

MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE MIRPUR

DEPARTMENT OF MEDICAL EDUCATION



GASTROINTESTINAL, HEPATOBILIARY AND METABOLISM-1 MODULE

2ND YEAR MBBS (BATCH-17)

BLOCK: D

DURATION: 9-WEEKS

FROM: 2ND FEB TO 1ST APRIL 2026

MODULE CODE: MB2-D-GIT-I-06

Contents

1.	Instructions:	3
2.	Module Committee:	4
3.	OUR VISION STATEMENT	4
4.	OUR MISSION STATEMENT	4
5.	Module Mapping of MBBS Program	5
6.	What Is A Study Guide?	6
7.	Recommended List Of Icons	7
8.	Organization of Module	8
	Introduction	8
	Rational	8
	Themes & duration	8
9.	Teaching and learning strategies	9
10.	General Learning Objectives	10
11.	Specific learning objectives	11
12.	Examination and Methods of Assessment:	41
1.1	Formative Assessment:	41
1.2	Summative Assessment:	41
1.3	Assessment Tools:	41
1.4	Feedback Mechanism:	41
13.	Learning Opportunities and Resources	42
14.	Timetables	43
15.	For inquiry and troubleshooting	52
16.	Course Feedback Form	53

Disclaimer:

The development of study guides and the associated curriculum is an iterative process of quality enhancement, informed by stakeholder feedback. All elements—including content, delivery modes, scheduled hours, and assessment—are subject to periodic review and potential revision.

Students are advised that the provided topics and learning outcomes represent the essential foundation for approximately 70% of examinations. The remainder will be derived from lecture content and directives issued by course instructors.

1. Instructions:

2. Maintain a minimum attendance of 85% in all scheduled academic activities otherwise will not be allowed to sit in annual exam.
3. Adhere strictly to the prescribed college uniform and professional dress code at all times.
4. Demonstrate professionalism and respect toward peers, faculty, staff, and patients.
5. Uphold academic integrity and ethical conduct in all learning and assessment activities.
6. Comply with all institutional policies regarding conduct, use of facilities, and digital etiquette.

2. Module Committee:

s.no	Name	Department	Role
1.	Prof.Dr.Col Shafqat Ali	Anatomy	HOD
2.	Prof. Dr. M. Naqib	Biochemistry	HOD
3.	Prof. Dr. Ayyaz Ahmed	Physiology	HOD
4.	Dr. M Junaid Khan	DME	Assistant Professor

3. OUR VISION STATEMENT

To be a renewed nationwide and world class academia maintaining a prominent role in medical education, innovative research and delivery of best health care services of international standards.

4. OUR MISSION STATEMENT

To take this medical college to the international ranking by providing healthcare professional's excellent knowledge, extraordinary skill sets, leadership in research and empathy with Islamic Spirit.

5. Module Mapping of MBBS Program

Module Mapping (MBBS Program)

Tentative

Year	Blocks	Modules			Horizontal Module		
1 st year	A	Foundation-I (5-weeks)	Blood & Immunology -I (5-weeks)		Quran Kareem		PRIME <i>(Professionalism, Research, Identity formation, Management & leadership, Ethics)</i>
	B	Locomotor/MSK-I (8-weeks)					
	C	CVS – I (4-weeks)	RES – I (4-weeks)				
2 nd year	D	Gastrointestinal, Hepatobiliary and Metabolism Module -I (9-weeks)	Renal-I (3-weeks)			Pak_Study/Islamite	
	E	Neurosciences 1A (6-weeks)	Neurosciences 1B (5-weeks)				
	F	Endocrine – I (4-weeks)	Repro – I (3-weeks)				
3 rd year	G	Foundation - II	Infection & Inflammation-II		English Expository Writing		
	H	Multisystem-I	Blood & Immunology-II	Locomotor/MSK-II			
	I	CVS - II	RES – II				
4 th year	J	Neurosciences-II			M1=ENT M2=EYE	Arts & Humanities	
	K	GIT & Hepatobiliary - II					
	L	Renal-II	Endo & Repro- II				
PRIME Year	N	Foundation-III	Blood & Immunology-III	Locomotor/MSK-III	Clerkship, Electives, /Capstone/Observer ship		
	O	Cardiorespiratory-III					
	P	Renal-III	Endo & Repro-III				
	Q	Neurosciences-III	GIT & Hepatobiliary-III	Multisystem-III			

- 1st Year MBBS: 3 blocks, 5 Modules-27 weeks (945 Hours/AY)
- 2nd Year MBBS: 3 blocks 6 Modules – 30 weeks (1050 Hours/AY)

Per week teaching hours=35

Total weeks/hours are tentative

PRIME Year: Year of Professionals Ready for Innovative Medical Excellence

PRIME: Professionalism, Research, Identity formation, Management & leadership, Ethics.

6. What Is A Study Guide?

The Purpose and Structure of a Study Guide

A study guide serves as the central contract and roadmap between the educational program and the student. Its primary purpose is to demystify the learning process by clearly communicating how a module is organized, managed, and assessed. It empowers students to take ownership of their learning by providing all necessary information to plan their studies, identify appropriate resources and support, and understand precisely how their performance will be evaluated.

Core Components of an Effective Study Guide:

Module Administration & Overview

This section provides the essential framework for the module. It includes:

- **Module Identification:** Code, title, teaching hours, and placement within the curriculum.
- **Personnel & Coordination:** Clear points of contact (Module Coordinator, teaching faculty) with roles and responsibilities defined, enabling students to seek the right help efficiently.
- **Timetable & Schedule:** A structured overview of the teaching sequence, including dates, topics, and formats (e.g., lectures, practicals).
- **Learning Objectives & Instructional Strategy**
This is the academic core of the guide, aligning intent with action.
- **Module & Theme Objectives:** A precise list of what students are expected to know, understand, and be able to do by the module's end, directly mapped to program and PMDC competencies.
- **Teaching-Learning Methods:** A description of the instructional strategies employed (e.g., interactive lectures, small group discussions, lab sessions, case-based learning) and their role in achieving the objectives.
- **Learning Resources & Support**
This component directs students to the tools for successful learning.
- **Curated Resource List:** A categorized list of essential and recommended resources, including core textbooks, key journal articles, vetted online links, and specific software or simulation tools.
- **Assessment Strategy:** A detailed breakdown of all formative (continuous) and summative assessments, including their format, weighting, schedule, and how they contribute to the final grade.
- **Rules and Policies:** Clear statements on examination rules, grading criteria, policy on late submissions, academic integrity, and the appeals process.

In summary, a well-constructed study guide transforms a module from a series of disjointed events into a coherent, transparent, and manageable learning journey. It is a fundamental tool for achieving constructive alignment and enhancing the student learning experience.



7. Recommended List Of Icons



Introduction To Case



For Objectives



Critical Questions



Assessment



Resource Material

8. Organization of Module

Introduction:

Welcome to Block D of your second-year MBBS program. This block integrates the Gastrointestinal, Hepatobiliary, & Metabolism-1 Module with the Renal-1 Module. Our primary goal is to deliver a high-quality educational experience that equips you with the essential knowledge, clinical skills, and professional behaviors required for your future medical practice.

A core emphasis is placed on connecting foundational theory with practical application. You will engage in hands-on learning through anatomy dissections, small-group interactive sessions, case-based discussions, and practical exercises in various settings, including the museum, and skills labs. All scientific content will be taught with direct clinical relevance, forming a critical part of your clinical foundations.

This study guide is your essential companion. It clearly outlines the module content, teaching methodologies, faculty resources, and—importantly—the assessment criteria. It details the theory and practical components that will be evaluated and specifies the assessment tools to be used, such as MCQs, SAQs, OSPEs, and vivas. This transparency is intended to help you focus your preparation effectively and approach your assessments with confidence. By actively engaging with this program, you will build a robust foundation for diverse future pathways in clinical practice, research, and various medical specialties worldwide. Embrace this learning journey with purpose and diligence.

Rational

This module is structured using an integrated approach to build a comprehensive understanding of the development, anatomy, physiology, and biochemistry of the gastrointestinal and hepatobiliary systems. You will study the composition and function of digestive secretions—including saliva, gastric juice, bile, pancreatic juice, and intestinal secretions—and examine the digestion, absorption, and metabolism of carbohydrates, proteins, and lipids.

Beyond the core basic sciences, the module incorporates essential elements from clinical medicine, behavioral sciences, and the PRIME (Professionalism, Reflection, Innovation, Management, and Ethics) framework, ensuring a holistic educational experience that prepares you for both clinical practice and professional development.

Themes & duration

Block D of the MBBS second year combines the GIT & Hepatobiliary Module with the Renal Module. The GIT component spans nine weeks and is organized around eight clinical themes, each centered on a common patient presentation or disorder. This theme-based design uses real-life clinical scenarios as triggers to enhance relevance, deepen understanding, and strengthen your clinical reasoning and problem-solving skills. The structure of the module is outlined below:

S. No	GIT Module Themes	Duration
1	Painful Swallowing	1 week
2	Abdominal Pain	2 weeks
3	Jaundice	1 week
4	Diarrhea and Constipation	1 week
5	Bleeding Per Rectum	1 week
6	Hyperglycemia (Carbohydrate Metabolism)	1 week
7	Obesity (Lipid Metabolism)	4 days
8	Wasting (Protein Metabolism)	8 days

9. Teaching and learning strategies

How You Will Learn:

This guide outlines the diverse learning methods you will experience, each carefully chosen to help you grow from a student of science into a capable, independent future clinician. Think of this as your map to not only *what* you will learn, but *how* you will learn most effectively.

Part 1: Learning Together – Facilitated Sessions

These sessions provide the foundation, context, and interactive space to build knowledge with your peers and faculty.

- a. **Interactive Lectures:** These are not passive events. In lecture hall, your teacher will introduce core concepts and clinical principles using slides, animations, and real patient stories. We encourage you to engage—ask questions, respond to polls, and connect the dots live. This is where the roadmap for each topic is drawn.
- b. **Small-Group Sessions:** This is where knowledge becomes skill. In smaller classrooms, you will roll up your sleeves with a facilitator and a group of peers.
 - In **Tutorials**, you'll dissect clinical cases, clarify challenging concepts from lectures, and learn through discussion and debate.
 - In **anatomical dissection**, your group will engage directly with the reality of the human body from the very first session. Your mission is to explore, map, and trace the architecture of tissues—identifying key landmarks, surface contours, and gross anatomical features while following the precise pathways of neurovascular and lymphatic systems. This hands-on exploration actively animates and integrates the principles from your anatomy, histology, and embryology lectures, transforming theoretical knowledge into a tangible, three-dimensional understanding—mirroring the very essence of foundational discovery and clinical reasoning.
 - **Practical Demonstrations** in labs will bring the textbook to life, allowing you to see, touch, and understand the human body and its functions.
 - **Journal Club** sessions will train you to critically evaluate new medical research, a skill vital for a lifetime of evidence-based practice.

Part 2: Learning on Your Own – The Engine of Mastery

True expertise in medicine requires you to become the director of your own learning. These are your key tools.

- **Directed Self-Learning (DSL):** Consider this structured, independent practice. For specific modules, you will be given clear tasks, objectives, and a list of resources. Your job is to work through them independently. This builds the disciplined study habits and foundational understanding you need. Faculty are there to guide you if you hit a roadblock.
- **Self-Directed Learning (SDL):** This is the ultimate goal of your professional development in which you take full responsibility. You will identify your own learning gaps (“I don’t understand heart murmurs well enough”), set your own goals, seek out your own resources, and assess your progress. The college provides the support—the library, online databases, and faculty office hours—but you drive the process. This is the skill that will sustain your clinical competence for decades.

We are here to guide you in this transition from learning what we teach, to learning what you need to know. Embrace each method—the collaborative and the independent—as essential parts of your growth into a physician.



10. General Learning Objectives

By the end of this module the students would be able to;

Knowledge

- Explain the anatomy of the oral cavity and its role in GI functions.
- Explain the structure and functions of the salivary glands.
- Describe the structure and development of the esophagus, stomach, small intestine, and large intestine.
- Describe the anatomy of the peritoneum and mesentery.
- Explain the movements, regulation, and integrated functions of the gastrointestinal tract.
- Describe the structure, development, and functions of the hepatobiliary system and pancreas.
- Discuss the mechanisms of digestion and absorption for carbohydrates, proteins, fats, and other nutrients.
- Describe the physiological reflexes triggered by stimulation of gastrointestinal organs.
- Discuss the chemistry and functions of gastrointestinal hormones.
- Integrate knowledge of basic sciences to explain the pathophysiology of common GIT disorders, including peptic ulcers, viral hepatitis, obstructive jaundice, and carcinomas of the esophagus and colorectum.
- Explain the metabolic processes related to carbohydrates, lipids, and proteins.
- Explain the psychosocial aspects of common psychiatric and functional bowel disorders.

Skills

- Perform systematic dissection of GIT components and related structures (e.g., peritoneum) to demonstrate gross anatomy and interrelationships.
- Recognize histological and gross anatomical features of GIT organs under the microscope and on models.

Attitude

- Demonstrate effective communication strategies during small group discussions.
- Outline the principles and components of medical ethics.
- Discuss the ethical considerations in research, including research misconduct and plagiarism.

11. Specific learning objectives

1 THEME-I: Orientation

Theme-1: “PAINFUL SWALLOWING”

Introduction:

This is a one-week activity and comprises of structural and functional features of upper gastrointestinal tract (oral cavity, oesophagus). It includes general principles of GIT motility and secretion. Developmental and microscopic features of oral cavity and esophagus are also part of this theme.

Theme-1: PAINFUL SWALLOWING							
S. No	Topic	Content	S. No	Learning objectives	MIT	Hour	Assessment
GROSS ANATOMY							
1	Oral cavity – I	Gross Anatomy of Oral cavity & Salivary glands	1	Describe the musculature of tongue Describe the nerve supply of tongue Describe the gross anatomy of parotid, submandibular and sublingual salivary gland	LGIS 1	1	MCQ/SAQ/ VIVA/OSPE
3	Esophagus	Esophagus Development of esophagus & Functional Anatomy of Esophagus	3	Describe the extent, course, relations and gross structure of esophagus. Describe the development of Esophagus	LGIS 3	.5	MCQ/SAQ/ VIVA/OSPE
EMBRYOLOGY							
1	Oral cavity - II	Development of tongue & Salivary glands	4	Describe the developmental events of tongue Enlist various anomalies of tongue development Describe the development of salivary glands	LGIS 2	1	MCQ/SAQ/ VIVA/OSPE
2	Esophagus	Development of esophagus	5	Describe the development of Esophagus	LGIS 3	.5	MCQ/SAQ/ VIVA/OSPE
HISTOLOGY							
1	Oral cavity & Esophagus	Histology of Oral cavity & Esophagus	7	Describe the microscopic structure of lips	LGIS 4	1	MCQ/SAQ/ VIVA/OSPE

			8	Describe the histological features of tooth in longitudinal and transverse section			
			9	Explain the histology of tongue.			
			10	Differentiate between the microscopic picture of anterior 2/3rds and posterior 1/3rds of the tongue			
			11	Identify the epithelium of esophagus and esophageal glands in mucosa			MCQ/SAQ/ VIVA/OSP E
			12	Differentiate between musculature in different parts of the Esophagus			
PHYSIOLOGY							
1.	GIT motility	General principles of gastrointestinal motility	13	Describe electrical activity of gastrointestinal smooth muscle	LGIS 1	1	MCQ/SAQ/ VIVA/OSP E
			14	Describe the mechanism of excitation of smooth muscle of gastrointestinal			
			15	Differentiate between slow wave and spike potential			
2.	Neural control of GIT function	Enteric Nervous system	16	Differentiate between mesenteric and submucosal plexus.	LGIS 2	1	MCQ/SAQ/ VIVA/OSP E
			17	Classify the following enteric nervous system neurotransmitters as excitatory or inhibitory: norepinephrine, acetylcholine, CCK, VIP, histamine, and somatostatin			
			18	Describe the role of autonomic nervous system in regulation of GIT's function			
			19	Differentiate between sympathetic and parasympathetic modulation of the enteric nervous system and the effector organs of the GI tract			
			20	Describe three types of gastrointestinal reflexes			

3.	GIT Hormones	Hormonal control of Gastrointestinal motility	21	Describe gastrointestinal hormone actions, stimuli for secretion, and site of secretion	LGIS 3	1	MCQ/SAQ/VIVA/OSPE
4.	Movements of the GIT	Functional types of movements in the gastrointestinal tract	22	Describe the functional types of movements in the gastrointestinal tract	LGIS 4	1	MCQ/SAQ/VIVA/OSPE
			23	Describe law of gut.			
			24	Describe blood flow through the villus and its significance			
5.	GIT blood supply	Gastrointestinal blood flow—Splanchnic circulation	25	Describe anatomy of the gastrointestinal blood supply	SGD 1	1	MCQ/SAQ/VIVA/OSPE
			26	Describe the effect of gut activity and metabolic factors on gastrointestinal blood flow			
			27	Describe nervous control of gastrointestinal blood flow			
6.	Ingestion of food	Mechanics of ingestion of food	28	Describe the mechanics of ingestion of food	LGIS 5	1	MCQ/SAQ/VIVA/OSPE
			29	Describe chewing and mastication			
			30	Describe different stages of swallowing.			
			31	Describe the effects of the pharyngeal stage of swallowing on respiration			
7.	GIT Secretion	General principles of alimentary tract secretion & Role of mucus and saliva	32	Describe basic mechanisms of stimulation of the alimentary tract glands	LGIS 6	1	MCQ/SAQ/VIVA/OSPE
			33	Describe dual effect of sympathetic stimulation on alimentary tract glandular secretion			
			34	Describe the secretion of saliva and its nervous		1	MCQ/SAQ/VIVA/OSPE

				regulation			E
			35	Describe the plasma and saliva concentrations of Na ⁺ , Cl ⁻ , and HCO ₃ ⁻ at low secretion rates and at high secretion rates and the principal cell types involved in each secretion rate.			
			36	State the substrates and digestion products of salivary amylase (ptyalin).			
9.	Saliva	Control of Salivary secretion	37	Identify the stimuli and cell types involved in GI secretion of mucous, and identify the function of salivary mucus.	LGIS 7	1	MCQ/SAQ/ VIVA/OSP E
			38	Describe three types of stimuli that increase salivary secretion.			
			39	State the components of the saliva important in oral hygiene, and identify the role of salivary secretions in eliminating heavy metals			
10.	Oesophagus	Disorders of Swallowing and Oesophagus	40	Describe the clinical abnormalities of swallowing mechanism	LGIS 8	1	MCQ/SAQ/ VIVA/OSP E
			41	Describe Achalasia and Mega esophagus			
BIOCHEMISTRY							
1.	Saliva	Chemical composition and Role of Salivary secretions	42	Describe the composition of salivary secretions	LGIS 1	1	MCQ/SAQ/ VIVA/OSP E
			43	Describe the formation and characteristics of salivary secretions			
			44	Elaborate the functions of saliva			
PATHOLOGY							
1.	Esophagus	Carcinoma of Esophagus	45	Describe the histological types and presentation of esophageal carcinoma	LGF/S GD	1	MCQ/SAQ/ VIVA/OSP E
ENT							
1.	Oral Cavity	Oral ulceration	46	Enlist the causes of oral ulcerations	LGF/S GD	1	MCQ/SAQ/ VIVA/OSP

							E
			47	Describe Aphthous ulcers and its treatment			
			48	Describe the clinical features and drugs used to treat esophageal candidiasis			

Theme 2: “PAIN EPIGASTRIUM”

Introduction:

This is a 2-weeks activity and consists of structural features of abdominal wall and also includes anatomical, developmental and functional characteristics of stomach, duodenum and pancreas. It also includes gastric secretion and its disorders. Pharmacological and surgical management of peptic ulcer, gastric cancer and acute pancreatitis are also discussed.

THEME-2 -- PAIN EPIGASTRIUM							
S. No	Topic	Content	S. No	Learning objectives	MIT	Hour	Assessment
GROSS ANATOMY							
	Anterior abdominal wall	Muscles of anterior abdominal wall.	49	Describe the origin, insertion, nerve supply and actions of anterolateral abdominal wall muscles	LGIS 7	1	MCQ/SAQ/VIVA/OSPE
			50	Describe the formation of rectus sheath			
			51	Describe the contents of rectus sheath			
			52	Describe the surface anatomy of anterior abdominal wall Describe the structures related to transpyloric plane			
			53	Enlist various types of abdominal hernias			
2.	Inguinal canal	Inguinal canal boundaries.	54	Describe the boundaries of inguinal canal	LGIS 8	1	MCQ/SAQ/VIVA/OSPE
			55	Enlist the contents of inguinal canal in males and females			
			56	Differentiate between direct and indirect inguinal hernia			
3.	Peritoneum	Omentum	57	Describe greater and lesser omentum	LGIS 9	1	MCQ/SAQ/VIVA/OSPE
			58	Describe the nerve supply of			

				peritoneum			
		Omental bursa	59	Describe the anatomy of lesser sac.			
		Epiploic foramen.	60	Describe the boundaries of epiploic foramen			
		Peritoneal recesses, ligaments and pouches.	61	Describe the various peritoneal pouches, recesses and ligaments			
	Gross Anatomy of Stomach, Duodenum & Pancreas	Stomach-structure	62	Describe the gross structure of stomach	LGIS 10	1	MCQ/SAQ/VIVA/OSPE
		Stomach-Blood supply and lymphatics	63	Describe the blood supply and lymphatic drainage of stomach			
		Stomach bed.	64	Describe the anatomy of stomach bed			
		Structure and blood supply of duodenum	65	Describe the gross structure and blood supply of duodenum			MCQ/SAQ/VIVA/OSPE
			66	Write the relations of various parts of duodenum			
		Structure of pancreas	67	Describe the gross structure of pancreas and its ductal system			MCQ/SAQ/VIVA/OSPE
HISTOLOGY							
1.	Histology of GIT	Microscopic anatomy of stomach	68	Enumerate the different layers of the stomach wall	LGIS 6	1	MCQ/SAQ/VIVA/OSPE
			69	Write a note on gastric glands.			
			70	Differentiate between fundic and pyloric mucosa			
		Microscopic features of Duodenum	71	Discuss histological features of duodenum and describe duodenal glands.			MCQ/SAQ/VIVA/OSPE
		Microscopic features of Pancreas .	72	Describe the histology of pancreas			MCQ/SAQ/VIVA/OSPE
			73	Differentiate histologically between exocrine and endocrine			

				portions of pancreas			
EMBRYOLOGY							
1.	Fore Gut	Developme nt of Foregut	74	Describe the development of stomach	LGIS 5	1	MCQ/SAQ/ VIVA/OSP E
			75	Describe the development of duodenum			
			76	Enlist various developmental anomalies of stomach			
			77	Enlist various developmental anomalies of duodenum			
			78	Describe the development of pancreas			MCQ/SAQ/ VIVA/OSP E
			79	Enlist various anomalies of pancreas & Gall Bladder			
PHYSIOLOGY							
1.	Stomach	Motor function of Stomach	80	Describe the motor function of stomach.	LGIS 9	1	MCQ/SAQ/ VIVA/OSP E
			81	Describe basic electrical rhythm of the stomach wall			
			82	Describe Pyloric pump			
			83	Describe role of the pylorus in controlling stomach emptying			
			84	Describe the regulation of gastric emptying			
2.	Gastric Secretion- I	Mechanism of Gastric Secretion	85	Describe characteristics of the gastric secretions	LGIS 10	1	MCQ/SAQ/ VIVA/OSP E
			86	Describe the mechanism of secretion of different gastric glands			
3.	Gastric Secretion- II	Regulation of Gastric Secretion	87	Describe the phases and regulation of gastric secretion.	LGIS 11	1	MCQ/SAQ/ VIVA/OSP E
			88	Enlist the hormones that inhibit and increase gastric secretions.			
			89	Enumerate the reflexes that inhibit and increase gastric secretions			
BIOCHEMISTRY							
1.	Gastric secretions	Chemical composition and Role of Gastric secretions	90	Describe the chemical composition of gastric secretions	LGIS 2	1	MCQ/SAQ/ VIVA/OSP E

			91	Describe the functions of HCl and other constituents of gastric secretions			
			92	Discuss the mechanism of synthesis and secretion of HCl from gastric mucosa			
			93	Discuss the mechanism of secretion and role of Intrinsic factor from gastric parietal cells			
PATHOLOGY							
1.	Stomach	Peptic ulcer disease	94	Describe the mechanism of formation of peptic ulcers, its stages and complications	LGF/S GD	1	MCQ/SAQ/ VIVA/OSP E
		Gastric cancer	95	Describe the etiology, pathology and clinical presentation of gastric cancer			
2.	Pancreas	Acute pancreatitis	96	Describe the mechanism of development, presentation and complications of acute pancreatitis	LGF/S GD	1	MCQ/SAQ/ VIVA/OSP E
PHARMACOLOGY							
1.	Peptic ulcer	Drugs used in Peptic ulcer	97	Classify the drugs used in Peptic ulcer disease	LGF/S GD	1	MCQ/SAQ/ VIVA/OSP E
			98	Describe the mechanism of action of drugs used in Peptic ulcer			
FORENSIC MEDICINE							
1.	Gastric Lavage	Poisons identification through gastric lavage	99	Enlist indications and contraindications for gastric lavage Describe the sampling technique of gastric lavage fluid	LGF/S GD	1	MCQ/SAQ/ VIVA/OSP E
MEDICINE							
1.	Peptic ulcer	GERD and Peptic ulcer	100	Describe the etiology, clinical features, complications and drug treatment of GERD and peptic ulcer disease	LGF/S GD	1	MCQ/SAQ/ VIVA/OSP E
SURGERY							
1.	Peptic ulcer	Complications of Peptic ulcer	101	Describe the complications of long-term peptic ulcer disease and its surgical management	LGF/S GD	1	MCQ/SAQ/ VIVA/OSP E
2.	Lump in the abdomen	Hernia	102	Describe common causes of lump in abdomen and enlist the common surgical procedures for treatment of hernia.	LGF/S GD	1	MCQ/SAQ/ VIVA/OSP E
3.	Pancreas	Acute pancreatitis	103	Describe the etiology, clinical features, complications and	LGF/S GD	1	MCQ/SAQ/ VIVA/OSP

				management of acute pancreatitis			E
--	--	--	--	----------------------------------	--	--	---

Theme 3: “JAUNDICE”

Introduction:

This theme has one-week activity and comprises of anatomical, functional and biochemical aspect as well as developmental and microscopic features of the hepatobiliary system.

It also includes hepatotoxicity and liver diseases.

THEME-3: JAUNDICE							
S. No	Topic	Content	S. No	Learning objectives	MIT	H o u r	Assessment
GROSS ANATOMY							
1.	Gross Anatomy of Liver & Hepatobiliary Tree	Gross features of liver.	104	Describe the borders and surfaces of liver	LGIS 11	1	MCQ/SAQ/ VIVA/OSPE
			105	Describe the visceral surface of liver			
		Peritoneal attachments of liver.	106	Describe the peritoneal reflections and associated ligaments of liver			
		Liver lobes	107	Describe the lobes and segments of liver			
		Blood supply of liver	108	Describe the blood supply of liver			
			109	Describe the hepato renal pouch of morrison and its clinical significance			
		Gall bladder - gross structure	110	Describe the gross anatomy of gall bladder			
			111	Describe calot's triangle			
		Hepatic ducts, cystic duct and Bile duct.	112	Describe the gross anatomy of extra hepatic billiary tree			
2.	Porto systemic Anastomosis	Spleen Structure and blood supply	113	Describe the gross anatomy of spleen and blood supply of spleen	LGIS 13	1	MCQ/SAQ/ VIVA/OSPE
		Hepatic portal	114	Describe the formation and tributaries / branches of hepatic			

		venous system		portal venous system			
		Applied aspect of portal hepatic system	115	Explain the clinical significance of hepatic portal system			
EMBRYOLOGY							
1.	Distal Fore gut	Development of Gall bladder & Biliary tree.	116	Describe the development of liver	LGIS 5	.5	MCQ/SAQ/VIVA/OSPE
			117	Describe the development of gall bladder and biliary tree			
			118	Describe the developmental anomalies of liver and biliary tree			
HISTOLOGY							
1.	Histology of Liver & Spleen	Microscopic structure of liver.	119	Discuss the histological features of liver	LGIS 14	1	MCQ/SAQ/VIVA/OSPE
			120	Describe liver parenchyma and general structural plan of the liver			
			121	Describe the histological features of the structures present in the portal triad			
		Spleen microscopic structure	122	Discuss the histological features of spleen			MCQ/SAQ/VIVA/OSPE
			123	Differentiate between red pulp and white pulp			
PHYSIOLOGY							
1.	Pancreas	Pancreatic secretion	124	Describe the role of pancreatic secretions in digestion.	LGIS 12	1	MCQ/SAQ/VIVA/OSPE
			125	Describe the phases and regulation of pancreatic secretion			
2.	Liver	Physiology of liver	126	Describe Physiological Anatomy of the Liver	LGIS 13	1	MCQ/SAQ/VIVA/OSPE
			127	Describe blood flow through the liver			
			128	Describe metabolic functions of liver			

			129	Describe Regulation of Liver Mass—Regeneration			
			130	Describe Bilirubin formation and excretion			
3.	Bile	Secretion of bile by liver	131	Describe the mechanism of secretion of bile by the liver	LGIS 14	1	MCQ/SAQ/VIVA/OSPE
			132	Describe the function of bile salts in fat digestion and absorption			
			133	Describe functions of the biliary tree in digestion			
BIOCHEMISTRY							
1.	Bile	Chemical composition and Role of Bile	134	Describe the constituents of bile	LGIS 3	1	MCQ/SAQ/VIVA/OSPE
			135	Describe the functions of bile			
			136	Describe the mechanism of gall stone formation			
PATHOLOGY							
1.	Liver - I	Hepatitis	137	Describe the different viruses causing acute and chronic hepatitis	LGF/SGD	1	MCQ/SAQ/VIVA/OSPE
2.	Liver - II	Cirrhosis	138	Describe the pathogenesis, stages and clinical presentation of liver cirrhosis	LGF/SGD	1	MCQ/SAQ/VIVA/OSPE
PHARMACOLOGY							
1.	Drugs detoxification	First pass hepatic metabolism of drugs	139	Describe the mechanism of drugs detoxification and metabolism in the liver	LGF/SGD	1	MCQ/SAQ/VIVA/OSPE
		Hepatotoxic drugs	140	Enlist some of the commonly used hepatotoxic drugs and their toxicities			
FORENSIC MEDICINE							
1.	Hepatotoxicity	Hepatotoxic poisons	141	Enlist the poisons which cause hepatotoxicity Diagnose poisoning through routine toxicological sampling	LGF/SGD	1	MCQ/SAQ/VIVA/OSPE
COMMUNITY MEDICINE							
1.	Hepatitis-I	Hepatitis B and C	142	Describe the epidemiology of hepatitis B and C virus infection and its control measures	LGF/SGD	1	MCQ/SAQ/VIVA/OSPE
2.	Hepatitis-II	Hepatitis A and E	143	Describe water borne hepatitis (Hepatitis A and E) viruses and its control measures	LGF/SGD	1	MCQ/SAQ/VIVA/OSPE

MEDICINE							
1.	Liver	Cirrhosis	144	Describe the etiology, clinical features, complications and treatment options of liver cirrhosis	LGF/S GD	1	MCQ/SAQ/ VIVA/OSP E
SURGERY							
1.	Gall Bladder	Obstructive jaundice	145	Describe the etiology, clinical features, biochemical investigations and treatment options of obstructive jaundice	LGF/S GD	1	MCQ/SAQ/ VIVA/OSP E

Theme 4: DIARRHEA AND CONSTIPATION

Introduction:

This theme has one-week duration and consists of structural, developmental and functional aspects of small gut. Pancreatic secretions, digestion/ absorption, energy requirement of human body and nutritional disorders are also discussed in this theme.

It also includes disorders of small intestine and their treatment.

THEME-4: DIARRHEA AND CONSTIPATION							
S. No	Topic	Content	S. No	Learning objectives	Teaching strategies	Hours	Assessment
GROSS ANATOMY							
1.	Gross Anatomy of Small Intestine	Structure & blood supply of jejunum and ileum	146	Describe the gross features of jejunum and ileum	LGIS 16	1	MCQ/SAQ/VIVA/OSPE
			147	Tabulate differences in gross features and blood supply of jejunum and ileum			
		Gross features of Mesenteries	148	Describe the mesentery of small intestine			MCQ/SAQ/VIVA/OSPE
		Structure of appendix	149	Describe the gross features, blood supply and mesentery of appendix			MCQ/SAQ/VIVA/OSPE
		Clinical aspects of appendix.	150	Describe the clinical correlates of appendix			
4.	Blood Supply of GIT	Abdominal aorta and its branches	151	Enumerate the branches of abdominal aorta.	LGIS 17	1	MCQ/SAQ/VIVA/OSPE
			152	Describe the course and distribution of celiac trunk			
			153	Describe the course and			

1.	Small intestine	Movements of the small intestine	167	Describe different types of movements of small intestine.	LGIS 15	1	MCQ/SAQ/V IVA/OSPE
			168	Describe the control of peristalsis by nervous and hormonal signals			
2.	Duodenum & Intestinal Secretion	Brunner's glands Secretion & Intestinal digestive juices/enzymes	169	Describe secretion of mucus by Brunner's glands in the duodenum Describe the chemistry, secretion, functions and regulation of small intestinal digestive enzymes Describe secretion of intestinal digestive juices by the crypts of lieberkühn	LGIS 16	1	MCQ/SAQ/V IVA/OSPE
3.	Pancreas	Pancreatic enzymes	170	Describe the chemistry, secretion, functions and regulation of pancreatic enzymes	SGD 2	1	MCQ/SEQ/V IVA/OSPE
4.	Gastrointestinal hormones	Gastrin, Secretin, Cholecystokinin (CCK)	173	Describe the secretion, structure, functions and regulation of Gastrin, Secretin, Cholecystokinin and other GI hormones	LGIS 17	1	MCQ/SEQ/V IVA/OSPE
5.	Disorders of small intestine	Malabsorption	174	Describe abnormal digestion of food in the small intestine in pancreatic failure	LGIS 18	1	MCQ/SAQ/V IVA/OSPE
			175	Describe malabsorption by the small intestinal mucosa in Sprue			
BIOCHEMISTRY							
1.	Pancreatic secretions	Chemical composition and Role of Pancreatic secretions	176	Describe the composition of pancreatic secretions	LGIS 4	1	MCQ/SAQ/V IVA/OSPE
			177	Describe the mechanism of secretion and actions of pancreatic enzymes			
			178	Describe the mechanism of synthesis of Bicarbonates			
2.	Digestion and absorption I	Digestion and absorption Lipids	179	Describe the mechanism of digestion and absorption of fats in the intestines	LGIS 5-8	4	MCQ/SAQ/V IVA/OSPE
	Digestion and	Digestion and	180	Describe the mechanism of digestion and absorption of			

	absorption II	absorption of proteins		proteins in the intestines			
	Digestion and absorption III	Digestion and absorption of Carbohydrates	181	Describe the mechanism of digestion and absorption of carbohydrates in the intestines			
	Digestion and absorption IV	Digestion and absorption of Iron, Vitamin B12 & Folate	182	Describe the mechanism of absorption of Iron, Vitamin-B12 and Folate in the intestines			
3.	Energy requirement of human body	Energy requirement of human body in health and disease	183	Discuss the daily energy requirement of a human body in health and disease	LGIS 9	1	MCQ/SAQ/V IVA/OSPE
		Basal Metabolic Rate	184	Define BMR			
			185	Enlist the causes of high and low BMR			
		Daily requirement of common vitamins & minerals	186	Describe the daily requirements of common vitamins, Iron, Calcium, Iodine and other minerals			
4.	Nutritional disorders	Protein energy malnutrition	187	Define Protein energy malnutrition and its associated clinical conditions	LGF/S GD	1	MCQ/SAQ/V IVA/OSPE
5.	Adipose tissues	Adipose tissues homeostasis	188	Discuss adipose tissue homeostasis	LGF/S GD	1	MCQ/SAQ/V IVA/OSPE
PHARMACOLOGY							
1.	Diarrhoea	Anti-diarrheal drugs	189	Classify anti-diarrheal drugs and their mechanism of action	LGF/S GD	1	MCQ/SAQ/V IVA/OSPE
2.	Constipation	Drugs for constipation	190	Classify drugs used in constipation, and their mechanism of action	LGF/S GD	1	MCQ/SAQ/V IVA/OSPE
COMMUNITY MEDICINE							
1.	Food borne infection	Epidemiology and Prevention	191	Describe the epidemiology of food borne infections and their control measures	LGF/S GD	1	MCQ/SAQ/V IVA/OSPE
PAEDIATRICS							
1.	Gastroenteritis	Acute gastroenteritis	192	Describe the aetiology, clinical features,	LGF/S GD	1	MCQ/SAQ/V IVA/OSPE

		s		complications and treatment of acute gastroenteritis			
--	--	---	--	--	--	--	--

Theme 5: Bleeding Per Rectum

Introduction:

This theme is a 1-week activity, consisting of anatomical, developmental and functional aspects of large intestine. It also includes general disorders of the gastrointestinal tract as well as malignancies of the large gut.

THEME-5: BLEEDING PER RECTUM							
S. No	Topic	Content	S. No	Learning objectives	MIT	Hour	Assessment
GROSS ANATOMY							
1.	Gross Anatomy of Large Intestine	Gross structure of large intestine.	193	Describe the gross features of cecum, ascending, transverse and descending and sigmoid colon	LGIS 21	1	MCQ/SAQ/VI VA/OSPE
		Large intestine Mesentery .	194	Describe the mesentery of large intestine			
		Gross Structure of rectum and anal canal and their blood supply.	195	Describe the gross anatomy of rectum			MCQ/SAQ/VI VA/OSPE
			196	Describe the gross anatomy of anal canal			
		Applied aspects of anal canal	197	Describe the blood supply of anal canal and its clinical correlates.			
		Ischioanal fossa	198	Describe the boundaries and contents of Ischiorectal (anal) fossa			
EMBRYOLOGY							
1.	Hind Gut	Development of hind gut	199	Describe the partitioning of cloaca	LGIS 20	1	MCQ/SAQ/VI VA/OSPE
			200	Enlist the derivatives of hind gut			
		Developmental anomalies	201	Enlist the developmental anomalies of hindgut			
HISTOLOGY							
1.	Histology	Colon	202	Discuss the histological	LGIS	1	MCQ/SAQ/VI

	of Large Intestine	microscopy		features of colon	21		VA/OSPE
			203	Describe the characteristic features of intestinal glands			
		Rectum& anal canal microscopy	204	Describe the histological features of Rectum			
PHYSIOLOGY							
1.	Large Intestine movements & its reflexes	Movements of the Colon, GIT Reflexes	205	Describe different types of movements of colon Describe gastro-colic reflex and duodeno-colic reflexes Describe the mechanism of defecation reflex	LGIS 19	1	MCQ/SAQ/VI VA/OSPE
3.	Secretion of Large Intestine	Mucus	208	Describe secretion of mucus by the large intestine	SGD 3	1	MCQ/SAQ/VI VA/OSPE
4.	Large Intestine	Disorders of Large Intestine	209	Describe constipation, megacolon	LGIS 20	1	MCQ/SAQ/VI VA/OSPE
			210	Explain mechanism of diarrhea and its causes.			
			211	Explain paralysis of defecation in spinal cord injuries			
5.	General Disorders of the gastrointestinal tract	Vomiting	212	Describe the mechanisms of Vomiting and Nausea	LGIS 21	1	MCQ/SAQ/VI VA/OSPE
			213	Describe Vomiting Act			
			214	Describe Gastrointestinal Obstruction			
BIOCHEMISTRY							
1.	Intestinal juices	Composition of intestinal juices	215	Describe gases in the gastrointestinal tract (flatus)	LGIS 10	1	MCQ/SAQ/VI VA/OSPE
PATHOLOGY							
1.	Large Intestine	Carcinoma of colon and Rectum	216	Describe the composition of intestinal juices	LGF/SGD	1	MCQ/SAQ/VI VA/OSPE
SURGERY							
1.	GIT	Obstruction	217	Describe the etiology,	LGF/SGD	1	MCQ/SAQ/VI

				histological findings, clinical presentation and staging of carcinoma of colorectal carcinoma	GD		VA/OSPE
2.	Large Intestine	Colorectal malignancy	218	Describe the etiology, clinical features, investigations and management of colorectal cancers	LGF/SGD	1	MCQ/SAQ/VIVA/OSPE

Theme-6 (Glucose Control-Carbohydrate metabolism)

Introduction:

This theme has one-week activity of Biochemistry department only, consisting of carbohydrate metabolism. Methods of teaching include both LGIF and SGIF sessions.

THEME-6: GLUCOSE CONTROL (CARBOHYDRATE METABOLISM)							
S. No	Topic	Content	S. No	Learning objectives	MIT	Hour	Assessment
BIOCHEMISTRY							
1.	Electron transport chain	Electron transport chain and its components	219	Describe Electron transport chain and mention the role of its components	LGIS 11	1	MCQ/SAQ/VIVA/OSPE
2.	Oxidative Phosphorylation	Process of Oxidative Phosphorylation & Mechanism of ATP synthesis	220	Describe the generation of proton gradient & the resultant motive force across the inner mitochondrial membrane by transport of electrons through ETC which in turn produces ATP by oxidative phosphorylation	LGIS 12	1	MCQ/SAQ/VIVA/OSPE
			221	Describe the structure of ATP synthase enzyme (complex-V) & explain how it works as a rotary motor to synthesize ATP from ADP & Pi			
3.	Respiratory Chain Inhibitors & Uncouplers	Role of Respiratory Chain Inhibitors & Uncouplers	222	Describe the control of the rate of respiration, oxidation of reducing equivalents via ETC & its tightly coupling with oxidative phosphorylation in mitochondria	LGIS 13	1	MCQ/SAQ/VIVA/OSPE
			223	Discuss certain common poisons which block			

				respiration or oxidative phosphorylation & identify their site of action			
			224	Explain how uncouplers act as poisons by dissociating oxidation from oxidative phosphorylation via ETC but at the same time they may have a physiological role in generating body heat			
4.	Glycolysis I	Glycolysis in Normal cells, RBCs & Cancer cells	225	Define Glycolysis	LGIS 14	1	MCQ/SAQ/VIVA/OSPE
			226	Describe the entry of glucose into different kinds of cells through various GLUT transporters			
			227	Describe the reactions of glycolysis			
			228	Describe the transportation of NADH to Mitochondria via various Shuttles			
	Glycolysis II		229	Describe the energetics of glycolysis	LGIS 15	1	MCQ/SAQ/VIVA/OSPE
			230	Describe the fates of pyruvate			
			231	Describe the types of glycolysis especially the anaerobic glycolysis			
			232	Describe the key enzymes and regulation of glycolysis			
			233	Discuss the glycolysis in RBC			
			234	Describe the biomedical Significance and clinical disorders of glycolysis			
			235	Discuss glycolysis in cancer cells			
4.	Oxidation of Pyruvate	Conversion of pyruvate into acetyl CoA	236	Describe the conversion of pyruvate into acetyl CoA	LGIS 16	1	MCQ/SAQ/VIVA/OSPE
			237	Enumerate the enzymes & coenzymes of PDH			

				complex			
			238	Describe the sequence of reactions catalyzed by PDH complex.			
			239	Describe the regulation of PDH complex			
			241	Discuss the clinical aspects of PDH complex especially the congenital lactic acidosis			
5.	Tricarboxylic Acid Cycle I	Describe Tricarboxylic Acid Cycle	242	Define citric acid cycle	LGIS 17	1	MCQ/SAQ/VIVA/OSPE
			243	Describe the sources of acetyl CoA in mitochondria			
			244	Describe the reactions of TCA			
			245	Discuss the energetics of TCA			
	Tricarboxylic Acid Cycle II		246	Discuss the energy yield of one molecule of glucose when it is converted into carbon dioxide and water	LGIS 18	1	MCQ/SAQ/VIVA/OSPE
			247	Name the vitamins that play key role in TCA			
			248	Describe the amphibolic nature of TCA			
			249	Discuss the regulation of TCA			
			250	Enumerate the inhibitors of TCA and their sites of inhibition			
6.	Gluconeogenesis	Describe Gluconeogenesis	251	Define Gluconeogenesis	LGIS 19	1	MCQ/SAQ/VIVA/OSPE
			252	Name the organs and sub cellular location where Gluconeogenesis occurs			
			253	Describe the substrates or precursors of Gluconeogenesis			
			254	Describe the three bypass reactions			
			255	Describe the Gluconeogenesis from			
				Fatty Acids			

			256	Discuss the Cori's cycle			
			257	Discuss the regulation of Gluconeogenesis			
			258	Name the key enzymes of Gluconeogenesis			
7.	Hexose Mono Phosphate shunt	Describe Hexose Mono Phosphate shunt	259	Discuss the Role of Pentose Phosphate Pathway	LGIS 20	1	MCQ/SAQ/ VIVA/OSPE
			260	Name the tissues where Hexose Mono Phosphate shunt occurs			
			261	Describe the reactions of the two parts of Hexose Mono Phosphate shunt			
			262	Describe the Role of thiamine in Hexose Mono Phosphate shunt			
			263	Enumerate the Similarities & differences b/w glycolysis and HMP shunt pathway			
			264	Discuss the functions of NADPH (produced in Hexose Mono Phosphate shunt) in various tissues and cells			
			265	Discuss G6PD deficiency and its effects in various tissues and cells			
			266	Describe the regulation of HMP shunt pathway			
8.	Uronic Acid Pathway	Describe Uronic Acid Pathway	267	Enumerate the products of Uronic acid pathway and their importance	LGIS 21	1	MCQ/SAQ/ VIVA/OSPE
			268	Discuss why ascorbic acid is vitamin for humans			
	Galactose Metabolism	Describe Galactose Metabolism	269	Describe the uses & requirements of galactose in the body	LGIS 22	1	MCQ/SAQ/ VIVA/OSPE
			270	Discuss the various reactions with enzymes involved			
			271	Describe the Genetic Deficiencies of Enzymes in			

				Galactose Metabolism and their effects			
9.	Fructose Metabolism	Describe Fructose Metabolism	272	Describe the Main source of Fructose			
			273	Discuss the various reactions with enzymes involved			
			274	Discuss the Fructose formation in Seminal fluid			
			275	Describe the mechanism of formation of diabetic cataract			
			276	Discuss the Defects in Fructose Metabolism and their effects			
10.	Glycogen Metabolism	Describe Glycogen Metabolism	277	Describe the structure and functions of the glycogen especially the significance of its polymer nature	LGIS 23	1	MCQ/SAQ/VIVA/OSPE
			278	Describe the Difference between Liver & muscle glycogen			
			279	Describe the synthesis of glycogen by two mechanisms with its enzymes			
			280	Discuss the breakdown of glycogen with its enzymes			
			281	Describe the Regulation of Glycogen metabolisms			
			282	Discuss the glycogen storage diseases with deficient enzymes and cardinal clinical features			

Theme-7 OBESITY- (Fat Metabolism)

Introduction:

This theme has 4-days activity of Biochemistry department, consisting of lipid metabolism. It also includes one lecture of General Medicine - hyperlipidaemias.

THEME-7 OBESITY- (Fat Metabolism)							
S. N	Topic	Content	S. No	Learning objectives	MIT	Hour	Assessment

BIOCHEMISTRY							
1.	Fatty acid (FA) synthesis -I	De Novo synthesis of Fatty acid	283	Enumerate the organs where fatty acid synthesis occurs with sub cellular sites	LGIS 24	1	MCQ/SAQ/VIVA/OSPE
			284	Discuss the source of Acetyl CoA that will be used for FA synthesis with reason			
			285	Discuss how acetyl CoA comes out of mitochondria for the synthesis of FA			
			286	Describe the steps of FA synthesis with enzymes			
			287	Describe the FA synthase enzyme with its structure and components			
	Fatty acid (FA) synthesis -II		288	Describe the product of FA synthase and the subsequent fate of this product	LGIS 25	1	MCQ/SAQ/VIVA/OSPE
			289	Discuss the regulation of FA synthesis			
			290	Discuss why animals cannot convert fatty acids into glucose			
			291	Describe the further elongation and desaturation of FA and its regulation			
2.	Mobilization of stored fats	Oxidation of Fattyacids	292	Describe how fats are mobilized from adipose tissues to the organs where they will be used for oxidation	LGIS 26	1	MCQ/SAQ/VIVA/OSPE
			293	Enumerate the various methods of oxidation of FA			
			294	Discuss the stages of beta oxidation with its reactions			
			295	Calculate the no. of ATP obtained when one molecule of palmitic acid is oxidized completely			
			296	Describe the genetic deficiencies of FA oxidation i.e. MCAD & CAT deficiencies with their hallmarks			

			297	Discuss the oxidation of odd-chain FA			
			298	Compare the processes of FA synthesis with FA oxidation			
3.	Ketone bodies	Describe Metabolism of Ketone bodies	299	Enumerate the ketone bodies	LGIS 27	1	MCQ/SAQ/VIV A/OSPE
			300	Define ketogenesis			
			301	Describe the steps of ketogenesis			
			302	Discuss the energy yield during ketogenesis in liver			
			303	Enumerate the conditions in which there is increased ketogenesis			
			304	Discuss utilization of ketone bodies			
			305	Discuss the energy yield in ketone bodies utilization in extra hepatic tissues			
			306	Describe the regulation of ketogenesis in well-fed healthy conditions, during early stages of starvation & in prolonged starvation			
			307	Discuss the ketoacidosis in diabetes			
4.	Complex Lipids	Describe Complex Lipid metabolism	308	Describe the synthesis of triacylglycerol by two mechanisms	SGD	1. 5	MCQ/SAQ/VIV A/OSPE
			309	Describe the synthesis of phosphatidic acid			
			310	Enumerate the substances formed from phosphatidic acid			
			311	Describe the synthesis of glycerophospholipids			
			312	Discuss the degradation of glycerophospholipids			
			313	Describe the synthesis of ceramide and sphingophospholipids (shingomyelin)	SGD	1. 5	MCQ/SAQ/VIV A/OSPE
			314	Discuss the degradation of			

				shingomyelin			
			315	Discuss Niemann-Pick disease with its cardinal clinical features			
			316	Discuss Farber disease with its cardinal clinical features			
			317	Describe the synthesis of glycosphingolipids	SGD	1. 5	MCQ/SAQ/VIV A/OSPE
			318	Describe the degradation of glycosphingolipids			
			328	Describe the abnormalities of phospholipid metabolism i.e. true demyelinating diseases and sphingolipidosis			
6.	Cholesterol -I	Describe Metabolism of cholesterol	329	Describe the major sites of cholesterol synthesis as well as sub cellular sites	LGIS 28	1	MCQ/SAQ/VIV A/OSPE
			330	Describe the source of cholesterol synthesis			
			331	Describe the various steps of cholesterol synthesis			
			332	Discuss the regulation of cholesterol synthesis			
			333	Enumerate the inhibitors of HMG CoA reductase inhibitors			
	Cholesterol -II		334	Describes the degradation and excretion of cholesterol with synthesis of bile acids, their conjugation, bile salt formation and micelle formation in lumen of the intestine	LGIS 29	1	MCQ/SAQ/VIV A/OSPE
			335	Discuss the enterohepatic circulation of bile salts			
			336	Discuss the role of bile acid sequestrants i.e. cholestyramine and dietary fibre			
			337	Discuss the regulation of bile acid synthesis			
7.	Lipoproteins	Metabolism and classification	338	Describe the structure of a typical lipoprotein particle	LGIS 30	1	MCQ/SAQ/VIV A/OSPE

		of lipoproteins					
			339	Enumerate the various classes of LP			
			340	Enumerate the functions of apolipoproteins			
			341	Describe the steps of chylomicrons' metabolism			
			342	Describe the metabolism of VLDL			
			343	Describe the metabolism of LDL			
			344	Describe the metabolism of HDL			
8.	Disturbances of Lipid metabolism	Hyperlipidemias & there classification	345	Differentiate between hyperlipidemias and dyslipidaemia	LGIS 31	1	MCQ/SAQ/VIVA/OSPE
			346	Describe the Classification of hyperlipidemias with enzyme deficiency			
MEDICINE							
1.		hyperlipidemias	347	Describe the epidemiology, preventive strategies and diseases associated with hyperlipidemias	LGF/SGD	1	MCQ/SAQ/VIVA/OSPE

Theme-8 WASTING (Protein Metabolism)

Introduction:

This theme has 8- days activity of Biochemistry department only and comprises of protein metabolism.

THEME-8 WASTING (Protein Metabolism)							
S. No	Topic	Content	S. No	Learning objectives	MIT	Hour	Assessment
BIOCHEMISTRY							
1.	Amino acid pool	Describe Amino acid pool & chemical processes for dissimilation of proteins	348	Discuss how amino acid pool is formed	LGIS 32	1	MCQ/SEQ/VIVA/OSPE

			349	Discuss the chemical processes responsible for dissimilation of proteins: transamination, deamination and transdeamination			
			350	Discuss the clinical importance of transaminases			
2.	Ammonia transport and effects of ammonia toxicity on brain	Ammonia formation, transport of ammonia and effects of ammonia toxicity on brain	351	Discuss how ammonia is formed in various tissues and transported to liver Discuss the effects of ammonia toxicity in brain	LGIS 33	1	MCQ/S AQ/VIV A/OSPE
3.	Urea cycle	Urea cycle & its associated inherited disorders	352	Describe the Krebs-Henselet Cycle of Urea Formation in Liver	LGIS 34	1	MCQ/S AQ/VIV A/OSPE
			353	Describe the clinical significance of various enzymes involved in urea formation			
4.	Metabolism of aromatic amino acids	Describe Metabolism of aromatic amino acids	354	Discuss biosynthesis, fate, metabolic functions and related inherited disorders of aromatic amino acids	LGIS 35	1	MCQ/S AQ/VIV A/OSPE
	Metabolism of sulphur containing amino acids	Describe Metabolism of sulphur containing amino acids	355	Discuss biosynthesis, fate, metabolic functions and related inherited disorders of sulphur containing amino acids			
5.	Metabolism of individual amino acids -I	Describe Metabolism of individual amino acids	356	Discuss biosynthesis, fate, metabolic functions and related inherited disorders of Glycine, serine, and alanine	LGIS 36	1	MCQ/S AQ/VIV A/OSPE
			357	Discuss biosynthesis, fate, metabolic functions and related inherited disorders of acidic amino acids			
6.	Metabolism of individual amino		358	Discuss biosynthesis, fate, metabolic functions and related inherited disorders of branched chain amino acids	LGIS 37	1	MCQ/S AQ/VIV A/OSPE

	acids -II						
--	-----------	--	--	--	--	--	--

SGDs/Tutorial		
Anatomy		
Topic 1	Inguinal Canal & its boundaries	1.5
Topic 2	Peritoneum	1.5
Topic 3	Stomach & Duodenum	1.5
Topic 4	Liver & Biliary Tree	1.5
Topic 5	Small Intestine	1.5
Topic 6	Mesenteries	1.5
Topic 7	Blood supply of GIT	1.5
Topic 8	Large Intestine	1.5
Topic 9	Revision	1.5
Physiology		
Topic 1	GIT Blood Supply	1.5
Topic 2	Gastric Secretions	1.5
Topic 3	Bile and Pancreas	1.5
Topic 4	Secretions of Large Intestine	1.5
Topic 5	Disorders of Large Intestine	1.5
Topic 6	Describe the steps of Glucose Metabolism	1.5
Topic 7	Describe the steps of Fat Metabolism	1.5
Topic 8	Describe the steps of Protein Metabolism	1.5
Topic 9	Revision	1.5
Biochemistry		
Topic 1	Adipose tissue of Disorders of Nutrition	1.5
Topic 2	Lactose intolerance	1.5
Topic 3	Jaundice	1.5
Topic 4	Complex Lipid -I	1.5
Topic 5	Complex Lipid -II	1.5
Topic 6	TCA Cycle	1.5
Topic 7	Complex Lipid -III	1.5
Topic 8	Urea Cycle	1.5
Topic 9	Revision	1.5

List of practical works				
Subject	Topic	S. No	Learning objectives	Hours
Histology	Histology of tongue & Esophagus	1	Identify the histological features of lips and tongue under the microscope Identify the histological features of Esophagus under the microscope	1.5
	Stomach & Duodenum	2	Identify the histological features of stomach under the microscope Identify the histological features of duodenum under the microscope	1.5

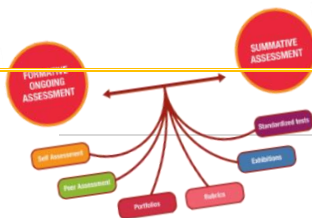
	Histology of Pancreas	3	Identify the histological features of Pancreas under the microscope	1.5
	Liver	4	Identify the histological features of liver under the microscope	1.5
	Spleen	5	Identify the histological features of Spleen under the microscope	1.5
	Jejunum and Ileum & Appendix	6	Identify the histological features of Jejunum and Ileum under the microscope Identify the histological features of Appendix under the microscope	1.5
	Anal Canal	7	Identify the histological features of Anal Canal under the microscope	1.5
	Revision	8	Revision of Histology of GIT module	1.5
Physiology	GPE	1	Examine a standardized patient for general physical examination	1.5
	Inspection of Abdomen	2	To perform Abdominal Inspection to assess any obvious finding	1.5
	Superficial Palpation of Abdomen	3	To perform systematic superficial palpation of the abdomen to assess the abdominal wall and superficial structures	1.5
	Visceral/Deep Palpation of Abdomen	4	To perform visceral and deep palpation of the abdomen to assess underlying abdominal organs and deeper structures.	1.5
	Percussion & Auscultation	5	Percussion: To assess underlying organs and fluid or air distribution Auscultation: To assess bowel sounds and Vascular sounds.	1.5
	Examination of whole Abdomen	6	To perform a complete and systematic examination of the abdomen using inspection, palpation, percussion, and auscultation.	1.5
	Revision	7		1.5
	Mock test & Formative assessment	8		1.5
Biochemistry	Estimation of cholesterol	1	Estimate serum Cholesterol in a given blood sample	1.5
	Estimation of TAGs	2	Estimate serum Triglycerides in a given blood sample	1.5
	Estimation of ALT	3	Estimate serum ALT in a given blood sample	1.5
	Estimation of AST	4	Estimate serum AST in a given blood sample	1.5
	Estimation of ALP	5	Estimate serum ALP in a given blood sample	1.5
	Estimation of Protein in	6	Estimate the plasma proteins in a given blood sample	1.5

	blood			
	Estimation of Urea in blood	7	Estimate the plasma Urea in a given blood sample	1.5
	Bilirubin	8	Estimate serum Bilirubin in a given blood sample	1.5

MIT:mode of information transfer. E.g. lecture, SGD, DSL, Practical, skill lab etc

DSL			Hours
Topic 1	Revision of week 1		1.5
Topic 2	Portosystemic anastomosis		1.5
Topic 3	Revision of digestion & absorption (Bio)		1.5
Topic 4	Disorders of GIT		1.5
Topic 5	Revision of Glycolysis		1.5
Topic 6	Overview of Carbohydrates Metabolism		1.5

MIT	No
Total LGIS	115
Total Demonstration/Practical	36
Total SGDs	40.5
Total SDLs	13
Total DSL	9
Total teaching hours	213.5



12.Examination and Methods of Assessment:

Assessments within the MBBS program at the MIMC consist of both formative and summative evaluations. These assessments are crucial for monitoring student progress and academic performance.

1.1 Formative Assessment:

Formative assessments, accounting for 20% of the total marks assigned to each block, serve as ongoing evaluations designed to provide feedback and promote learning. Formative assessments are conducted after the completion of each module, ensuring students receive timely feedback to enhance their understanding and performance.

1.2 Summative Assessment:

Summative assessments, comprising 80% of the total assessment weighting, are conducted and overseen by constitute university as part of the annual examination process. This summative assessment evaluates students' comprehensive understanding of the curriculum and constitutes a significant portion of their final scores.

1.3 Assessment Tools:

Various assessment tools are employed to measure students' knowledge and competencies. These tools include:

1. **Written Examinations:** These include Multiple Choice Questions (MCQs) and Short Answer Questions (SAQs) that assess students' theoretical knowledge.
2. **Performance Assessments:** Objective Structured Practical Examinations (OSPE) and Objective Structured Clinical Examinations (OSCE) are used to evaluate practical skills and clinical competence.
3. **Assignments:** Presentations, projects, and self-reflection assignments are included in the assessment process to enhance students' critical thinking and research skills.

1.4 Feedback Mechanism:

At the end of each block, a "Block Evaluation Form" will be provided to students, either in hard copy or online. Students will give their feedback on the "Course Content," "Learning Resources," "Teaching Methods," "Engagement & Motivation," and "Assessment Methods."



13. Learning Opportunities and Resources

S.No	Subject	Recommended Books
1	Gross Anatomy	• <i>Clinical Anatomy by Regions</i> by Richard S. Snell (Latest Edition) • <i>Gray's Anatomy for Students</i> (Latest Edition) • <i>K.L. Moore, Clinically Oriented Anatomy</i> (Latest Edition) • <i>Netter's Atlas of Human Anatomy</i> (Latest Edition) • <i>Last's Anatomy</i> (Latest Edition)
2	Histology	• <i>Textbook of Histology</i> by Junqueira (Latest Edition) • <i>diFiore's Atlas of Histology with Functional Correlations</i> (Latest Edition) • <i>Atlas of Human Histology</i> by Wheaters (Latest Edition) • <i>Textbook of Histology</i> by Laiq Hussain (Latest Edition)
3	Embryology	• <i>Langman's Medical Embryology</i> (Latest Edition) • <i>The Developing Human</i> by Keith L. Moore (Latest Edition)
4	Physiology	• <i>Textbook of Medical Physiology</i> by Guyton and Hall (Latest Edition) • <i>Ganong's Review of Medical Physiology</i> (Latest Edition)
5	Biochemistry	• <i>Harper's Illustrated Biochemistry</i> (Latest Edition) • <i>Lippincott's Illustrated Review: Biochemistry</i> (Latest Edition)
6	Pharmacology	• <i>Katzung's Basic and Clinical Pharmacology</i> (Latest Edition)
7	Pathology	• <i>Robbins Basic Pathology</i> (Latest Edition)
8	Community Medicine	• <i>Essential Community Medicine</i> (Latest Edition) • <i>K. Park Textbook of Preventive and Social Medicine</i> (Latest Edition)
9	General Medicine	• <i>Davidson's Principles and Practice of Medicine</i> (Latest Edition)
10	Radiology	• <i>David Sutton's Textbook of Radiology and Imaging</i> (Latest Edition)
11	Neurosurgery	• <i>Greenberg's Textbook of Neurosurgery</i> • <i>Rangacharya's Principles of Neurosurgery</i>

14. Timetables

		MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE , MIRPUR, (AJ&K)					
GIT, Hepatobiliary and Metabolism Module							
Time Table Class 2nd Year MBBS 2026							
Theme 1: Painful Swallowing							
Week- 01		Time			Venue: 2nd Year Lecture Hall		
Day / Date	Time		BREAK 10:30 AM - 11:00 AM	Time		Prayer Break 1:00 PM - 01:30 PM	
	08:00AM - 09:00AM	09:00 AM -10:30 AM		11:00 AM - 12:00 PM	12:00 PM - 01:00 PM		01:30 PM - 03: 00 PM
MONDAY 02-02-2026	LGIS PHY-1 Topic: GIT Motility Fac: Prof. Dr. Ayyaz Ahmed	Anatomy Dissection Fac: Dr.Maheen & Dr.Zainab		LGIS ANT-1 Topic: Gross Anatomy of Oral Cavity & Salivary Glands Fac: Prof. Dr. Col Shafqat Ali	LGIS BIO-1 Topic: Saliva Fac: Dr. Wajahat Ullah Khan		Practical A (ANT) B (BIO) C (PHY)
TUESDAY 03-02-2026	LGIS PHY-2 Topic: Neural Control of GIT Function Fac: Prof. Dr. Ayyaz Ahmed	Anatomy Dissection Fac: Dr.Maheen & Dr.Zainab		LGIS PHY-3 Topic: GIT Hormones Fac: Prof. Dr. Ayyaz Ahmed	LGIS ANT-2 Topic: Development of tongue & Salivary Glands Fac: Prof. Dr. Col Shafqat Ali		Practical B (ANT) C (BIO) A (PHY)
WEDNESDAY 04-02-2026	LGIS PHY-4 Topic: Movements of GIT Fac: Prof. Dr. Ayyaz Ahmed	SGD A (ANT) B (BIO) C (PHY)		LGIS Patho-1 Topic: Esophagus Fac: Dr. Farzana Habib	LGIS PHY-5 Topic: Ingestion of food Fac: Prof. Dr. Ayyaz Ahmed		Practical C (ANT) A (BIO) B (PHY)
THURSDAY 05-02-2026	LGIS ANT-3 Topic: Histology of oral Cavity & Esophagus Fac: Dr. Maheen Afraz	SGD B (ANT) C (BIO) A (PHY)		LGIS PHY-6 Topic: GIT Secretions Fac: Dr. Barkat Ullah Khan Awan	LGIS ANT-4 Topic: Development of Esophagus Fac: Prof. Dr. Col Shafqat Ali		SDL
Friday 06-02-2026	LGIS PHY-7 Topic: Saliva Fac: Dr. Barkat Ullah Khan Awan	SGD C (ANT) A (BIO) B (PHY)		LGIS PHY-8 Topic: Esophagus Fac: Dr. Barkat Ullah Khan Awan	SDL		
SGD		Practicals			Anatomy Dissection		
PHY-1 Topic: GIT Blood Supply ANT-1 Topic: Inguinal Canal & its boundaries BIO-1 Topic: Adipose tissue & Disorders of Nutrition		ANT-1 Topic: Histology of tongue & Esophagus PHY-1 Topic: GPE (Pertaining to Abdominal disorders) BIO-1 Topic: Estimation of Cholestrol in blood			Topic: Oral Cavity		



MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE , MIRPUR, (AJ&K)
GIT, Hepatobiliary and Metabolism Module
Time Table Class 2nd Year MBBS 2026
Theme 2: Pain Epigastrium



Week- 02					Venue: 2nd Year Lecture Hall			
Day / Date	Time							
	08:00AM - 09:00AM	09:00 AM -10:30 AM	BREAK 10:30 AM - 11:00 AM	11:00 AM - 12:00 PM	12:00 PM - 01:00 PM	Prayer Break 1:00 PM - 01:30 PM	01:30 PM - 03:00 PM	
MONDAY 09-02-2026	LGIS BIO-2 Topic: Gastric Secretions Fac: Dr. Zahira Bashir	LGIS MED. - 1 Topic: Peptic Ulcer Fac: Prof. Dr. Muhammad Shuaib		LGIS PHY-9 Topic: Stomach Fac: Dr. Barkat Ullah Khan Awan	LGIS ANT-5 Topic: Development of Foregut Fac: Prof. Dr. Col Shafqat Ali		Practical A (ANT) B (BIO) C (PHY)	
TUESDAY 10-02-2026	LGIS F. MED - 1 Topic: Gastric Lavage Fac: Prof. Dr. Aftab Alam	SGD A (ANT) B (BIO) C (PHY)		LGIS PHY-10 Topic: Gastric Secretions - I Fac: Dr. Barkat Ullah Khan Awan	LGIS ANT-6 Topic: Histology of GIT Fac: Prof. Dr. Col Shafqat Ali		Practical B (ANT) C (BIO) A (PHY)	
WEDNESDAY 11-02-2026								
THURSDAY 12-02-2026	LGIS ANT-7 Topic: Gross Anatomy of Inguinal Canal Fac: Prof. Dr. Arshad Qureshi	SGD B (ANT) C (BIO) A (PHY)		LGIS ANT-8 Topic: Peritoneum Fac: Prof. Dr. Col Shafqat Ali	LGIS PHY-11 Topic: Gastric Secretions - II Fac: Dr. Barkat Ullah Khan Awan		Practical C (ANT) A (BIO) B (PHY)	
Friday 13-02-2026	LGIS ANT-9 Topic: Gross Anatomy of Stomach, duodenum & Pancreas Fac: Dr. Zainab Khalid	SGD C(ANT) A (BIO) B (PHY)	LGIS Pharma - 1 Topic: Peptic Ulcer Fac: Dr. Saman Omer	SDL				
SGD		Practicals						
PHY-2 Topic: Gastric Secretion ANT-2 Topic: Peritoneum BIO-2 Topic: Lactose Intolerance		ANT-2 Topic: Stomach & Duodenum Histology PHY-2 Topic: Inspection of Abdomen BIO-2 Topic: Estimation of TAGs in blood						



MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE , MIRPUR, (AJ&K)
GIT, Hepatobiliary and Metabolism Module
Time Table Class 2nd Year MBBS 2026
Theme 3: Jaundice



Week- 03	Time					Venue: 2nd Year Lecture Hall	
Day / Date	08:00AM - 09:00AM	09:00 AM -10:30 AM	BREAK 10:30 AM - 11:00 AM	11:00 AM - 12:00 PM	12:00 PM - 01:00 PM	Prayer Break 1:00 PM - 01:30 PM	01:30 PM - 03: 00 PM
MONDAY 16-02-2026	LGIS PHY-12 Topic: Pancreas Fac: Prof. Dr. Ayyaz Ahmed	LGIS ENT - 1 Topic: Oral Cavity Fac: Dr. Umara Iftikhar/ Dr. Qammar yaqub		LGIS ANT-10 Topic: Gross Anatomy of Liver & Hepatobiliary Tree Fac: Prof. Dr. Col Shafqat Ali	LGIS Surgery - 1 Topic: Peptic Ulcer Fac: PROF DR. ARSHAD QURESHI		Practical A (ANT) B (BIO) C (PHY)
TUESDAY 17-02-2026	LGIS ANT-11 Topic: Gross Anatomy of Ant. Abdominal wall Fac: Prof. Dr. Col Shafqat Ali	LGIS BIO-3 Topic: Bile Fac: Dr. Zahira Bashir		LGIS PHY-13 Topic: Liver Fac: Prof. Dr. Ayyaz Ahmed	LGIS C. MED - 1 Topic:Hepatitis B,C & A,E Fac:Prof. Dr. Abrar Hussain		Practical B (ANT) C (BIO) A (PHY)
WEDNESDAY 18-02-2026	LGIS ANT-12 Topic: Gross Anatomy Porto-systemic Anastomosis Fac: Prof. Dr. Arshad Qureshi	SGD A (ANT) B (BIO) C (PHY)		LGIS Patho-2 Topic: Hepatitis & Cirrhosis Fac: Prof. Dr. Iqbal Hussain Malik	SDL	Practical C (ANT) A (BIO) B (PHY)	
THURSDAY 19-02-2026	LGIS BIO-4 Topic: Pancreatic Secretions Fac: Dr. Wajahat Ullah Khan	SGD B (ANT) C (BIO) A (PHY)		LGIS PHY-14 Topic: Bile Fac: Prof. Dr. Ayyaz Ahmed	LGIS ANT-13 Topic: Histology of Liver & Spleen Fac: Prof. Dr. Col Shafqat Ali		
Friday 20-02-2026	LGIS Pharma - 2 Topic: Drugs detoxification Fac: Dr. Salma Salim	SGD C (ANT) A (BIO) B (PHY)		LGIS MED. - 2 Topic: Liver Cirrhosis Fac: Dr. Muhammad Imran	SDL		
SGD		Practicals					
PHY-3 Topic: Bile & Pancreas ANT-3 Topic: Liver & Biliary Tree BIO-3 Topic: Jaundice		ANT-3 Topic: Histology of Pancreas PHY-3 Superficial Palpation of Abdomen BIO-3 Topic: Estimation of ALT in blood					



MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE , MIRPUR, (AJ&K)
GIT, Hepatobiliary and Metabolism Module
Time Table Class 2nd Year MBBS 2026
Theme 4: Diarrhea and Constipation



Week- 04					Venue: 2nd Year Lecture Hall
Day / Date	Time				
	08:00AM - 09:00AM	09:00 AM -10:30 AM	BREAK 10:30 AM - 11:00 AM	11:00 AM - 12:00 PM	12:00 PM - 01:00 PM
MONDAY 23-02-2026	LGIS PHY-15 Topic: Small Intestine Fac: Prof. Dr. Saadia Zainab	LGIS Pharma - 3 Topic: Diarrhea & Constipation (Drugs) Fac: Dr. Saman Omer		LGIS ANT-14 Topic: Development of Midgut Fac: Prof. Dr. Col Shafqat Ali	Practical A (ANT) B (BIO) C (PHY)
TUESDAY 24-02-2026	LGIS ANT-15 Topic: Gross Anatomy of Small Intestine Fac: Prof. Dr. Col Shafqat Ali	LGIS BIO-5 Topic: Digestion & Absorption -I Fac: Dr. Zahira Bashir		LGIS PHY-16 Topic: Duodenum & Intestinal Secretion Fac: Prof. Dr. Saadia Zainab	SDL
WEDNESDAY 25-02-2026	LGIS BIO-6 Topic: Digestion & Absorption -II Fac: Dr. Wajahat Ullah Khan	SGD A (ANT) B (BIO) C (PHY)		LGIS ANT-16 Topic: Blood Supply of GIT Fac: Dr. Maheen Afraz	Practical C (ANT) A (BIO) B (PHY)
THURSDAY 26-02-2026	LGIS BIO-7 Topic: Digestion & Absorption -III Fac: Dr. Zahira Bashir	SGD B (ANT) C (BIO) A (PHY)		LGIS ANT-17 Topic: Histology of of Small Intestine Fac: Prof. Dr. Col Shafqat Ali	Practical B (ANT) C (BIO) A (PHY)
Friday 27-02-2026	LGIS BIO-8 Topic: Digestion & Absorption -IV Fac: Dr. Zahira Bashir	SGD C (ANT) A (BIO) B (PHY)		LGIS PHY-17 Topic: Gastrointestinal Hormones Fac: Prof. Dr. Saadia Zainab	SDL
SGD		Practicals			
PHY-4 Topic: Secretion of Large Intestine ANT-4 Topic: Small Intestine BIO-4 Topic: Complex Lipids - I		ANT-4 Topic: Histology of Liver PHY-4 Topic: Visceral / Deep Papatation BIO-4 Topic: Estimation of AST in blood			



MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE , MIRPUR, (AJ&K)
GIT, Hepatobiliary and Metabolism Module
Time Table Class 2nd Year MBBS 2026
Theme 4/5: Bleeding Per Rectum



Week- 05					Venue: 2nd Year Lecture Hall
Day / Date	Time				
	08:00AM - 09:00AM	09:00 AM -10:30 AM	BREAK 10:30 AM - 11:00 AM	11:00 AM - 12:00 PM	12:00 PM - 01:00 PM
MONDAY 02-03-2026	LGIS PHY-18 Topic: Disorders of Small Intestine Fac:: Prof. Dr. Saadia Zainab	LGIS BIO-9 Topic: Energy requirment of human body Fac: Dr. Wajahat Ullah Khan		LGIS ANT-18 Topic: Lymphatic Drainage of Abdominal Viscera Fac: Dr. Maheen Afraz	Practical A (ANT) B (BIO) C (PHY)
TUESDAY 03-03-2026	LGIS ANT-19 Topic: Development of Hindgut Fac: Prof. Dr. Col Shafqat Ali	SDL		LGIS PHY-19 Topic: Large Intestine Movement & its reflexes Fac: Prof. Dr. Ayyaz Ahmed	Practical B (ANT) C (BIO) A (PHY)
WEDNESDAY 04-03-2026	LGIS ANT-20 Topic: Gross Anatomy of Large Intestine Fac: Dr. Zainab Khalid	SGD A (ANT) B (BIO) C (PHY)		LGIS PHY-20 Topic: Large Intestine Fac: Prof. Dr. Ayyaz Ahmed	Practical C (ANT) A (BIO) B (PHY)
THURSDAY 05-03-2026	LGIS PHY-21 Topic: Disorders of GIT Fac: Prof. Dr. Ayyaz Ahmed	SGD B (ANT) C (BIO) A (PHY)		LGIS ANT-21 Topic: Histology of Large Intestine Fac: Prof. Dr. Col Shafqat Ali	LGIS BIO-10 Topic: Intestinal Juices Fac: Dr. Zahira Bashir
Friday 06-03-2026	LGIS Patho-3 Topic: Large Intestine Fac: Prof. Dr. Sara Najeeb	SGD C (ANT) A (BIO) B (PHY)		LGIS Paeds - 1 Topic: Gastroenteritis Fac: Dr. Rabia Riaz	SDL
SGD		Practicals			
PHY-5 Topic:Disorders of Large Intestine ANT-5 Topic: Large Intestine BIO-5 Topic: Complex Lipids - II		ANT-5 Topic: Histology of Spleen PHY-5 Topic: Percussion & Ascultion BIO-5 Topic: Estimation of ALP in blood			



MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE , MIRPUR, (AJ&K)
GIT, Hepatobiliary and Metabolism Module
Time Table Class 2nd Year MBBS 2026
Theme 6: Glucose Control- Carbohydrate Metabolism



Week- 06					Venue: 2nd Year Lecture Hall
Day / Date	Time				
	08:00AM - 09:00AM	09:00 AM -10:30 AM	BREAK 10:30 AM - 11:00 AM	11:00 AM - 12:00 PM	12:00 PM - 01:00 PM
MONDAY 09-03-2026	LGIS BIO-11 Topic: Electron transport chain Fac: Prof. Dr. M. Naqib	SDL		LGIS BIO-12 Topic: Oxidative Phosphorylation Fac: Prof. Dr. M. Naqib	Practical A (ANT) B (BIO) C (PHY)
TUESDAY 10-03-2026	LGIS BIO-13 Topic: Respiratory chain inhibitors & uncouples Fac: Prof. Dr. M. Naqib	SGD A (ANT) B (BIO) C (PHY)		SDL	Practical B (ANT) C (BIO) A (PHY)
WEDNESDAY 11-03-2026	SDL	SGD B (ANT) C (BIO) A (PHY)		LGIS BIO-14 Topic: Glycolysis-I Fac: Dr. Zahira Bashir	Practical C (ANT) A (BIO) B (PHY)
THURSDAY 12-03-2026	LGIS BIO-15 Topic: Glycolysis-II Fac: Dr. Zahira Bashir	SGD C (ANT) A (BIO) B (PHY)		LGIS Surgery - 2 Topic: Lump in the Abdomen Fac:Col (R) Prof. Dr. Zahid Saeed	LGIS F. MED - 2 Topic: Hepatotoxic Poisons Fac: Prof. Dr. Aftab Alam
Friday 13-03-2026	LGIS C. MED - 2 Topic:Food Borne Infections Fac:Prof. Dr Ujaz Ali	LGIS BIO-16 Topic: Oxidation of pyruvate Fac: Dr. Wajahat Ullah Khan		LGIS Islamiat - 1 Fac: Hafiz Ghulam Yasin	SDL
SGD		Practicals			
PHY-6 Topic:Describe the steps of Glucose Metabolism ANT-6 Topic: Mesenteries BIO-6 Topic: Revision		ANT-6 Topic: Histology of Jejunum, Ileum & Appendix PHY-6 Topic: Examination of whole Abdomen BIO-6 Topic: Estimation of Protein in blood			



MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE , MIRPUR, (AJ&K)
GIT, Hepatobiliary and Metabolism Module
Time Table Class 2nd Year MBBS 2026
Theme 6: Glucose Control- Carbohydrate Metabolism - II



Week- 07					Venue: 2nd Year Lecture Hall
Day / Date	Time				
	08:00AM - 09:00AM	09:00 AM -10:30 AM		11:00 AM - 12:00 PM	12:00 PM - 01:00 PM
Monday 16-03-2026	LGIS BIO-17 Topic: Tricarboxylic Acid Cycle -I Fac: Dr. Wajahat Ullah Khan	LGIS PRIME -1 Topic:Stigma and reaction to illness Fac: Dr. Fazaila Sabih	BREAK 10:30 AM - 11:00 AM	LGIS BIO-18 Topic: Tricarboxylic Acid Cycle -II Fac: Dr. Wajahat Ullah Khan	Practical A (ANT) B (BIO) C (PHY)
Tuesday 17-03-2026	LGIS BIO-19 Topic: Gluconeogenesis Fac: Dr. Zahira Bashir	SGD A (ANT) B (BIO) C (PHY)		SDL	Practical B (ANT) C (BIO) A (PHY)
Wednesday 18-03-2026	LGIS BIO-20 Topic: Hexose MonoPhosphate Shunt Fac: Dr. Zahira Bashir	SGD B (ANT) C (BIO) A (PHY)		LGIS BIO-21 Topic: Uronic Acid Pathway Fac: Dr. Wajahat Ullah Khan	Practical C (ANT) A (BIO) B (PHY)
Thursday 19-03-2026	LGIS BIO-22 Topic: Galactose Metabolism Fac: Dr. Zahira Bashir	SGD C (ANT) A (BIO) B (PHY)		SDL	LGIS BIO-23 Topic: Glycogen Metabolism Fac: Dr. Zahira Bashir
Friday 20-03-2026					
SGD		Practicals			
PHY-7 Topic:Fat Metabolism (Obesity) ANT-7 Topic: Blood Supply of GIT BIO-7 Topic: TCA Cycle		ANT-7 Topic: Histology of Anal Canal PHY-7 Topic: Revision BIO-7 Topic: Estimation of Bilirubin in blood			



MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE , MIRPUR, (AJ&K)
GIT, Hepatobiliary and Metabolism Module
Time Table Class 2nd Year MBBS 2026
Theme 7: Obesity



Week- 08					Venue: 2nd Year Lecture Hall		
Day / Date	Time						
	08:00AM - 09:00AM	09:00 AM -10:30 AM	11:00 AM - 12:00 PM	12:00 PM - 01:00 PM	01:30 PM - 03: 00 PM		
MONDAY 23-03-2026							
TUESDAY 24-03-2026	LGIS BIO-24 Topic: Fatty Acid Synthesis-I Fac: Dr. Wajahat Ullah Khan	Anatomy Dissection	BREAK 10:30 AM - 11:00 AM	LGIS BIO-25 Topic: Fatty Acid Synthesis-II Fac: Dr. Zahira Bashir	LGIS Pak-Studies -1 Fac: Hafiz Ghulam Yasin	Prayer Break 1:00 PM - 01:30 PM	Practical A (ANT) B (BIO) C (PHY)
WEDNESDAY 25-03-2026	LGIS BIO-26 Topic: Mobilization of stored facts Fac: Dr. Wajahat Ullah Khan	SGD A (ANT) B (BIO) C (PHY)		LGIS BIO-27 Topic: Ketone bodies Fac: Dr. Wajahat Ullah Khan	LGIS MED. - 3 Topic: Hyperlipidemia Fac: Prof. Dr. Muhammad Nadeem		Practical B (ANT) C (BIO) A (PHY)
THURSDAY 26-03-2026	LGIS BIO-28 Topic: Cholestrol -I Fac: Dr. Zahira Bashir	SGD B (ANT) C (BIO) A (PHY)		LGIS Surgery - 3 Topic: Gall Bladder & Pancreas Fac:DR. AIMAN IKEAM	LGIS BIO-29 Topic: Cholestrol -II Fac: Dr. Wajahat Ullah Khan		Practical C (ANT) A (BIO) B (PHY)
Friday 27-03-2026	LGIS BIO-30 Topic: Lipoproteins Fac: Dr. Zahira Bashir	SGD C (ANT) A (BIO) B (PHY)		LGIS BIO-31 Topic: Disturbances of lipid Metabolism Fac: Dr. Wajahat Ullah Khan	SDL		
SGD		Practicals			Anatomy Dissection		
PHY-8 Topic: Describe the steps of Protein Metabolism ANT-8 Topic: Inguinal Canal BIO-8 Topic: Complex Lipids - III		ANT-8 Topic: Revision of GIT Histology PHY-8 Topic: Mock Test BIO-8 Topic: Estimation of Urea in blood			Topic: Rectus Sheath		



MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE , MIRPUR, (AJ&K)
GIT, Hepatobiliary and Metabolism Module
Time Table Class 2nd Year MBBS 2026
Theme 8: Wasting



Week- 09					Venue: 2nd Year Lecture Hall		
Day / Date	Time						
	08:00AM - 09:00AM	09:00 AM -10:30 AM	BREAK 10:30 AM - 11:00 AM	11:00 AM - 12:00 PM	12:00 PM - 01:00 PM	Prayer Break 1:00 PM - 01:30 PM	01:30 PM - 03: 00 PM
MONDAY 30-03-2026	LGIS BIO-32 Topic: Amino Acid Pool Fac: Prof. Dr. M. Naqib	LGIS Surgery - 4 Topic: GIT / Large Intestine Fac:DR. UROOJ ASAD		SDL	LGIS BIO-33 Topic: Ammonia transpot & effects of ammonia toxicity on brain Fac: Prof. Dr. M. Naqib		Practical A (ANT) B (BIO) C (PHY)
TUESDAY 31-03-2026	LGIS BIO-34 Topic: Urea cycle Fac: Prof. Dr. M. Naqib	Anatomy Disection		LGIS BIO-35 Topic: Metabolism of Aromatic Amino Acids Fac: Prof. Dr. M. Naqib	SDL		Practical B (ANT) C (BIO) A (PHY)
WEDNESDAY 01-04-2026	LGIS BIO-36 Topic: Metabolism of Individual Amino Acids -I Fac: Prof. Dr. M. Naqib	Anatomy Dissection		SDL	LGIS BIO-37 Topic: Metabolism of Individual Amino Acids -II Fac: Prof. Dr. M. Naqib		Practical C (ANT) A (BIO) B (PHY)
THURSDAY 02-04-2026	Renal Module -1						
FRIDAY 03-04-2026							
		Practicals			Anatomy Dissection		
		ANT-9 Topic: Revision Week 1 - 3 PHY-9 Topic: Revision Week 4- 6 BIO-9 Topic: Revision Week 7-9			Topic: Revision of Gross Anatomy of GIT module		

15. For inquiry and troubleshooting



Please contact
Module team members & DME

16.Course Feedback Form

Course Title: _____

Semester/Module _____ Dates: _____

Please fill the short questionnaire to make the course better.

Please respond below with 1, 2, 3, 4 or 5, where 1 and 5 are explained.

THE DESIGN OF THE MODLUE

- | | | |
|--|---|--------------------------|
| A. Were objectives of the course clear to you? | Y ☐ N ☐ | |
| B. The course contents met with your expectations | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| C. The lecture sequence was well-planned | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| D. The contents were illustrated with | | ☐ |
| 1. Too few examples | 5. Adequate examples | |
| E. The level of the course was | | ☐ |
| 1. Too low | 5. Too high | |
| F. The course contents compared with your expectations | | ☐ |
| 1. Too theoretical | 5. Too empirical | |
| G. The course exposed you to new knowledge and practices | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| H. Will you recommend this course to your colleagues? | | ☐ |
| 1. Not at all | 5. Very strongly | |

THE CONDUCT OF THE MODLUE

- | | | |
|--|--|--------------------------|
| A. The lectures were clear and easy to understand | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| B. The teaching aids were effectively used | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| C. The course material handed out was adequate | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| D. The instructors encouraged interaction and were helpful | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| E. Were objectives of the course realized? | Y N ☐ ☐ | |

F. Please give overall rating of the course

90% - 100% ()

60% - 70% ()

80% - 90% ()

50% - 60% ()

70% - 80% ()

below 50% ()

Please comment on the strengths of the course and the way it was conducted.

Please comment on the weaknesses of the course and the way it was conducted.

Please give suggestions for the improvement of the course.

Optional – Your name and contact address:

Thank you!!
