



Gastrointestinal Tract Module



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Prepared By	Reviewed By	Approved By
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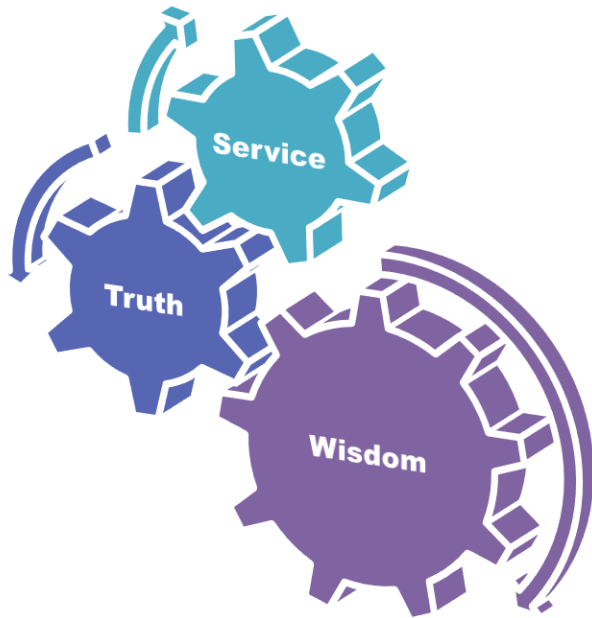
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University Moto, Vision, Values & Goals

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:

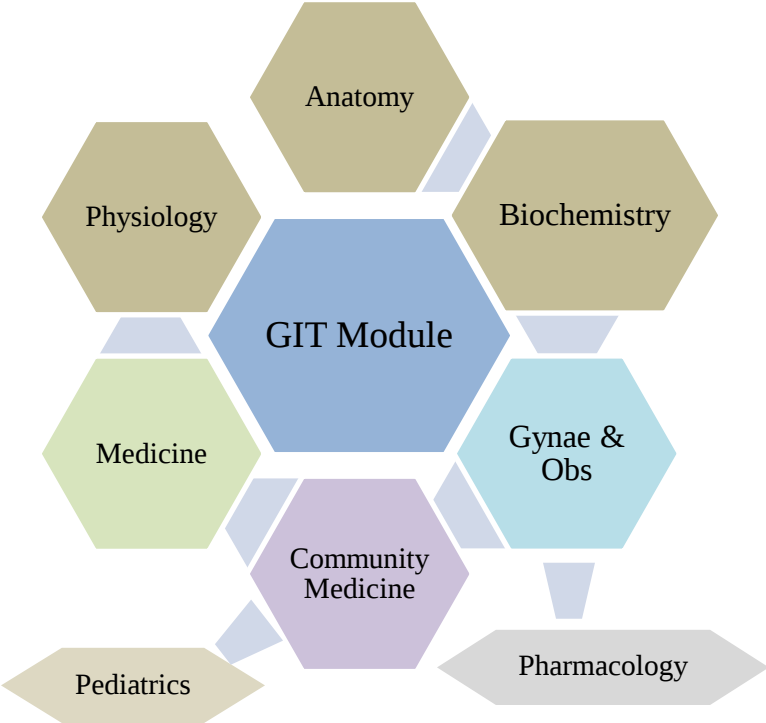
- Provide thorough grounding in the basic theoretical concepts underpinning the practice of medicine.
- Develop and polish the skills required for providing medical services at all levels of the Health care delivery system.
- Help you attain and maintain the highest possible levels of ethical and professional 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 2024

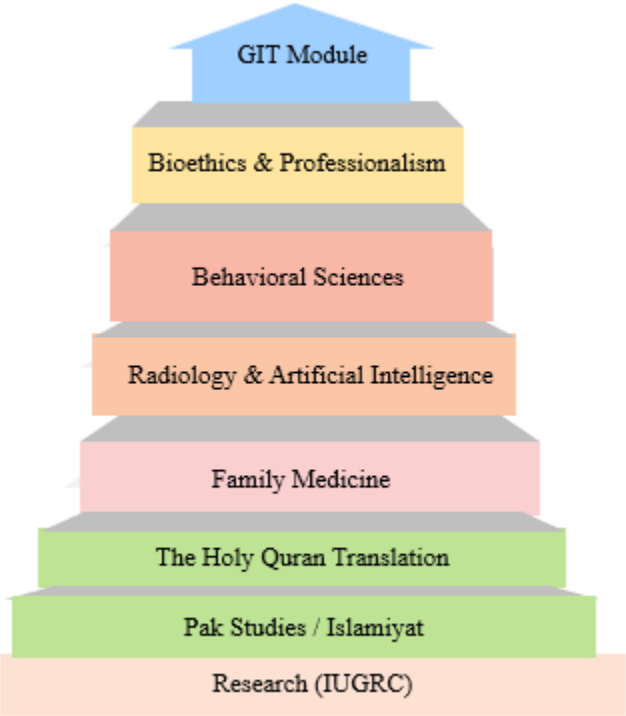
Study Guide

GIT Module

Integration of Disciplines in GIT Module



Spiral / General Education Cluster Courses



Discipline wise Details of Modular Content

Block	Module	General Anatomy	Embryology	Histology	Gross Anatomy
1	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 2023 • Student Session on Standardization of Teaching Strategies			
	Spiral Courses				
	The Holy Quran Translation	The Holy Quran Translation Component • Imaniat I • Ibadat I • Ibadaat-II • Imaniyaat-II • Ibadaat-III • Imaniat-III			
	Pak Studies/Islamiyat	• Tehreek-E-Pakistan Islaahi Tehreekain • Akhirat-I • Toheed • Qayam e Pakistan, Aghraaz o Maqasid • Tehreek-e-Aligarh, Sir Syed Ahmad Khan • Akhirat -II			
	Bioethics & Professionalism	• Pakistan Medical & dental council Code of Ethics			
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) • Compute & Interpret measures of central tendency (Research-V) • Measure of dispersion/ Secondary data Analysis (Research-VI)
	Radiology & Artificial Intelligence	• Medical imaging of abdomen- I • Medical imaging of abdomen-II
	Family Medicine	• Common Abdominal diseases
	Behavioral Sciences	• Eating Disorders
	Vertical Integration	
	Clinically content relevant to GIT module • Concept of health & disease (Community medicine) • Epidemiology of infectious diseases & Basic Concepts (Community medicine) • Peptic ulcer (Medicine) • Jaundice (Medicine) • Irritable Bowel Syndrome (Medicine) • Antidiarrheal drugs & drugs for Peptic Ulcer Disease (Pharmacology) • Acute & Chronic Diarrhea (Pediatrics) • Common GIT problems in pregnancy (Hyperemesis gravidarum, GERD, Constipation, hemorrhoids) (Gynae and OBS)	

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GIT Module Team

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

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Focal Person Community Medicine	Dr. Afifa kalsoom		
Focal Person Quran Translation Lectures	Dr. Uzma Zafar		
Focal Person Family Medicine	Dr. Sadia Khan		

Module I -GIT Module

Rationale: GIT module 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

- Domains of Learning
- Teaching and Learning

Methodologies/Strategies

- Large Group Interactive Session (LGIS)
- Small Group Discussion (SGD)
- Self-Directed Learning (SDL)
- Case Based Learning (CBL)
- Problem- Based Learning (PBL)
- Skill Labs/Practicals (SKL)

Tables & Figures

- Table1. Domains of learning according to Blooms Taxonomy
- Figure 1. Prof Umar’s Model of Integrated Lecture
- Table2. Standardization of teaching content in Small Group Discussions
- Table 3. Steps of taking Small Group Discussions
- Figure 2. PBL 7 Jumps Model

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 be 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.

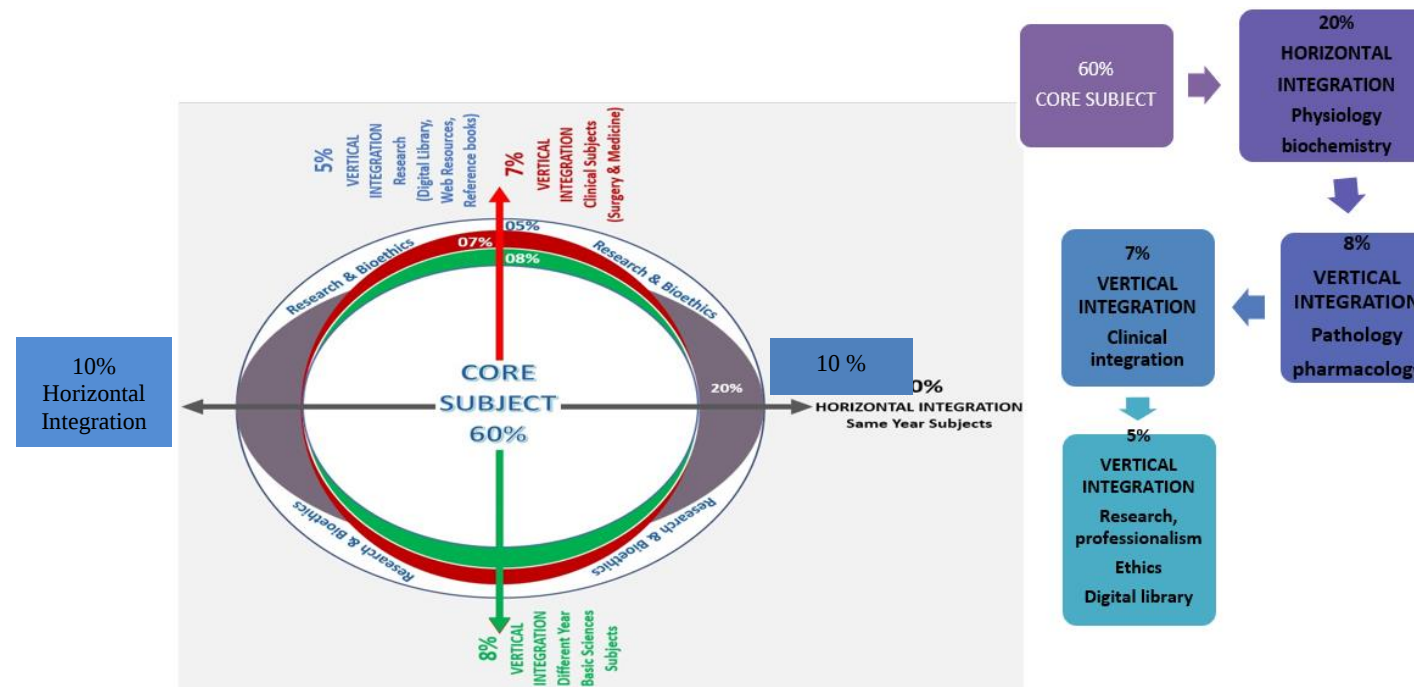


Figure 1. Prof Umar's Model of Integrated Lecture

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

Horizontally Integrated Basic Sciences (Anatomy, Physiology & Biochemistry)

Anatomy Large Group Interactive Session (LGIS)

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

	• Describe the congenital anomalies associated with salivary glands	C2	LGIS	MCQ VIVA OSPE
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures	C3		
	• To practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		
EMBRYOLOGY Development of Esophagus	• Discuss the formation of tracheoesophageal septum and its importance	C2	LGIS	SAQ MCQ VIVA OSPE
	• Describe salient features of esophageal development	C2		
	• Describe congenital anomalies of esophagus	C2		
	• Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of swallowing	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures	C3		
	• To practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		
EMBRYOLOGY Development of Stomach	• Explain the development of stomach	C2	LGIS	SAQ MCQ VIVA OSPE
	• Discuss rotations and positional shifts of stomach & their effect on nerve supply and peritoneal attachments	C2		
	• Explain formation of omental bursa.	C2		
	• Describe congenital anomalies of stomach	C2		
	• Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of digestion in the stomach	C2		
	• Discuss pernicious anemia	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures	C3		
	• To practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		

EMBRYOLOGY Liver	• Describe formation of hepatic diverticulum	C1	LGIS	SAQ MCQ VIVA OSPE
	• Describe histogenesis of liver during intrauterine life	C1		
	• Describe formation of various ligaments of liver.	C1		
	• Discuss congenital abnormalities of liver	C3		
	• Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of detoxification in the liver	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures	C3		
	• To practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		
EMBRYOLOGY Gall bladder, pancreas and Biliary apparatus	• Discuss development of Gall bladder	C2	LGIS	SAQ MCQ VIVA OSPE
	• Describe /congenital anomalies of gall bladder	C2		
	• Discuss development and congenital anomalies of pancreas	C2		
	• Describe development of extrahepatic biliary apparatus and its parts with abnormalities	C2		
	• Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of production of bile and pancreatic secretions	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures	C3		
	• To practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		
EMBRYOLOGY Development of small intestine	• Describe development of mid gut, midgut loop and rotation of midgut loop.	C2	LGIS	SAQ MCQ VIVA OSPE
	• Explain physiological umbilical hernia and return of mid gut to abdomen.	C2		
	• Describe fixation of intestines and transformations in peritoneal dispositions after mid gut loop return.	C2		
	• Describe congenital anomalies and clinical correlation of mid gut development.	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures	C3		

	• To practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		
EMBRYOLOGY Development of large intestine	• Enlist parts of large intestine.	C2	LGIS	SAQ MCQ VIVA OSPE
	• Describe partitioning of cloaca and cloacal membrane.	C2		
	• Describe development of anal canal.	C2		
	• Describe congenital anomalies of large intestine.	C3		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive heath care measures	C3		
	• To practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		
Histology				
HISTOLOGY: Tongue	• Discuss surfaces of tongue with their histological features	C1	LGIS	SAQ MCQ VIVA OSPE
	• Describe different papillae of tongue with their location & features	C2		
	• Explain histological features of taste buds	C2		
	• Discuss leukoplakia and oral thrush	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive heath care measures	C3		
	• To practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		
HISTOLOGY Salivary glands	• Enlist major salivary glands	C2	LGIS	SAQ MCQ VIVA OSPE
	• Explain histological structure of salivary glands	C2		
	• Discuss different cells forming parenchyma of salivary glands	C2		
	• Discuss histology of duct system	C2		
	• Differentiate between major salivary glands on histological basis	C2		
	• Discuss effects of viral infections on salivary glands	C3		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive heath care measures	C3		

	• To practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	C3		
		C3		
		C3		
		C3		
HISTOLOGY General organization of GIT	• Describe the developmental basis of physiological and biochemical mechanisms involved in perception and transmission of taste sensation	C2	LGIS	SAQ MCQ VIVA OSPE
	• Describe the histological characteristics of each layer with functional significance	C2		
	• Discuss associated clinicals (megacolon, chagas disease)	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures	C3		
	• To practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		
HISTOLOGY Esophagus	• Describe the histological layers of esophagus.	C2	LGIS	SAQ MCQ VIVA OSPE
	• Compare between various portions of esophagus histologically.	C2		
	• Discuss GERD	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures	C3		
	• To practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		
HISTOLOGY Stomach	• Describe the histological layers of different parts of stomach	C2	LGIS	SAQ MCQ VIVA OSPE
	• Describe histological differences of different parts of the gastric glands	C2		
	• Describe the structure and function of different cells of gastric glands	C2		
	• Explain clinical conditions associated with stomach histologically	C2		
	• Discuss pernicious anemia	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures	C3		

	• To practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	C3		
		C3		
		C3		
		C3		
HISTOLOGY Liver	• Discuss in detail the histological organization of liver	C2	LGIS	SAQ MCQ VIVA OSPE
	• Explain the structure of liver lobule, portal triads& hepatic acinus and its functional importance	C2		
	• Discuss histological features of hepatocytes.	C2		
	• Explain Hepatic cords, central vein, portal triad, hepatic venules, hepatic arterioles, bile duct & liver sinusoids.	C2		
	• Discuss the blood supply of the liver.	C2		
	• Explain different cells of the liver tissue	C2		
	• Describe clinical aspects of liver on histological grounds	C2		
	• Discuss cirrhosis, fatty liver	C2		
	• Discuss jaundice	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures	C3		
	• To practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		
	• Correlate with the clinical conditions	C3		
HISTOLOGY Pancreas & Gall Bladder	• Differentiate between exocrine and endocrine pancreas.	C2	LGIS	SAQ MCQ VIVA OSPE
	• Discuss the cellular structure and function of exocrine pancreatic acinus and ducts.	C2		
	• Discuss acute & chronic pancreatitis and pancreatic cancer	C2		
	• Explain the histological features of the gallbladder.	C2		
	• Discuss cholelithiasis	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures	C3		
	• To practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		

HISTOLOGY Small Intestine	• Differentiate the histological features of duodenum, jejunum and ileum	C2		
	• Discuss the location and function of villi, crypts of liberkuhn and	C2		
	• microvilli in different parts of small intestine	C2		
	• Discuss different cells lining the epithelium of small intestine	C2		
	• Discuss histological aspects of celiac disease and crohn disease	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive heath care measures	C3		
	• To practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		
HISTOLOGY Large Intestine I (General Histological Features)	• Describe histological features of parts of large intestine.	C2		
	• Discuss cells lining the epithelium	C2		
	• Explain concept of tenaei coli.	C2		
	• Differentiate histological structure of the large intestine from the small intestine.	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive heath care measures	C3		
	• To practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		
HISTOLOGY Large Intestine II (Histological Features of different parts)	• Correlate with the clinical conditions	C3		
	• Describe histological features of appendix, caecum, rectum and anal canal			
	• Discuss clinical conditions (Colorectal cancer)			
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive heath care measures	C3		
	• To practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		

Physiology Large Group Interactive Session (LGIS)

Topic	Learning Objectives At the end of lecture students should be able to	Learning Domain	Teaching Strategy	Assessment Tools
Introduction to GIT, Electrical activity in GIT Movements of GIT	• Explain the physiologic anatomy of GIT	C2	LGIS	SEQ MCQ VIVA
	• Summarize the functions of GIT	C1		
	• Explain the electrical activity of GIT smooth muscle	C2		
	• Describe the concept of slow waves and spike potentials	C1		
	• Explain resting membrane potential and factors affecting RMP	C2		
	• Explain role of calcium ions in muscle contraction	C2		
	• Describe tonic contraction in GIT smooth muscles	C1		
	• Enumerate different types of movements in GIT	C1		
	• Define propulsive movements	C1		
	• Define mixing movements	C1		
	• Describe sites of peristaltic movement in GIT	C1		
	• Describe stimulus, mechanism and direction of peristaltic movement	C1		
	• Discuss role of Myenteric plexus in peristaltic movement	C2		
	• Explain peristaltic reflex and Law of gut	C2		
	• Describe mechanism and function performed by mixing movements	C1		
Enteric nervous system and GIT reflexes	• Describe physiological anatomy of enteric nervous system	C1	LGIS	SEQ MCQ VIVA
	• Enlist functions of enteric nervous system	C1		
	• Compare and contrast Myenteric and Meissner's plexus	C2		
	• Enumerate neurotransmitters of enteric nervous system	C1		
	• Describe the autonomic regulation of enteric nervous system	C1		
	• Enumerate afferent sensory connections of enteric nervous system	C1		
	• Discuss the physiology of GIT reflexes	C2		
Control of GIT motility and factors affecting GIT blood flow	• Explain GIT reflexes integrated at the level of gut wall, prevertebral sympathetic ganglia and spinal cord/brain stem	C2	LGIS	SEQ MCQ VIVA
	• Enumerate hormones of GIT	C2		
	• Describe the hormonal control of GIT motility	C1		
	• Explain site of secretion, stimuli for secretion and actions of Gastrin, Cholecystokinin, Secretin, Gastric inhibitory peptide and Motilin	C2		
	• Discuss the factors affecting GIT blood flow	C2		

	• Recall anatomy of GIT blood supply	C1		
	• Explain splanchnic circulation and hepatic portal circulation	C2		
	• Describe the significance of blood flow to liver through portal vein	C1		
	• Describe special organization of blood flow through intestinal villus	C1		
	• Explain factors affecting gastrointestinal blood flow	C2		
	• Describe counter current blood flow in villi.	C1		
	• Explain nervous control of GIT blood supply	C2		
	• Discuss physiological importance of sympathetic vasoconstriction in GIT under special conditions	C2		
Swallowing1 and (Mastication and Saliva)	• Describe the secretion and composition of saliva and its physiologic roles	C1	LGIS	SEQ MCQ VIVA
	• Describe the nervous regulation of saliva	C1		
	• Describe mastication	C1		
	• Enumerate functions of mastication	C1		
	• Explain role of teeth and muscles of mastication	C2		
	• Describe the steps and nervous control center of chewing reflex	C1		
	• Introduce swallowing	C1		
	• Enumerate stages of swallowing (voluntary/involuntary)	C1		
	• Explain in detail each stage of swallowing ○ Voluntary stage Mechanism ○ Pharyngeal stage (reflex act) ▪ Stimulus, receptors, afferents, center, efferent, effectors, response ▪ Relate pharyngeal stage with process of respiration ▪ Esophageal stage	C2		
	• Primary peristalsis Secondary peristalsis (stimulus, afferent, center, efferent, response)	C2		
Swallowing -II	• Describe physiological anatomy and function of Lower esophageal sphincter	C1	LGIS	SEQ MCQ VIVA
	• Explain receptive relaxation of stomach with nervous pathway	C2		
	• Describe physiological anatomy and function of distal end of esophagus	C1		
	• Define Achalasia cardia	C1		

Clinical disorders of swallowing (Achalasia cardia, vomiting & nausea)	• Describe causes, effects and treatment of achalasia cardia	C1	LGIS	SEQ MCQ VIVA
	• Define vomiting	C1		
	• Describe stimuli & nervous pathway of vomiting	C1		
	• Discuss act of vomiting	C2		
	• Describe chemoreceptor trigger zone	C1		
	• Define nausea	C1		
	• Enlist causes of nausea	C2		
Regulation of Stomach emptying	• Discuss in detail gastric factors that promote emptying and duodenal factors that inhibit emptying	C2	LGIS	SEQ MCQ VIVA
	• Explain the role of enterogastric nervous reflexes and hormonal feedback	C2		
Motor functions of stomach	• Recall physiological anatomy of stomach	C1	LGIS	SEQ MCQ VIVA
	• Describe motor functions of stomach in detail	C1		
	1. Storage 2. Mixing and propulsion of food chyme and Hunger contractions 3. Stomach emptying 4. Role of pyloric pump			
	• Discuss role of pyloric sphincter	C2		
Gastric juice-I and Digestion in stomach Physiological barrier protecting development of peptic ulcer	• Describe the secretion of gastric juice. a. Describe the basic mechanism of HCl secretion. b. Describe the secretion and activation of pepsinogen c. Describe the secretion of intrinsic factor d. Describe the secretion of mucous and gastrin e. Describe the regulation of gastric acid and pepsinogen secretion	C1	LGIS	SEQ MCQ VIVA
	• Summarize the digestive process occurring in stomach	C1		
	• Discuss the role of gastric juice, hormones and enzymes acting in stomach	C2		
	• Discuss sites, causes and physiological factors preventing peptic ulcer	C2		
Liver & gall bladder, liver and biliary secretions	• Recall physiological anatomy of liver & portal circulation	C1	LGIS	SEQ MCQ VIVA
	• Describe in detail metabolic and non metabolic functions of liver	C1		
	• Explain the mechanism of secretion of bile.	C2		
	• Explain the functions of biliary tree.	C2		
	• Describe the composition of bile.	C1		

	• Explain the role of bile in fat digestion.	C2		
	• Explain the formation of gall stones.	C2		
LFTs and jaundice	• Enlist liver functions test	C1	LGIS	SEQ MCQ VIVA
	• Describe liver function tests	C1		
	• Discuss in detail pathophysiology of jaundice	C2		
Cirrhosis & portal hypertension	• Describe causes and effects of cirrhosis	C1	LGIS	SEQ MCQ VIVA
	• Describe causes and effects of portal hypertension	C1		
Physiology of pancreas Pancreatic secretions	• Discuss composition of pancreatic secretions	C2	LGIS	SEQ MCQ VIVA
	• Describe mechanism of secretion of bicarbonate ions	C1		
	• Describe the regulation and phases of pancreatic secretion.	C1		

Digestion and Absorption –I (digestion and absorption of carbohydrates and proteins)	• Enumerate dietary sources of carbohydrates	C1	LGIS	SEQ MCQ VIVA
	• Describe the structure of villi.	C1		
	• Enumerate the features of small intestine which increase its surface area	C1		
	• Explain in detail mechanism of absorption of fluids, ions & carbohydrates	C2		
	• Enumerate dietary sources of proteins.	C1		
	• Describe the role of hydrolysis in digestion of food.	C1		
	• Explain in detail the digestion of proteins with emphasis on enzymes at relevant steps.	C2		
	• Describe the sites of absorption	C1		
Digestion and absorption-II (digestion and absorption of lipids)	• Enumerate dietary sources of fats	C1	LGIS	SEQ MCQ VIVA
	• Explain in detail the digestion of lipids in relation to bile	C2		
Movements & functions of large intestine (motor functions of large gut and defecation)	• Recall functions of large intestine	C1	LGIS	SEQ MCQ VIVA
	• Discuss in detail mixing and propulsive movements	C2		
	• Explain the role of Gastrocolic & Duodenocolic reflex in	C2		
	• large intestine motility	C2		
	• Enumerate causes of empty rectum	C1		
	• Explain defecation reflex, its importance and nervous control	C2		

Flatus & constipation	• Discuss composition of feces	C2		
	• Enlist causes of flatus	C1		
	• Discuss causes and effects of constipation	C2		
Hormones of GIT	• Explain the general principles of alimentary tract secretion	C2	LGIS	SEQ MCQ VIVA
	• Enlist the stimuli for alimentary tract secretion	C1		
	• Describe the basic mechanism of secretion by glandular cells	C1		
	• Elaborate the role of autonomic stimulation on glandular secretion	C2		
Small intestine motility, Diarrhea, malabsorption & sprue, ulcerative colitis and paralytic ilius	• Enlist types of movements of small intestine	C1	LGIS	SEQ MCQ VIVA
	• Discuss in detail mixing contractions and propulsive movements	C2		
	• Describe peristaltic rush	C1		
	• Explain functions of ileocecal valve and feedback control of ileocecal sphincter	C2		
	• Discuss causes, types and effects of diarrhea, malabsorption and sprue	C2		
	• Discuss causes and effects of Ulcerative colitis & paralytic ilius	C2		

Biochemistry Large Group Interactive Session (LGIS)

Topic	Learning Objectives At The End Of Lecture Students Should Be Able To	Learning Domain	Teaching Strategy	Assessment Tool
Introduction to Carbohydrate metabolism	- Understand metabolic pathways - Discuss glucose entry into the cells	C2 C2	LGIS	MCQs, SAQs Viva
Glycolysis and Fates of Pyruvate	- Explain types, reactions and regulation of Glycolysis - Describe fates of Pyruvate - Explain related clinical disorders	C2 C2 C3	LGIS	MCQs, SAQs Viva
Gluconeogenesis	Discuss substrates, reactions and regulation of Gluconeogenesis	C2	LGIS	MCQs, SAQs Viva
Glycogen metabolism	Explain the steps and regulation of glycogenesis and glycogenolysis	C2	LGIS	MCQs, SAQs Viva

Metabolism of Individual Sugars	Describe the metabolism of individual sugars Explain related clinical disorders	C2 C3	LGIS	MCQs, SAQs Viva
HMP Shunt and G6PD deficiency	Explain the pathway of HMP shunt Discuss uses of NADPH Describe G6PD deficiency	C2 C2 C3	LGIS	MCQs, SAQs Viva
GIT Digestive juices and Hormones	Describe the composition and role of digestive juices Explain role of gastrointestinal hormones Understand related clinical disorders	C2 C2 C3	LGIS	MCQs, SAQs Viva
Nutrition	Understand BMI and BMR Explain the role of different dietary constituents Understand related clinical disorders	C2 C2 C3	LGIS	MCQs, SAQs Viva
LFTs and Jaundice	Discuss Liver function tests and Jaundice	C3	LGIS	MCQs, SAQs Viva
Digestion and Absorption	Explain the digestion and absorption of carbohydrates, lipids and proteins Discuss the role of different digestive enzymes Describe related clinical disorders	C2 C2 C3	LGIS	MCQs, SAQs Viva

Anatomy Small Group Discussion (SGDs)

Topic	Learning Objectives Students Should Be Able To	C/P/A	Teaching Strategy	Assessment Tool
Topographical organization of Gastrointestinal tract	• Enlist components of gastrointestinal tract	C1	Skill lab	SAQ MCQ VIVA OSPE
	• Mark the planes dividing the abdomen into nine quadrants	P		
	• Enumerate the parts of GIT lying in the various quadrants	C1		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures.	C3		
	• Practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
Oral Cavity, tongue and salivary glands,	• Use of HEC digital library	C3		
	• Define the boundaries of oral cavity	C2	Skill lab	SAQ MCQ VIVA OSPE
	• Tabulate the Extrinsic and Intrinsic muscles of the tongue, anatomical location and clinical importance of tongue	C2		
	• Brief Introduction of salivary glands with their anatomical location	C1		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures.	C3		
	• Practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
Anterolateral abdominal wall	• Use of HEC digital library	C3		
	• Explain the layers of abdominal wall.	C2	Skill lab	SAQ MCQ VIVA OSPE
	• Explain the fascia and muscles of abdominal wall.	C2		
	• Describe nerve supply of anterior and lateral abdominal wall.	C2		
	• Explain the segmental sympathetic supplies	C2		
	• Abdominal Hernias	C1		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures.	C3		
	• Practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		

	• Use of HEC digital library	C3		
Rectus sheath,	• Describe Formation of rectus sheath	C2	Skill lab	SAQ MCQ VIVA OSPE
	• Enlist contents of rectus sheath	C2		
	• Discuss associated clinical anatomy	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures.	C3		
	• Practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		
Inguinal Region & Inguinal Hernias	• Describe Walls of Inguinal Canal	C2	Skill lab	SAQ MCQ VIVA OSPE
	• Explain Deep & Superficial Inguinal Ring	C2		
	• Enumerate Structures passing through the inguinal canal	C1		
	• Enlist Coverings of spermatic cord	C1		
	• Explain Mechanics of the inguinal Canal	C2		
	• Describe boundaries of Hassalbachs triangle	C2		
	• Define hernia	C1		
	• Differentiate indirect from direct inguinal hernia	C3		
	• Map outline of inguinal canal on simulated patient /model	P+A		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures.	C3		
Testes, scrotum	• Define Anatomy of Testes and Scrotum	C1	Skill lab	SAQ MCQ VIVA OSPE
	• Differentiate between Protective Coverings of Testes & scrotum	C2		
	• Enumerate Nerve & blood supply of these Structures	C1		
	• Discuss the parts of epididymis	C2		
	• Discuss Spermatocoele, Varicocoele, Hematocoele, hydrocoele, Testicular torsion	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures.	C3		

	- Practice the principles of bioethetics - Apply strategic use of A.I in health care - Read relevant research articles - Use of HEC digital library	C3 C3 C3 C3 C3		
Peritoneum & Peritoneal Cavity	Define peritoneum	C1	Skill lab	SAQ MCQ VIVA OSPE
	Explain the different folds of peritoneum.	C2		
	Describe greater and lesser sacs	C2		
	Enlist the intra and retroperitoneal viscera	C1		
	- Discuss vertical tracings of peritoneum - Correlate with the clinical conditions - Understand curative and preventive health 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	C2 C3 C3 C3 C3 C3 C3		
Subdivisions of Peritoneal Cavity	Describe arrangement of peritoneum in transverse & Longitudinal section of abdomen	C2	Skill lab	SAQ MCQ VIVA OSPE
	Describe arrangement of peritoneum in transverse section of male pelvis	C2		
	Explain arrangement of peritoneum in transverse section of female pelvis	C2		
	Explain the layers, folds, recesses and compartments of peritoneum with their clinical importance	C2		
	Describe peritonitis	C2		
	Enumerate the signs and symptoms of peritonitis	C3		
	- Treat peritonitis by antibiotics and peritoneal dialysis - Correlate with the clinical conditions - Understand curative and preventive health 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	C3 C3 C3 C3 C3 C3 C3		
Esophagus	Discuss gross features of abdominal part of esophagus	C2		

	Enumerate their peritoneal & visceral relations.	C1	Skill lab	SAQ MCQ VIVA OSPE
	Explain blood supply, lymphatic drainage & nerve supply of esophagus	C2		
	Discuss Esophageal varices	C2		
	Correlate with the clinical conditions	C3		
	Understand curative and preventive health care measures.	C3		
	Practice the principles of bioethetics	C3		
	Apply strategic use of A.I in health care	C3		
	- Read relevant research articles - Use of HEC digital library	C3		
Stomach	Explain gross features of stomach.	C2	Skill lab	SAQ MCQ VIVA OSPE
	Discuss blood supply, lymphatic drainage & nerve supply of stomach	C2		
	Explain peritoneal & visceral relations of stomach	C2		
	Discuss greater and lesser omentum	C2		
	Describe formation and boundaries of epiploic foramen	C2		
	Map outline of stomach on simulated patient /model	P+A		
	Correlate with the clinical conditions	C3		
	Understand curative and preventive health care measures.	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		
Small Intestine (Duodenum)	Describe the different parts of duodenum with their anatomical differences	C2	Skill lab	SAQ MCQ VIVA OSPE
	Enumerate the relations of different parts of duodenum	C1		
	Discuss its clinical importance	C2		
	Map outline of duodenum on simulated patient /model	P+A		
	Correlate with the clinical conditions	C3		
	Understand curative and preventive health care measures.	C3		
	Practice the principles of bioethetics	C3		
	Apply strategic use of A.I in health care	C3		
	- Read relevant research articles - Use of HEC digital library	C3		

Small Intestine (Jejunum and Ileum)	• Describe jejunum and ileum with their anatomical features	C2	Skill lab	SAQ MCQ VIVA OSPE
	• Discuss mesentery and its attachment	C2		
	• Discuss its clinical importance	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures.	C3		
	• Practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		
Large Intestine & Appendix	• Enlist various parts of large intestine	C1	Skill lab	SAQ MCQ VIVA OSPE
	• Demonstrate gross anatomical features of different parts of large intestine	C2		
	• Enlist intra and retroperitoneal parts of large intestine	C1		
	• Discuss gross features of caecum	C2		
	• Describe gross anatomy of appendix	C2		
	• Enlist different anatomical positions of vermiform appendix.	C1		
	• Mark McBurney's point	P		
	• Demonstrate McBurney's incision	P		
	• Discuss common features, differential diagnosis of acute appendicitis and appendicectomy	C3		
	• Map outline of Transverse and descending colon on simulator /model	P+A		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures.	C3		
	• Practice the principles of bioethetics	C3		
Liver, Portal	• Apply strategic use of A.I in health care	C3	Skill lab	SAQ MCQ VIVA
	• Read relevant research articles	C3		
	• Use HEC digital library	C3		
	• Describe the anatomical structure of liver.	C2		
	• Describe the lobes, surfaces and segments of liver	C2		
	• Describe peritoneal reflections, ligaments and bare area of liver.	C2	Skill lab	SAQ MCQ VIVA
	• Enumerate visceral relations of liver.	C1		
	• Enlist the structures in porta hepatis.	C1		

hypertension, Portosystemic Anastomosis	• Discuss Sub hepatic abscess & Live Biopsy	C2		OSPE
	• Discuss formation, course and parts of portal vein	C2		
	• Enumerate relations and tributaries of portal vein	C1		
	• Define portal hypertension	C1		
	• Describe sites of the portocaval anastomosis and their clinical significance	C2		
	• Explain role of portocaval shunts	C2		
	• Map outline of liver on simulated patient /model	P+A		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures.	C3		
	• Practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use HEC digital library	C3		
Gallbladder and Biliary apparatus	• Describe location & size of gall bladder	C2	Skill lab	SAQ MCQ VIVA OSPE
	• Enumerate relations of gallbladder.	C1		
	• Describe clinical conditions related to gallbladder	C2		
	• Enlist different components of Extra-hepatic biliary System	C1		
	• Discuss the right & left hepatic ducts, common hepatic duct, cystic ducts, bile duct	C2		
	• Explain differences between Intra & Extra Hepatic Biliary Systems.	C2		
	• Discuss clinicals related with biliary apparatus	C2		
	• Discuss accessory hepatic ducts	C2		
	• Map outline of gallbladder & Bile duct on simulated patient /model	P+A		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures.	C3		
	• Practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use HEC digital library	C3		

Spleen	Discuss anatomical location and features of spleen with its blood supply, and lymphatic drainage	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 health 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	C2 P+A C3 C3 C3 C3 C3 C3		
	Recall location, shape, dimensions and extent of pancreas	C2		
	Discuss parts, ducts and relations of pancreas	C2		
	Describe arterial supply of pancreas	C2		
	- Explain applied aspects of pancreas - Map outline of pancreas on simulated patient/ model - Correlate with the clinical conditions - Understand curative and preventive health 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	C2 P+A C3 C3 C3 C3 C3 C3		
	- Describe the position and the vertebral levels of aorta in the abdomen. - Enlist the main branches of the aorta and its territories. - Explain the applied anatomy of the aorta	C2 C1 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 health 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	C2 P+A C3 C3 C3 C3 C3 C3		
Pancreas	Recall location, shape, dimensions and extent of pancreas	C2	Skill lab	SAQ MCQ VIVA OSPE
	Discuss parts, ducts and relations of pancreas	C2		
	Describe arterial supply of pancreas	C2		
	- Explain applied aspects of pancreas - Map outline of pancreas on simulated patient/ model - Correlate with the clinical conditions - Understand curative and preventive health 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	C2 P+A C3 C3 C3 C3 C3 C3		
	- Describe the position and the vertebral levels of aorta in the abdomen. - Enlist the main branches of the aorta and its territories. - Explain the applied anatomy of the aorta	C2 C1 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 health 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	C2 P+A C3 C3 C3 C3 C3 C3		
	- Describe the position and the vertebral levels of aorta in the abdomen. - Enlist the main branches of the aorta and its territories. - Explain the applied anatomy of the aorta	C2 C1 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 health 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	C2 P+A C3 C3 C3 C3 C3 C3		
Vasculature of GIT	- Describe the position and the vertebral levels of aorta in the abdomen. - Enlist the main branches of the aorta and its territories. - Explain the applied anatomy of the aorta	C2 C1 C1	Skill lab	SAQ MCQ VIVA OSPE
	- 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 health 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	C2 P+A C3 C3 C3 C3 C3 C3		
	- Describe the position and the vertebral levels of aorta in the abdomen. - Enlist the main branches of the aorta and its territories. - Explain the applied anatomy of the aorta	C2 C1 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 health 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	C2 P+A C3 C3 C3 C3 C3 C3		
	- Describe the position and the vertebral levels of aorta in the abdomen. - Enlist the main branches of the aorta and its territories. - Explain the applied anatomy of the aorta	C2 C1 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 health 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	C2 P+A C3 C3 C3 C3 C3 C3		
	- Describe the position and the vertebral levels of aorta in the abdomen. - Enlist the main branches of the aorta and its territories. - Explain the applied anatomy of the aorta	C2 C1 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 health 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	C2 P+A C3 C3 C3 C3 C3 C3		

Nerve supply and Lymphatic drainage of GIT	• Discuss enteric nervous system with formation of plexuses and its parasympathetic role	C2	Skill lab	SAQ MCQ VIVA OSPE
	• Enlist the types of lymph nodes draining the abdomen	C1		
	• Describe lymphatic drainage of GIT with special reference to lymphatic trunks, cisterna chyli & the thoracic duct	C2		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures.	C3		
	• Practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles • Use of HEC digital library	C3		
Cross Sectional Anatomy	• Identify different viscera located at different levels of vertebral column; T10,T11,T12,L1,L2	C1	Skill lab	SAQ MCQ VIVA OSPE
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures.	C3		
	• Practice the principles of bioethetics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles • Use of HEC digital library	C3		
Rectum	• Discuss the location and extent of rectum	C2	Skill lab	SCQ MCQ VIVA OSPE
	• Describe the internal and external features of rectum	C2		
	• Discuss peritoneal reflections rectouterine, rectovesical fossae and their clinical significance	C2		
	• Enumerate relations of rectum	C1		
	• Discuss blood supply, nerve supply, venous and lymphatic drainage	C1		
	• Describe the basis and features of rectal prolapsed	C3		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures.	C3		
	• Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library	C3		
Anal canal	• Discuss location and extent of anal canal	C2	Skill lab	SAQ

	• Describe external and internal features of Anal Canal	C2		MCQ VIVA OSPE
	• Discuss features of anal sphincters	C2		
	• Tabulate relations of the anal canal with the surrounding structures	C2		
	• Describe the Blood supply, venous and lymphatic drainage & innervations of anal canal	C2		
	• Discuss anal continence	C2		
	• Differentiate between internal and external haemorrhoids	C3		
	• Correlate with the clinical conditions	C3		
	• Understand curative and preventive health care measures.	C3		
	• Practice the principles of bioethics	C3		
	• Apply strategic use of A.I in health care	C3		
	• Read relevant research articles	C3		
	• Use of HEC digital library	C3		
Radiological Anatomy	• Identify structures on a normal X-ray abdomen	C2	Skill lab	OSPE
	• Appreciate Air fluid shadows.	C2		
	• Mark anatomical landmarks.	C2		
	• Correlate the clinical conditions	C3		
	• Understand the preventive and curative health care measures	C3		
	• Practice the principles of Bioethics	C3		
	• Apply Strategic use of AI in health care	C3		
	• Read relevant research articles	C3		
		C3		

Physiology Small Group Discussion (SGDs)

Topic	Learning Objectives Students Should Be Able To	Learning Domain	Teaching Strategy	Assessment Tools
Introduction to GIT	• Enlist general four functions performed by GIT	C1	SGD	SEQ MCQ VIVA
	• Recall physiological anatomy and blood flow through GIT	C1		
	• Briefly discuss electrical activity of GIT smooth muscle	C1		
	• Discuss in detail the three stages of swallowing	C2		SEQ

Swallowing	Briefly discuss physiological anatomy of lower esophageal sphincter and distal end of esophagus and state their functional importance	C2	SGD	MCQ VIVA
Functions of stomach	Recall physiological anatomy of stomach	C1	SGD	SEQ MCQ VIVA
	Describe motor functions of stomach including storage, mixing, propulsion and stomach emptying.	C1		
	Discuss in detail gastric factors that promote emptying	C2		
	Explain the role of enterogastric nervous reflexes and hormonal feedback.	C2		
Liver functions	Recall physiological anatomy of liver	C1	SGD	SEQ MCQ VIVA
	Discuss formation and storage of bile	C2		
	Enlist and describe all functions performed by liver	C1		
Digestion and absorption	Describe in detail the process of digestion of carbohydrates, proteins and fats with special emphasis on enzymes involved at each step	C1	SGD	SEQ MCQ VIVA
	Discuss special features of small and large intestine to promote absorptive process and mechanism of absorption in detail	C2		
Large intestine	Recall movements and functions of large intestine	C1	SGD	SEQ MCQ VIVA
	Enumerate causes of empty rectum	C1		
	Explain defecation reflex, its importance and nervous control	C2		
	Explain GIT reflexes integrated at the level of gut wall, prevertebral sympathetic ganglia and spinal cord/brain stem.	C2		

Biochemistry Small Group Discussion (SGDs)

Topic	Learning Objectives Students Should Be Able To	Learning Domain	Teaching Strategy	Assessment Tool
Saliva	Explain formation, composition & biochemical functions	C2	SGD	MCQs SAQs Viva
Gluconeogenesis & its regulation	Discuss substrates, reactions and regulation of Gluconeogenesis	C2	SGD	MCQs SAQs Viva
LFT's Jaundice	Discuss Liver function tests and Jaundice	C3	SGD	MCQs SAQs Viva

Anatomy Self Directed Learning (SDL)

Topics of SDL	Learning Objectives Students Should Be Able To	Learning Resources
Antero lateral abdominal wall,	• Explain the layers of abdominal wall.	❖ Clinical Oriented Anatomy by Keith L. Moore.7 TH Edition. (Chapter 2, Page 183,184-216). ❖ https://3d4medical.com/
	• Explain the fascia and muscles of abdominal wall.	
	• Describe nerve supply of anterior and lateral abdominal wall.	
	• Explain the segmental sympathetic supplies	
Rectus sheath	• Describe Formation of rectus sheath	❖ Clinical Oriented Anatomy by Keith L. Moore.7 TH Edition. (Chapter 2, Page 188-201). ❖ https://teachmeanatomy.info/
	• Enlist contents of rectus sheath	
Inguinal region & Hernias	• Describe Walls & detailed anatomy of Inguinal Canal	❖ Clinical Oriented Anatomy by Keith L. Moore.7 TH Edition. (Chapter 2, Page 197, 202-203, 212-213). ❖ https://3d4medical.com/
	• Explain Deep & Superficial Inguinal Ring	
	• Associated Clinicals	
Peritoneum & Peritoneal Cavity.	• Define peritoneum	❖ Clinical Oriented Anatomy by Keith L. Moore.7 TH Edition. (Chapter 2, Page 219-221,). ❖ https://teachmeanatomy.info/
	• Explain the different folds of peritoneum.	
	• 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	
	• Describe the different parts of duodenum with their anatomical differences	❖ Clinical Oriented Anatomy by Keith L. Moore.7 TH Edition. (Chapter 2, Page 239, 241,

Small Intestine	• Enumerate the relations of different parts of duodenum	❖ 244, 245, 325, 436). https://www.kenhub.com/en/library/anatomy/the-digestive-system
	• Discuss its clinical importance	
	• Anatomy of Jejunum & Ileum	
Large Intestine	• 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.7 TH Edition. (Chapter 2, Page 227,246,248, 325). ❖ https://www.kenhub.com/en/library/anatomy/the-digestive-system
Liver and pancreas	• Describe formation of hepatic diverticulum	❖ Clinical Oriented Anatomy by Keith L. Moore.7 TH Edition. (Chapter 2, Page 267-268, 272-278, 282,323, 395). ❖ https://www.kenhub.com/en/library/anatomy/the-digestive-system
	• 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.	
Vasculature of GIT (Blood Supply, Venous drainage, Lymphatic drainage)	• Explain the applied anatomy of the aorta	❖ Clinical Oriented Anatomy by Keith L. Moore.7 TH Edition. (Chapter 2, Page 228-233, 249-250, 263-285). ❖ http://www.anatomyzone.com 3D anatomy
	• 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	
Rectum & Anal Canal	• Discuss the location and extent of rectum	❖ Clinical Oriented Anatomy by Keith L. Moore.7 TH 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	
	• 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	
Innervation of Abdominal Viscera's	• Discuss cutaneous & Somatic innervation of GIT	❖ Clinical Oriented Anatomy by Keith L. Moore.7 TH Edition. (Chapter 2, Page 301-305). ❖ http://www.anatomyzone.com 3D anatomy
	• Describe Autonomic innervation of GIT	

Physiology Self Directed Learning (SDL)

Topics Of SDL	Learning Objectives Students Should Be Able To	Learning Resources
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.25 TH Edition. Overview of gastrointestinal function and regulation (Chapter 25, Page 453,467,472). ❖ Human Physiology by Dee Unglaub Silver thorn. 8 TH Edition. The Digestive System (Chapter 21Page 691,700) ❖ Physiology by Linda S. Costanzo 6 th Edition. Gastrointestinal Physiology (Chapter 8. Page 339) ❖ Physiological Basis of Medical Practice by Best & Taylor's.13 th Edition. Section 6.Gastrointestinal System. (Chapter 43, Page 681) ❖ Textbook of Medical Physiology by Guyton & Hall.14 th Edition. Gastrointestinal Physiology. Section 12. (Chapter 63, Page 787)
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 6 th Edition. Gastrointestinal Physiology (Chapter 8. Page356,360) ❖ Physiological Basis of Medical Practice by Best & Taylor's.13 th Edition. Section 6.Gastrointestinal System. (Chapter 44, Page 706) (Chapter 45, Page 720,726) ❖ Textbook of Medical Physiology by Guyton & Hall.14 th Edition. Gastrointestinal Physiology. Section 12. (Chapter 65, Page 809,811)

Small intestine motility and malabsorption (sprue, paralytic ileus and Crohn's disease)	❖ Factors affecting motility of small intestine ❖ Concept of absorption of nutrients ❖ Importance of history in diagnosis of various 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)
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 its role 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)
Pancreatitis, overall mechanism of digestion and absorption of intestine (amino acids, fatty acids and glucose)	• Pancreatitis • Conclusion of digestion and absorption of nutrients. • Clinical correlation with pancreatic enzymes. • 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)

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)
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)

Biochemistry Self Directed Learning (SDL)

Topics of SDL	Learning Objectives Students Should Be Able To	References
Carbohydrate Metabolism & Glycolysis	• Understand stages of metabolism • Explain transport of glucose across cell membrane • 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.
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.
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.
Individual Sugars	• Describe 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.
Digestion of Lipids by Pancreatic Enzymes	• Explain the digestion and absorption of lipids • Discuss the role of pancreatic enzymes in lipid digestion	❖

Histology Practicals Skill Laboratory (SKL)

Topic	At the end of practical students should be able to	Learning Domain	Teaching Strategy	Assessment Tool
Tongue & salivary glands	• Identify slides of tongue & glands under microscope	P	Skill lab	OSPE
	• Illustrate histological structure of tongue & salivary glands	C2		
	• Write two points of identification	C1		
Esophagus	• Identify slide of Esophagus under microscope	P	Skill lab	OSPE
	• Illustrate histological structure of Esophagus	C2		
	• Write two points of identification	C1		
Stomach	• Identify slide of Stomach under microscope	P	Skill lab	OSPE
	• Illustrate histological structure of Stomach	C2		
	• Write two points of identification	C1		
	• Differentiate mucosa of cardiac, fundus, body and pyloric end of stomach	C2		
Liver, Gall bladder & Pancreas	• Identify slides of Liver, Gall bladder & Pancreas under microscope	P	Skill labs	OSPE
	• Illustrate histological structures of Liver, Gallbladder & Pancreas	C2		
	• Write two points of identification	C1		
Small Intestine	• Identify slide of small intestine under microscope	P	Skill lab	OSPE
	• Illustrate histological structure of small intestine	C2		
	• Write two points of identification	C1		
Large Intestine	• Identify slide of Large Intestine under microscope	P	Skill lab	OSPE
	• Illustrate histological structure of large intestine	C2		
	• Write two points of identification	C1		

Physiology Practicals Skill Laboratory (SKL)

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

Biochemistry Practicals Skill Laboratory (SKL)

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

SECTION - III

Orientation Sessions of Medical Education

Content

- Orientation Session on Curricular Reform RMU & Feedback of Year 2023
- Student Session on Standardization of Teaching Strategies

Department of Medical Education

Topic	Learning Objectives At the end of the lecture the student should be able to	Teaching Strategy	Assessment Tool
Orientation of Integrated Modular system, Introduction 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
Standardization of Teaching Strategies	• Discuss Standardization of Different Teaching Strategies used in Integrated Model of RMU.	LGIS	MCQs

SECTION - IV

Basic and Clinical Sciences (Vertical Integration)

Content

- CBLs
- Vertical Integration LGIS

Basic and Clinical Sciences (Vertical Integration)

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)

Community Medicine

Topic	At The End Of Lecture Students Should Be Able To	Learning Domain	Teaching Strategy	Assessment Tool
Concept of Health and Disease	By the end of the session students will be able to;	C1	LGIS	MCQs
	• Define Health			
	• Identify different phases of Health	C1		
	• Elaborate concepts of Health	C2		
	• Acknowledge Dimensions of Health	C2		
	• Elucidate Dimensions of health	C2		
	• Appreciate Determinants of Health	C2		
• Describe the types of determinants	C2			
Infectious Disease Epidemiology				
Definitions	• Define important terms related to infectious disease epidemiology.	C1	LGIS	MCQs
Epidemic, endemic and	• Differentiate between epidemic, endemic and pandemic	C2		

pandemic				
Dynamics of disease transmission	Describe the dynamics of transmission of disease	C2		
Incubation period	Explain the concept of incubation period and its importance.	C2		

Medicine

Topic	At the end of the lecture, students should be able to	Learning Domain	Learning Strategy	Assessment Tools
Dysphagia	Define and discuss pathophysiology	C1	LGIS	MCQs
	Discuss the causes	C2		
	Describe clinical features	C2		
	Describe the management	C2		
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		
Jaundice	Enlist types of Jaundice	C1	LGIS	MCQs
	Discuss changes in Liver	C2		
	Describe clinical features	C2		
	Enlist investigations	C1		
	Discuss management	C2		
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		

List of GIT Module Basic and Clinical Sciences Vertical Integration Lectures

Sr. #	Date/Day	Week	Time	Department	Topic of Lectures	Teacher's Name & Contact #
1.	29-02-2024 Thursday	1 st Week	09:20am- 10:10am	Community Medicine	Concept of health & disease (Even)	Dr. Rizwana Shahid 0320-5511684
					Epidemiology of infectious diseases & Basic Concepts (Odd)	Dr. Afifa kalsoom 0333-5506597
2.	01-03-2024 Friday	1 st Week	10:00am- 11:00am	Quran Translation	Imaniyat I (Even)	Mufti Naeem Sherazi 03005580299
					Ibadat I (Odd)	Dr Fahd 03005156800
3.	01-03-2024 Friday	1 st Week	11:00am- 12:00pm	Community Medicine	Epidemiology of infectious diseases & Basic Concepts (Odd)	Dr. Afifa kalsoom 0333-5506597
					Concept of health & disease (Even)	Dr. Rizwana Shahid 0320-5511684
4.	02-03-2024 Saturday	1 st Week	9:20am – 10:10am	Behavioral Sciences	Eating Disorders	Dr. Sadia Yasir (Even)
						Dr. Zona Tahir (Odd)
5.	04-03-2024 Monday	2 nd Week	11:20am- 12:10pm	Bioethics & Research	Pakistan Medical & dental council Code of Ethics (even)	Dr. Sidra Hamid 0331-5025147
					Introduction to Descriptive Statistics (Odd)	Dr. Rizwana Shahid 0320-5511684
6.	08-03-2024 Friday	2 nd Week	08:00am- 09:00am	Medicine	Peptic ulcer (Even)	Dr Javeria Khan 03345444083
					Peptic ulcer (Odd)	Dr Anum Abbas 03455057646
7.	08-03-2024 Friday	2 nd Week	10:00am- 11:00am	Quran Translation-II	Ibadat-II (Even)	Dr Fahd 03005156800
					Imaniyat -II (Odd)	Mufti Naeem Sherazi 03005580299
8.	08-03-2024 Friday	2 nd Week	11:00am 12:00pm	Quran Translation-II	Ibadat-II (Even)	Mufti Naeem Sherazi 03005580299
					Imaniyat -II (Odd)	Dr Fahd 03005156800
9.	09-03-2024 Saturday	2 nd Week	9:20am – 10:10am	Radiology & Artificial Intelligence	Medical Imaging of abdomen-I	Dr. Quratul Ain (Even) Dr. Aneeqa Saleem (Odd)
10.	12-03-2024 Tuesday	3 rd Week	11:10am- 11:50am	Research -I & Bioethics	Introduction to descriptive statistics (Even)	Dr. Rizwana Shahid 0320-5511684
					Pakistan Medical & dental council Code of Ethics (Odd)	Dr. Sidra Hamid
11.	13-03-2024 Wednesday	3 rd Week	09:20am- 10:10am	Research-II LGIS	Classification of different types of data	Dr. Rizwana Shahid 0320-5511684 Dr.

12.	14-03-2024 Thursday	3 rd Week	09:20am- 10:10am	Medicine	State of the Art Lecture Jaundice	Worthy Vice Chancellor Prof. Dr. Muhammad Umar
13.	14-03-2024 Thursday	3 rd Week	11:10am- 11:50am	Family Medicine	Common Abdominal diseases	Dr. Sadia
						Dr. Ishtiaq
14.	15-03-2024 Friday	3 rd Week	10:00am 11:00am	Quran Translation-III	Ibadaat-3	Dr Fahd 03005156800 (Even)
					Imaniat-3	Mufti Naeem Sherazi 03005580299 (Odd)
15.	15-03-2024 Friday	3 rd Week	11:00am 12:00pm	Quran Translation-III	Imaniat-3	Mufti Naeem Sherazi 03005580299 (Even)
					Ibadaat-3	Dr Fahd 03005156800 (Odd)
16.	16-03-2024 Saturday	3 rd Week	11:10am- 11:50am	Pak Studies/Islamiyat	Tehreek-E-Pakistan Islaahi Tehreekain	Qari Aman Ullah 03467598528
					Akhirat-I	Mufti Naeem Sherazi 03005580299
17.	19-03-2024 Tuesday	4 th Week	10:30am- 11:10am	Research-III	Scales of Data Measurement	Dr. Rizwana Shahid 0320-5511684
						Dr. Afifa kalsoom 0333-5506597
						Dr. Ishtiaq
18.	21-03-2024 Thursday	4 th Week	11:10am- 12:00pm	Research-IV	Research IV: Measures of central Tendency	Dr. Rizwana Shahid 0320-5511684
						Dr. Afifa kalsoom 0333-5506597
19.	22-03-2024 Friday	4 th Week	08:00am- 09:00am	Pak Studies/Islamiyat-I	Toheed	Mufti Naeem Sherazi 03005580299
					Qayam e Pakistan, Aghraaz o Maqasid	Qari Aman Ullah 03467598528
20.	22-03-2024 Friday	4 th Week	09:00am- 10:00am	Pak Studies/Islamiyat-I	Qayam e Pakistan, Aghraaz o Maqasid	Qari Aman Ullah 03467598528
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21.	22-03-2024 Friday	4 th Week	10:00am- 11:00am	Entrepreneurship	Ideate Initial Idea	Dr. Asif Maqsood & Dr. Sidra Hamid
22.	23-03-2024 Saturday	4 th Week	11:50am – 01:00pm	Pak Studies/Islamiyat	Tehreek-e-Aligarh, Sir Syed Ahmad Khan	Qari Aman Ullah (Even)
					Akhirat -II	Mufti Naeem Sherazi (Odd)
23.	27-03-2024 Wednesday	5 th Week	10:30am- 11:10am	Research-V	Compute and Interpret measures of central tendency	Dr. Rizwana Shahid 0320-5511684 Dr. Afifa kalsoom 0333-5506597
24.	28-03-2024 Thursday	5 th Week	10:30am- 11:10am	Research-VI	Measures of dispersion/Secondary Data Analysis	Dr. Rizwana Shahid 0320-5511684 Dr. Afifa kalsoom 0333-5506597

25.	29-03-2024 Friday	5 th Week	11:10am- 11:50am	Radiology & Artificial Intelligence	Medical Imaging of abdomen-II	Dr. Sana Yaqoob (Even) \ 0342-2064666 Dr. Saba Bint e Kashmir (Odd)
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SECTION - V

Spiral Courses

Content

- **Longitudinal Themes**
 - **The Holy Quran Translation**
 - **Biomedical Ethics & Professionalism**
 - **Behavioural Sciences**
 - **Family Medicine**
 - **Artificial Intelligence (Innovation)**
 - **Integrated Undergraduate Research Curriculum (IUGRC)**
 - **Enterpreneurship**
 - **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 Sciences

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 Holy Quran Translation lecture

Topic	Learning Objectives At the end of the lecture the student should be able to	Learning Domain	Teaching Strategy	Assessment Tool
Imaniyat (Faith)	• Introduction of concept of Imaniyat • Corelate the concept of faith in different situation of life	C2	LGIS	SAQ
Tauheed (Oneness of God)	• Introduction of Quranic Concept of Tauheed • Corelate the concept of tauheed in different situation of life	C2	LGIS	SAQ
Ibadaat (Worship)	• Introduction of concept of Ibadaat • Study of Verses Related to Hajj • Impact of Hajj on a Muslim's Life	C2	LGIS	SAQ
Amr bil Ma'ruf and Nahi anil Munkar (Enjoining Good and Forbidding Evil)	• Introduction of concept of Amr bil Ma'ruf and Nahi anil Munkar • Study of Verses Related to Amr bil Ma'ruf and Nahi anil Munkar • Importance of Amr bil Ma'ruf and Nahi anil Munkar in the life of medical doctors	C2	LGIS	SAQ

Pak Studies/Islamiyat

Topic	Learning Objectives At the end of the lecture the student should be able to	Learning Domain	Teaching Strategy	Assessment Tool
Tehreek-E-Pakistan Islaahi Tehreekain	• Understand the history of Tehreek-E-Pakistan Islaahi Tehreekain.	C2	LGIS	SAQ
Akhirat-I	• Introduction of Quranic Concept of Akhriat • Corelate the concept of Akhriat in different situation of life	C2	LGIS	SAQ
Qayam e Pakistan, Aghraaz o Maqasid	• Understand the history of Qayam e Pakistan, Aghraaz o Maqasid Tehreek-E-Pakistan Islaahi Tehreekain.	C2	LGIS	SAQ
Toheed	• Introduction of Quranic Concept of Tauheed • Corelate the concept of tauheed in different situation of life	C2	LGIS	SAQ

Biomedical Ethics & Professionalism

Topic	At the End of The Session, Student Should Be Able To	Learning Domain	Teaching Strategy	Assessment Tool
Pakistan Medical & Dental Council Code of Ethics	At the end of the session students should be able to;	C2	LGIS	SAQ MCQ VIVA
	Appreciate the value of oath and pledge taken by medical student at the time of graduation from medical school			
	Appraise the importance of principles to be followed by the medical and dental practitioners to fulfil the social contract with the society in order to win the trust of the public in the profession	C2		
	Cognizant with disciplinary proceedings in case of violation of rules laid down by regulatory body	C1		

Behavioral Sciences

Topic	At The End of Lecture Students Should Be Able To	Learning Domain	Teaching Strategy	Assessment Tool
Eating Disorders	To be able to define eating disorders	C1	LGIS	MCQs
	To be able to describe the types of eating disorders	C2		
	To make differential diagnosis	C2		
	To be able to manage such conditions	C2		

Family Medicine

Topic	Learning Objectives At the end of the lecture the student should be able to	Learning Domain	Teaching Strategy	Assessment Tool
Approach to a Patient with abdominal pain	Discuss what is abdominal pain	C2	LGIS-1	MCQs
	Discuss its causes			
	Discuss diagnosis & principle of management			

Radiology & Artificial Intelligence

Topic	At the end of lecture student should be able to	Learning Domain	Teaching Strategy	Assessment Tools
X-ray abdomen	Identify normal and abnormal radiographs of abdomen (AP view)	C1	LGIS	MCQs
	Identify filling defects (Barium meal and Barium enema)	C1		
	Recognize the correct and incorrect positioning of feeding tubes	C1		
CT Scan MRI abdomen	Identify normal and abnormal CT Scan MRI abdomen	C1	LGIS	MCQs
	Discuss co-relation with Artificial Intelligence	C2		

Integrated Undergraduate Research Curriculum (IUGRC)

Topic	At the End of The Session, Student Should Be Able To	Teaching Strategy	Assessment Tool
Lecture 1: Introduction to Descriptive Statistics	At the end of the session students should be able to;	LGIS	SAQ MCQ VIVA
	Define & enlist uses of statistical knowledge in research & healthcare profession.		
	Differentiate descriptive statistics from inferential statistics		
	Appreciate value of information & precision in scientific decision making		
Lecture 2:	Describe the concept of data, variable & sources of data with respect to descriptive statistics		SAQ

Classification of different types of Data	• Enlist data types with examples from medical background	LGIS	MCQ VIVA
	• Classify types of data with examples (qualitative & quantitative)		
	• Exercise on the identification of different types of data		
Lecture 3: Scales of Data Measurement	• Enlist types of data measurement scales	LGIS	SAQ MCQ VIVA
	• Elaboration of different types of data measurement scales with example		
	• Enlist different method of data presentation (tables, graphs, diagrams, pie chart, Bar graph, histogram. line diagram scatter diagram, statistical maps, pictogram and ogive curve) according to type of data.		
Lecture 4: Measure of central tendency	• Explain concept of Measures of central tendency with illustrations form medical background	LGIS	SAQ MCQ VIVA
	• Calculate and interpret the different measures of central tendency		
Lecture 5: Measures of Dispersion	• Explain concept of Measures of dispersion with illustrations form medical background	LGIS	SAQ MCQ VIVA
	• Calculate and interpret the different measures of dispersion		
Lecture 6: Practice Session	• Compute and Interpret results of different measures of dispersion form a given data file	LGIS	SAQ MCQ VIVA

Entrepreneurship

Topics	Brief Note	Learning Outcomes
Ideate Initial Idea	How it would create value	Understand the concept of ideation in the entrepreneurial context. Learn techniques for generating creative and innovative business ideas. Develop skills to evaluate and refine initial ideas for feasibility and viability.

Digital Literacy Module

Topic	Learning Objectives At the end of the lecture the student should be able to	Teaching Strategy	Assessment Tool
RMU Goes digital	- Introduction to LMS, CMS and MS Teams. - Intorduction to RMU website - How to use HEC digital library - How to use up to date website	LGIS	MCQs

List of Foundation Module Spiral Courses Lectures

Sr. #	Date/Day	Week	Time	Department	Topic of Lectures	Teacher's Name & Contact #
1.	01-03-2024 Friday	1 st Week	10:00am- 11:00am	Quran Translation	Imaniat I (Even)	Mufti Naeem Sherazi 03005580299
					Ibadat I (Odd)	Dr Fahd 03005156800
2.	02-03-2024 Saturday	1 st Week	9:20am – 10:10am	Behavioral Sciences	Eating Disorders	Dr. Sadia Yasir (Even)
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					Imaniat-3	Mufti Naeem Sherazi 03005580299 (Odd)
11.	15-03-2024 Friday	3 rd Week	11:00am 12:00pm	Quran Translation-III	Imaniat-3	Mufti Naeem Sherazi 03005580299 (Even)

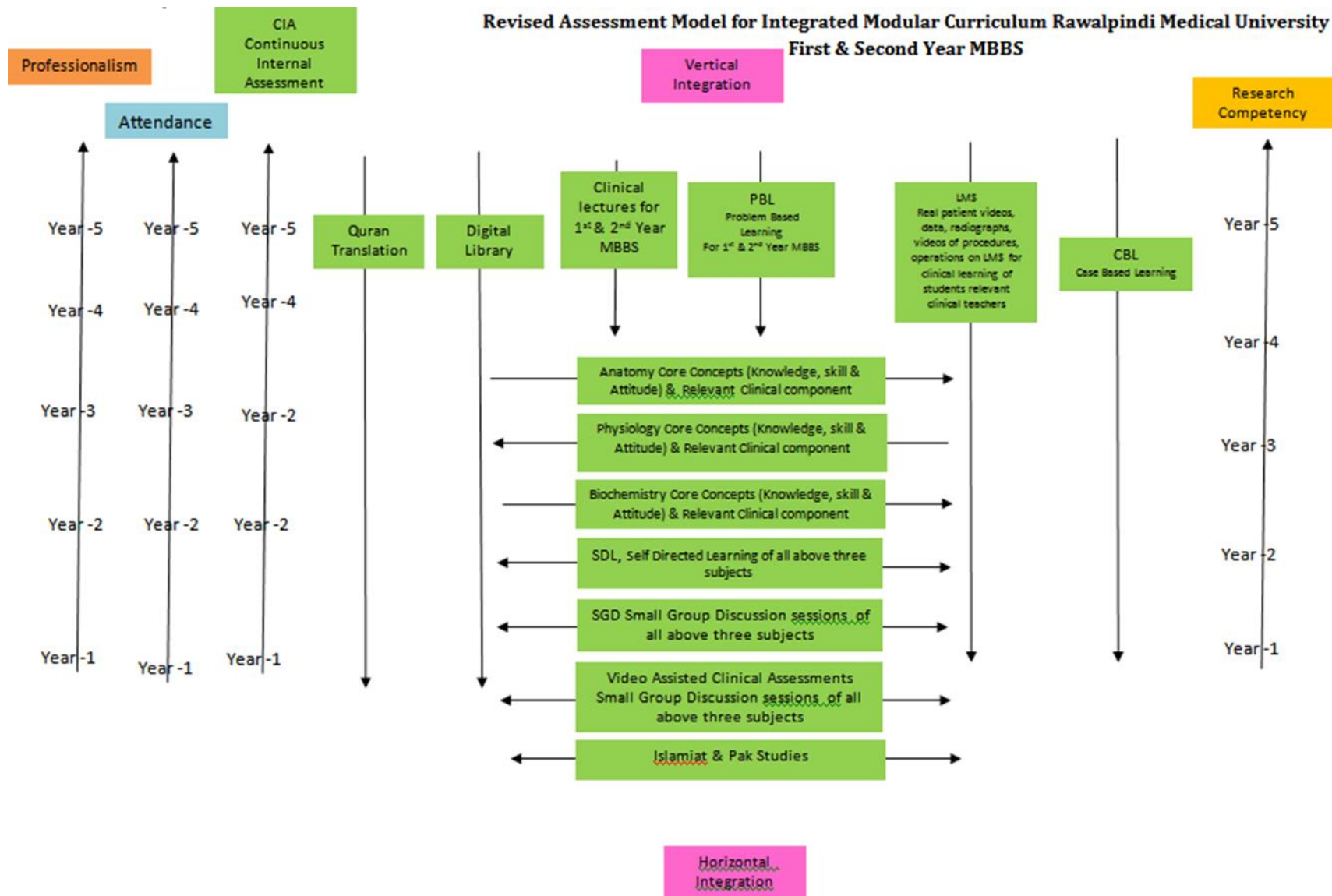
					Ibadaat-3	Dr Fahd 03005156800 (Odd)
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SECTION - VI

Assessment Policies

Contents

- **Assessment plan**
- **Types of Assessment:**
- **Modular Examinations**
- **Block Examination**
- **Table 4: Assessment Frequency & Time in GIT Module**



Gauge for Continuous Internal Assessment (CIA)

Red Zone	High Alert	Yellow Zone	Green Zone	Excellent	Extra Ordinary
0 - 25%	26 - *50%	51 - 60%	61 - 70%	71 - 80%	81 - 100%

60% and above is passing marks.

Gauge for attendance percentage

Red Zone	High Alert	Yellow Zone-1	Yellow Zone-2	Green Zone	Excellent
0 - 25%	26 - 50%	51 - 60%	61 - 74%	*75 - 80%	81 - 100%

90% is eligibility criteria for appearing in professional examination.

Assessment plan

University has followed the guidelines of Pakistan Medical and Dental Council for assessment. Assessment is conducted at the mid modular, modular and block levels.

Types of Assessment:

The assessment is formative and summative.

Formative Assessment	Summative Assessment
Formative assessment is taken at modular (2/3 rd of the module is complete) level through MS Teams. Tool for this assessment is best choice questions and all subjects are given the share according to their hour percentage.	Summative assessment is taken at the mid modular (LMS Based), modular and block levels.

Modular Assessment

Theory Paper	Viva Voce
There is a module examination at the end of first module of each block. The content of the whole teaching of the module are tested in this examination. It consists of paper with objective type questions and structured essay questions. The distribution of the questions is based on the Table of Specifications of the module. (Annexure I attached)	Structured table viva voce is conducted including the practical content of the module.

Block Assessment

On completion of a block which consists of two modules, there is a block examination which consists of one theory paper and a structured viva with OSPE.

Theory Paper	Block OSPE
There is one written paper for each subject. The paper consists of objective type questions and structured essay questions. The distribution of the questions is based on the Table of Specifications of the module.	This covers the practical content of the whole block.

Table 4-Assessment Frequency & Time in GIT Module

Block	Sr #	Module – 1 GIT Module Components	Type of Assessments	Total Assessments Time			No. of Assessments	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
Block-I	1	Mid Module Examinations LMS based (Anatomy, Physiology & Biochemistry)	Summative	30 Minutes	3 Hour 15 Minutes	45 Minutes	2 Formative	6 Summative
	2	Topics of SDL Examination on MS Team	Formative	30 Minutes				
	3	End Module Examinations (SEQ & MCQs Based)	Summative	2 Hours				
	4	Anatomy Structured and Clinically Oriented Viva	Summative	10 Minutes				
	5	Physiology Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	6.	Biochemistry Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	7.	Assessment of Clinical Lectures	Formative	15 Minutes				
	8.	Assessment of Bioethics Lectures	Summative	2 Minutes				
	9.	Assessment of IUGRC, Family Medicine Lectures	Summative	10 Minutes				

No. of Assessments of Anatomy for Second Year MBBS GIT Module

Block	Sr #	Module – 1 GIT Module Components	Type of Assessments	Total Assessments Time			No. of Assessments	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
Block-I	1	Mid Module (when 2/3 rd content is covered) Examinations LMS based combined with Anatomy & Biochemistry	Summative	25-02-2023 09:00PM - 09:30PM 30 Minutes	2 Hours & 40 minutes	30 Minutes	3 Formative	3 Summative
	2	Topics of SDL Examination on MS Team (After 15 days of teaching)	Formative	29-03-2023 12:00pm- 12:30pm 10 Minutes				
	3	End Module Examinations (SEQ & MCQs Based)	Summative	08-03-2023 08:30am - 10:30am 2 Hours				
	4	Sub Regional Assessment (Viva voce)	Formative	10 Minutes				
	5	Structured & Clinically oriented Viva voce	Summative	06-03-2023 & 07-03-2023 09:00am - 01:00pm 10 Minutes/student				
	6	Assessment of Clinical Lectures	Formative	10-03-23 09:30am- 10:00am 10 Minutes				

No. of Assessments of Physiology for Second Year MBBS GIT Module

Block	Sr. #	Module – 1 GIT Module Components	Type of Assessments	Total Assessments Time			No. of Assessments	
				Assessment Date/Time/Duration	Summative Assessment Time	Formative Assessment Time		
Block - I	1	Mid Module (when 2/3 rd content is covered) Examinations LMS based combined with Anatomy & Biochemistry	Summative	25-02-2023 09:00PM -09:30PM 30 Minutes	2 Hours & 40 minutes	20 minutes	2 Formative	3 Summative
	2	Topics of SDL Examination on MS Team (After 15 days of teaching)	Formative	18-03-2023 12:00pm - 12:30pm 10 Minutes				
	3	End Module Examinations (SEQ & MCQs Based)	Summative	09-03-2023 08:30am -10:30am 2 Hours				
	4	Structured & Clinically oriented Viva voce	Summative	06-03-2023 & 07-03-2023 09:00am -01:00pm 10 Minutes/student				
	5	Assessment of Clinical Lectures	Formative	10-03-23 09:30am-10:00am 10 Minutes				

**No. of Assessments of Biochemistry for Second Year MBBS
GIT Module**

Block	Sr. #	Module – 1 GIT Module Components	Type of Assessments	Total Assessments Time			No. of Assessments	
				Assessment Time	Summative Assessment Time	Formative Assessment Time		
Block-I	1	Mid Module (when 2/3 rd content is covered) Examinations LMS based combined with Anatomy & Biochemistry	Summative	25-02-2023 09:00PM - 09:30PM 30 Minutes	2 Hours & 40 minutes	20 Minutes	2 Formative	3 Summative
	2	Topics of SDL Examination on MS Team (After 15 days of teaching)	Formative	18-03-2023 12:00pm - 12:30pm 10 Minutes				
	3	End Module Examinations (SEQ & MCQs Based)	Summative	10-03-2023 08:30am- 10:30am 2 Hours				
	4	Structured & Clinically oriented Viva voce	Summative	10 Minutes				
	5	Assessment of Clinical Lectures	Formative	10-03-2023 08:30am- 10:30am 10 Minutes				
	Total				3 Hours			5 Assessments

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 Illustrated 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 - VI

Time Table

Integrated Clinically Oriented Modular Curriculum for Second Year MBBS

GIT Module Time Table

Second Year MBBS

Session 2023 - 2024

Batch- 50

GIT Module Team

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

Module Committee		Module Task Force Team	
Vice Chancellor RMU	Prof. Dr. Muhammad Umar	Coordinator	Dr. Uzma Kiyani (Senior Demonstrator of Physiology)
Director DME	Prof. Dr. Rai Muhammad Asghar	DME Focal Person	Dr. Sidra Hamid (DHPE)
Convener Curriculum	Prof. Dr. Naeem Akhter	Co-coordinator	Dr. Shazia Nosheen (Senior Demonstrator of Physiology)
Chairperson Anatomy & Dean Basic Sciences	Prof. Dr. Ayesha Yousaf	Co-Coordinator	Dr. Minahil Haq (Senior Demonstrator of Anatomy)
Additional Director DME	Prof. Dr. Ifra Saeed	Co-coordinator	Dr. Uzma Zafar (APWMO of Biochemistry)
Chairperson Physiology	Prof. Dr. Samia Sarwar		
Chairperson Biochemistry	Dr. Aneela Jamil	DME Implementation Team	
		Director DME	Prof. Dr. Rai Muhammad Asghar
Focal Person Anatomy Second Year MBBS	Dr. Maria Tasleem	Implementation Incharge 1st & 2 nd Year MBBS & Add. Director DME	Prof. Dr. Ifra Saeed
Focal Person Physiology	Dr. Sidra Hamid	Module planner & Implementation Coordinator	Dr. Sidra Hamid
Focal Person Biochemistry	Dr. Aneela Jamil	Editor	Muhammad Arslan Aslam
Focal Person Pharmacology	Dr. Zunera Hakim		
Focal Person Pathology	Dr. Asiya Niazi		
Focal Person Behavioral Sciences	Dr. Saadia Yasir		
Focal Person Community Medicine	Dr. Afifa kalsoom		
Focal Person Quran Translation Lectures	Dr. Uzma Zafar		
Focal Person Family Medicine	Dr. Sadia Khan		

Discipline wise Details of Modular Content

Block	Module	General Anatomy	Embryology	Histology	Gross Anatomy
1	Anatomy	-	Tongue, Body Cavities, Gastrointestinal System	Digestive Tract & associated organs (Junqueira)	Oral Cavity, Abdomen and associated viscera
	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 2023 • Student Session on Standardization of Teaching Strategies			
	Spiral Courses				
	The Holy Quran Translation	The Holy Quran Translation Component • Imaniat I • Ibadat I • Ibadaat-II • Imaniyaat-II • Ibadaat-III • Imaniat-III			
	Pak Studies/Islamiyat	• Tehreek-E-Pakistan Islaahi Tehreekain • Akhirat-I • Toheed • Qayam e Pakistan, Aghraaz o Maqasid • Tehreek-e-Aligarh, Sir Syed Ahmad Khan • Akhirat -II			
	Bioethics & Professionalism	• Pakistan Medical & dental council Code of Ethics			
	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)			

		• Compute & Interpret measures of central tendency (Research-V) • Measure of dispersion/ Secondary data Analysis (Research-VI)
	Radiology & Artificial Intelligence	• Medical imaging of abdomen- I • Medical imaging of abdomen-II
	Family Medicine	• Common Abdominal diseases
	Behavioral Sciences	• Eating Disorders
	Vertical Integration	
	Clinically content relevant to GIT module • Concept of health & disease (Community medicine) • Epidemiology of infectious diseases & Basic Concepts (Community medicine) • Peptic ulcer (Medicine) • Jaundice (Medicine) • Irritable Bowel Syndrome (Medicine) • Antidiarrheal drugs & drugs for Peptic Ulcer Disease (Pharmacology) • Acute & Chronic Diarrhea (Pediatrics) • Common GIT problems in pregnancy (Hyperemesis gravidarum, GERD, Constipation, hemorrhoids) (Gynae and OBS)	

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	- Anteriolateral Abdominal Wall - Rectus Sheath - Peritoneum & Peritoneal Cavity - Small Intestine - Large Intestine - Liver & Pancrease - Blood Supply, Venous drainage, Lymphatic drainage - Rectum & Anal Canal - Innervation of Abdominal Vessras
	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)	38 hours
2.	Small Group Discussions (SGD)	31 hours
	Supervised Self-Directed Learning (SSDL)	6 hours
3.	Practical / Skill Lab	37.5 hours

Contact Hours (Students)

Sr. #	Hours Calculation for Various Type of Teaching Strategies	Total Hours
1.	Large Group Interactive Session (LGIS)	19 hours
2.	Small Group Discussions (SGD)	31 hours
	Supervised Self-Directed Learning (SSDL)	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 (First Week)

(26-02-2024 to 02-03-2024)

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)							
26-02-2024 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			Orientation Session on Curricular Reform RMU & Feedback of Year 2023		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. Sidra hamid (Odd)			Dr Uzma Zafar (Even) Dr. Almas (Odd)									
27-02-2024 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)									
28-02-2024 WEDNESDAY	Practical &CBL/SGD Topic & Venue Mentioned at The End		BIOCHEMISTRY LGIS			ANATOMY LGIS		DME (LGIS)			DISSECTION/SGD		SDL Biochemistry Glycolysis							
			Metabolism of Monosaccharide & Disaccharide (Fructose, Lactose, Galactose)			Glycolysis		Histology of Tongue			Development of Tongue				Student Session on Standardization of Teaching Stratigies & feedback of year 2024 with Worthy Vice Chancellor		Anterolateral Abdominal Wall Refere to Table No.1			
			Dr. Aneela (Even)			Dr Uzma Zafar (Odd)		Ass. Prof. Dr Maria (Even) Prof. Dr Ifra (Odd)			Dr. Sidra Hamid (Even) Dr. Rizwana Shahid (Odd)									
29-02-2024 THURSDAY	Practical &CBL/SGD Topic & Venue Mentioned at The End		COMMUNITY MEDICINE LGIS			ANATOMY LGIS		BIOCHEMISTRY LGIS			DISSECTION/SGD		SDL Anatomy Anterolateral Abdominal Wall							
			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)									
01-03-2024 FRIDAY	8:00-9:00AM		9:00-10:00AM		10:00-11:00AM		11:00-12:00PM													
	ANATOMY LGIS		BIOCHEMISTRY LGIS		QURAN TRANSLATION I		COMMUNITY MEDICINE LGIS													
	Histology Salivary Glands	Development Of Salivary Glands	Fate of Pyruvate	Gluconeogenesis	Imaniat I	Ibadat I	Epidemiology of Infectious Diseases Basic Concepts	Concept of Health & Disease												
	Ass. Prof. Dr Maria (Even)	Prof. Dr Ifra (Odd)	Dr Uzma Zafar (Even)	Dr. Aneela (Odd)	Mufti Naeem Sherazi (Even)	Dr. Fahd Anwar (Odd)	Dr. Asif (Even)	Dr. Rizwana Shahid (Odd)												
02-03-2024 SATURDAY	Practical &CBL/SGD Topic & Venue Mentioned at The End		BEHAVIORAL SCIENCES		10:10am – 10:30am	PBL SESSION – I		Elections				SDL Anatomy Rectus Sheath								
			Eating Disorders			PBL SESSION – I Team Leader Dr. Sidra Hamid														
			Dr. Sadia Yasir (Even)		Dr. Zona Tahir (Odd)	Physiology Batch Teachers Of 2 nd Year														

Table No. 1 (Time: 12:20pm – 02:00pm)														
Batch Distribution for Practical Skills (all subjects) CBL / Small Group Discussion (Biochemistry and Physiology)			Topics for Skill Lab with Venue	Schedule for Practical / Small Group Discussion										
				Day	Histology Practical		Biochemistry Practical		Physiology Practical		Physiology SGD		Biochemistry SGD	
Batch	Teacher Name	Batch	Teacher Name		Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name				
Sr. No	Batch	Roll No.	• Histology Of Tongue and Salivary Glands (Anatomy Histology Practical) Venue- Histology Lab-Dr Gaiti Ara • Saliva I (Biochemistry Practical) Venue- Biochemistry Laboratory • Sense Of Taste (Physiology Practical) Venue – Physiology Lab	Monday	C	Dr. Gaiti Ara	B	Dr. Rahat	E	Dr. Kamil	A	Dr. Aneela	D	Dr. Uzma
1.	A	01-70		Tuesday	D		C	Dr. Nayab	A	Dr. Aneela	B	Dr. Shazia	E	Dr. Almas
2.	B	71-140		Wednesday	E		D	Dr. Uzma	B	Dr. Shazia	C	Dr. Nayab	A	Dr. Romessa
3.	C	141-210		Thursday	B		A	Dr. Almas	D	Dr. Iqra	D	Dr. Iqra	C	Dr. Nayab
4.	D	211-280		Saturday	A		E	Dr. Romessa	C	Dr. Nayab	E	Dr. Kamil	B	Dr. Rahat
5.	E	281-onwards												
			Topics for SGDs with Venue	Table No. 2 Batch Distribution and Venues for Anatomy Small Group Discussion SGDs / Dissections										
			• 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	Batches	Roll No	Anatomy Teacher	Venue							
				A	01-120	Dr. Gaiti Ara	New Lecture Hall Complex 01							
				B	121-240	Dr. Minahil Haq	Anatomy Lecture Hall 04							
				C	241 onwards	Dr Sadia Baqir	Anatomy Lecture Hall 03							
Table No. 3 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. Farhat Jabeen (PGT Physiology)	6.	C2	(176-210)	Lecture Hall no.04 (Basement)	Dr. Nayab Zonish (PGT Physiology)					
2.	A2	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Prof. Dr. Ifra Saeed (Professor of Anatomy)	7.	D1	(210-245)	Lecture Hall no.02 (Basement)	Dr. Iqra Ayub (PGT Physiology)					
3.	B1	(71-105)	Anatomy Museum (First Floor Anatomy)	Dr. Afsheen Batool (PGT Physiology)	8.	D2	(246-280)	Conference Room (Basement)	Dr. Muhammad Usman (PGT Physiology)					
4.	B2	(106-140)	Lecture Hall no.03 (First Floor)	Prof. Dr. Ayesha Yousaf (Professor of Anatomy)	9.	E1	(281-315)	New Lecture Hall no.01	Dr. Ramsha (PGT Physiology)					
5.	C1	(141-175)	Lecture Hall no.05 (Basement)	Dr. Sidra Hamid (Assitant Professor Physiology)	10	E2	(315 onwards)	Lecture Hall no.04	Dr. Jawad Hassan (Demonstrator Physiology)					
No PBL Session during this week														
			Table No. 6 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										

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Time Table for GIT Module (Second Week)
(04-03-2024 to 09-03-2024)

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)	
04-03-2024 MONDAY	Practical &CBL/SGD Topic & Venue Mentioned at The End			PHYSIOLOGY LGIS		Break	BIOCHEMISTRY LGIS		BIOETHICS LGIS & RESEARCH-I LGIS		Break	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	Pakistan Medical & Dental Council Code of Ethics	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. Sidra Hamid (Even)	Dr. Rizwana Shahid (Odd)					
05-03-2024 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)					
06-03-2024 WEDNESDAY	Practical &CBL/SGD Topic & Venue Mentioned at The End			PHYSIOLOGY LGIS			ANATOMY LGIS		Disection & Spotting			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				Peritoneum & Peritoneal Cavity Refere to Table No.1			
				Dr. Aneela (Even)	Dr. Shazia (Odd)		Ass. Prof. Dr Maria (Even)	Prof. Dr Ifra (Odd)							
07-03-2024 THURSDAY	Practical &CBL/SGD Topic & Venue Mentioned at The End			PHYSIOLOGY LGIS			PHYSIOLOGY SGD		BIOCHEMISTRY LGIS			SSDL		SDL Anatomy Inguinal Region Canal and 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)							
08-03-2024 FRIDAY	8:00-9:00am			9:00-10:00am		10:00-11:00am		11:00-12:00pm							
	DIGITAL LITRACY MODULE			ANATOMY LGIS		Quran Translation - II		Quran Translation - II							
	RMU Goes digital			Development of Stomach-2		Histology of Stomach		Ibadaat-2						Imaniyaat-2	
	Director IT Hafiz Shahid Rasool	Mr Haider	Prof. Dr. Ifra (Even)	Ass. Prof. Dr Maria (Odd)	Dr Fahd (Even)		Mufti Naeem Sherazi (Odd)	Dr Fahd (Odd)	Mufti Naeem Sherazi (Even)						
09-03-2024 SATURDAY	Practical &CBL/SGD Topic & Venue Mentioned at The End			RADIOLOGY & ARTIFICIAL INTELLIGENCE (LGIS)		Break	ANATOMY LGIS		BIOCHEMISTRY LGIS		Break	DISSECTION/SGD		SDL Anatomy Peritoneum & Peritoneal Cavity	
				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. Qurat ul Ain (Even)			Dr. Aniqua Saleem (Odd)	Ass. Prof. Dr Maria (Even)	Prof. Dr. Ifra (Odd)	Dr. Aneela (Even)		Dr. Almas (Odd)			
Online LMS Assessment Will be Conducted on 09-03-2024, Saturday at 8:30 pm															

Table No. 1 (Time: 12:20pm – 02:00pm)														
Batch Distribution for Practical Skills (all subjects) CBL / Small Group Disscusion (Biochemistry and Physiology)			Topics for Skill Lab with Venue		Schedule for Practical / Small Group Discussion									
			Day	Histology Practical		Biochemistry Practical		Physiology Practical		Physiology SGD		Biochemistry SGD		
• Histology of Esophagus & Stomach (Anatomy Histology Practical) Venue- Histology lab-Dr Minahil Haq • Saliva II (Biochemistry Practical) Venue- Biochemistry laboratory • Sense of Smell (Physiology Practical) Venue – Physiology Lab	Sr. No	Batch		Roll No.		Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name	
	1.	A	01-70	Monday	C	Dr Minahil Haq	B	Dr. Rahat	E	Dr. Kamil	A	Dr. Aneela	D	Dr. Uzma
	2.	B	71-140	Tuesday	D		C	Dr. Nayab	A	Dr. Aneela	B	Dr. Shazia	E	Dr. Almas
	3.	C	141-210	Wednesday	E		D	Dr. Uzma	B	Dr. Shazia	C	Dr. Nayab	A	Dr. Romessa
	4.	D	211-280	Thursday	B		A	Dr. Almas	D	Dr. Iqra	D	Dr. Iqra	C	Dr. Nayab
				Saturday	A		E	Dr. Romessa	C	Dr. Nayab	E	Dr. Kamil	B	Dr. Rahat

5.	E	281-onwards	Topics for SGDs / CBL with Venue	Table No. 2 Batch Distribution and Venues for Anatomy Small Group Discussion SGDs / Dissections			
- 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)				Batches	Roll No	Anatomy Teacher	Venue
				A	01-120	Dr. Gaiti Ara	New Lecture Hall Complex 01
				B	121-240	Dr. Minahil Haq	Anatomy Lecture Hall 04
				C	241 onwards	Dr Sadia Baqir	Anatomy Lecture Hall 03

Table No. 3 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. Farhat Jabeen (PGT Physiology)	6.	C2	(176-210)	Lecture Hall no.04 (Basement)	Dr. Nayab Zonish (PGT Physiology)
2.	A2	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Prof. Dr. Ifra Saeed (Professor of Anatomy)	7.	D1	(210-245)	Lecture Hall no.02 (Basement)	Dr. Iqra Ayub (PGT Physiology)
3.	B1	(71-105)	Anatomy Museum (First Floor Anatomy)	Dr. Afsheen Batool (PGT Physiology)	8.	D2	(246-280)	Conference Room (Basement)	Dr. Muhammad Usman (PGT Physiology)
4.	B2	(106-140)	Lecture Hall no.03 (First Floor)	Prof. Dr. Ayesha Yousaf (Professor of Anatomy)	9.	E1	(281-315)	New Lecture Hall no.01	Dr. Ramsha (PGT Physiology)
5.	C1	(141-175)	Lecture Hall no.05 (Basement)	Dr. Sidra Hamid (Assitant Professor Physiology)	10	E2	(315 onwards)	Lecture Hall no.04	Dr. Jawad Hassan (Demonstrator Physiology)

No PBL Session during this week

Table No. 6 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

Time Table for GIT Module (Third Week)

(11-03-2024 to 16-03-2024)

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

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)		
11-03-2024 MONDAY	Practical (Supervised by Prof Ifra Saeed) &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 cirrhosisandportalhypertens ion	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. Uzma (Even)	Dr. Fareed (Even)		Dr. Almas (Even)	Dr. Aneela (Odd)								
12-03-2024 TUESDAY	Practical (Supervised by Prof Ifra Saeed) &CBL/SGD Topic & venue mentioned at the end	PHYSIOLOGY LGIS			ANATOMY LGIS		RESEARCH -I & BIOETHICS			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	Introduction to descriptive statistics	Pakistan Medical & dental council Code of Ethics		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. Rizwana Shahid (Even)	Dr. Sidra Hamid (Odd)						
		13-03-2024 WEDNESDAY	Practical (Supervised by Prof Ifra Saeed) &CBL/SGD Topic & venue mentioned at the end		RESEARCH-II LGIS		ANATOMY LGIS		BIOCHEMISTRY LGIS					DISSECTION/CBL
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				
14-03-2024 THURSDAY	Practical (Supervised by Prof Ifra Saeed) &CBL/SGD Topic & venue mentioned at the end	ANATOMY			MEDICINE LGIS		PBL SESSION – II			SSDL		SDL Anatomy Small Intestine		
		Development of Gallbladder & Pancreas	Histology of Gallbladder & Pancreas		State Of The Art Lecture On Jaundice		PBL SESSION – II Team Leader Dr. Sidra Hamid			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		Physiology Batch Teachers Of 2 nd Year							
		15-03-2024 FRIDAY	Dissection / Spotting		8:00-9:00AM		9:00-10:00AM		10:00-11:00AM		11:00-12:00PM			
DISSECTION				ANATOMY LGIS		QURAN TRANSLATION-III		QURAN TRANSLATION-III						
Histology Of_Gallbladder & Pancreas	Development Of Gallbladder &Pancreas			Ibadaat-3	Imaniat-3	Imaniat-3	Ibadaat-3							
		Ass. Prof. Dr Maria (Even)	Prof Dr Ifra (Odd)	Dr. Fahd Anwar (Even)	Mufti Naeem Sherazi (Odd)	Mufti Naeem Sherazi (Even)	Dr. Fahd Anwar (Odd)							
16-03-2024 SATURDAY	Practical (Supervised by Prof Ifra Saeed) &CBL/SGD Topic & Venue Mentioned at The End	PHYSIOLOGY LGIS		Break	ANATOMY LGIS		PAK STUDIES/ISLAMIYAT			SDL EVALUATION		DISSECTION/SGD		SDL Anatomy Large Intestine Online SDL 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	Tehreek-E- Pakistan Islaahi Tehreekain	Akhi rat-I	Akhrt -I	TehreekE- Pakistan Islaahi Tehreekn	SDL Evaluation	Gallbladder & Biliary Apparatus		
		Dr Aneela (Even)	Dr Shazia (Odd)		Prof Dr Ifra (Even)	Ass. Prof. Dr Maria (Odd)	Qari Aman Ullah (Even)	Mufi Naeem Sherazi (Odd) (Even)	Qari Aman Ullah (Odd)					
Online LMS Assessment Will be Conducted on 16-03-2024, Saturday at 8:30 pm														

Table No. 1 (Time: 12:20pm – 02:00pm)														
Batch Distribution for Practical Skills (all subjects) CBL / Small Group Discussion (Biochemistry and Physiology)			Topics for Skill Lab with Venue	Schedule for Practical / Small Group Discussion										
				Day	Histology Practical		Biochemistry Practical		Physiology Practical		Physiology SGD		Biochemistry SGD	
Batch	Teacher Name	Batch	Teacher Name		Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name		
Sr. No	Batch	Roll No.	- 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	Monday	C	Dr Sadia Baqir	B	Dr. Rahat	E	Dr. Kamil	A	Dr. Aneela	D	Dr. Uzma
1.	A	01-70		Tuesday	D		C	Dr. Nayab	A	Dr. Aneela	B	Dr. Shazia	E	Dr. Almas
2.	B	71-140		Wednesday	E		D	Dr. Uzma	B	Dr. Shazia	C	Dr. Nayab	A	Dr. Romessa
3.	C	141-210		Thursday	B		A	Dr. Almas	D	Dr. Iqra	D	Dr. Iqra	C	Dr. Nayab
4.	D	211-280		Saturday	A		E	Dr. Romessa	C	Dr. Nayab	E	Dr. Kamil	B	Dr. Rahat
5.	E	281-onwards												
			Topics for SGDs / CBL with Venue	Table No. 2 Batch Distribution and Venues for Anatomy Small Group Discussion SGDs / Dissections										
				Batches	Roll No	Anatomy Teacher		Venue						
				A	01-120	Dr. Gaiti Ara		New Lecture Hall Complex 01						
				B	121-240	Dr. Minahil Haq		Anatomy Lecture Hall 04						
				C	241 onwards	Dr Sadia Baqir		Anatomy Lecture Hall 03						
Table No. 3 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. Farhat Jabeen (PGT Physiology)		6.	C2	(176-210)	Lecture Hall no.04 (Basement)		Dr. Nayab Zonish (PGT Physiology)			
2.	A2	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Prof. Dr. Ifra Saeed (Professor of Anatomy)		7.	D1	(210-245)	Lecture Hall no.02 (Basement)		Dr. Iqra Ayub (PGT Physiology)			
3.	B1	(71-105)	Anatomy Museum (First Floor Anatomy)	Dr. Afsheen Batool (PGT Physiology)		8.	D2	(246-280)	Conference Room (Basement)		Dr. Muhammad Usman (PGT Physiology)			
4.	B2	(106-140)	Lecture Hall no.03 (First Floor)	Prof. Dr. Ayesha Yousaf (Professor of Anatomy)		9.	E1	(281-315)	New Lecture Hall no.01		Dr. Ramsha (PGT Physiology)			
5.	C1	(141-175)	Lecture Hall no.05 (Basement)	Dr. Sidra Hamid (Assitant Professor Physiology)		10	E2	(315 onwards)	Lecture Hall no.04		Dr. Jawad Hassan (Demonstrator Physiology)			
No PBL Session during this week														
				Table No. 6 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									

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Time Table for GIT Module (Fourth Week)
(18-03-2024 to 23-03-2024)

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)
18-03-2024 MONDAY	Practical (Supervised by Prof Ifra Saeed) &CBL/SGD Topic & Venue Mentioned at The End	PHYSIOLOGY LGIS		Break	ANATOMY LGIS		PHYSIOLOGY SDL-II		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	Gastric secretion, digestion in stomach, peptic ulcer and gastritis		Spleen	
		Dr Shazia (Even)	Dr Sidra Hamid (Odd)		Ass. Prof. Dr. Maria (Even)	Prof. Dr. Ifra(Odd)	Dr. Shazia (Even)	Dr. Sheena (Even)		
19-03-2024 TUESDAY	Practical (Supervised by Prof Ifra Saeed) &CBL/SGD Topic & Venue Mentioned at The End	BIOCHEMISTRY LGIS			RESEARCH-III LGIS		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 Uzma (Even)	Dr. Fareed (Odd)		
20-03-2024 WEDNESDAY	Practical (Supervised by Prof Ifra Saeed) &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. Sadia (Even)	Dr. Ishtiaq (Odd)		Dr. Shazia (Even)	Dr. Sheena (Odd)	Prof. Dr. Ifra (Even)	Prof Dr. Saima (Odd)		
21-03-2024 THURSDAY	Practical (Supervised by Prof Ifra Saeed) &CBL/SGD Topic & Venue Mentioned at The End	BIOCHEMISTRY LGIS			ANATOMY LGIS		RESEARCH-IV		DISSECTION/ SGD	SDL Anatomy Liver and Pancreas
		Nutrition-I	GIT Hormones & Succuserentericus		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)		
22-03-2024 FRIDAY	8:00am -- 9: 20am	9:20am - 10:00am		10:00-11:00am		11:00-12:00pm		SDL Anatomy (Blood Supply, Venous drainage, Lymphatic drainage)		
	Practical & CBL / SGD Topic & Venue Mentioned at The End	Physical Activity	PAK STUDIES		ISLAMIYAT-I					
			Qayam e Pakistan, Aghraaz o Maqasid		Toheed					
23-03-2024 SATURDAY				Qari Aman Ullah		Mufti Naeem Sherazi (Odd)				
				Pakistan Day						

Table No. 1 (Time: 12:20pm – 02:00pm)

Batch Distribution for Practical Skills (all subjects) CBL / Small Group Disscusion (Biochemistry and Physiology)			Topics for Skill Lab with Venue	Schedule for Practical / Small Group Discussion										
			- Histology of Small Intestine (Anatomy Histology Practical) Venue-Histology laboratory-Dr Tariq Furqan - Estimation of ALT & ALP (wheat) (Biochemistry Practical) Venue-Biochemistry laboratory - Examination of Deep reflexes (Physiology Practical) Venue – Physiology Lab	Day	Histology Practical		Biochemistry Practical		Physiology Practical		Physiology SGD		Biochemistry SGD	
					Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name
Sr. No	Batch	Roll No.		Monday	C	Dr Tariq Furqan	B	Dr. Rahat	E	Dr. Kamil	A	Dr. Aneela	D	Dr. Uzma
1.	A	01-70		Tuesday	D		C	Dr. Nayab	A	Dr. Aneela	B	Dr. Shazia	E	Dr. Almas
2.	B	71-140		Wednesday	E		D	Dr. Uzma	B	Dr. Shazia	C	Dr. Nayab	A	Dr. Romessa
3.	C	141-210		Thursday	B		A	Dr. Almas	D	Dr. Iqra	D	Dr. Iqra	C	Dr. Nayab
4.	D	211-280		Saturday	A		E	Dr. Romessa	C	Dr. Nayab	E	Dr. Kamil	B	Dr. Rahat
5.	E	281-onwards	Table No. 2 Batch Distribution and Venues for Anatomy Small Group Disscusion SGDs / Dissections											
			- 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	Batches	Roll No	Anatomy Teacher	Venue							
				A	01-120	Dr. Gaiti Ara	New Lecture Hall Complex 01							
				B	121-240	Dr. Minahil Haq	Anatomy Lecture Hall 04							
				C	241 onwards	Dr Sadia Baqir	Anatomy Lecture Hall 03							

Table No. 3 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. Farhat Jabeen (PGT Physiology)	6.	C2	(176-210)	Lecture Hall no.04 (Basement)	Dr. Maryam (PGT Physiology)
2.	A2	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Prof. Dr. Ifra Saeed (Professor of Anatomy)	7.	D1	(210-245)	Lecture Hall no.02 (Basement)	Dr. Iqra Ayub (PGT Physiology)
3.	B1	(71-105)	Anatomy Museum (First Floor Anatomy)	Dr. Afsheen Batool (PGT Physiology)	8.	D2	(246-280)	Conference Room (Basement)	Dr. Almas (PBL) Dr. Najam-us-Sehar (SGD)
4.	B2	(106-140)	Lecture Hall no.03 (First Floor)	Prof. Dr. Ayesha Yousaf (Professor of Anatomy)	9.	E1	(281-315)	New Lecture Hall no.01	Dr. Muhammad Usman
5.	C1	(141-175)	Lecture Hall no.05 (Basement)	Dr. Nayab (PGT Physiology)	10	E2	(315 onwards)	Lecture Hall no.04	Dr. Rahat (PBL) Dr. Fareed Ullah (SGD)

No PBL Session during this week

Table No. 6 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

Time Table for GIT Module (Fifth Week)

(25-03-2024 to 30-03-2024)

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)
25-03-2024 MONDAY	Practical (Supervised by Prof Ifra Saeed) &CBL/SGD Topic & venue mentioned at the end	PHYSIOLOGY SDL-V		Break	BIOCHEMISTRY LGIS		ANATOMY LGIS		DISSECTION/SGD		SDL Physiology Hormones of GIT
		Pancreatitis, overall mechanism of digestion and absorption of intestine (amino acids, fatty acids and glucose)			GIT Hormones & Succusentericus	Nutrition-I	Development of Body Cavities-I	Histology of Large Intestine-II	Radiological Anatomy		
		Dr. Uzma (Even)	Dr. Fareed (Odd)		Dr. Almas (Even)	Dr. Rahat (Odd)	Prof Dr. Ifra Saeed (Even)	Prof. Dr. Ayesha / Ass. Prof Dr Maria (Odd)			
26-03-2024 TUESDAY	Practical (Supervised by Prof Ifra Saeed) &CBL/SGD Topic & venue mentioned at the end	PHYSIOLOGY SDL-VI			ANATOMY LGIS		BIOCHEMISTRY LGIS		DISSECTION/SGD		SDL Physiology Digestion & Absorption
		Motor function of large gut, defecation reflex			Histology of Large Intestine-II	Development of Body Cavities-I	Digestion & Absorption-I	Nutrition-II	Rectum		
		Dr. Shazia (Even)	Dr. Sheena (Odd)		Prof. Dr. Ayesha / Ass. Prof Dr Maria (Even)	Prof Dr. Ifra Saeed (Odd)	Dr. Kashif (Even)	Dr. Rahat (Odd)			
27-03-2024 WEDNESDAY	Practical (Supervised by Prof Ifra Saeed) &CBL/SGD Topic & venue mentioned at the end	ANATOMY LGIS			RESEARCH (LGIS)		BIOCHEMISTRY LGIS		DISSECTION/SGD		SDL Biochemistry Lipid Digestion and Absorbstion Online Clinical Evaluation
		Development of body Cavities-II	Development of body Cavities-II		SRC (Teamwork, Professionalism)		Digestion and absorption-I	Nutrition-II	Anal canal		
		Prof. Dr. Ifra Saeed (Evem)	Prof. Dr. Saima (Odd)		Dr. Asif (Even)	Dr. Rizwana Shahid (Odd)	Dr. Kashif (Odd)	Dr. Rahat (Even)			
28-03-2024 THURSDAY	Practical (Supervised by Prof Ifra Saeed) &CBL/SGD Topic & venue mentioned at the end	PHYSIOLOGY SDL-VII			RESEARCH PRACTICAL SESSION I		BIOCHEMISTRY LGIS		DISSECTION/SGD		SDL Anatomy Rectum & Anal canal
		Pathophysiology (diarrhea, constipation, ulcerative colitis, mega colon and carcinoma of colon)			Synopsis wrting session		Digestion & Absorption-II	Nutrition-III	Innervation of abdominal Viscera		
		Dr. Uzma (Even)	Dr. Fareed (Odd)		Dr. Asif (Even)	Dr. Rizwana Shahid (Odd)	Dr. Kashif (Even)	Dr. Rahat (Odd)			
29-03-2023 FRIDAY	Practical (Supervised by Prof Ifra Saeed) &CBL/SGD Topic & venue mentioned at the end (Saturday Batch)	8:00-9:00AM		9:00-10:00AM		10:00AM-11:00AM		11:00AM-12:00PM			
		BIOCHEMISTRY LGIS		DISSECTION/SGD		RADIOLOGY & ARTIFICIAL INTELLIGENCE (LGIS)					
		Nutrition-III	Digestion & Absorption-II	Cross Sectional Anatomy		Medical Imaging of abdomen-II					
		Dr. Rahat (Even)	Dr. Kashif (Odd)			Dr. Sana Yaqoob (Even)	Dr. Saba Bint e Kashmir (Odd)				
30-03-2023 SATURDAY	Early Clinical Exposure* (Its Implementation will be explained on Implementation page) *			Break	Early Clinical Exposure* (Its Implementation will be explained on Implementation page) *						SDL Anatomy Innervation of abdominal Visceras
Online LMS Assessment Will be Conducted on 30-03-2024, Saturday at 8:30 pm											

Time Table for GIT Module (Sixth Week)
(01-04-2024 TO 06-04-2024)

Date / Days	Tentative Exam Discipline Details	Time
01-04-2024 Monday	Anatomy Written	08:00am - 11:00am
02-04-2024 Tuesday	Biochemistry Written / Assessment of Clinical Subjects	08:00am - 11:00am
03-04-2024 Wednesday	Physiology Written / Video Assisted Quiz	08:00am - 02:00pm
04-04-2024 Thursday	Anatomy Viva Voce (Roll No 1-120) Physiology Viva Voce (Roll No 121-240) Biochemistry Viva Voce (Roll No.241-onwards)	08:00am - 02:00pm
05-04-20234 Friday	Anatomy Viva Voce (Roll No.241-onwards) Physiology Viva Voce (Roll No 1-120) Biochemistry Viva Voce (Roll No 121-240)	08:00am - 02:00pm
06-04-2024 Saturday	Anatomy Viva Voce (Roll No 121-240) Physiology Viva Voce (Roll No.241-onwards) Biochemistry Viva Voce (Roll No 1-120)	08:00am - 02:00pm

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

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

Note: OSPE will be conducted in block exam.

SECTION VIII

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

Details of Written Assessment and Viva Voce

Sr No	Subject	No of SAQs	Marks	Overall %	Distribution with domain	No of MCQs	Marks	Overall %	Distribution with domain	Total no. of Viva Questions (K)
1.	Anatomy	4	20 (5 Marks each)	50% Core Knowledge (2 Questions) 50%Integrations (2 Questions)	Q1: Core Knowledge (25%) Q2: Core Knowledge (25%) Q3: Spiral Integration (25%) Q4: Vertical integration (12.5%) + Horizontal integration (12.5%)	35	35 (1 Mark each)	50% Core Knowledge 50%Integrations	Core Knowledge 48% (Approx. 50%) (17 MCQs) Spiral Integration 20% (7 MCQs) Horizontal Integration 8.5% (3 MCQs) Vertical Integration 22.8% (8 MCQs)	6 (25 Marks)
2.	Physiology	4	20 (5 Marks each)	50% Core Knowledge (2 Questions) 50%Integrations (2 Questions)	Q1: Core Knowledge (25%) Q2: Core Knowledge (25%) Q3: Spiral integration (25%) Q4: Vertical integration (12.5%) + Horizontal integration (12.5%)	35	35 (1 Mark each)	50% Core Knowledge 50%Integrations	Core Knowledge 48% (Approx. 50%) (17MCQs) Spiral Integration 20%(7MCQs) Horizontal Integration 8.5% (3 MCQs) Vertical Integration 22.8% (8 MCQs)	6 (25 Marks)
3.	Biochemistry	4	20 (5 Marks each)	50% Core Knowledge (2 Questions) 50%Integrations (2 Questions)	Q1: Core Knowledge (25%) Q2: Core Knowledge (25%) Q3: Spiral integration (25%) Q4: Vertical integration (12.5%) + Horizontal integration (12.5%)	35	35 (1 Mark each)	50% Core Knowledge 50%Integrations	Core Knowledge 48% (Approx. 50%) (17MCQs) Spiral Integration 20% (7 MCQs) Horizontal Integration 8.5% (3 MCQs) Vertical Integration 22.8% (8 MCQs)	6 (25 Marks)
	Total	12 SAQs	60 Marks			105 MCQs	105 Marks			75 Marks
	Total Marks : 60+105+75= 240 Marks									

Annexure I

- **Model Templates for MCQ & SEQ Paper,**
 - **MCQ & SEQ Sample**

Rawalpindi Medical University Rawalpindi
Model Template for MCQ Paper (Module & Block)

Total Marks:35 (1 mark for each question)

Date:

Roll No._____

Total Time:35 Minutes

Encircle the single best response

Q. #	Integrated & Clinically Oriented Assessment of the Subject of Anatomy (MCQ Paper) Section - A: Anatomy Core Knowledge 48%		Level of Cognition
	(i)	Gross: 24%	
1.	a. c. e.	b. d.	C2
2.	a. c. e.	b. d.	C2
3.	a. c. e.	b. d.	C1
4.	a. c. e.	b. d.	C1
5.	a. c. e.	b. d.	C3
6.	a. c. e.	b. d.	C3
7.	a. c. e.	b. d.	C3
8.	a. c.	b. d.	C2

	e.	
9.	a. c. e.	b. d. C3
(ii) Histology: 12%		
10.	a. c. e.	b. d. C1
11.	a. c. e.	b. d. C1
12.	a. c. e.	b. d. C1
13.	a. c. e.	b. d. C1
(iii) Embryology: 12%		
14.	a. c. e.	b. d. C1
15.	a. c. e.	b. d. C3
16.	a. c. e.	b. d. C2
17.	a. c. e.	b. d. C1

Section - B: Anatomy Horizontal Integrations 9%		
Horizontal Integration with Physiology (6%)		
18.	a. c. e.	b. d. C3
19.	a. c. e.	b. d. C3
Horizontal Integration with Biochemistry (3%)		
20.	a. c. e.	b. d. C3
Section - C: Anatomy Vertical Integration 23%		
21.	a. c. e.	b. d. C2
22.	a. c. e.	b. d. C3
23.	a. c. e.	b. d. C3
24.	a. c. e.	b. d. C3
25.	a. c. e.	b. d. C2
26.	a. c. e.	b. d. C2

27.	a. c. e.	b. d.	C1
28.	a. c. e.	b. d.	C3
Section - D: Anatomy Spiral Integration 20%			
Research (5.7%)			
29.	a. c. e.	b. d.	C1
30.	a. c. e.	b. d.	C1
Bioethics (5.7%)			
31.	a. c. e.	b. d.	C1
32.	a. c. e.	b. d.	
Family Medicine (5.7%)			
33.	a. c. e.	b. d.	C3
34.	a. c. e.	b. d.	

Artificial Intelligence (2.85%)			
35.	a.	b.	C2
	c.	d.	
	e.		

Annexure II

- **Structured Viva**

GIT Module

Structured Viva

2nd Year MBBS Session 2023

[illegible]

P: Punctuality, D: Dressing , C: Communication

Head of Anatomy Department
Rawalpindi Medical University
Rawalpindi

DEPARTMENT OF PHYSIOLOGY RAWALPINDI MEDICAL UNIVERSITY, RAWALPINDI

Updated Structured Performa for Viva Voce

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

[illegible]

Updated on: 7th October 2023

Prof. Dr Samia Sarwar

Department of Physiology

Rawalpindi Medical University

Rawalpindi Medical University Department of Biochemistry
2ND Year MBBS Batch 50
GIT Module (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)

Instructions:
All students should bring their practical copies
University **ID CARD** is must during viva examination

Dr. Aneela Jamil
Head of Biochemistry Department
Rawalpindi Medical University
Rawalpindi

RAWALPINDI MEDICAL UNIVERSITY, RWP
ANATOMY DEPARTMENT
2nd Year MBBS Module Exam (GIT)

1. Omental bursa develops due to:
 - a. Gut rotation.
 - b. Rotation of stomach.
 - c. Rotation of dorsal mesogastrium.
 - d. Rotation & cavitations in dorsal mesogastrium.
 - e. Formation of synovial membrane behind stomach.
3. Primarily retro peritoneal organs include:
 - a. Pancreas.
 - b. Ascending & descending colon.
 - c. Kidneys & suprarenals.
 - d. Kidneys, suprarenals & rectum.
 - e. Duodenum & pancreas.
5. Which of the following is not a derivative of hind gut:
 - a. Left 1/3 of transverse colon.
 - b. Descending colon.
 - c. Rectum & upper part of anal canal.
 - d. ileum
 - e. Sigmoid colon
2. Rotation of stomach takes place around:
 - a. Longitudinal & antero posterior axes.
 - b. Axis formed by celiac trunk.
 - c. Dorsal mesogastrium.
 - d. Ventral mesogastrium.
 - e. Longitudinal axis only
4. Regarding spleen:
 - a. It is derived from foregut endoderm.
 - b. It develops from a mass of mesenchymal cells located between the layers of the dorsal mesogastrium.
 - c. Develops in ventral mesogastrium.
 - d. Is solely ectodermal.
 - e. Never functions as hematopoietic organ

RAWALPINDI MEDICAL UNIVERSITY
GIT MODULE EXAM 2ND YEAR MBBS
ANATOMY SEQs

- | | | |
|----|--|-----|
| 1. | a. Describe formation and enlist contents of rectus sheath. | 2.5 |
| | b. Give various sites of portosystemic anastomosis with its clinical significance. | 2.5 |
| 2. | a. Draw and label posterior relations of right kidney. | 02 |
| | b. Give course and relations of abdomino pelvic part of left ureter. | 03 |

RAWALPINDI MEDICAL UNIVERSITY
DEPARTMENT OF PHYSIOLOGY
GIT MODULE EXAMINATION MCQ PAPER FOR SECOND YEAR MBBS

1. Mass Movements are initiated by following reflex:
 - a. Vomiting
 - b. Entrogastric
 - c. Gastro colic
 - d. Vasovagal
 - e. Chewing
2. The center for control of parasympathetic defecation reflex is located in:
 - a. Brainstem
 - b. Meissner's plexus
 - c. Cerebral cortex
 - d. Sacral segments of spinal cord
 - e. Myenteric plexus
3. The cephalic phase of gastric secretion accounts for the following percentage of total gastric secretion:
 - a. 10%
 - b. 60%
 - c. 20%
 - d. 70%
 - e. 30%
4. Intrinsic factor is secreted by the following cells:
 - a. Chief
 - b. Peptic
 - c. Mucus Neck
 - d. Enterochromaffin-like
 - e. Parietal
5. Spike potentials in intestinal smooth muscle are caused by influx of:
 - a. Sodium ions
 - b. Chloride ions
 - c. Potassium ions
 - d. Both sodium ions & calcium ions
 - e. Calcium ions

RAWALPINDI MEDICAL UNIVERSITY
GIT MODULE EXAM 2ND YEAR MBBS
PHYSIOLOGY SEQS

1. A 5-year -old child went to the amusemet park. While taking rotatory rides he developed nausea, vomiting & vertigo.
 - a) Name the center located in medulla for initiation of vomiting by motion sickness. 1
 - b) Give a brief account of vomiting reflex leading to the vomiting act. 4

2. Briefly write the physiological importance of:
 - a) Countercurrent blood flow in the villi 2
 - b) Mastication (Chewing) 3

Rawalpindi Medical University Department of Biochemistry
2nd Year MBBS
GIT Module

1. Glycogen:

- a. Stores are increased in fed state
- b. Structure is abnormal shaped in von Gierke's disease
- c. Less branched structure than starch
- d. Stores in liver decrease if phosphofructokinase enzyme is deficient
- e. Muscle glycogen provides glucose to brain during fasting

2. End product of carbohydrate digestion is:

- a. Glucose
- b. Lactose
- c. Starch
- d. Glycogen
- e. Maltose Synthase

3. Regulatory enzyme of Glycogenolysis is:

- a. Synthase
- b. Phosphorylase
- c. Branching enzyme
- d. Debranching enzyme
- e. Phosphoglucomutase mutase

4. End product of anaerobic glycolysis is:

- a. Pyruvate
- b. Acetyl CoA
- c. Citrate
- a. Lactate
- d. Oxaloacetate

SEQ

Q. a. Explain composition and role of gastric juice. 03

b. Discuss fate of pyruvate. 02

RAWALPINDI MEDICAL UNIVERSITY
DEPARTMENT OF BIOMEDICAL ETHICS
2ND YEAR MBBS
GIT MODULE

1. ----Includes rules of conduct that may be used to regulate our activities concerning the biological world.
 - a. Bio-piracy
 - b. Biosafety
 - c. Bioethics
 - d. Bio-patents
 - e. Bio-logistic
3. Following is not code of ethics.
 - a. Integrity
 - b. Objectivity
 - c. Confidentiality
 - d. Behaviour
 - e. Autonomy
5. -----Principle requiring that physicians provide, positive benefits
 - a. Justice
 - b. Autonomy
 - c. Beneficence
 - d. Veracity
 - e. Fidelity
2. The right of patients having self-decision is called.
 - a. Justice
 - b. Autonomy
 - c. Beneficence
 - d. Veracity
 - e. Fidelity
4. -----in the context of medical ethics, if it's fair and balanced
 - a. Justice
 - b. Autonomy
 - c. Beneficence
 - d. Veracity
 - e. Fidelity