	Family Medicine	1								1	
	Orthopedics	2								2	
	Radiology	2								2	
	Medicine	3								3	
	Gynae C Obs	1								1	

Spirally Integrated Subjects	ECE	-	-	-	-	-	1	-	5	5	
	ALPHA and GEC	-	-	-	-	-	1	-	5	5	
Total		**75**	**6x5=30**	**105**	**5x5=25**	**3x5=15**	**4x5=20**	**3x15=45**	**105**	**210**	**100**
Total		**105**			**105**					**105+105=210**	

H: 2nd Professional Examination 2025 (Batch 51)
Block 3 Assessment
Special Senses, Endocrinology Modules

Themes	**Discipline**	**Theory**			**Practical**			**OSVE**		**Total Marks per subject**	
		No of MCQs (1 marks each)	**No of SEQs (5 marks each)**	**Marks**	**No of Stations of LabOSPE (5 marks each)**	**No of Stations of iOSPE (5 marks each)**	**No of Stations of OSCE (5 marks each)**	**OSVE (15 Marks)**	**Marks**	**Marks**	**%**
Cores Horizontally Integrated Subjects	Anatomy C Applied /Clinical	15	2	25	1	1	1	1	30	55	26
	Physiology C Applied/Clinical	33	3	48	2	1	1	1	35	83	40
	Biochemistry C Applied/clinical	10	1	15	1	1	1	1	30	45	21
Vertically Integrated Subjects	Community Medicine C Public Health	2	-	2	-	-	-	-	-	2	13
	Behavioural Sciences	2	-	2	-	-	-	-	-	2	
	Pathology	2	-	2	-	-	-	-	-	2	
	Medicine	2		2						2	
	Family medicine	1		1						1	
	Gynae C Obs	1		1						1	
	Radiology	1		1						1	
	Pediatrics	1		1						1	
	Otorhinolaryngology	1		1						1	
	Opthalmology	1		1						1	
	Pathology	2		2						2	
	Pharmacology	1	-	1	-	-	-	-		1	

Spirally Integrated Subjects	ECE	-	-	-	-	-	1	-	5	5	
	ALPHA and GEC	-	-	-	-	-	1	-	5	5	
Total		**75**	**6x5=30**	**105**	**4x5=20**	**3x5=15**	**5x5=25**	**3x15=45**	**105**	**210**	**100**
Total		**105**			**105**					**105+105=210**	

Learning Resources

Subject	Resources
Anatomy	**A. Gross Anatomy** 1. Gray's Anatomy by Prof. Susan Standring 42th edition, Elsevier. 2. Clinical Anatomy for Medical Students by Richard S.Snell 10th edition. 3. Clinically Oriented Anatomy by Keith Moore 9th edition. 4. Cunningham's Manual of Practical Anatomy by G.J. Romanes, 16th edition, Vol-I, II and III 5. http://www.anatomyzone.com 3D **anatomy** https://www.kenhub.com/en/library/anatomy/the-digestive-system https://teachmeanatomy.info/ **B. Histology** 1. B. Young J. W. Health Wheather's Functional Histology 6th edition. 2. Medical Histology by Prof. Laiq Hussain 7th edition. https://www.udemy.com/course/**histology**/ https://www.youtube.com/@DrRubenGarciaGarza/community **C. Embryology** 1. Keith L. Moore. The Developing Human 11th edition. 2. Langman's Medical Embryology 14th edition.
Physiology	**A. Textbooks** 1. Textbook Of Medical Physiology by Guyton And Hall 14th edition. 2. Ganong ' S Review of Medical Physiology 26th edition. **B. Reference Books** 1. Human Physiology by Lauralee Sherwood 10th edition. 2. Berne & Levy Physiology 7th edition. 3. Best & Taylor Physiological Basis of Medical Practice 13th edition. 4. Guyton & Hall Physiological Review 3rd edition.
Biochemistry	**Textbooks** 1. Lippincott IIIustrated Reviews: Biochemistry – Wolters Kluwer 2. Harper's Illustrated Biochemistry 32th edition. 3. Lehninger Principle of Biochemistry 8th edition. 4. Biochemistry by Devlin 7th edition.
Community Medicine	**Textbooks** 1. Community Medicine by Parikh 25th edition. 2. Community Medicine by M Illyas 8th edition. 3. Basic Statistics for the Health Sciences by Jan W Kuzma 5th edition.

Pathology/Microbiology	**Textbooks** 1. Robbins & Cotran, Pathologic Basis of Disease, 10th edition. 2. Rapid Review Pathology, 5th edition by Edward F. Goljan MD. 3. http://library.med.utah.edu/WebPath/webpath.html
Pharmacology	**Textbooks** 1. Lippincot Illustrated Pharmacology 9th edition. 2. Basic and Clinical Pharmacology by Katzung 5th edition.

SECTION - V

Time Table

Integrated Clinically Oriented Modular Curriculum for Second Year MBBS

GIT Module - I Time Table

Second Year MBBS

Session 2025

Batch- 51

GIT Module - I Team

Module Name : GIT Module - I
Duration of module : 06 Weeks
Coordinator : Dr. Uzma Kiyani
Co-coordinator : Dr. Shazia Nosheen
Reviewed by : Module Committee

Module Committee		
1.	Vice Chancellor RMU	Prof. Dr. Muhammad Umar
2.	Director DME	Prof. Dr. Ifra Saeed
3.	Convener Curriculum	Prof. Dr. Naeem Akhter
4.	Chairperson Anatomy & Dean Basic Sciences	Prof. Dr. Ayesha Yousaf
5.	Additional Director (Assessment) DME	Dr. Arsalan Manzoor Mughal
6.	Chairperson Physiology	Prof. Dr. Samia Sarwar
7.	Chairperson Biochemistry	Dr. Aneela Jamil
8.	Focal Person Anatomy Second Year MBBS	Dr. Maria Tasleem
9.	Focal Person Physiology	Dr. Sidra Hamid
10.	Focal Person Biochemistry	Dr. Aneela Jamil
11.	Focal Person Pharmacology	Dr. Zunera Hakim
12.	Focal Person Pathology	Dr. Asiya Niazi
13.	Focal Person Behavioral Sciences	Dr. Saadia Yasir
14.	Focal Person Community Medicine	Dr. Afifa Kulsoom
15.	Focal Person Quran Translation Lectures	Dr. Uzma Zafar
16.	Focal Person Family Medicine	Dr. Sadia Khan

Module Task Force Team		
1.	Coordinator	Dr. Uzma Kiyani (Senior Demonstrator of Physiology)
2.	DME Focal Person	Dr. Farzana Fatima
3.	Co-coordinator	Dr. Minahil Haq (Senior Demostrator of Anatomy)
4.	Co-Coordinator	Dr. Shazia Nosheen (Senior Demonstrator of Physiology)
5.	Co-coordinator	Dr. Uzma Zafar (APWMO of Biochemistry)

DME Implementation Team		
1.	Director DME	Prof. Dr. Ifra Saeed
2.	Implementation Incharge 1st & 2nd Year MBBS	Dr. Arsalan Manzoor Mughal Dr. Farzana Fatima
3.	Assistant Director DME	Dr. Farzana Fatima
4.	Editor	Muhammad Arslan Aslam

Discipline Wise Details of Modular Content

Integration					
Themes					
Block	**Module**	**General Anatomy**	**Embryology**	**Histology**	**Gross Anatomy**
I	Anatomy	-	Tongue, Body Cavities, Gastrointestinal System	Digestive Tract & associated organs (Junqueira)	Oral Cavity, Abdomen and associated visceras
	Biochemistry	Carbohydrate metabolism, GIT digestive juices, Digestion and absorption, GIT Hormones LFTs, Jundice & Nutrition,			
	Physiology	General Principles of Gastrointestinal Function—Motility, Nervous Control, and Blood Circulation Propulsion and Mixing of Food in the Alimentary Tract Secretory Functions of the Alimentary Tract, Digestion and Absorption in the Gastrointestinal Tract Physiology of Gastrointestinal Disorders			
	Orientation Session				
	Department of Medical Education (DME)	• Orientation Session on Curricular Reform RMU & Feedback of Year 2024			
	Spiral Courses				
	Pak Studies	• Nazria Pakistan • Allah SWT ki Hakmiyat ka Nifaz • Two Nation Theory • Establishment of an Islamic state			
	Islamiyat	• Toheed Related Quranic Verses & their Explanation • Toheed & Shirk • Risalat Related Quranic Verses & Their Explanation			
	Research (IUGRC)	• Introduction to descriptive statistics (Research-I) • Classification of different types of Data (Research-II) • Scales of Data measurement (Research-III) • Measures of central Tendency (Research-IV) • Geriatrics (Research-V) • Synopsis wrting session (Research Practical Session I)			
	Radiology	• Medical imaging of abdomen- I • Medical imaging of abdomen-II			
	Family Medicine	• Common Abdominal diseases			
	Behavioral Sciences	• Learning & Memory • Eating Disorders			

	Vertical Integration	
	• Community Medicine	Clinically content relevant to GIT Module - I • Concept of health & disease • Epidemiology of Infectious Diseases& Basic Concepts
	• Gynae and OBS	• Physiologic Changes in the GIT in Pregnancy • Jaundice/Obstetric Cholestasis in Pregnancy
	• Medicine	• Jaundice • Inflammatory Bowel Diseases
	• Surgery	• Acute Abdomin • Gall Stones
	• Pediatrics	• Acute and Chronic Diarrhea Cute & Choronic Diaherrea
	• Pharmacology	• Anti Diarrheal Drugs
	• Pathology	• Pathologies of Intestine
Clinical Relevance		
	• Clinical Presentation and Management of Peptic Ulcer Disease • Mechanisms of Malabsorption Syndromes (e.g., celiac disease) • Diagnosis and Management of Gastroesophageal Reflux Disease (GERD) • Pathophysiology of Inflammatory Bowel Diseases (e.g., Crohn's disease, ulcerative colitis) • Clinical Features of Appendicitis and Surgical Decision-Making • Gastrointestinal Bleeding: Causes and Initial Management • Jaundice: Differentiation and Clinical Evaluation • Liver Cirrhosis and its Complications (e.g., ascites, hepatic encephalopathy) • Gallstones: Pathogenesis and Surgical Indications • Mechanisms of Diarrhea and Dehydration Management	

Categorization of Modular Content

Anatomy:

Category A	Category B	Category C				
Special Embryology	**Special Histology**	**Demonstrations**	**Practical's**	**CBL**	**SSDL**	**SDL**
Development Of - Tongue, - Salivary Glands - Esophagus & Stomach - Liver - Gallbladder & Pancreas - Small Intestine - Large Intestine	Histological Features Of - Tongue, - Salivary Glands -General Structure of GIT - Esophagus & Stomach - Liver - Gallbladder & Pancreas - Small Intestine - Large Intestine	**Gross Anatomy:** -Topographical Organization Of GIT -Oral Cavity -Tongue - Salivary Glands -Anterolateral Abdominal Wall -Rectus Sheath -Inguinal Region & Hernias - Testes -Scrotum -Peritoneum & Peritoneal Cavity -Subdivisions of Peritoneal Cavity -Esophagus -Stomach -Small & Large Intestines -Liver -Gallbladder -Biliary Apparatus -Spleen -Pancreas -Vasculature of GIT -Portosystemic Anastomosis -Rectum -Anal Canal -Innervation of Abdominal Viscera	• Histology of Tongue & Salivary glands • Esophagus & Stomach • Liver & Gallbladder • Small Intestine • Large Intestine	• Acute Appendicitis • Liver & Portal Hypertension	• Subdivission of Pretonial Cavity • Liver-II (Functional Sagments) • Spleen • Pancrease	• Layers of Antero lateral abdominal wall & its defects • Applied Anatomy of Rectus sheath • Applied Anatomy of Inguinal region & Hernias • Peritoneal Dialysis/ Peritonial Lavage • Crohn's Disease, Celiac Disease, Irritable Bowel Sydrome • Diverticulum, Intussusception • Liver Biopsy, Liver Abscess and hepatitis • Applied Anatomy of Vasculature of GIT (Blood Supply, Venous drainage, • Lymphatic drainage Hemorrhoids & Anal Fissure • Applied Anatomy of Innervation of Abdominal Viscera's
	Development of Body Cavities Histology Of Liver					

Category A: By Professors

Category B: By Associate & Assistant Professors

Category C: By Senior Demonstrators

Teaching Staff / Human Resource of Department of Anatomy

Sr. #	Designation of Teaching Staff / Human Resource	Total Number of Teaching Staff
1.	Professor of Anatomy department	01
2.	Assistant professor of Anatomy department (AP)	01
3.	Demonstrators of Anatomy department	04

Contact Hours (Faculty)

Sr. #	Hours Calculation for Various Type of Teaching Strategies	Total Hours
1.	Large Group Interactive Session (LGIS)	32 hours
2.	Small Group Discussions (SGD) Supervised Self-Directed Learning (SSDL)	31 hours 6 hours
3.	Practical / Skill Lab	37.5 hours

Contact Hours (Students)

Sr. #	Hours Calculation for Various Type ofTeaching Strategies	Total Hours
1.	Large Group Interactive Session (LGIS)	16 hours
2.	Small Group Discussions (SGD) Supervised Self-Directed Learning (SSDL)	31 hours 6 Hours
3.	Practical / Skill Lab	7.5 hours
4.	Self-Directed Learning (SDL)	20 hours

Physiology:

Category A	Category B	Category C
Introduction to GIT, electrical activity in GIT, Enteric Nervous System and GIT reflexes **(Dr. Samia Sarwar)**	Saliva and mastication, stages of swallowing, clinical disorders of esophagus and swallowing, achalasia and vomiting (Dr. Shazia)	PBL:
Small intestine motility and malabsorption (sprue, paralytic ileus and Crohn's disease) **(Dr. Samia Sarwar)**	Movements of GIT, control of GIT motility and factors affecting GIT blood flow, hormones of GIT (Dr. Aneela)	CBL: Peptic Ulcer Food poisoning
	Motor functions of stomach, physiology of regulation of gastric emptying (Dr. Shazia)	Practical: Sense of taste Sense of smell Examination of superficial reflexes (CNS) Examination of deep reflexes Performance of axon reflex (triple response of skin)
	Physiology of liver and gall bladder, liver and biliary secretion (Dr. Aneela)	SGD: Saliva and mastication, stages of swallowing, clinical disorders of esophagus and swallowing, achalasia and vomiting Motor functions of stomach, physiology of regulation of gastric emptying Physiology of liver and gall bladder, liver and biliary secretion
	Gastric secretion, digestion in stomach, peptic ulcer and gastritis (Dr. Shazia)	SDL: Introduction to GIT, electrical activity in GIT, Enteric Nervous System and GIT reflexes Gastric secretion, digestion in stomach, peptic ulcer and gastritis Small intestine motility and malabsorption (sprue, paralytic ileus and Crohn's disease) Intestinal secretion and its functions, pancreatic juice, its composition and functions Pancreatitis, overall mechanism of digestion and absorption of intestine (amino acids, fatty acids and glucose) Motor function of large gut, defecation reflex Pathophysiology (diarrhea, constipation, ulcerative colitis, mega colon and carcinoma of colon)
	Liver function tests, types of jaundice, pathophysiology of cirrhosis and portal hypertension (Dr. Aneela)	
	Intestinal secretion and its functions, pancreatic juice, its composition and functions, pancreatitis, overall mechanism of digestion and absorption of intestine (amino acids, fatty acids and glucose) (Dr. Aneela)	
	Motor function of large gut, defecation reflex and pathophysiology (diarrhea, constipation, ulcerative colitis, mega colon and carcinoma of colon) (Dr. Shazia)	

Category A: By HOD and Associate Professor

Category B: By All (HOD, Associate, Assistant, Senior Demonstrators)

Category C: By Demonstrators and Residents

Teaching Staff / Human Resource of Department of Physiology

Sr. #	Designation Of Teaching Staff / Human Resource	Total Number of Teaching Staff
1.	Professor of physiology department	01
2.	Associate professor of physiology department	01
3.	Assistant professor of physiology department (AP)	01 (DME)
4.	Demonstrators of physiology department	07
5.	Residents of physiology department (PGTs)	08

Contact Hours (Faculty) & Contact Hours (Students)

Sr. #	Hours Calculation for Various Type oTeaching Strategies	Total Hours
1.	Large Group Interactive Session (Lectures)	22 hours
2.	Small Group Discussions (SGD)/CBL	38.5 hours
3.	Problem Based Learning (PBL)	2.5 hours
4.	Practical / Skill Lab	38.5 hours
5.	Self-Directed Learning (SDL)	17 hours

Biochemistry:

Category A	Category B	Category C
Introduction to Carbohydrate metabolism	Saliva	PBL: GERD (Gastroesophageal Reflux Disease)
Glycolysis Fate of Pyruvate	Gastric Juice	CBL: G6PDH Deficiency Lactose Intolerance
Gluconeogenesis Metabolism of Individule sugars	Bile & Pancreatic Juice	Practical: Saliva Bile Analysis of Food Components (Wheat)
TCA cycle	Nutrition	SGD: Gluconeogenesis and Its Regulation Jaundice and LFTs
Glycogen metabolism	GIT Hormones & Succus Entericus	
LFTS, Jaundice		
Digestion and Absorption of Carbohydrates, Proteins and Lipids		

Category A*: By Assistant Professor & Senior Demonstrators with Postgraduate Qualification

Category B:** By Senior Demonstrators

Category C*:** By Senior Demonstrators & Demonstrators

Teaching Staff / Human Resource of Department of Biochemistry

Sr. #	Designation of Teaching Staff / Human Resource	Total Number of Teaching Staff
1	Assistant Professor of Biochemistry Department (AP)	01
2	Demonstrators of Biochemistry Department	06

Contact Hours (Faculty) & Contact Hours (Students)

Sr. #	Hours Calculation for Various Type of Teaching Strategies	Total Hours (Faculty)	Total Hours (student)
1.	Large Group Interactive Session (LECTURES)	20 hours	10 hours
2.	Small Group Discussions (SGD)	38 hours	7.5 hours
4.	Practical / Skill Lab	38 hours	7.5 hours
5.	Self-Directed Learning (SDL)	4 hours	05 hours

Time Table for GIT Module - I (First Week)
(24-02-2025 to 01-03-2025)

Date/Day	8:00am-9:20am	9:20am – 10:10am		10:10am – 10:30am	10:30am-11:20am		11:20am-12:10pm		12:10pm-12:30pm	12:30pm – 2:00pm	Home Assignments(2hrs)
24-02-2025 Monday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**PHYSIOLOGY LGIS**		Break	**DME (LGIS)**		**BIOCHEMISTRY LGIS**		Break	**DISSECTION/SGD**	SDL Physiology Enteric Nervous System
		Introduction to GIT Electrical Activity in GIT, Enteric Nervous System & GIT Reflexes	Saliva &Mastication, Stages ofSwallowing, Clinical DisordersofEsophagus &Swallowing, Achalasia & Vomiting		Orientation Session on Curricular Reform RMU & Feedback of Year 2024		Introduction to Carbohydrate Metabolism	Saliva		Topographical Organization of GIT Refere to Table No. 1	
		Prof. Dr. Samia Sarwar / Dr. Aneela (Even)	Dr Shazia (Odd)		Prof Ifra Saeed (Even)	Dr. Farzana (Odd)	Dr Uzma Zafar (Even)	Dr. Almas (Odd)			
25-02-2025 Tuesday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**PHYSIOLOGY LGIS**			**ANATOMY LGIS**		**BIOCHEMISTRY LGIS**			**DISSECTION/SGD**	SDL Physiology GIT Reflexes
		Saliva & Mastication, Stages of Swallowing, Clinical Disorders of Esophagus & Swallowing, Achalasia &Vomiting	Introduction to GIT Electrical Activity in GIT, Enteric Nervous System & GIT Reflexes		Development of Tongue	Histology of Tongue	Carbohydrate Metabolism	Saliva		Oral Cavity, Tongue and Salivary Glands Refere to Table No.	
		Dr Shazia (Even)	Prof. Dr. Samia Sarwar / Dr. Aneela (Odd)		Prof. Dr Ifra (Even)	Ass. Prof. Dr Maria (Odd)	Dr Uzma Zafar (Odd)	Dr. Almas (Even)			
26-02-2025 Wednesday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**BIOCHEMISTRY LGIS**			**ANATOMY LGIS**		**PBL-1 (SESSION-I)**			**DISSECTION/SGD**	SDL Biochemistry Glycolysis
		Metabolism of Monosaccharide & Disaccharide (Fructose, Lactose, Galactose)	Glycolysis		Histology of Tongue	Development of Tongue	PBL Team			Anterolateral Abdominal Wall Refere to Table No.1	
		Dr. Aneela (Even)	Dr Uzma Zafar (Odd)		Ass. Prof. Dr Maria (Even)	Prof. Dr Ifra (Odd)					
27-02-2025 Thursday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**COMMUNITY MEDICINE LGIS**			**ANATOMY LGIS**		**BIOCHEMISTRY LGIS**			**DISSECTION/SGD**	SDL Anatomy Layers of Antero lateral abdominal wall & its defects
		Concept of Health & Disease	Epidemiology of Infectious Diseases& Basic Concepts		Development of Salivary Glands	Histology Salivary Glands	Glycolysis	Metabolism of Monosaccharide & Disaccharide (Fructose, Lactose, Galactose)		Rectus Sheath Refere to Table No.1	
		Dr. Rizwana Shahid (Even)	Dr. Asif (Odd)		Prof. Dr Ifra (Even)	Ass. Prof. Dr Maria (Odd)	Dr Uzma Zafar (Even)	Dr. Aneela (Odd)			
28-02-2025 Friday	**8:00-9:00AM**	**9:00-10:00AM**			**10:00-11:00AM**		**11:00-12:00PM**				
	GYNAE & OBS	**BIOCHEMISTRY LGIS**			**ANATOMY LGIS**		**PAK STUDIES**				
	Physiologic Changes in the GIT in Pregnancy	Fate of Pyruvate	Gluconeogenesis		Histology Salivary Glands	Development Of Salivary Glands	Nazria Pakistan				
	Dr. Farah (Even) / Dr. Saira (Odd)	Dr Uzma Zafar (Even)	Dr. Aneela (Odd)		Ass. Prof. Dr Maria (Even)	Prof. Dr Ifra (Odd)	Qari Amaan Ullah				

Date/Day	8:00am-9:20am	9:20am – 10:10am		10:10am – 10:30am	10:30am-11:20am	11:20am-12:10pm		12:10pm-12:30pm	12:30pm – 2:00pm	Home Assignments(2hrs)
01-03-2025 Saturday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**BEHAVIORAL SCIENCES**		Break	**PBL-1 (SESSION-II)**	**COMMUNITY MEDICINE LGIS**		Elections		SDL Applied Anatomy Of Rectus Sheath
		Medically Unexplained Symptoms / Stress Diarrhea			PBL Team	Epidemiology of Infectious Diseases Basic Concepts	Concept of Health & Disease			
		Dr. Sadia Yasir (Even)	Dr. Zona Tahir (Odd)			Dr. Asif (Even)	Dr. Rizwana Shahid (Odd)			

Table No. 1 (Time: 12:20pm – 02:00pm)

Batch Distribution for Practical Skills (all subjects) CBL / Small Group Discussion (Biochemistry and Physiology)

Sr. No	Batch	Roll No.
1.	**A**	01-70
2.	**B**	71-140
3.	**C**	141-210
4.	**D**	211-280
5.	**E**	281-onwards

Topics for Skill Lab with Venue

- Histology of Tongue and Salivary Glands (Anatomy Histology Practical) Venue-Histology Lab- Dr. Sadia Baqir
- Saliva I (Biochemistry Practical) Venue- Biochemistry Laboratory
- Sense of Taste (Physiology Practical) Venue – Physiology Lab

Schedule for Practical

Day	Histology Practical		Biochemistry Practical			Physiology Practical			Biochemistry SGD	
	Batch	**Teacher Name**	**Batch**	**Teacher Name**		**Batch**	**Teacher Name**		**Batch**	**Teacher Name**
Monday	**C**	Supervised by HOD	**C**	Dr. Rahat	Supervised by HOD	**E**	Dr. Fareed	Supervised by HOD	**D**	Dr. Uzma
Tuesday	**D**		**D**	Dr. Romessa		**A**	Dr. Aneela		**E**	Dr. Almas
Wednesday	**E**		**A**	Dr. Uzma		**B**	Dr. Shazia		**A**	Dr. Romessa
Thursday	**B**		**E**	Dr. Almas		**D**	Dr. Jawad		**C**	Dr. Romessa
Saturday	**A**		**C**	Dr. Romessa		**C**	Dr. Fahd Anwar		**B**	Dr. Rahat

Topics for SGDs / CBL with Venue

- Physiology SGD: Saliva and mastication, stages of swallowing, clinical disorders of esophagus and swallowing, achalasia and vomiting Saliva Venue - Lecture Hall No 5
- Biochemistry SGD: Saliva Venue - Lecture Hall No 2

Table No. 2 Batch Distribution with Venues and Teachers Name for Problem Based Learning (PBL) Sessions

Sr No.	Batches	Roll No	Venue	Teachers	Sr No.	Batches	Roll No	Venue	Teachers
1.	**A1**	(01-35)	Lecture Hall no.05 Physiology	Dr. Sana Latif (Demonstrator Biochemistry)	6.	**C2**	(176-210)	New Lecture Hall Complex Lecture Theater # 01	Dr. Nazia (Demonstrator Physiology)
2.	**A2**	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Dr. Farah Ali Shah (Demonstrator Physiology)	7.	**D1**	(210-245)	New Lecture Hall Complex Lecture Theater # 04	Dr. Jawad (Demonstrator Physiology)
3.	**B1**	(71-105)	Anatomy Museum (First Floor Anatomy)	Dr. Romessa (Demonstrator Biochemistry)	8.	**D2**	(246-280)	New Lecture Hall Complex Lecture Theater # 04	Dr. Almas Aijaz (APWMO Biochemistry)
4.	**B2**	(106-140)	Lecture Hall no.03 (First Floor)	Dr. Sajjad (Senior Demonstrator of Anatomy)	9.	**E1**	(281-315)	Anatomy Museum (First Floor Anatomy)	Dr. Uzma Zafar (APWMO Biochemistry)
5.	**C1**	(141-175)	New Lecture Hall Complex Lecture Theater # 01	Dr. Ali Zain (PGT Physiology)	10	**E2**	(315 onwards)	Lecture Hall no.04 (Basement)	Dr. Afsheen (PGT Physiology)

Table No. 3 Venues for Large Group Interactive Session (LGIS)

Odd Roll Numbers	New Lecture Hall Complex Lecture Theater # 01
Even Roll Number	New Lecture Hall Complex Lecture Theater # 04

Table No. 4 Batch Distribution and Venues for Anatomy Small Group Discussion SGDs / Dissections

Batches	Roll No	Subgroup	Anatomy Teacher	Venue
A	01- 60	A1: Roll No (1 – 15) A2: Roll No (16 – 30) A3: Roll No (31 – 45) A4: Roll No (46 – 60)	Dr. Sara Bano (Assistant Professor)	New Lecture Hall Complex 1
B	61-120	B1: Roll No (61 – 75) B2: Roll No (76 – 90) B3: Roll No (91 – 105) B4: Roll No (06 – 120)	Dr. Sadia Aman (Assistant Professor)	New Lecture Hall Complex 3
C	121-180	C1: Roll No (121 – 135) C2: Roll No (136 – 150) C3: Roll No (151 – 165) C4: Roll No (166 – 180)	Dr. Minahil haq (Senior Demonstrator)	New Lecture Hall Complex 2
D	181- 240	D1: Roll No (181 – 195) D2: Roll No (196 - 210) D3: Roll No (211 – 225) D4: Roll No (226 – 240)	Dr. Tariq Furqan (Senior Demonstrator)	Anatomy Lecture Hall 3
E	241- 300	E1: Roll No (241 – 255) E2: Roll No (256 – 270) E3: Roll No (271 – 285) E4: Roll No (286 – 300)	Dr. Mariyam (P.G Trainee)	New Lecture Hall Complex 4
F	301- onwards	F1: Roll No (301 – 315) F2: Roll No 316 – 330) F3: Roll No 331 – 345) F4: Roll No (346 – onwards)	Dr. Sana (P.G Trainee)	Anatomy Lecture Hall 4
Supervised by Prof. Dr. Ayesha Yousaf				

Table No. 5 Batch Distribution and Venues for Physiology Small Group Discussion SGDs

Batches	Roll No	Subgroup	Physiology Teacher	Venue
A	01-70	A1: Roll No (1 – 14) A2: Roll No (15 – 28) A3: Roll No (29 – 42) A4: Roll No (43 – 56) A5: Roll No (57 – 70)	Dr. Aneela Yasmeen (APWMO)	Physiology Lecture Hall 5
B	71-140	B1: Roll No (71 – 84) B2: Roll No (85 – 98) B3: Roll No (99 – 112) B4: Roll No (113 – 126) B5: Roll No (127 – 140)	Dr. Shazia Nosheen (APWMO)	Physiology Lecture Hall 5
C	141-210	C1: Roll No (141 – 154) C2: Roll No (155 – 168) C3: Roll No (169 – 182) C4: Roll No (183 – 196) C5: Roll No (197 – 210)	Dr. Fahd Anwar (Demonstrator)	Physiology Lecture Hall 5
D	211-280	D1: Roll No (211 – 224) D2: Roll No (225 – 238) D3: Roll No (239 – 252) D4: Roll No (253 – 266) D5: Roll No (267 – 280)	Dr. Jawad (Demonstrator)	Physiology Lecture Hall 5
E	281- onwards	E1: Roll No (281 – 294) E2: Roll No (295 – 308) E3: Roll No (309 – 322) E4: Roll No (323 – 336) E5: Roll No (337 – onwards)	Dr. Fareed Ullah (Demonstrator)	Physiology Lecture Hall 5
Supervised by Prof. Dr. Samia Sarwar				

The Holy Month of Ramzan Observed
Timing are from 08:00AM – 01:00PM

Time Table for GIT Module - I (Second Week)
(03-03-2025 to 08-03-2024)

Date/Day	8:00am-9:20am	9:20am – 10:10am		10:10am – 10:30am	10:30am-11:10am		11:10am-11:50am		11:50am – 01:00pm	Home Assignments (2hrs)
03-03-2025 Monday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**PHYSIOLOGY LGIS**		**Break**	**BIOCHEMISTRY LGIS**		**RESEARCH-I LGIS**		**DISSECTION/SGD**	SDL Physiology Control Of GI Motility & Factors Affecting GIT Blood Flow
		Movements of GIT, control of GIT motility and factors affecting GIT blood flow, hormones of GIT	Motor functions of stomach, physiology of regulation of gastric emptying		Gluconeogenesis	Fate Of Pyruvate	Introduction to Descriptive Statistics		Inguinal Region And Hernias Refere to Table No.1	
		Dr. Aneela (Even)	Dr. Shazia (Odd)		Dr. Aneela (Even)	Dr Uzma Zafar (Odd)	Dr. Asif Maqsood (Even)	Dr. Rizwana Shahid (Odd)		
04-03-2025 Tuesday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**PHYSIOLOGY LGIS**			**ANATOMY LGIS**		**BIOCHEMISTRY LGIS**		**DISSECTION/SGD**	SDL Physiology Swallowing
		Motor functions of stomach, physiology of regulation of gastric emptying	Movements of GIT, control of GIT motility and factors affecting GIT blood flow, hormones of GIT		Development Of Esophagus & Stomach-1	Histology General Structure of GIT & Esophagus	Function Of NADPH & Deficiency of G6PD	Citric Acid Cycle	Testes & Scrotum Refere to Table No.1	
		Dr. Shazia (Even)	Dr. Aneela (Odd)		Prof. Dr Ifra (Even)	Ass. Prof. Dr Maria (Odd)	Dr. Aneela (Even)	Dr Uzma Zafar (Odd)		
05-03-2025 Wednesday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**PHYSIOLOGY LGIS**			**ANATOMY LGIS**		**PBL-2 (SESSION-I)**		**DISSECTION/SGD**	SDL Biochemistry TCA Cycle
		Physiology of liver and gall bladder, liver and biliary secretion	Gastric secretion, digestion in stomach, peptic ulcer and gastritis		Histology General Structure of GIT & Esophagus	Development Of Esophagus & Stomach-1	PBL: Team		Peritoneum & Peritoneal Cavity Refere to Table No.1	
		Dr. Aneela (Even)	Dr. Shazia (Odd)		Ass. Prof. Dr Maria (Even)	Prof. Dr Ifra (Odd)				
06-03-2025 Thursday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**PHYSIOLOGY LGIS**			**PHYSIOLOGY SGD**		**BIOCHEMISTRY LGIS**		**SSDL**	SDL Applied Anatomy of Inguinal region & Hernias
		Gastric secretion, digestion in stomach, peptic ulcer and gastritis	Physiology of liver and gall bladder, liver and biliary secretion		Movements of GIT, control of GIT motility and factors affecting GIT blood flow, hormones of GIT		Citric Acid Cycle	Function of NADPH & Deficiency of G6PD	Sub divisions of Peritoneal Cavity Refere to Table No.1	
		Dr. Shazia (Even)	Dr. Aneela (Odd)		SGD Team of Second Year MBBS		Dr Uzma Zafar (Even)	Dr. Aneela (Odd)		
07-03-2025 Friday	**8:00-9:00am**	**9:00-10:00am**			**10:00-11:00am**		**11:00-12:00pm**			
	SURGERY	**ANATOMY LGIS**			**PAK STUDIES**		**ISLAMIYAT**			
	Acute Abdomen	Development of Stomach-2	Histology of Stomach		Allah SWT ki Hakmiyat ka Nifaz		Toheed Related Quranic Verses & their Explanation			
	Dr. Asad Amir (Odd) / Dr. Faiza (Even)	Prof. Dr. Ifra (Even)	Ass. Prof. Dr Maria (Odd)		Qari Amaan Ullah		Mufti Naeem Sherazi			

Date/Day	8:00am-9:20am	9:20am – 10:10am		10:10am – 10:30am	10:30am-11:10am		11:10am-11:50am		11:50am – 01:00pm	Home Assignments (2hrs)
08-03-2025 Saturday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**RADIOLOGY (LGIS)**		**Break**	**ANATOMY LGIS**		**BIOCHEMISTRY LGIS**		**DISSECTION/SGD**	SDL Anatomy Peritoneal Dialysis/ Peritonial Lavage
		Medical Imaging of abdomen-I			Histology of Stomach	Development of Stomach-2	Glycogen Metabolism	Gastric Juice	Esophagus and stomach Refere to Table No.1	
		Dr Humaira (Even)	Dr. Fizza (Odd)		Ass. Prof. Dr Maria (Even)	Prof. Dr. Ifra (Odd)	Dr. Aneela (Even)	Dr. Almas (Odd)		

Table No. 1 (Time: 12:20pm – 02:00pm)

Batch Distribution for Practical Skills (all subjects) CBL / Small Group Discussion (Biochemistry and Physiology)

Sr. No	Batch	Roll No.
1.	**A**	01-70
2.	**B**	71-140
3.	**C**	141-210
4.	**D**	211-280
5.	**E**	281-onwards

Topics for Skill Lab with Venue

- Histology of Esophagus & Stomach (Anatomy Histology Practical) Venue-Histology lab-Dr Sadia Baqir
- Saliva II (Biochemistry Practical) Venue- Biochemistry laboratory
- Sense of Smell (Physiology Practical) Venue – Physiology Lab

Schedule for Practical

Day	Histology Practical		Biochemistry Practical			Physiology Practical			Biochemistry SGD	
	Batch	Teacher Name	Batch	Teacher Name		Batch	Teacher Name		Batch	Teacher Name
Monday	**C**	Supervised by HOD	**C**	Dr. Rahat	Supervised by HOD	**E**	Dr. Fareed	Supervised by HOD	**D**	Dr. Uzma
Tuesday	**D**		**D**	Dr. Romessa		**A**	Dr. Aneela		**E**	Dr. Almas
Wednesday	**E**		**A**	Dr. Uzma		**B**	Dr. Shazia		**A**	Dr. Romessa
Thursday	**B**		**E**	Dr. Almas		**D**	Dr. Jawad		**C**	Dr. Romessa
Saturday	**A**		**C**	Dr. Romessa		**C**	Dr. Fahd Anwar		**B**	Dr. Rahat

Topics for SGDs / CBL with Venue

- Physiology SGD: Motor functions of stomach, physiology of regulation of gastric emptying Venue: Lecture Hall No 5)
- Biochemistry CBL: Glucose 6 Phosphate Dehydrogenase Deficiency (Venue: Lecture Hall No 2)

Table No. 2 Batch Distribution with Venues and Teachers Name for Problem Based Learning (PBL) Sessions

Sr No.	Batches	Roll No	Venue	Teachers	Sr No.	Batches	Roll No	Venue	Teachers
1.	**A1**	(01-35)	Lecture Hall no.05 Physiology	Dr. Sana Latif (Demonstrator Biochemistry)	6.	**C2**	(176-210)	New Lecture Hall Complex Lecture Theater # 01	Dr. Nazia (Demonstrator Physiology)
2.	**A2**	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Dr. Farah ali Shah (Demonstrator of Physiology)	7.	**D1**	(210-245)	New Lecture Hall Complex Lecture Theater # 04	Dr. Jawad (Demonstrator Physiology)
3.	**B1**	(71-105)	Anatomy Museum (First Floor Anatomy)	Dr. Romessa (Demonstrator Biochemistry)	8.	**D2**	(246-280)	New Lecture Hall Complex Lecture Theater # 04	Dr. Almas Aijaz (APWMO Biochemistry)
4.	**B2**	(106-140)	Lecture Hall no.03 (First Floor)	Dr. Sajjad (Senior Demonstrator of Anatomy)	9.	**E1**	(281-315)	Anatomy Museum (First Floor Anatomy)	Dr. Uzma Zafar (APWMO Biochemistry)
5.	**C1**	(141-175)	New Lecture Hall Complex Lecture Theater # 01	Dr. Ali Zain (PGT Physiology)	10	**E2**	(315 onwards)	Lecture Hall no.04 (Basement)	Dr. Afsheen (PGT Physiology)

Table No. 3 Venues for Large Group Interactive Session (LGIS)

Odd Roll Numbers	New Lecture Hall Complex Lecture Theater # 01
Even Roll Number	New Lecture Hall Complex Lecture Theater # 04

Table No. 4 Batch Distribution and Venues for Anatomy Small Group Discussion SGDs / Dissections

Batches	Roll No	Subgroup	Anatomy Teacher	Venue
A	01- 60	A1: Roll No (1 – 15) A2: Roll No (16 – 30) A3: Roll No (31 – 45) A4: Roll No (46 – 60)	Dr. Sara Bano (Assistant Professor)	New Lecture Hall Complex 1
B	61-120	B1: Roll No (61 – 75) B2: Roll No (76 – 90) B3: Roll No (91 – 105) B4: Roll No (06 – 120)	Dr. Sadia Aman (Assistant Professor)	New Lecture Hall Complex 3
C	121-180	C1: Roll No (121 – 135) C2: Roll No (136 – 150) C3: Roll No (151 – 165) C4: Roll No (166 – 180)	Dr. Minahil haq (Senior Demonstrator)	New Lecture Hall Complex 2
D	181- 240	D1: Roll No (181 – 195) D2: Roll No (196 - 210) D3: Roll No (211 – 225) D4: Roll No (226 – 240)	Dr. Tariq Furqan (Senior Demonstrator)	Anatomy Lecture Hall 3
E	241- 300	E1: Roll No (241 – 255) E2: Roll No (256 – 270) E3: Roll No (271 – 285) E4: Roll No (286 – 300)	Dr. Mariyam (P.G Trainee)	New Lecture Hall Complex 4
F	301- onwards	F1: Roll No (301 – 315) F2: Roll No 316 – 330) F3: Roll No 331 – 345) F4: Roll No (346 – onwards)	Dr. Sana (P.G Trainee)	Anatomy Lecture Hall 4
Supervised by Prof. Dr. Ayesha Yousaf				

Table No. 5 Batch Distribution and Venues for Physiology Small Group Discussion SGDs

Batches	Roll No	Subgroup	Physiology Teacher	Venue
A	01-70	A1: Roll No (1 – 14) A2: Roll No (15 – 28) A3: Roll No (29 – 42) A4: Roll No (43 – 56) A5: Roll No (57 – 70)	Dr. Aneela Yasmeen (APWMO)	Physiology Lecture Hall 5
B	71-140	B1: Roll No (71 – 84) B2: Roll No (85 – 98) B3: Roll No (99 – 112) B4: Roll No (113 – 126) B5: Roll No (127 – 140)	Dr. Shazia Nosheen (APWMO)	Physiology Lecture Hall 5
C	141-210	C1: Roll No (141 – 154) C2: Roll No (155 – 168) C3: Roll No (169 – 182) C4: Roll No (183 – 196) C5: Roll No (197 – 210)	Dr. Fahd Anwar (Demonstrator)	Physiology Lecture Hall 5
D	211-280	D1: Roll No (211 – 224) D2: Roll No (225 – 238) D3: Roll No (239 – 252) D4: Roll No (253 – 266) D5: Roll No (267 – 280)	Dr. Jawad (Demonstrator)	Physiology Lecture Hall 5
E	281- onwards	E1: Roll No (281 – 294) E2: Roll No (295 – 308) E3: Roll No (309 – 322) E4: Roll No (323 – 336) E5: Roll No (337 – onwards)	Dr. Fareed Ullah (Demonstrator)	Physiology Lecture Hall 5
Supervised by Prof. Dr. Samia Sarwar				

Time Table for GIT Module - I (Third Week)
(10-03-2025 to 15-03-2025)

Date/Day	8:00am-9:20am	9:20am – 10:10am		10:10am – 10:30am	10:30am-11:10am		11:10am-11:50am		11:50am – 01:00pm	Home Assignments (2hrs)
10-03-2025 Monday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**PHYSIOLOGY LGIS**		Break	**PHYSIOLOGY SDL-I**		**BIOCHEMISTRY LGIS**		**DISSECTION/SGD**	SDL Physiology Clinical disorders of Esophagus & Swallowing., Achalasia/ vomiting
		Liver function tests, types of jaundice, pathophysiology of cirrhosisandportalhypertension	Small intestine motilityand malabsorption (sprue, paralytic ileus and Crohn's disease)		Introduction to GIT, electrical activity in GIT, Enteric Nervous System and GIT reflexes		Gastric Juice	Glycogen Metabolism	Small intestine (Duodenum) Refere to Table No.1	
		Dr. Aneela (Even)	Prof. Dr. Samia Sarwar / Dr. Shazia (Odd)		Dr. Nazia (Even)	Dr. Fareed (Even)	Dr. Almas (Even)	Dr. Aneela (Odd)		
11-03-2025 Tuesday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**PHYSIOLOGY LGIS**			**ANATOMY LGIS**		**RADIOLOGY**		**DISSECTION/SGD**	SDL Physiology Motor function of stomach
		Small intestine motility and malabsorption (sprue, paralytic ileus and Crohn's disease)	Liver function tests, types of jaundice, pathophysiology of cirrhosis and portal hypertension		Development of Liver & Biliary Apparatus	Histology of Liver	Medical Imaging of abdomen-II		Small intestine (Jejunum & ileum) Refere to Table No.1	
		Prof. Dr. SamiaSarwar / Dr. Shazia (Even)	Dr. Aneela (Odd)		Prof. Dr Ifra (Even)	Prof Dr. Ayesha / Dr Maria (Odd)	Dr. Madiha (Odd)	Dr. Aniqua Saleem (Even)		
12-03-2025 Wednesday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**RESEARCH-II LGIS**			**ANATOMY LGIS**		**BIOCHEMISTRY LGIS**		**DISSECTION/CBL**	SDL Biochemistry Glycogen Metabolism
		Classification of different types of data			Histology of Liver	Development of Liver & Biliary Apparatus	LFT's Jaundice	Bile & pancreatic juice	Liver-I CBL- Liver & portal Hypertension Refere to Table No.1	
		Dr. Rizwana Shahid (Even)	Dr. Asif (Odd)		Prof Dr. Ayesha / Dr Maria (Even)	Prof. Dr Ifra (Odd)	Dr. Nayab (Even)	Dr. Almas (Odd)		
13-03-2025 Thursday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**ANATOMY**			**MEDICINE LGIS**		**PBL-2 SESSION – II**		**SSDL**	SDL Anatomy Crohn's Disease, Celiac Disease, Irritable Bowel Sydrome
		Development of Gallbladder & Pancreas	Histology of Gallbladder & Pancreas		State Of The Art Lecture On Jaundice		PBL Team		Liver II (Functional Sagment) Refere to Table No.1	
		Prof Dr Ifra (Even).	Ass. Prof. Dr Maria (Odd)		Worthy Vice Chancellor Prof. Dr. Muhammad Umar					
14-03-2025 Friday	**8:00-9:00AM**	**9:00-10:00AM**			**10:00-11:00AM**		**11:00-12:00PM**			
	DISSECTION	**ANATOMY LGIS**			**PAK STUDIES**		**ISLAMIYAT**			
	Dissection / Spotting	Histology Of Gallbladder & Pancreas	Development Of Gallbladder &Pancreas		Two Nation Theory		Toheed & Shirk			
		Ass. Prof. Dr Maria (Even)	Prof Dr Ifra (Odd)		Qari Amaan Ullah		Mufti Naeem Sherazi			

Date/Day	8:00am-9:20am	9:20am – 10:10am		10:10am – 10:30am	10:30am-11:10am		11:10am-11:50am		11:50am – 01:00pm		Home Assignments (2hrs)
15-03-2025 Saturday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**PHYSIOLOGY LGIS**		Break	**ANATOMY LGIS**		**GYNAE & OBS**		**PEDIATRICS**		SDL Anatomy Diverticulum, Intussusception Mid Module Online Evaluation
		Intestinal secretion and its functions, pancreatic juice, its composition and functions, pancreatitis, overall mechanism of digestion and absorption of intestine (amino acids, fatty acids and glucose	Motor function of large gut, defecation reflex and pathophysiology (diarrhea, constipation, ulcerative colitis, mega colon and carcinoma of colon)		Development Of Small Intestine	Histology Of Small Intestine	Jaundice/Obstetric Cholestasis in Pregnancy		Acute and Chronic Diarrhea & Choronic Diaherrea		
		Dr Aneela (Even)	Dr Shazia (Odd)		Prof Dr Ifra (Even)	Ass. Prof. Dr Maria (Odd)	Dr. Ayesha Zulfiqar (Even)	Dr. Asma Khan (Odd)	Dr. Maryam (Even)	Dr. Sumbal (Odd)	

Table No. 1 (Time: 12:20pm – 02:00pm)

Batch Distribution for Practical Skills (all subjects) CBL / Small Group Discussion (Biochemistry and Physiology)

Sr. No	Batch	Roll No.
1.	**A**	01-70
2.	**B**	71-140
3.	**C**	141-210
4.	**D**	211-280
5.	**E**	281-onwards

Topics for Skill Lab with Venue

- Histology of Liver & Gall Bladder (Anatomy Histology Practical) Venue-Histology Laboratory- Dr Sadia Baqir
- Bile (Biochemistry Practical) Venue- Biochemistry Laboratory
- Examination of Superficial Reflexes (Physiology Practical) Venue – Physiology Lab

Schedule for Practical

Day	Histology Practical		Biochemistry Practical			Physiology Practical			Biochemistry SGD	
	Batch	Teacher Name	Batch	Teacher Name		Batch	Teacher Name		Batch	Teacher Name
Monday	**C**	Supervised by HOD	**C**	Dr. Rahat	Supervised by HOD	**E**	Dr. Fareed	Supervised by HOD	**D**	Dr. Uzma
Tuesday	**D**		**D**	Dr. Romessa		**A**	Dr. Aneela		**E**	Dr. Almas
Wednesday	**E**		**A**	Dr. Uzma		**B**	Dr. Shazia		**A**	Dr. Romessa
Thursday	**B**		**E**	Dr. Almas		**D**	Dr. Jawad		**C**	Dr. Romessa
Saturday	**A**		**C**	Dr. Romessa		**C**	Dr. Fahd Anwar		**B**	Dr. Rahat

Topics for SGDs / CBL with Venue

- Physiology CBL: Peptic Ulcer (Venue: Lecture Hall No 5)
- Biochemistry SGD: Gluconeogenesis and Its Regulation (Venue: Lecture Hall No 2)
- Anatomy CBL: Liver and Portal Hypertension

Table No. 2 Batch Distribution with Venues and Teachers Name for Problem Based Learning (PBL) Sessions

Sr No.	Batches	Roll No	Venue	Teachers	Sr No.	Batches	Roll No	Venue	Teachers
1.	**A1**	(01-35)	Lecture Hall no.05 Physiology	Dr. Sana Latif (Demonstrator Biochemistry)	6.	**C2**	(176-210)	New Lecture Hall Complex Lecture Theater # 01	Dr. Nazia (Demonstrator Physiology)
2.	**A2**	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Dr. Farah ali Shah (Demonstrator of Physiology)	7.	**D1**	(210-245)	New Lecture Hall Complex Lecture Theater # 04	Dr. Jawad (Demonstrator Physiology)
3.	**B1**	(71-105)	Anatomy Museum (First Floor Anatomy)	Dr. Romessa (Demonstrator Biochemistry)	8.	**D2**	(246-280)	New Lecture Hall Complex Lecture Theater # 04	Dr. Almas Aijaz (APWMO Biochemistry)
4.	**B2**	(106-140)	Lecture Hall no.03 (First Floor)	Dr. Sajjad (Senior Demonstrator of Anatomy)	9.	**E1**	(281-315)	Anatomy Museum (First Floor Anatomy)	Dr. Uzma Zafar (APWMO Biochemistry)
5.	**C1**	(141-175)	New Lecture Hall Complex Lecture Theater # 01	Dr. Ali Zain (PGT Physiology)	10	**E2**	(315 onwards)	Lecture Hall no.04 (Basement)	Dr. Afsheen (PGT Physiology)

Table No. 3 Venues for Large Group Interactive Session (LGIS)

Odd Roll Numbers	New Lecture Hall Complex Lecture Theater # 01
Even Roll Number	New Lecture Hall Complex Lecture Theater # 04

Table No. 4 Batch Distribution and Venues for Anatomy Small Group Discussion SGDs / Dissections

Batches	Roll No	Subgroup	Anatomy Teacher	Venue
A	01- 60	A1: Roll No (1 – 15) A2: Roll No (16 – 30) A3: Roll No (31 – 45) A4: Roll No (46 – 60)	Dr. Sara Bano (Assistant Professor)	New Lecture Hall Complex 1
B	61-120	B1: Roll No (61 – 75) B2: Roll No (76 – 90) B3: Roll No (91 – 105) B4: Roll No (06 – 120)	Dr. Sadia Aman (Assistant Professor)	New Lecture Hall Complex 3
C	121-180	C1: Roll No (121 – 135) C2: Roll No (136 – 150) C3: Roll No (151 – 165) C4: Roll No (166 – 180)	Dr. Minahil haq (Senior Demonstrator)	New Lecture Hall Complex 2
D	181- 240	D1: Roll No (181 – 195) D2: Roll No (196 - 210) D3: Roll No (211 – 225) D4: Roll No (226 – 240)	Dr. Tariq Furqan (Senior Demonstrator)	Anatomy Lecture Hall 3
E	241- 300	E1: Roll No (241 – 255) E2: Roll No (256 – 270) E3: Roll No (271 – 285) E4: Roll No (286 – 300)	Dr. Mariyam (P.G Trainee)	New Lecture Hall Complex 4
F	301- onwards	F1: Roll No (301 – 315) F2: Roll No 316 – 330) F3: Roll No 331 – 345) F4: Roll No (346 – onwards)	Dr. Sana (P.G Trainee)	Anatomy Lecture Hall 4
Supervised by Prof. Dr. Ayesha Yousaf				

Table No. 5 Batch Distribution and Venues for Physiology Small Group Discussion SGDs

Batches	Roll No	Subgroup	Physiology Teacher	Venue
A	01-70	A1: Roll No (1 – 14) A2: Roll No (15 – 28) A3: Roll No (29 – 42) A4: Roll No (43 – 56) A5: Roll No (57 – 70)	Dr. Aneela Yasmeen (APWMO)	Physiology Lecture Hall 5
B	71-140	B1: Roll No (71 – 84) B2: Roll No (85 – 98) B3: Roll No (99 – 112) B4: Roll No (113 – 126) B5: Roll No (127 – 140)	Dr. Shazia Nosheen (APWMO)	Physiology Lecture Hall 5
C	141-210	C1: Roll No (141 – 154) C2: Roll No (155 – 168) C3: Roll No (169 – 182) C4: Roll No (183 – 196) C5: Roll No (197 – 210)	Dr. Fahd Anwar (Demonstrator)	Physiology Lecture Hall 5
D	211-280	D1: Roll No (211 – 224) D2: Roll No (225 – 238) D3: Roll No (239 – 252) D4: Roll No (253 – 266) D5: Roll No (267 – 280)	Dr. Jawad (Demonstrator)	Physiology Lecture Hall 5
E	281- onwards	E1: Roll No (281 – 294) E2: Roll No (295 – 308) E3: Roll No (309 – 322) E4: Roll No (323 – 336) E5: Roll No (337 – onwards)	Dr. Fareed Ullah (Demonstrator)	Physiology Lecture Hall 5
Supervised by Prof. Dr. Samia Sarwar				

Time Table for GIT Module - I (Fourth Week)
(17-03-2025 to 22-03-2025)

Date/Day	8:00am-9:20am	9:20am – 10:10am		10:10am – 10:30am	10:30am-11:10am		11:10am-11:50am		11:50am –01:00pm	Home Assignments(2hrs)
17-03-2025 Monday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**PHYSIOLOGY LGIS**		Break	**ANATOMY LGIS**		**JOINT SESSION**		**SSDL**	SDL Physiology Physiology of Liver / Gall Bladder, Liver and Biliary Secretion
		Motor function of large gut, defecation reflex and pathophysiology (diarrhea, constipation, ulcerative colitis, mega colon and carcinoma of colon)	Intestinal secretion and its functions, pancreatic juice, its composition and functions, pancreatitis, overall mechanism of digestion and absorption of intestine (amino acids, fatty acids and glucose)		Histology Of Small Intestine	Development Of Small Intestine	Peptic Ulcer		Spleen	
		Dr Shazia (Even)	Dr Sidra Hamid (Odd)		Ass. Prof. Dr. Maria (Even)	Prof. Dr. Ifra (Odd)	Dr. Jawad (Even)	Dr. Farah (Even)		
18-03-2025 Tuesday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**BIOCHEMISTRY LGIS**			**RESEARCH-III**		**PHYSIOLOGY SDL-III**		**SSDL**	SDL Physiology LFTs, Jaundice
		Bile & Pancreatic Juice	LFT's Jaundice		Scales of Data Measurement		Small intestine motility and malabsorption (sprue, paralytic ileus and Crohn's disease)		Pancreas	
		Dr. Almas (Even)	Dr. Nayab (Odd)		Dr. Rizwana Shahid (Even)	Dr. Asif (Odd)	Dr Nazia (Even)	Dr. Fareed (Odd)		
19-03-2025 Wednesday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**FAMILY MEDICINE LGIS**			**PHYSIOLOGY SDL-IV**		**ANATOMY LGIS**		**CBL**	SDL Biochemistry Individual Sugars
		Common Abdominal diseases			Intestinal secretion and its functions, pancreatic juice, its composition and functions		Development of Large Intestine	Histology of Large Intestine I	Large intestine CBL- Acute Appendicitis	
		Dr. Sana Latif (Even)	Dr. Sidra Hamid (Odd)		Dr. Jawad(Even)	Dr. Farah (Odd)	Prof. Dr. Ifra (Even)	Prof Dr. Saima (Odd)		
20-03-2025 Thursday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**BIOCHEMISTRY LGIS**			**ANATOMY LGIS**		**RESEARCH-IV**		**DISSECTION/ SGD**	SDL Anatomy Liver Biopsy, Liver Abscess and hepatitis
		Nutrition-I	GIT Hormones & Succusentericus		Histology of Large Intestine-I	Development of Large Intestine	Measures of central tendency		Vasculature of GIT (Blood Supply, Venous drainage, Lymphatic drainage)	
		Dr. Rahat (Even)	Dr. Almas (Odd)		Prof Dr. Saima (Even)	Prof. Dr. Ifra (Odd)	Dr. Rizwana Shahid (Even)	Dr. Asif (Odd)		
21-03-2025 Friday	**8:00am -- 9: 20am**	**9:20am - 10:00am**			**10:00-11:00am**		**11:00-12:00pm**		SDL Applied Anatomy of Vasculature of GIT (Blood Supply, Venous drainage,	
	SURGERY	**BEHAVIORAL SCIENCES**			**PAK STUDIES**		**ISLAMIYAT**			
	Gall Stones	Learning			Establishment of an Islamic state		Risalat Related Quranic Verses & Their Explanation			
	Dr. Faiza (Odd) / Dr. Asad Amir (Even)	Dr. Sara Afzal (Odd)	Dr. Mehboob Ali Shah (Even)		Qari Aman Ullah		Mufti Naeem Sherazi			
22-03-2025 Saturday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**Early Clinical Exposure (ECE)**								

Table No. 1 (Time: 12:20pm – 02:00pm)

Batch Distribution for Practical Skills (all subjects) CBL / Small Group Discussion (Biochemistry and Physiology)

Sr. No	Batch	Roll No.
1.	**A**	01-70
2.	**B**	71-140
3.	**C**	141-210
4.	**D**	211-280
5.	**E**	281-onwards

Topics for Skill Lab with Venue

- Histology of Small Intestine (Anatomy Histology Practical) Venue-Histology laboratory- Dr Sadia Baqir
- Estimation of ALT & ALP (wheat) (Biochemistry Practical) Venue-Biochemistry laboratory
- Examination of Deep reflexes (Physiology Practical) Venue – Physiology Lab

Schedule for Practical

Day	Histology Practical		Biochemistry Practical			Physiology Practical			Biochemistry SGD	
	Batch	**Teacher Name**	**Batch**	**Teacher Name**		**Batch**	**Teacher Name**		**Batch**	**Teacher Name**
Monday	**C**	Supervised by HOD	**C**	Dr. Rahat	Supervised by HOD	**E**	Dr. Fareed	Supervised by HOD	**D**	Dr. Uzma
Tuesday	**D**		**D**	Dr. Romessa		**A**	Dr. Aneela		**E**	Dr. Almas
Wednesday	**E**		**A**	Dr. Uzma		**B**	Dr. Shazia		**A**	Dr. Romessa
Thursday	**B**		**E**	Dr. Almas		**D**	Dr. Jawad		**C**	Dr. Romessa
Saturday	**A**		**C**	Dr. Romessa		**C**	Dr. Fahd Anwar		**B**	Dr. Rahat

Topics for SGDs / CBL with Venue

- Physiology SGD: Physiology of liver and gall bladder, liver and biliary secretion (Venue: Lecture Hall No 5)
- Biochemistry SGD: Jaundice & LFTs (Venue: Lecture Hall No 2)
- Anatomy CBL: Acute Appendicitis

Table No. 2 Batch Distribution with Venues and Teachers Name for Problem Based Learning (PBL) Sessions

Sr No.	Batches	Roll No	Venue	Teachers	Sr No.	Batches	Roll No	Venue	Teachers
1.	**A1**	(01-35)	Lecture Hall no.05 Physiology	Dr. Sana Latif (Demonstrator Biochemistry)	6.	**C2**	(176-210)	New Lecture Hall Complex Lecture Theater # 01	Dr. Nazia (Demonstrator Physiology)
2.	**A2**	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Dr. Farah ali Shah (Demonstrator of Physiology)	7.	**D1**	(210-245)	New Lecture Hall Complex Lecture Theater # 04	Dr. Jawad (Demonstrator Physiology)
3.	**B1**	(71-105)	Anatomy Museum (First Floor Anatomy)	Dr. Romessa (Demonstrator Biochemistry)	8.	**D2**	(246-280)	New Lecture Hall Complex Lecture Theater # 04	Dr. Almas Aijaz (APWMO Biochemistry)
4.	**B2**	(106-140)	Lecture Hall no.03 (First Floor)	Dr. Sajjad (Senior Demonstrator of Anatomy)	9.	**E1**	(281-315)	Anatomy Museum (First Floor Anatomy)	Dr. Uzma Zafar (APWMO Biochemistry)
5.	**C1**	(141-175)	New Lecture Hall Complex Lecture Theater # 01	Dr. Ali Zain (PGT Physiology)	10	**E2**	(315 onwards)	Lecture Hall no.04 (Basement)	Dr. Afsheen (PGT Physiology)

Table No. 3 Venues for Large Group Interactive Session (LGIS)

Odd Roll Numbers	New Lecture Hall Complex Lecture Theater # 01
Even Roll Number	New Lecture Hall Complex Lecture Theater # 04

Table No. 4 Batch Distribution and Venues for Anatomy Small Group Discussion SGDs / Dissections

Batches	Roll No	Subgroup	Anatomy Teacher	Venue
A	01- 60	A1: Roll No (1 – 15) A2: Roll No (16 – 30) A3: Roll No (31 – 45) A4: Roll No (46 – 60)	Dr. Sara Bano (Assistant Professor)	New Lecture Hall Complex 1
B	61-120	B1: Roll No (61 – 75) B2: Roll No (76 – 90) B3: Roll No (91 – 105) B4: Roll No (06 – 120)	Dr. Sadia Aman (Assistant Professor)	New Lecture Hall Complex 3
C	121-180	C1: Roll No (121 – 135) C2: Roll No (136 – 150) C3: Roll No (151 – 165) C4: Roll No (166 – 180)	Dr. Minahil haq (Senior Demonstrator)	New Lecture Hall Complex 2
D	181- 240	D1: Roll No (181 – 195) D2: Roll No (196 - 210) D3: Roll No (211 – 225) D4: Roll No (226 – 240)	Dr. Tariq Furqan (Senior Demonstrator)	Anatomy Lecture Hall 3
E	241- 300	E1: Roll No (241 – 255) E2: Roll No (256 – 270) E3: Roll No (271 – 285) E4: Roll No (286 – 300)	Dr. Mariyam (P.G Trainee)	New Lecture Hall Complex 4
F	301- onwards	F1: Roll No (301 – 315) F2: Roll No 316 – 330) F3: Roll No 331 – 345) F4: Roll No (346 – onwards)	Dr. Sana (P.G Trainee)	Anatomy Lecture Hall 4
Supervised by Prof. Dr. Ayesha Yousaf				

Table No. 5 Batch Distribution and Venues for Physiology Small Group Discussion SGDs

Batches	Roll No	Subgroup	Physiology Teacher	Venue
A	01-70	A1: Roll No (1 – 14) A2: Roll No (15 – 28) A3: Roll No (29 – 42) A4: Roll No (43 – 56) A5: Roll No (57 – 70)	Dr. Aneela Yasmeen (APWMO)	Physiology Lecture Hall 5
B	71-140	B1: Roll No (71 – 84) B2: Roll No (85 – 98) B3: Roll No (99 – 112) B4: Roll No (113 – 126) B5: Roll No (127 – 140)	Dr. Shazia Nosheen (APWMO)	Physiology Lecture Hall 5
C	141-210	C1: Roll No (141 – 154) C2: Roll No (155 – 168) C3: Roll No (169 – 182) C4: Roll No (183 – 196) C5: Roll No (197 – 210)	Dr. Fahd Anwar (Demonstrator)	Physiology Lecture Hall 5
D	211-280	D1: Roll No (211 – 224) D2: Roll No (225 – 238) D3: Roll No (239 – 252) D4: Roll No (253 – 266) D5: Roll No (267 – 280)	Dr. Jawad (Demonstrator)	Physiology Lecture Hall 5
E	281- onwards	E1: Roll No (281 – 294) E2: Roll No (295 – 308) E3: Roll No (309 – 322) E4: Roll No (323 – 336) E5: Roll No (337 – onwards)	Dr. Fareed Ullah (Demonstrator)	Physiology Lecture Hall 5
Supervised by Prof. Dr. Samia Sarwar				

Time Table for GIT Module - I (Fifth Week)
(24-03-2025 To 29-03-2025)

Date/Day	8:00am-9:20am	9:20am – 10:10am	10:10am – 10:30am	10:30am-11:10am	11:10am-11:50am	11:50am – 01:00pm	Home Assignments(2hrs)
24-03-2025 Monday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**PHYSIOLOGY SDL-V** Pancreatitis, overall mechanism of digestion and absorption of intestine (amino acids, fatty acids and glucose) Dr. Jawad (Even) / Dr. Fareed (Odd)	Break	**MEDICINE** Inflammatory Bowel Diseases Dr. Sadia (Even) / Dr. Aqsa (Odd)	**ANATOMY LGIS** Development of Body Cavities-I / Histology of Large Intestine-II Prof Dr. Ifra Saeed (Even) / Prof. Dr. Ayesha / Ass. Prof Dr Maria (Odd)	**DISSECTION/SGD** Radiological Anatomy	SDL Physiology Hormones of GIT
25-03-2025 Tuesday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**PHARMACOLOGY** Anti Diarrheal Drugs		**BIOCHEMISTRY LGIS** GIT Hormones & Succusentericus / Nutrition-I Dr. Almas (Even) / Dr. Rahat (Odd)	**PATHOLOGY** Pathologies of Intestine		
26-03-2025 Wednesday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**PHYSIOLOGY SDL-VI** Motor function of large gut, defecation reflex Dr. Nazia (Even) / Dr. Farah (Odd)		**ANATOMY LGIS** Histology of Large Intestine-II / Development of Body Cavities-I Prof. Dr. Ayesha / Ass. Prof Dr Maria (Even) / Prof Dr. Ifra Saeed (Odd)	**BIOCHEMISTRY LGIS** Digestion & Absorption-I / Nutrition-II Dr. Kashif (Even) / Dr. Rahat (Odd)	**DISSECTION/SGD** Rectum	SDL Physiology Digestion & Absorption
27-03-2025 Thursday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**ANATOMY LGIS** Development of body Cavities-II / Development of body Cavities-II Prof. Dr. Ifra Saeed (Evem) / Prof. Dr. Saima (Odd)		**RESEARCH V** Geriatrics Dr. Asif (Even) / Dr. Rizwana Shahid (Odd)	**BIOCHEMISTRY LGIS** Digestion and absorption-I / Nutrition-II Dr. Kashif (Odd) / Dr. Rahat (Even)	**DISSECTION/SGD** Anal canal	SDL Biochemistry Lipid Digestion and Absorbstion

Date/Day	8:00am -- 9: 20am	9:20am - 10:00am	10:00-11:00am	11:00-12:00pm
28-03-2025 Friday	**BEHAVIORAL SCIENCES** Memory Dr. Mehmood Ali Khan (Odd) / Dr. Azeem Rao (Even)	**BIOCHEMISTRY LGIS** Nutrition-III / Digestion & Absorption-II Dr. Rahat (Even) / Dr. Kashif (Odd)	**DISSECTION/SGD** Cross Sectional Anatomy	**MEDICINE** Peptic Ulcer Disease Dr. Aqsa (Even) / Dr. Sadia (Odd)

Date/Day	8:00am-9:20am	9:20am – 10:10am	10:10am – 10:30am	10:30am-11:10am	11:10am-11:50am	11:50am – 01:00pm	Home Assignments(2hrs)
29-03-2025 Saturday	**Practical &CBL/SGD** Topic & Venue Mentioned at The End	**PHYSIOLOGY SDL-VII** Pathophysiology (diarrhea, constipation, ulcerative colitis, mega colon and carcinoma of colon) / Pathophysiology (diarrhea, constipation, ulcerative colitis, mega colon and carcinoma of colon) Dr. Nazia (Even) / Dr. Fareed (Odd)	Break	**RESEARCH PRACTICAL SESSION I** Synopsis wrting session Dr. Asif (Even) / Dr. Rizwana Shahid (Odd)	**BIOCHEMISTRY LGIS** Digestion & Absorption-II / Nutrition-III Dr. Kashif (Even) / Dr. Rahat (Odd)	**DISSECTION/SGD** Innervation of abdominal Viscera	SDL Anatomy Hemorrhoids & Anal Fissure **End Module Online Clinical Evaluation**

Table No. 1 (Time: 12:20pm – 02:00pm)

Batch Distribution for Practical Skills (all subjects) CBL / Small Group Discussion (Biochemistry and Physiology)

Sr. No	Batch	Roll No.
1.	**A**	01-70
2.	**B**	71-140
3.	**C**	141-210
4.	**D**	211-280
5.	**E**	281-onwards

Topics for Skill Lab with Venue

- Histology of Large Intestine (Anatomy Histology Practical) Venue-Histology laboratory- Dr Sadia Baqir
- Analysis of food components (wheat) (Biochemistry Practical) Venue- Biochemistry laboratory
- Performance of Axon reflexes (Triple Response of Skin) (Physiology Practical) Venue – Physiology Lab

Schedule for Practical

Day	Histology Practical		Biochemistry Practical			Physiology Practical			Biochemistry SGD	
	Batch	Teacher Name	Batch	Teacher Name	Supervised by HOD	Batch	Teacher Name	Supervised by HOD	Batch	Teacher Name
Monday	**C**	Supervised by HOD	**C**	Dr. Rahat	Supervised by HOD	**E**	Dr. Fareed	Supervised by HOD	**D**	Dr. Uzma
Tuesday	**D**		**D**	Dr. Romessa		**A**	Dr. Aneela		**E**	Dr. Almas
Wednesday	**E**		**A**	Dr. Uzma		**B**	Dr. Shazia		**A**	Dr. Romessa
Thursday	**B**		**E**	Dr. Almas		**D**	Dr. Jawad		**C**	Dr. Romessa
Saturday	**A**		**C**	Dr. Romessa		**C**	Dr. Fahd Anwar		**B**	Dr. Rahat

Topics for SGDs / CBL with Venue

- Physiology CBL: Food Poisoning (Venue: Lecture Hall No 5)
- Biochemistry CBL: Lactose Intolerance (Venue: Lecture Hall No 2)

Table No. 2 Batch Distribution with Venues and Teachers Name for Problem Based Learning (PBL) Sessions

Sr No.	Batches	Roll No	Venue	Teachers	Sr No.	Batches	Roll No	Venue	Teachers
1.	**A1**	(01-35)	Lecture Hall no.05 Physiology	Dr. Sana Latif (Demonstrator Biochemistry)	6.	**C2**	(176-210)	New Lecture Hall Complex Lecture Theater # 01	Dr. Nazia (Demonstrator Physiology)
2.	**A2**	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Dr. Farah ali Shah (Demonstrator of Physiology)	7.	**D1**	(210-245)	New Lecture Hall Complex Lecture Theater # 04	Dr. Jawad (Demonstrator Physiology)
3.	**B1**	(71-105)	Anatomy Museum (First Floor Anatomy)	Dr. Romessa (Demonstrator Biochemistry)	8.	**D2**	(246-280)	New Lecture Hall Complex Lecture Theater # 04	Dr. Almas Aijaz (APWMO Biochemistry)
4.	**B2**	(106-140)	Lecture Hall no.03 (First Floor)	Dr. Sajjad (Senior Demonstrator of Anatomy)	9.	**E1**	(281-315)	Anatomy Museum (First Floor Anatomy)	Dr. Uzma Zafar (APWMO Biochemistry)
5.	**C1**	(141-175)	New Lecture Hall Complex Lecture Theater # 01	Dr. Ali Zain (PGT Physiology)	10	**E2**	(315 onwards)	Lecture Hall no.04 (Basement)	Dr. Afsheen (PGT Physiology)

Table No. 3 Venues for Large Group Interactive Session (LGIS)

Odd Roll Numbers	New Lecture Hall Complex Lecture Theater # 01
Even Roll Number	New Lecture Hall Complex Lecture Theater # 04

Table No. 4 Batch Distribution and Venues for Anatomy Small Group Discussion SGDs / Dissections

Batches	Roll No	Subgroup	Anatomy Teacher	Venue
A	01- 60	A1: Roll No (1 – 15) A2: Roll No (16 – 30) A3: Roll No (31 – 45) A4: Roll No (46 – 60)	Dr. Sara Bano (Assistant Professor)	New Lecture Hall Complex 1
B	61-120	B1: Roll No (61 – 75) B2: Roll No (76 – 90) B3: Roll No (91 – 105) B4: Roll No (06 – 120)	Dr. Sadia Aman (Assistant Professor)	New Lecture Hall Complex 3
C	121-180	C1: Roll No (121 – 135) C2: Roll No (136 – 150) C3: Roll No (151 – 165) C4: Roll No (166 – 180)	Dr. Minahil haq (Senior Demonstrator)	New Lecture Hall Complex 2
D	181- 240	D1: Roll No (181 – 195) D2: Roll No (196 - 210) D3: Roll No (211 – 225) D4: Roll No (226 – 240)	Dr. Tariq Furqan (Senior Demonstrator)	Anatomy Lecture Hall 3
E	241- 300	E1: Roll No (241 – 255) E2: Roll No (256 – 270) E3: Roll No (271 – 285) E4: Roll No (286 – 300)	Dr. Mariyam (P.G Trainee)	New Lecture Hall Complex 4
F	301- onwards	F1: Roll No (301 – 315) F2: Roll No 316 – 330) F3: Roll No 331 – 345) F4: Roll No (346 – onwards)	Dr. Sana (P.G Trainee)	Anatomy Lecture Hall 4
Supervised by Prof. Dr. Ayesha Yousaf				

Table No. 5 Batch Distribution and Venues for Physiology Small Group Discussion SGDs

Batches	Roll No	Subgroup	Physiology Teacher	Venue
A	01-70	A1: Roll No (1 – 14) A2: Roll No (15 – 28) A3: Roll No (29 – 42) A4: Roll No (43 – 56) A5: Roll No (57 – 70)	Dr. Aneela Yasmeen (APWMO)	Physiology Lecture Hall 5
B	71-140	B1: Roll No (71 – 84) B2: Roll No (85 – 98) B3: Roll No (99 – 112) B4: Roll No (113 – 126) B5: Roll No (127 – 140)	Dr. Shazia Nosheen (APWMO)	Physiology Lecture Hall 5
C	141-210	C1: Roll No (141 – 154) C2: Roll No (155 – 168) C3: Roll No (169 – 182) C4: Roll No (183 – 196) C5: Roll No (197 – 210)	Dr. Fahd Anwar (Demonstrator)	Physiology Lecture Hall 5
D	211-280	D1: Roll No (211 – 224) D2: Roll No (225 – 238) D3: Roll No (239 – 252) D4: Roll No (253 – 266) D5: Roll No (267 – 280)	Dr. Jawad (Demonstrator)	Physiology Lecture Hall 5
E	281- onwards	E1: Roll No (281 – 294) E2: Roll No (295 – 308) E3: Roll No (309 – 322) E4: Roll No (323 – 336) E5: Roll No (337 – onwards)	Dr. Fareed Ullah (Demonstrator)	Physiology Lecture Hall 5
Supervised by Prof. Dr. Samia Sarwar				

Tentative Schedule for LMS Based Weekly Online Assessments for Second Year MBBS (GIT Module - I) Batch 51

The Online Assessment for GIT Module - I for Second Year MBBS will be as per following schedule:

Class	Module	Day & Date	Time of Assessment	Focal person	Department Responsible
Second Year MBBS	GIT Module - I	Monday 03rd March, 2025	7:00 pm-7:30pm	Prof. Dr Ayesha Yousaf	Anatomy
		Tuesday 04th March, 2025	7:00 pm-7:30pm	Prof. Dr Samia Sarwar	Physiology
		Wednesday 05th March, 2025	7:00 pm-7:30pm	Dr Aneela Jamil	Biochemistry
		Monday 10th March, 2025	7:00 pm-7:30pm	Prof. Dr Ayesha Yousaf	Anatomy
		Tuesday 11th March, 2025	7:00 pm-7:30pm	Prof. Dr Samia Sarwar	Physiology
		Wednesday 12th March, 2025	7:00 pm-7:30pm	Dr Aneela Jamil	Biochemistry
		Monday 17th March, 2025	7:00 pm-7:30pm	Prof. Dr Ayesha Yousaf	Anatomy
		Tuesday 18th March, 2025	7:00 pm-7:30pm	Prof. Dr Samia Sarwar	Physiology
		Wednesday 19th March, 2025	7:00 pm-7:30pm	Dr Aneela Jamil	Biochemistry

*Note: All dates are subject to change.

Time Table for GIT Module - I (Sixth Week)
(31-03-2024 TO 06-04-2024)

Date / Days	Tentative Exam Discipline Details	Time
14-03-2025 Monday	Assessment Week	
01-04-2025 Tuesday		
02-04-2025 Wednesday		
03-04-2025 Thursday		
04-04-2025 Friday		
05-04-2025 Saturday		

Note: Detailed notice regarding content, time and venue will be issued accordingly

Note**:** Timetable Subject to change according to the current circumstances.

Note: OSPE wiil be conducted in block exam.

SECTION VIII

Table of Specification (TOS) For GIT Module - I Examination for Second Year MBBS

Domains: C-Core Subject (70%) Levels C1-C2, HV- Horizontal & Vertical Integration (20%) Levels C2-C3, S- Spiral Integration (10%) Levels C2-C3

End of Module Assessment	Subject	Theory (Cognitive) Assessment																			Practical (Skill & Attitude) Assessment											Grand Total	Total Time of Module Assessment
		MCQs					EMQs			SAQs					SEQs				Marks	Total Marks Theory	Total Time	AV OSPE					Time	AED Reflective Writing	OSVE			Total Practical Marks		
		C	HV	S	Total	Marks	C	Total	Marks	C	HV	S	Total	Marks	C	HV	S	Total				C	HV	S	Total	Marks			Viva	Copy	Total			
First Module	Anatomy	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
	Physiology	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
	Biochemistry	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
Formative- Weekly LMS Based Assessment of 30 MCQs (10 MCQs per Subject)																																	

End of Module Assessment	Subject	Theory (Cognitive) Assessment																			Practical (Skill & Attitude) Assessment											Grand Total	Total Time of Module Assessment
		MCQs					EMQs			SAQs					SEQs				Marks	Total Marks Theory	Total Time	AV OSPE					Time	AED Reflective Writing	OSVE			Total Practical Marks		
		C	HV	S	Total	Marks	C	Total	Marks	C	HV	S	Total	Marks	C	HV	S	Total				C	HV	S	Total	Marks			Viva	Copy	Total			
Second Module	Anatomy	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
	Physiology	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
	Biochemistry	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
Formative- Weekly LMS Based Assessmen tof 30 MCQs (10 MCQs per Subject)																																	

Block	Subjects	LMS Based Assessment MCQs					OSPE						Grand Total	Total Block Time
							LabOSPE	IOSPE	COSPE	Total	Marks	Time		
		C	HV	S	Total	Time	C	HV	S					
BLOCK	Anatomy	21	6	3	30	30 min	14	4	2	20	60	6 HRS	90	10 HRS
	Physiology	21	6	3	30	30 min	14	4	2	20	60	6 HRS	90	10 HRS
	Biochemistry	21	6	3	30	30 min	14	4	2	20	60	6 HRS	90	10 HRS

50% Questions/OSPE Stations/Viva Stations will be from Foundation Module and 50% Questions will be from MSK-1 Module

For Each assessment student will have to individually pass Theory and Practical components

Weekly LMS Assessment			
Subjects	Anatomy	Physiology	Biochemist
No of MCQs*	30	30	30
Marks/MCQ	30	30	30
*MCQ=1 Mark each, 1 min each			

Marks per Item

MCQ=1	EMQ= 5	SAQ= 5	SEQ= 9	AVOSPE= 5		OSPE= 3

OSPE Time=1 Round of 40 Students =80 min

3 Round of 40 Students =240 min

OSVE=Time per student=5mins

Annexure I

Templates for Thoery Paper

- **MCQ, SEQ Paper, & EMQ**

Templates for AV OSPE

Templates for Structured Viva

Rawalpindi Medical University Rawalpindi
Department of Anatomy, Physiology & Biochemistry
MCQs & EMQ Paper for _____ Module, Second Year MBBS Batch 51
Date: 00-00-0000

Total Marks: 30 (MCQs: 25, EMQ: 5) Roll No. _____
Total Time: 30 Minutes Name. _____
Each MCQ carries 1 mark and EMQ carries 5 marks

Encircle the single best response

Q.#	Integrated & Clinically Oriented Assessment of the Subject Anatomy, Physiology & Biochemistry Section A: Core Knowledge of Anatomy / Physiology / Biochemistry (70%)	Level of Cognition
1.	Question …… a. ……. b. ……. c. ……. d. ……. e. ……. USMLE: Type Question Reference: Ganong 25th Edition Page No. 101	C1
	Section – B: Integrations (30%)	
	Horizontal Integration Anatomy / Physiology / Biochemistry (5%)	
2.	**Horizontal Integration with Anatomy (2.5%)** Questions …… a. …….. b. …….. c. …….. d. …….. e. …….. USMLE: Type Question Reference: Ganong 25th Edition Page No. 101	C1
	Vertical Integration with Medicine / Surgery / Gynae Obs etc (15%)	
3.	Question …… a. ……. b. ……. c. ……. d. ……. e. ……. USMLE: Type Question Reference: Ganong 25th Edition Page No. 101	C3

Spiral Integration (10%)		
Medical Bioethics		
4.	Question …… a. ……. b. ……. c. ……. d. ……. e. ……. USMLE: Type Question Reference: Ganong 25th Edition Page No. 101	C2
Family Medicine		
5.	Question …… a. ……. b. ……. c. ……. d. ……. e. ……. USMLE: Type Question Reference: Ganong 25th Edition Page No. 101	

Rawalpindi Medical University Rawalpindi
Department of Anatomy, Physiology & Biochemistry
SEQ & SAQ Paper for _____ Module, _____ Year MBBS Batch _____
Date: 00-00-0000

Total Marks: 70
Each SAQ carries 5 marks
Each SEQ carries 9 marks

Time allowed: 1 hour & 30 minutes
Each SAQ: 5 minutes, SEQ: 10 minutes

Attempt all Questions

Integrated & Clinically Oriented Assessment of the Subject of Anatomy, Physiology & Biochemistry					
Domain		**Percentage**			
• **Core Knowledge (CK) of Anatomy/Physiology Biochemistry**		**(70%)**			
• **Integration**		**(30%)**			
○ **Horizontal Integration (HI)**		**(05%)**			
○ **Vertical Integration (VI)**		**(15%)**			
○ **Spiral Integration (SI)**		**(10%)**			
Q.#	**Construct your Answers according to the given Scenarios and Questions**	**Domain**	**Marks**	**% Weightage**	**Level of Cognition**
Short Answer Questions (SAQs) Total Marks: 25 (Each SAQ carries marks)					
SAQ 1	A 55 years Male, known case of Coronary Artery Disease, presented to…… …….. …….. ……..	CK & VI	……..	…….	……
	a. …… ……	CK	2	8%	C2
	b. …… ……	CK	2	12%	C2
	c. …… ……	CK	2	8%	C2

	d. …… ……	CK	2	12%	C2
	e. …… …… USMLE Question. References: Part a: Guyton & Hall 14th Edition page # 114 Part b: Guyton & Hall 14th Edition Page # 116	CK	1	8%	C2

Q.#	**Construct your Answers according to the given Scenarios and Questions**	**Domain**	**Marks**	**% Weightage**	**Level of Cognition**
Short Essay Question (SEQs) Total Marks: 45					
SEQ 1	A 55 years Male, Known case of Coronary Artery Disease, presented to…… …….. …….. ……..	CK & VI	……..	…….	……
	a. …… ……	HI with Anatomy	2	6.66%	C2
	b. …… ……	CK	3	6.66%	C2
	c. …… ……	CK	2	6.66%	C2
	d. …… ……	CK	1	6.66%	C2
	e. …… …… USMLE Style Question. References: • Part a: Guyton & Hall 14th Edition page # 101 • Part b: Guyton & Hall 14th Edition Page # 103 • Part c: Guyton & Hall 14th Edition Page # 103	CK	1	6.66%	C2

Rawalpindi Medical University Rawalpindi
Department of Anatomy / Physiology / Biochemistry
Clinically Oriented Audio Visal Objective Structured Practical Examination (OSPE)
_____ Module 2025

_____ Year MBBS (Batch _____)

Day: _____

Date: _____

10 AV OSPE Slides

Time Allowed: 50 minutes

05 minutes for each slide

Chairperson
Department of _____
Rawalpindi Medical University, Rawalpindi

Additional Director Assessment
Rawalpindi Medical University
Rawalpindi

Director DME
Rawalpindi Medical University
Rawalpindi

Vice Chancellor
Rawalpindi Medical University
Rawalpindi

Slide 1

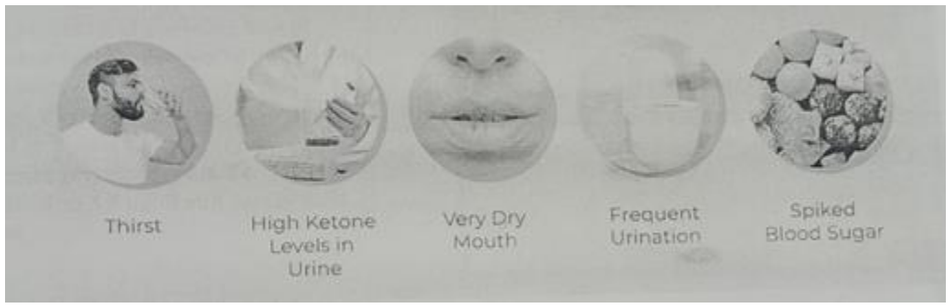
Core Knowledge with Horizontal / Vertical / Spiral Integration

Topic:

Teaching Strategy:

Requirements: Answer sheet, Pen

Objective: _____



1. ……. (01)
2. ……. (01)
3. ……. (01)
4. ……. (01)
5. ……. (01)

Slide 1

Key for Examiner

1. ……
2. …….
3. …….
4. ……..
5. ……..

Department of Anatomy

GIT Module - I (Structured Viva)

Date: Time: 8:00-2:00pm Roll no: 181 onwards

P: Punctuality, D: Dressing, C: Communication

Roll No.	Anterolateral abdominal wall & clinicals 2 marks	Oral cavity 1 mark	Inguinal canal, Testis and scrotum & clinicals 3 marks	Peritoneum & clinicals 5 marks	Esophagus, Stomach & Spleen 4 marks	Small & Large intestine & clinicals 7 marks	Liver, Pancreas, Gall bladder & clinicals 6 marks	Vasculature & Innervation of GIT 9 marks	Rectum & Anal Canal & clinicals 8 marks	Surface marking (Skill) 3 marks	Soft tissue spotting (Skill) 7 marks	Gross sketch copy (Skill) 2 marks	Professionalism (PDC)* 3 marks	Total marks 60

Examiner _____

Sign _____

Stamp _____

***Objective Structured Practical Examination (OSPE) will be held in end of block assessment.**

Department of Physiology

GIT Module - I (Structured Viva)

MODULE: _____ **DATE:** _____ **TEACHER NAME:** _____ **SIGNATURE**_____

Sr. No.	Roll No.	Students Name	Definition/ Enlist/Enumerate Q=1 C1 (5Marks)	Physiological/ Pathophysiological Mechanism Q=2 C2 (8 Marks)	Related Diseases/ Diagnostic Parameters/ Management / Treatment Guidelines Q=3 C3 (6 Marks)	Additional Domains of knowledge to be Assessed • Family Medicine /Preventive Medicine • Artificial Intelligence) • Counseling • Prevention • Social Impact • Psychosocial impact • Community Implication • Prevalence / algorithms C1/C2/C3 (2 Marks)	Professionalism & Behavior Components; • Appropriate dressing & white coat • College ID cardwith picture • Behavior • Level of Confidence/ Non verbal Body language • Communication Skills • Language of Communication • Volume of voice • Clarity & fluency of speech • Understanding of questions • Prioritizing the answers A3 (4 Marks)	Total marks obtained out of 25

***Objective Structured Practical Examination (OSPE) will be held in end of block assessment.**

Department of Biochemistry

GIT Module - I (Structured Viva)

Date: Time: Teacher's Name

Roll No.	Classification / Definition/ Enumerate **(C1) (05 Marks)**	Metabolic role/ Mechanism of action/ Physiological mechanism **(C2) (08 Marks)**	Related clinical disorders/ Pathogenesis **(C3) (07 Marks)**	Additional domains of Knowledge to be assessed Family Medicine, Artificial Intelligence, Ethics and Research **(C1, C2, C3) (03 Marks)**	Professionalism & Behavior **(A3) (02 Marks)**	Total marks **(25)**

***Objective Structured Practical Examination (OSPE) will be held in end of block assessment.**

Rawalpindi Medical University
2nd Year MBBS Model MCQS (USMLE Format)

1. A 28-year-old female presents to the emergency department with acute abdominal pain localized to the upper left quadrant, along with nausea and vomiting. The patient reports having had intermittent episodes of indigestion over the past several months. On physical examination, she is afebrile, and vital signs are stable. Abdominal examination reveals mild tenderness in the epigastric region. Imaging studies reveal a small cystic structure behind the stomach. Which of the following developmental processes is most likely responsible for the formation of this structure? A) Left subclavian lymph nodes B) Internal thoracic (mammary) lymph nodes C) Left axillary lymph nodes D) Right axillary lymph nodes E) Left supraclavicular lymph nodes	Anatomy
2. A 45-year-old male presents to the clinic with complaints of frequent and urgent bowel movements after meals, particularly after eating large meals. He reports feeling the need to have a bowel movement within 30 minutes of eating, especially after a heavy lunch. The patient is otherwise healthy, and no other gastrointestinal symptoms such as pain or bloating are present. Upon further questioning, the patient mentions that he has noticed this pattern for the past few months, which tends to occur more frequently when he consumes large meals. Which of the following reflexes is most likely responsible for initiating the mass movements observed in this patient? A) Cristae B) Mitochondrial matrix C) Outer membrane D) Inner membrane E) Outer chamber	Physiology
3. A 7-year-old boy with a history of frequent hypoglycemic episodes presents to the clinic. His mother reports that he often experiences severe low blood sugar, particularly after periods of fasting or prolonged physical activity. His laboratory results show a marked increase in liver size (hepatomegaly), but no significant muscle weakness. Genetic testing confirms a diagnosis of von Gierke's disease (Type I glycogen storage disease), a disorder affecting glycogen metabolism. Which of the following statements about glycogen metabolism is most accurate in the context of this disease? A) Transfers information from DNA to ribosomes B) Transfers information from mRNA to cytosol C) Transfers amino acids from cytosol to ribosomes D) Transfers proteins from cytosol to ribosomes E) Transfers proteins from ribosomes to the Golgi apparatus	Biochemistry
4. A 60-year-old patient is diagnosed with a chronic condition and given several treatment options, each with varying degrees of risk and benefit. The patient carefully considers the options and decides to pursue a less invasive treatment, despite the doctor's recommendation for a more aggressive approach. The doctor provides all the necessary information, ensuring the patient understands the potential outcomes and respects their decision. A) Beneficence B) Justice C) Autonomy D) Non-maleficence E) Paternalism	Spiral Courses Bioehtics

Rawalpindi Medical University
2nd Year MBBS Model EMQ

1. A 3-year-old child presents to the pediatric clinic with a noticeable bulge near the belly button. The bulge becomes more prominent when the child cries or coughs and appears to reduce in size when the child is lying down. The child has no associated pain, vomiting, or changes in bowel movements. Upon examination, a soft, non-tender mass is noted at the umbilicus, which is easily reducible.

Options for Questions:

A. Congenital defect in the closure of the umbilical ring

B. Increased intra-abdominal pressure

C. Failure of complete fusion of the fascial layers

D. Common in premature infants

E. Often self-resolves by 1-2 years of age

F. Surgical repair is generally recommended if symptoms persist after 4-5 years of age

Questions:

1. What is the most likely cause of this child's umbilical hernia?
2. Which factor is most associated with the increased occurrence of umbilical hernia in infants?
3. What is the usual course of management for most cases of umbilical hernia in infants?
4. At what age would surgical intervention be typically considered for an umbilical hernia if it does not resolve spontaneously?
5. Which of the following is a contributing factor to the development of an umbilical hernia in this patient?

Rawalpindi Medical University
1st Year MBBS Model SEQs & SAQs (USMLE Format)

1. A 10-year-old boy is brought to the emergency department with a 24-hour history of lower abdominal pain, nausea, and intermittent vomiting. The pain is localized to the right lower quadrant, and the patient has had mild fever. There is no history of recent trauma. His past medical history is unremarkable. Physical examination reveals tenderness in the right lower quadrant, but no signs of peritonitis. Blood tests show mild leukocytosis. An ultrasound is inconclusive, so a CT scan is performed, revealing a small diverticulum located 70 cm from the ileocecal valve, a. What is the most likely diagnosis in this patient based on the imaging findings? (1) b. What embryological abnormality leads to the formation of Meckel's diverticulum? (1) c. What is the most common complication of Meckel's diverticulum? (1) d. How does Meckel's diverticulum typically present in children? (1) e. What is the treatment of choice for symptomatic Meckel's diverticulum? (1)	Anatomy
1. A 5-year-old child visits an amusement park and enjoys several rides. After taking a rotatory ride, the child suddenly complains of nausea, vomiting, and a sensation of spinning (vertigo). The child is visibly uncomfortable and has difficulty standing due to dizziness. The child's vital signs are stable, and there is no history of any previous medical conditions. The parents are concerned, as they have never seen this happen before, and bring the child to the clinic. a. What is the most likely cause of the child's symptoms following the rotatory ride? b. What physiological process explains the development of nausea and vertigo in this case? c. How does the inner ear contribute to balance, and what part is most likely involved in this scenario? d. What are some common treatments or interventions to help alleviate symptoms of motion sickness in children? e. What other conditions could present similarly to motion sickness and should be considered in the differential diagnosis?	Physiology
2. A 32-year-old male presents to the clinic with complaints of heartburn, acid reflux, and occasional stomach discomfort. He reports that these symptoms worsen after eating spicy or fatty foods and when lying down. Upon further questioning, the patient admits to a history of alcohol consumption and high-stress levels. His physical examination reveals mild tenderness in the epigastric region. Based on the symptoms and history, the physician suspects gastroesophageal reflux disease (GERD). The doctor explains to the patient the role of gastric juice in digestion and how excessive secretion or improper regulation can contribute to the development of GERD. a. What are the main components of gastric juice? b. What role does hydrochloric acid (HCl) play in the stomach's digestive process? c. How does pepsin function in the stomach, and what is its role in digestion? d. What is the role of intrinsic factor in gastric juice, and why is it important? e. How can an imbalance in gastric juice secretion contribute to conditions like GERD?	Biochemistry

Rawalpindi Medical University
2nd Year MBBS Model AV OSPE

Slide 1 / Video

Core Knowledge with Horizontal / Vertical / Spiral Integration

Topic: Erbs Palsy

Teaching Strategy: Small Group Discussion

Requirements: Answer sheet, Pen

Objective: To Asses the Knowledge of Students Regaring Nerves Injuries in Upper Limb

1. Name the clinical condition shown in video / slide? (01)
2. What is the primary cause of this clinical condition? (01)
3. What are the key features observed in the prenatal ultrasound of a fetus in above condition? (01)
4. Which clinical sign is often associated with this condition in newborns? (01)
5. What are the potential complications of this condition after birth? (01)