



RMU – 12

Integrated Modular

MBBS Curriculum 2026

Isolation to **Beyond Boundaries**

Study Guide

Gastrointestinal Module-I

Department of Medical Education

20

26

Second Year MBBS

	Rawalpindi Medical University			
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SECTION – I

RMU – 12 Integrated Modular MBBS Curriculum 2026

Isolation to Beyond Boundaries

Preamble

Medical education is undergoing a fundamental transformation globally, shifting from discipline-based, fragmented teaching toward integrated, competency-based, and clinically oriented learning systems that prepare graduates for real-world healthcare practice. In response to these evolving educational paradigms, national regulatory expectations, and the healthcare needs of society, Rawalpindi Medical University has adopted Clinically Oriented Integrated Modular RMU 12 MBBS Curriculum the envisioned under the guiding philosophy of “Isolation to Beyond Boundaries.”. This curriculum represents a structured, longitudinal, and outcome-driven educational continuum, progressing from foundational sciences to advanced clinical practice with a fully embedded internship. It is designed to ensure the gradual and coherent development of knowledge, clinical skills, professional attitudes, and Entrustable Professional Activities (EPAs), enabling graduates to emerge as practice-ready, safe, and competent medical professionals.

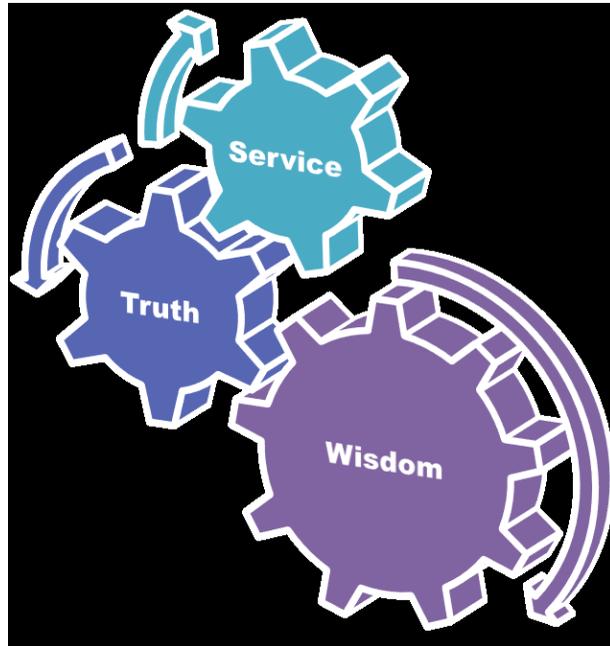
The Clinically Oriented Integrated Modular Curriculum transcends traditional disciplinary silos by promoting horizontal and vertical integration across basic, para-clinical, and clinical sciences. Learning experiences are contextualized around clinical problems and patient-centered care, fostering early clinical exposure, spiral learning, and progressive responsibility. This approach aligns with contemporary integration models, workplace-based assessment strategies, and competency-based medical education principles.

Anchored in national standards and international best practices, the curriculum ensures alignment with PM&DC, WFME and HEC requirements, while addressing local healthcare priorities. By embedding internship within the undergraduate framework and mapping outcomes to clearly defined competencies and Entrustable professional activities (EPAs), the curriculum ensures continuity, accountability, and seamless transition from undergraduate training to independent clinical practice.

Through this clinically oriented and integrated approach, Rawalpindi Medical University aims to produce graduates who are not only clinically proficient but also ethical, reflective, socially accountable, and equipped for lifelong learning moving decisively from isolated learning to integrated, boundary-transcending medical education.

University Moto, Vision, Values & Goals

RMU – 12



Vision and Values

Highly recognized and accredited center of excellence in Medical Education, using evidence-based training techniques for the development of highly competent health professionals, practice-ready for contemporary healthcare, who are critical thinkers, experiential self-directed lifelong learners, and socially accountable.

Mission Statement

To deliver evidence-based, research oriented, and clinically integrated health professional education that produces practice-ready graduates capable of providing safe, effective, patient-centered care, while upholding the values of mutual respect, ethical medical practice, professionalism, and social accountability.

Goals of the Undergraduate Integrated Modular Curriculum

The RMU-12 Model transforms medical education from isolated knowledge acquisition to embedded clinical practice, producing competent, ethical, and practice-ready physicians.

The RMU-12 Undergraduate Medical Program is 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.

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RMU – 12 Integrated Modular MBBS Curriculum 2026

Isolation to Beyond Boundaries

Competency Framework

Competency
PMDC



Figure 1

References

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 Pakistan Medical & Dental Council Guidelines for Undergraduate Medical Education (MBBS) Curriculum – 2024

RMU – 12 Structured Framework of Integrated Modular MBBS Curriculum 2026
Isolation to Beyond Boundaries

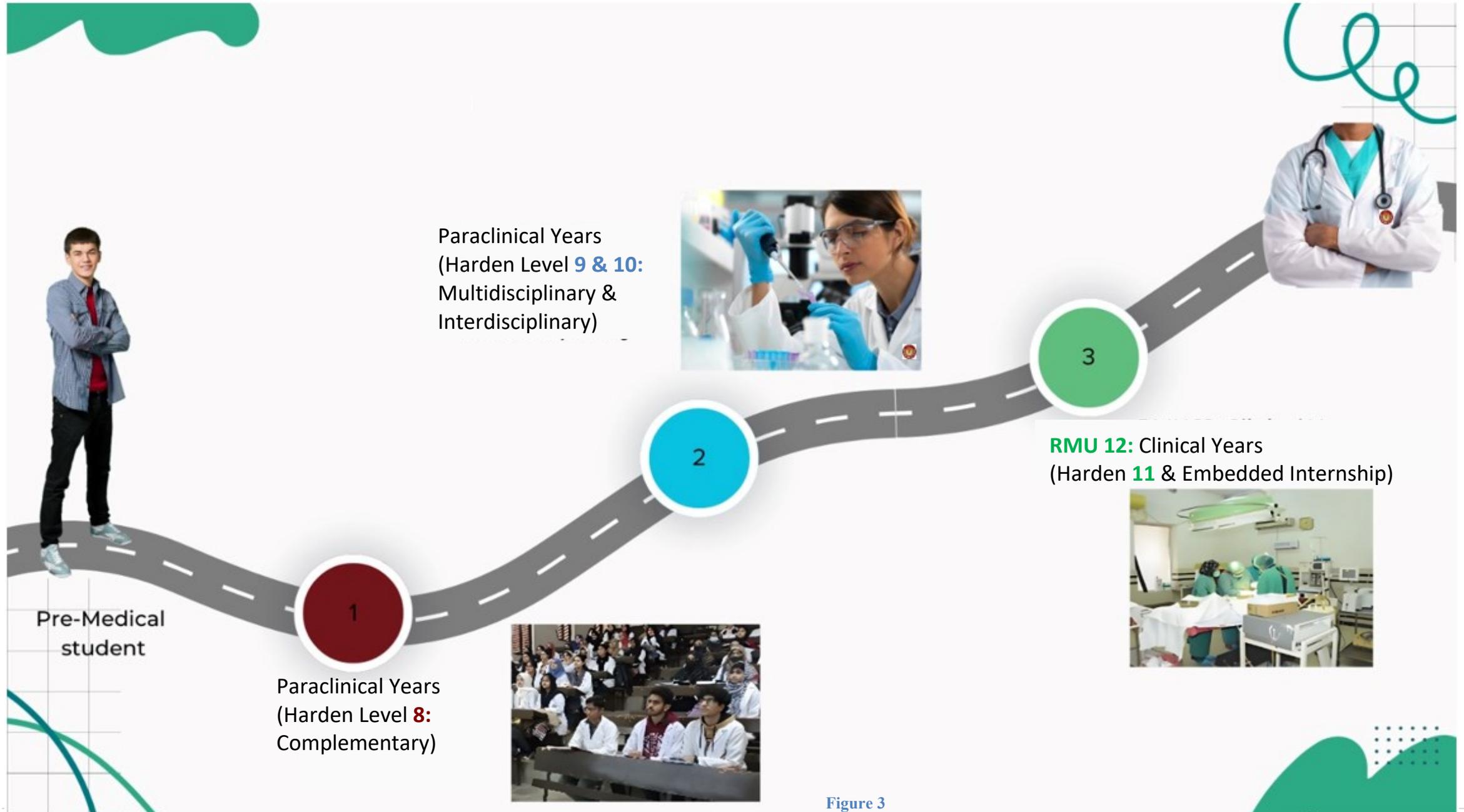


Figure 3

RMU – 12 Assessment Framework of Integrated Modular MBBS Curriculum 2026
Isolation to Beyond Boundaries

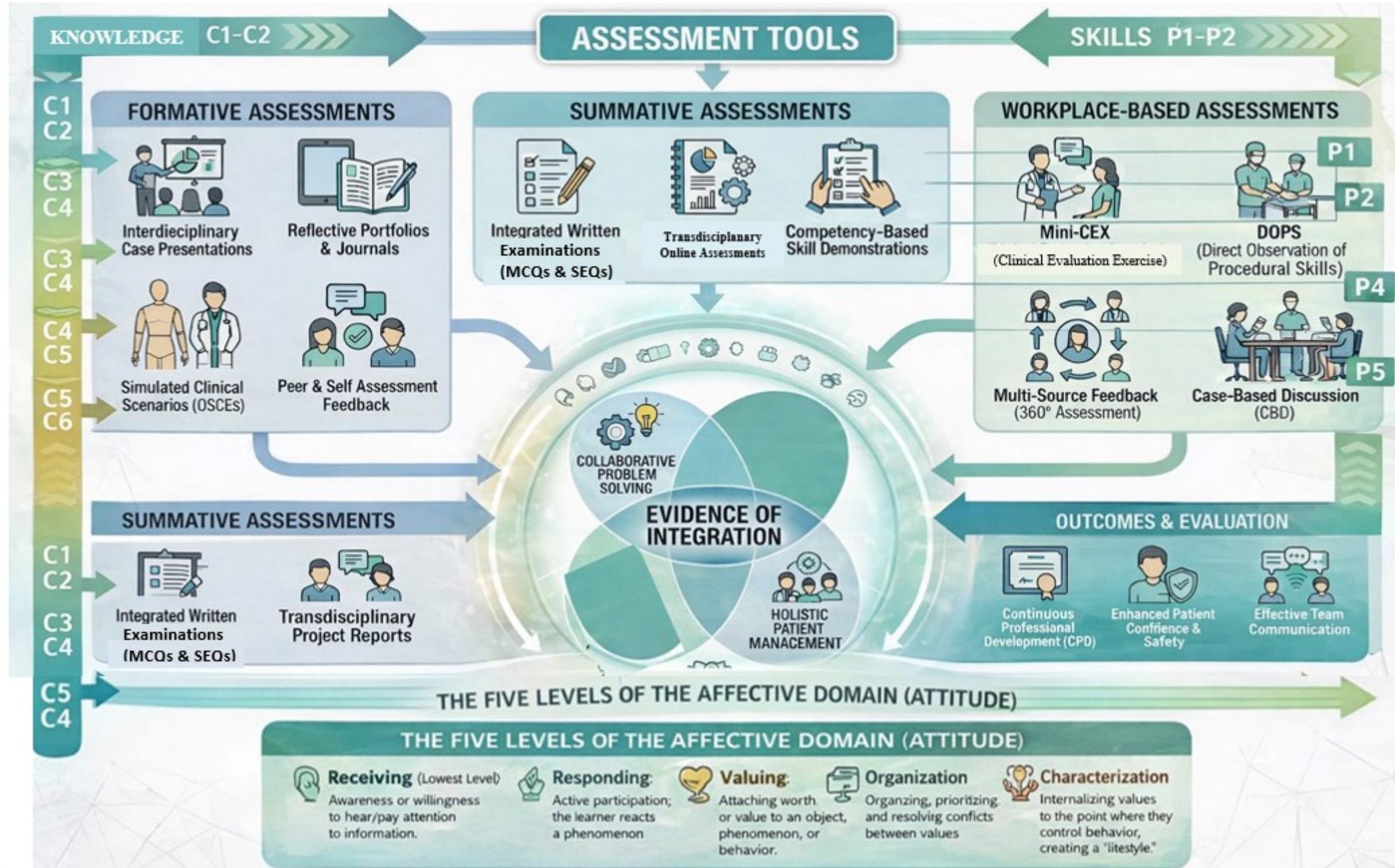


Figure 4

RMU – 12 Structured Framework of Integrated Modular MBBS Curriculum 2026 Isolation to Beyond Boundaries

Phase	Curricular Highlights
Pre House-job Internship	Undergraduate Internship The Pre House-Job Internship is a structured, supervised transition phase that consolidates clinical skills and professional readiness before the statutory house job. Learning is workplace-based and centred on clearly defined Entrustable Professional Activities aligned with international standards. Assessment relies on programmatic workplace-based tools and entrustment decisions to ensure safe, consistent performance and smoother transition into supervised clinical practice.
Clinical Sciences The Workplace Entrustment	Transdisciplinary Clinical education is embedded within real patient care and organised around EPAs and graded responsibility. Students learn as supervised members of clinical teams. Assessment is workplace-based and progression is guided by entrustment decisions supported by portfolios.
Paraclinical Sciences The Bridge	Multidisciplinary and Interdisciplinary Pre-clinical sciences are organised around clinical problems and system themes with interdisciplinary learning outcomes and team-based teaching. Instruction uses case-based learning, simulation and integrated laboratories to promote cross-disciplinary reasoning, while advanced units introduce task-based competencies and EPAs using a spiral design. Assessment emphasises integrated performance through OSCEs, workplace-linked tools and portfolios, with progression informed by aggregated evidence rather than single examinations.
Pre-Clinical The Foundation	Complementary Basic Medical Sciences are organized into system and theme-based modules with coordinated teaching across disciplines. Subject teaching is aligned through module-level outcomes and planned integrated sessions that reinforce related concepts. Assessments include items to test applied understanding, supported by interdisciplinary planning to ensure coherence.

RMU 12

Harden Level 11

Harden Level 10

Harden Level 9

Harden Level 8

MBBS Year 5

MBBS Year 3&4

MBBS Year 1&2

Rawalpindi Medical University has adopted a staged curricular framework that reflects a progressive movement along Harden’s integration ladder, culminating in going beyond the ladder to **RMU 12**. The curriculum is designed to ensure that knowledge acquired in the early years is not isolated or terminal, but is progressively contextualized, applied and transformed into professional competence. This progression is achieved by aligning curricular structure, teaching approaches and assessment strategies so that students move from conceptual understanding to integrated reasoning and finally to authentic clinical performance with graded responsibility.

Phase 1- The Foundation

In the early phase, basic sciences are organised using a complementary approach. The curriculum is structured into system- and theme-based modules rather than isolated subject courses, allowing Anatomy, Physiology, Biochemistry and related disciplines to retain their academic identity while contributing in a coordinated and mutually reinforcing manner. Learning outcomes are written at the module level and are intentionally framed to reflect conceptual understanding of systems rather than discipline-specific factual recall alone. Teaching is primarily discipline-led, but content delivery is carefully sequenced so that related concepts across subjects are taught in close temporal proximity. This sequencing is reinforced through planned integrated **multidisciplinary** activities such as problem-based learning, case-based learning and **clinico concept connect sessions** that require students to draw connections across disciplines. Teaching methods extend beyond lectures to include small-group discussions with structured clinical problem triggers that encourage early application of knowledge. Assessment in this phase is knowledge-focused, but incorporates integrated items and short clinical vignettes to test applied understanding (**C4 level**) across disciplines. These integrated assessment elements are deliberately introduced to prepare students for more complex synthesis (**C6 level**) in later phases, while maintaining the reliability. Regular interdisciplinary planning meetings and module coordination ensure coherence, avoid unnecessary duplication and maintain alignment between teaching and assessment.

Phase 2- The Bridge

As students enter the pre-clinical phase, the curriculum transitions into a multidisciplinary and subsequently interdisciplinary design. At this stage, curricular organisation shifts more clearly towards clinical systems and patient presentations, and learning outcomes emphasise the integration of knowledge, skills and reasoning across disciplines. Rather than subjects contributing independently, departments collaborate in the design and delivery of modules, and students encounter learning experiences that require simultaneous application of concepts from multiple domains. Teaching is increasingly delivered through team-based and co-facilitated sessions, with clinicians and basic scientists



jointly guiding learning activities. Case-based learning, integrated practical sessions and simulation-based teaching become central modalities, allowing students to engage with clinically meaningful problems while still grounded in scientific principles. The curriculum adopts a spiral structure in which key concepts are revisited at increasing levels of complexity, enabling deeper understanding and clinical relevance. In advanced pre-clinical components, the curriculum becomes explicitly task-oriented, focusing on common clinical presentations and professional activities rather than disciplinary content. At this stage, portfolios are introduced to support longitudinal documentation of learning, and early forms of workplace-linked assessment and entrustable activities are incorporated to familiarise students with performance-based expectations. Assessment strategies emphasise synthesis and reasoning, using integrated written examinations, complex case vignettes, OSCEs and structured simulation assessments. Decisions about student progress increasingly rely on aggregated evidence from multiple assessment tools and research projects.

Phase 3- The Workplace Entrustment

In the clinical phase, the curriculum becomes fully transdisciplinary, with learning embedded within authentic patient care and professional practice. Educational activities are organised around real clinical tasks, patient care pathways and **Entrustable Professional Activities** that reflect the core responsibilities of a graduating doctor. Students are integrated into clinical teams and participate in patient care under supervision, progressively assuming greater responsibility as competence is demonstrated. Teaching is predominantly workplace-based, supported by bedside teaching, coaching, reflective practice and targeted simulation for complex or high-risk activities. The distinction between disciplines becomes secondary to the holistic management of patients, as students are expected to integrate biomedical knowledge, clinical skills, communication, professionalism and teamwork in real settings. Assessment is programmatic and centred on performance in the workplace, using tools such as mini-CEX, DOPS, case-based discussions and multisource feedback. Evidence from these assessments is collected longitudinally within portfolios and reviewed by entrustment or competence committees to make informed decisions about progression and readiness for practice. Summative judgment is therefore based on sustained performance over time. Faculty roles evolve from subject teachers to supervisors, assessors and coaches, with explicit responsibility for observation, feedback and entrustment decisions. Diverse clinical exposure in tertiary public sector hospitals and community settings ensure adequate exposure, supervision and assessment opportunities, while quality assurance processes focus on the validity and consistency of entrustment decisions and learning experiences.



Miller's Pyramid of Clinical Competence

Phase 4- The Undergraduate Internship

The Undergraduate Internship is a structured, supervised transition phase designed to consolidate clinical competence and ensure readiness for the statutory house job. It provides learners with protected, workplace-based exposure focused on authentic patient care tasks, guided by clearly defined Entrustable Professional Activities aligned with international standards. Teaching emphasises supervised clinical practice, simulation for high-risk scenarios, and interprofessional teamwork, while assessment uses programmatic workplace-based tools, portfolios and entrustment decisions to judge safe, consistent performance. This level strengthens patient safety, reduces transition shock, and ensures that graduates enter the house job with demonstrable, documented readiness for independent supervised practice.

Across all phases, the curriculum is underpinned by faculty development and continuous quality assurance. The staged movement from complementary through multidisciplinary and interdisciplinary learning to transdisciplinary clinical practice ensures that graduates are not only knowledgeable, but also capable of applying their learning effectively and safely in real clinical environments. This integrated and progressive design reflects contemporary best practices in medical education and aligns the educational experience with the expectations of modern healthcare systems.

Key Highlights

- Transcends Harden's Level 11 through integration with society, systems, ethics, and lifelong learning
- Fully aligned with PMDC undergraduate medical education standards
- Emphasizes higher-order thinking: Analysis, Evaluation, and Creation (Bloom's Taxonomy)
- Produces socially accountable, adaptive physicians prepared for 21st-century healthcare challenges

1. Foundations of Integration

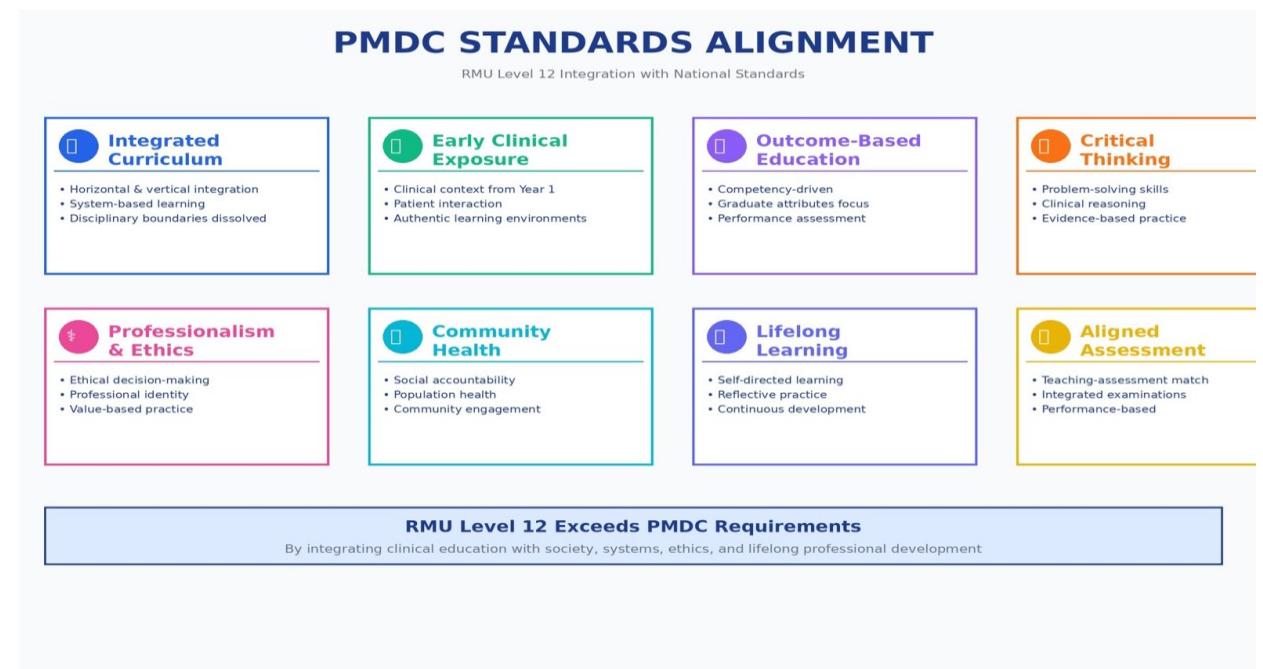
1.1 PMDC Standards for Medical Education

The Pakistan Medical and Dental Council mandates a transformative approach to undergraduate medical education characterized by:

- **Integrated Curriculum:** Horizontal integration (across disciplines) and vertical integration (across years)
- **Early Clinical Relevance:** Clinical context introduced from initial years
- **Outcome-Based Education:** Focus on graduate competencies rather than content coverage
- **Critical Thinking & Problem-Solving:** Development of analytical and evaluative skills
- **Professionalism & Ethics:** Embedded throughout the curriculum, not as isolated modules
- **Alignment of Teaching, Learning, and Assessment:** Constructive alignment with graduate outcomes

1.2 Harden's Integration Ladder: Overview

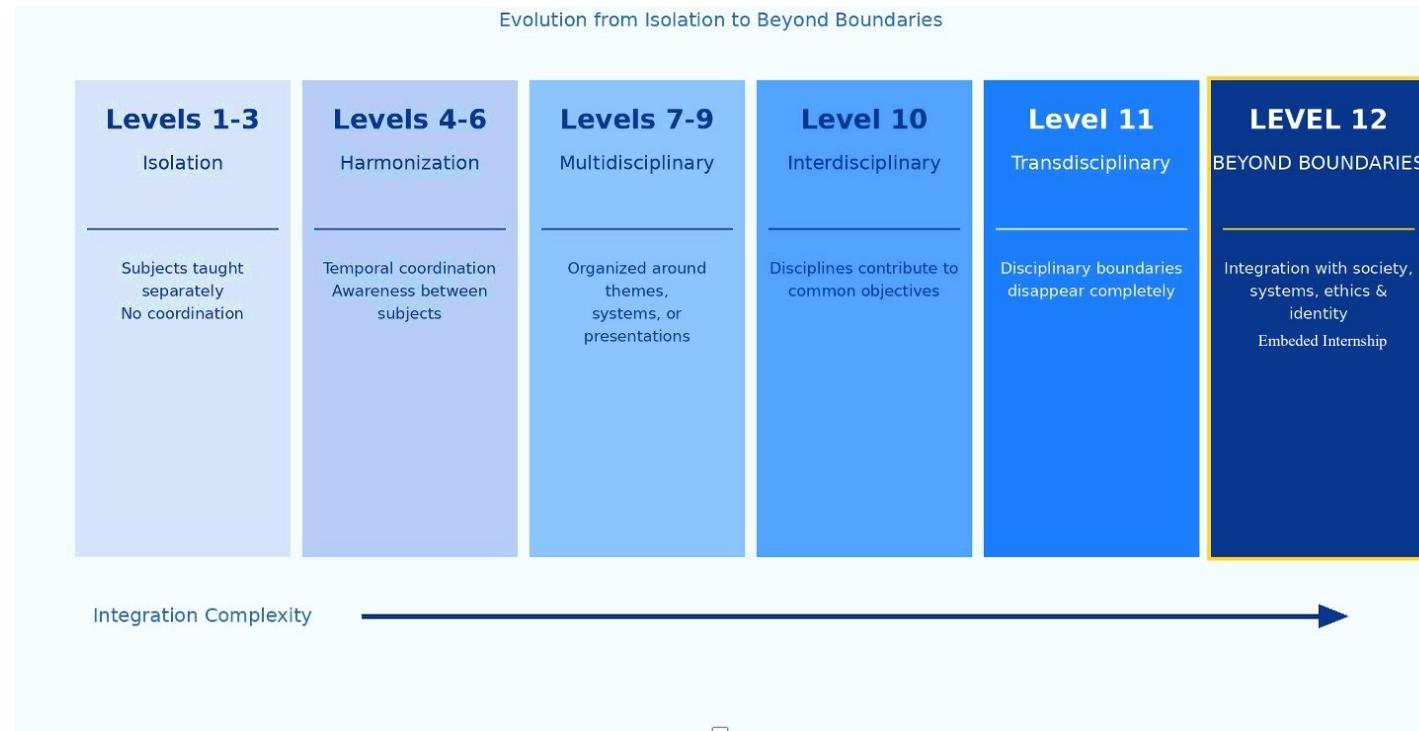
Harden's Integration Ladder provides a systematic framework for evaluating curricular integration, progressing through 11 levels:



Harden's Integration Ladder



RMU – 12 Beyond Boundaries



2. RMU Level 12 - Beyond Boundaries

2.1 Conceptual Definition

RMU Level 12: Beyond Boundaries Integration

A curriculum in which learning is organized not merely around disciplines or clinical problems, but around real-world health systems, societal needs, ethical complexity, population health challenges, and professional identity formation—producing graduates who can adapt, lead, and innovate across contexts.

2.2 Why Level 12 Exists

While Harden's Integration Ladder culminates at Level 11 (Transdisciplinary Integration), contemporary medical education—particularly as mandated by PMDC—requires graduates who can function beyond the clinical encounter. RMU operates beyond transdisciplinary clinical integration by:

- Shifting the unit of integration from the patient alone to the patient embedded within society, systems, ethics, and professional identity
- Addressing health systems, governance, and resource allocation as integral learning domains
- Embedding knowledge creation and research literacy, not just knowledge synthesis
- Structuring lifelong learning and adaptive professionalism as explicit outcomes

2.3 Five Pillars of Level 12 Integration

A. Societal Integration: Patient-in-Society Problems

Level 11: Patient-centered clinical problems

RMU Level 12: Patient-in-society problems

RMU Implementation:

- Community-based medical education
- Analysis of social determinants of health
- Preventive and promotive healthcare strategies



- Health equity considerations in clinical decision-making

Students don't merely diagnose disease they analyze population patterns and design interventions, requiring evaluation and creation (Bloom's highest levels).

B. Value-Based Integration: Contextual Ethics

Level 11: Ethics integrated within cases

RMU Level 12: Ethics embedded longitudinally in real decisions

RMU Implementation:

- Ethical dilemmas arising from real patient encounters, not hypothetical scenarios
- Continuous professional identity formation throughout the curriculum
- Assessment of reflective practice and ethical reasoning

Students must weigh competing values, manage uncertainty, and justify actions—hallmarks of evaluation-level cognition.

C. System-Level Integration: Healthcare Systems & Leadership

Level 11: Focus on individual patient care

RMU Level 12: Focus on healthcare systems and governance

RMU Implementation:

- Exposure to health systems functioning and policy implications
- Understanding resource allocation realities
- Leadership and teamwork competencies

Students evaluate trade-offs between individual benefit and population good something no single discipline or clinical problem can teach.

LEVEL 11 vs LEVEL 12	
The Evolution Beyond Transdisciplinary Integration	
LEVEL 11 Transdisciplinary	LEVEL 12 Beyond Boundaries
Unit of Integration	Unit of Integration
Patient problem	Patient within society, systems, and ethics
Primary Focus	Primary Focus
Clinical problem-solving	Clinical + population health + systems thinking
Scope	Scope
Individual patient care	Individual care + community + healthcare systems
Ethics Approach	Ethics Approach
Integrated within cases	Longitudinally embedded in real decisions
Knowledge Type	Knowledge Type
Knowledge synthesis	Knowledge creation & generation
Learning Organization	Learning Organization
Around clinical problems	Around health challenges & society
Disciplinary Boundaries	Disciplinary Boundaries
Dissolved in teaching	Extended to societal integration
Graduate Outcome	Graduate Outcome
Competent clinician	Adaptive, socially accountable professional
Bloom's Taxonomy	Bloom's Taxonomy
Primarily Analysis	Analysis → Evaluation → Creation

D. Knowledge Creation: Beyond Synthesis

Level 11: Knowledge synthesis **RMU Level 12:** Knowledge generation

RMU Implementation:

- Research literacy and critical appraisal skills
- Clinical audits and community health projects
- Evidence-based practice and innovation

Students formulate research questions, design solutions, and create outputs—aligning with the creation level of Bloom's Taxonomy.

E. Temporal Integration: Lifelong Professional Identity

Level 11: Competent graduate **RMU Level 12:** Adaptive professional

RMU Implementation:

- Reflective portfolios documenting professional growth
- Self-directed learning plans
- Feedback-driven continuous improvement

Graduates leave with the ability to identify learning needs and adapt to new contexts temporal integration across undergraduate education and professional life.

3. Alignment with PMDC Standards

The following table demonstrates explicit mapping between PMDC graduate competencies, RMU curriculum implementation, and justification for Level 12 integration:

PMDC Competency	RMU Implementation	Level 12 Justification
Medical Knowledge	Integrated system-based modules combining anatomy, physiology, pathology, pharmacology, radiology, and clinical medicine	Knowledge constructed through real patient problems; subject boundaries dissolved
Clinical Skills & Patient Care	Early clinical exposure, bedside teaching, skills labs, OSCEs	Skills and knowledge learned simultaneously in authentic clinical contexts
Clinical Reasoning	Case-based learning, problem-based tutorials, integrated examinations	Learning organized around clinical problems requiring synthesis beyond single disciplines
Communication Skills	Longitudinal communication training embedded in OSCEs and ward teaching	Communication competencies embedded within patient encounters, not isolated modules
Professionalism & Ethics	Longitudinal professionalism themes, ethics discussions during clinical rotations	Ethical reasoning contextualized within patient care—extends to value-based integration
Community & Preventive Health	Community-based medical education, public health projects, outreach programs	Integrates clinical medicine with population health and social determinants— societal integration
Lifelong Learning	Reflective practice, research literacy, self-directed learning tasks	Students identify learning needs from clinical encounters—temporal integration

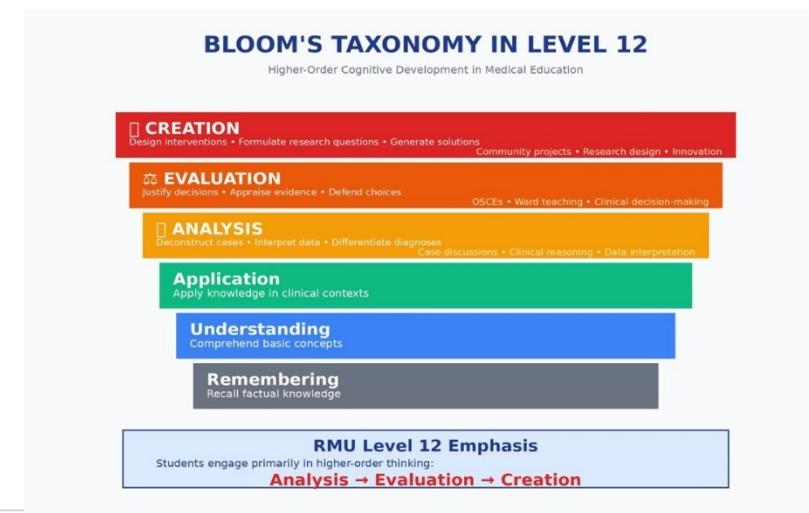
4. Bloom's Taxonomy & Higher-Order Thinking

RMU's curriculum explicitly targets higher-order cognitive domains of Bloom's Taxonomy:

- **Analysis:** Breaking down complex clinical cases, interpreting investigations, differentiating diagnoses
- **Evaluation:** Appraising evidence, justifying management decisions, defending clinical choices
- **Creation:** Designing interventions, formulating research questions, developing solution

4.1 Learning Activities Mapped to Bloom's Levels

Learning Activity	Bloom's Level	Justification
Integrated case-based discussions	Analysis	Students deconstruct complex cases, interpret investigations, differentiate diagnoses
Ward-based clinical teaching	Analysis → Evaluation	Learners appraise patient data and justify management decisions in real time
OSCEs and scenario-based stations	Evaluation	Students defend clinical decisions, prioritize care, demonstrate judgment under pressure
Community health projects	Evaluation → Creation	Learners assess community needs and design context-specific preventive interventions
Research projects & clinical audits	Creation	Students formulate questions, design studies, generate new knowledge



GRADUATE OUTCOMES

Level 12 Integration Produces Adaptive Professionals

CORE COMPETENCIES

✔ Clinical Excellence

Evidence-based practice
Diagnostic reasoning
Patient safety

✔ Professionalism

Ethical decision-making
Patient-centered care
Accountability

✔ Communication

Effective patient interaction
Interprofessional collaboration
Cultural competence

✔ Population Health

Community engagement
Preventive focus
Health promotion

ADAPTIVE CAPABILITIES

▢ Systems Thinking

Health systems understanding
Policy awareness
Resource management

▢ Research Literacy

Critical appraisal
Knowledge generation
Evidence synthesis

▢ Lifelong Learning

Self-directed growth
Reflective practice
Adaptive expertise

▢ Leadership

Innovation
Change management
Team development

**ADAPTIVE, SOCIALLY ACCOUNTABLE
PROFESSIONAL**

RMU LEVEL 12 FRAMEWORK

Complete Conceptual Flow

FOUNDATIONS

PMDC Standards

- Integrated curriculum
- Outcome-based education

Harden's Level 11

- Transdisciplinary
- Clinical problems focus

LEVEL 12: BEYOND BOUNDARIES

1

Societal
Integration

2

Value-Based
Integration

3

System-Level
Integration

4

Knowledge Creation
Integration

5

Temporal
Integration

Teaching

Strategies

Assessment

Strategies

Integration

Strategies

ADAPTIVE, SOCIALLY ACCOUNTABLE PROFESSIONAL

Analysis → Evaluation → Creation

Conclusion

Rawalpindi Medical University's curriculum exemplifies a transformational approach to medical education that extends beyond traditional disciplinary integration. By achieving **Level 12: Beyond Boundaries Integration**, RMU demonstrates that modern medical education must prepare graduates not only as competent clinicians but as adaptive, reflective, socially accountable professionals capable of navigating complex health systems, ethical dilemmas, and evolving healthcare landscapes.

This framework, fully aligned with PMDC standards and grounded in Bloom's higher-order cognitive domains, positions RMU as an innovator in outcome-based, student-centered medical education that produces physicians prepared for 21st-century healthcare challenges.

The Five Pillars of Level 12—Societal Integration, Value-Based Integration, System-Level Integration, Knowledge Creation, and Temporal Integration—collectively represent a holistic vision for medical education that transcends disciplinary boundaries and prepares graduates for lifelong professional excellence.

Key Takeaways for Educators

- Level 12 integration is achievable through deliberate curriculum design aligned with regulatory standards
- Higher-order thinking (Analysis, Evaluation, Creation) must be explicitly embedded in learning activities
- Integration extends beyond clinical problems to encompass society, systems, ethics, and professional identity
- Assessment strategies must align with transdisciplinary learning objectives
- The ultimate goal is producing adaptive professionals, not merely competent graduates

Clinico - Concept Connect Session (C³6)

Introduction:

A Clinico -Concept Connect Session is a **case-based, concept-driven educational encounter** in which a carefully designed clinical scenario is used as the central anchor to explore and integrate relevant concepts from basic and clinical sciences. This **Session** is an integrated teaching–learning activity designed to bridge the gap between **foundational biomedical concepts** and their **real-world clinical application**. It serves as a structured platform where students actively connect basic science principles with clinical reasoning, patient presentation, and professional decision-making, thereby promoting deeper understanding and long-term retention of knowledge.

This session moves beyond traditional discipline-based teaching by fostering **conceptual integration, contextual learning, and early clinical exposure**, enabling students to appreciate the relevance of basic sciences in patient care from the outset of their medical training.

Rather than teaching facts in isolation, the session emphasizes:

- Understanding **why** a concept matters clinically
- Applying **core principles** to explain patient findings
- Developing **clinical reasoning skills** in a guided, safe learning environment

The focus remains on **conceptual clarity, clinical correlation, and professional competence**, rather than diagnosis-driven or management-heavy discussions.

Structure of the Clinico -Concept Connect Session

The session is structured into clearly defined phases to ensure alignment with learning outcomes and progressive student engagement:

1. Clinical Trigger (Case Introduction)

- A concise, authentic clinical scenario is presented.
- The case is selected to naturally elicit key underlying concepts.
- Information is disclosed in a focused manner to stimulate curiosity and inquiry.

2. Concept Mapping and Exploration

- Relevant foundational concepts (e.g., physiological mechanisms, biochemical pathways, structural–functional relationships) are identified.
- Students are guided to link clinical signs, symptoms, and investigations to these concepts.

C3: Clinico Concept Connect

C6: Bloom's Level C6 (Creation / Synthesis)

Learners integrate knowledge from basic, para-clinical, and clinical sciences to formulate differential diagnoses, management plans, or clinical reasoning pathways, demonstrating higher-order thinking and decision-making.

Reference: Anderson, L. W., & Krathwohl, D. R. (2001). A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives.

- Emphasis is placed on **mechanisms**, not memorization.

3. Integrated Discussion

- Faculty from relevant disciplines facilitate discussion collaboratively.
- Concepts are reinforced through clinical correlation and guided questioning.
- Students actively participate in explaining findings using scientific reasoning.

4. Application and Reflection

- Learners reflect on how conceptual understanding informs clinical thinking.
- Key take-home messages are summarized.
- Opportunities for self-directed learning and further exploration are highlighted.

Implementation Strategy

The Clinico -Concept Connect Session is implemented as a **planned, scheduled activity** within the integrated curriculum and follows these principles:

- **Faculty Collaboration:** Basic science and clinical faculty jointly design and facilitate sessions to ensure coherence and relevance.
- **Curriculum Alignment:** Each session is mapped to predefined learning outcomes, competencies, and entrustable professional activities.
- **Active Learning:** Small-group discussions, guided questioning, and concept linking are emphasized over didactic teaching.
- **Progressive Complexity:** Early sessions focus on core concepts, with increasing clinical depth as students advance.
- **Feedback and Reflection:** Structured feedback is provided to reinforce learning and improve reasoning skills.

Educational Value

Through its integrated design, the Clinico -Concept Connect Session:

- Strengthens **conceptual understanding**
- Enhances **clinical reasoning and analytical skills**
- Encourages **horizontal and vertical integration**
- Promotes **student engagement and ownership of learning**
- Prepares learners to become **practice-ready, concept-driven clinicians**

Example of Clinico - Concept Connect (C³6) Session

Theme Title from Molecules to Medicine: Clinical Applications of Molecular Biology and Genetics

Clinico -Concept Connect (C³6) Session

Clinical Case Scenario: A lady with progressive fatigue

A 22-year-old woman presents to the outpatient clinic with progressive fatigue, muscle weakness, and episodes of dizziness, particularly after prolonged fasting. She reports poor exercise tolerance and occasional nausea.

There is no history of infection or chronic illness. A sibling has a similar condition.

On examination, she appears thin but alert. Vital signs are stable. Mild proximal muscle weakness is noted.

There is no organomegaly.

Laboratory and Molecular Findings

- Fasting blood glucose: Low
- Serum electrolytes: Normal
- Enzyme activity assay: Reduced activity of a glucose-metabolizing enzyme
- Genetic analysis: Point mutation in enzyme-encoding gene
- Family screening: Similar mutation identified

This case exemplifies how a **single molecular defect** leads to systemic clinical manifestations, reinforcing the transition from molecular mechanisms to patient-centered medicine

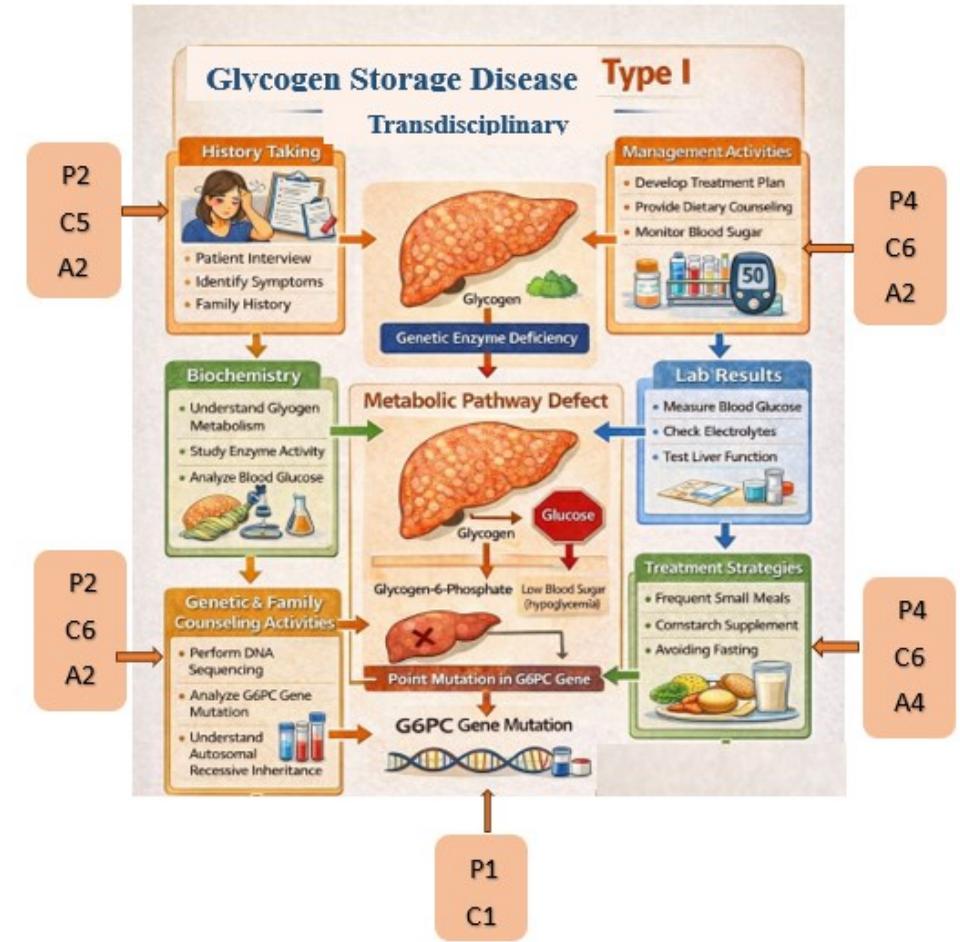
Educational Relevance to Theme

This case allows learners to trace disease progression:

Gene mutation → Altered protein structure → Enzyme dysfunction → Metabolic failure →

Clinical presentation

It reinforces:



**Clinico-Concept Connect (C³6) Sessions
Transdisciplinary Integration (Harden Level 11)**

Domains of Learning According to Blooms Taxonomy					
Cognitive Domain: knowledge and mental skills. (C)		Psychomotor Domain: Motor skills. (P)		Affective Domain: feelings, values, dispositions, attitudes, etc (A)	
• C1	Remembering	P1	Imitation	A1	Receive
• C2	Understanding	P2	Manipulation	A2	Respond
• C3	Applying	P3	Precision	A3	Value
• C4	Analyzing	P4	Articulation	A4	Organize
• C5	Evaluating	P5	Naturalization	A5	Internalize
• C6	Creating				

- Gene expression and mutation
- Enzyme kinetics and regulation
- Metabolic adaptation during fasting
- Familial inheritance patterns
- Role of molecular diagnostics in clinical practice

Learning Objectives

By the end of this theme, the student will be able to:

- Explain the molecular basis of gene expression, including transcription, translation, and regulation of enzymes.
 - Describe the role of enzymes, cofactors, and inhibitors in normal metabolic processes and disease states.
 - Correlate molecular and genetic abnormalities with common clinical conditions such as metabolic disorders, infertility, and cancer.
 - Understand basic molecular mechanisms underlying inherited and acquired genetic diseases.
 - Apply principles of molecular biology and genetics to interpret simple clinical and laboratory scenarios.
- Appreciate the relevance of molecular medicine in diagnosis, prognosis, and therapeutic decision-making.

Integration Framework

Harden Level 9 – Multidisciplinary Integration

This C³⁶ session operates at **Harden Level 9**, where multiple disciplines address the same clinical problem in parallel, maintaining disciplinary identity while reinforcing conceptual alignment.

Disciplines Involved

- **Anatomy**
 - Liver and skeletal muscle structure involved in glucose metabolism
 - Anatomical basis of muscle weakness and exercise intolerance
- **Biochemistry**
 - Enzyme kinetics, regulation, and metabolic pathways
 - Impact of genetic mutations on enzyme activity

- **Medicine**
 - Clinical evaluation of fasting hypoglycemia
 - Diagnostic reasoning in inherited metabolic disorders
- **Surgery**
 - Peri-procedural metabolic considerations
 - Role in diagnostic evaluation where indicated

Each discipline contributes **complementary insights** without content fusion, fulfilling the criteria of multidisciplinary integration

Explicit EPA Mapping

EPA-1: Interpret Clinical and Laboratory Data

Entrustment Level: 1–2

Students interpret fasting glucose levels and enzyme assays under supervision.

EPA-2: Apply Basic Science to Clinical Reasoning

Entrustment Level: 1

Students explain how molecular mutations produce clinical disease.

EPA-3: Communicate Findings in a Structured Manner

Entrustment Level: 1–2

Students present the case during group discussions.

EPA-4: Demonstrate Professionalism and Teamwork

Entrustment Level: 1

Students engage respectfully in multidisciplinary learning.

Mapping to Harden Levels

- **Level 8 (Complementary):**
 - Coordinated teaching of genetics, biochemistry, and anatomy around a shared theme

- **Level 9 (Multidisciplinary):**
Parallel disciplinary analysis of the same clinical case
- **Level 10 (Interdisciplinary):**
Early synthesis of molecular, biochemical, and clinical data into a unified explanation

Teaching–Learning Strategy

- Case-based discussion
- Facilitated multidisciplinary dialogue
- Guided molecular-to-clinical reasoning
- Early clinical exposure emphasis

Assessment Alignment

- MCQs (conceptual and application-based)
- SAQs focusing on molecular–clinical correlation
- OSPE/OSVE elements where applicable

Summary Statement

Theme Five exemplifies RMU-12’s philosophy of “From Isolation to Beyond Boundaries” by translating molecular biology and genetics into meaningful clinical understanding through a structured Clinico -Concept Connect session. Operating at Harden Level 9 and aligned with early EPAs, this theme prepares students for progressive entrustment, clinical reasoning, and future practice-ready learning in molecular and precision medicine.

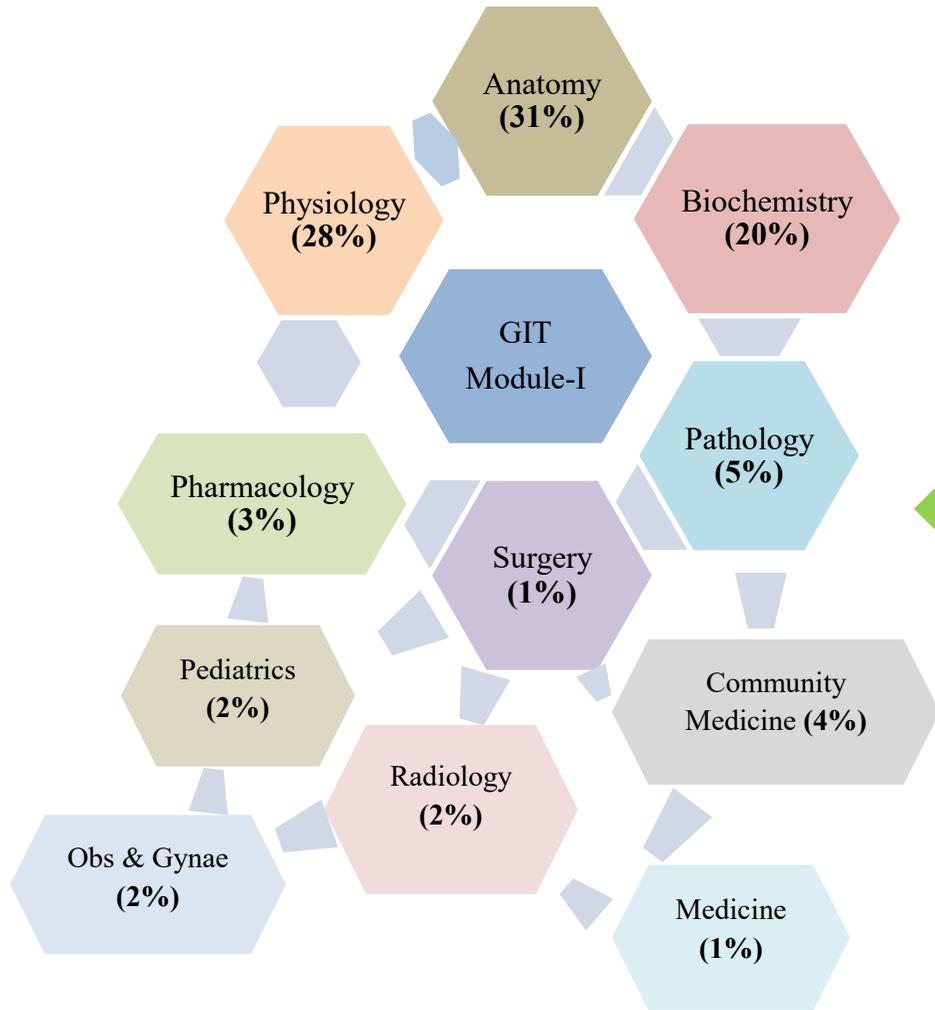
RMU – 12 Integrated Modular MBBS Curriculum 2026

Isolation to Beyond Boundaries

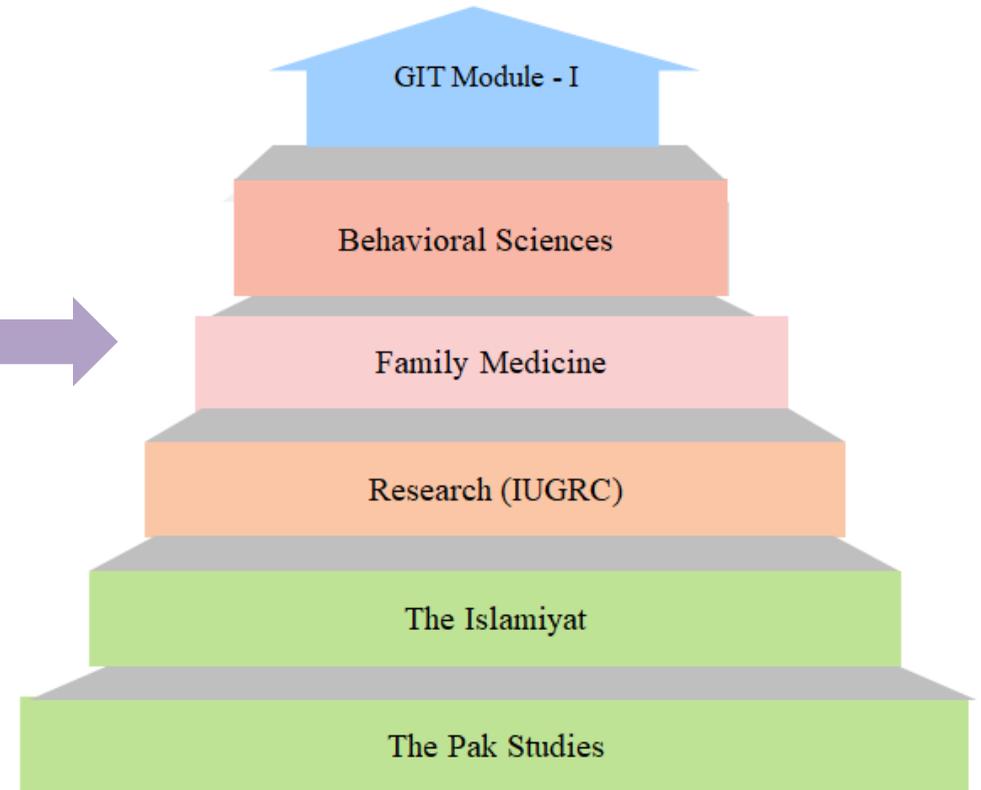
Study Guide

GIT Module - I

Multi Disciplinary Integration



Disciplines in GIT Module - I



Spiral / General Education Cluster Courses (5%)

Discipline Wise Details of Modular Content

Integration						
Themes						
Block	Module	General Anatomy	Embryology	Histology	Gross Anatomy	
IV	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				
	Spiral Courses					
	Pak Studies	<ul style="list-style-type: none"> • Nazria Pakistan-I • Nazria Pakistan -II • Allah SWT ki Hakmiyat ka Nifaz • Two Nation Theory • Establishment of an Islamic state 				
	Islamiyat	<ul style="list-style-type: none"> • Toheed Related Quranic Verses & their Explanation • Toheed & Shirk • Risalat Related Quranic Verses & Their Explanation 				
	Research (IUGRC)	<ul style="list-style-type: none"> • Introduction to descriptive statistics (Research-I) • Classification of different types of Data (Research-II) • Scales of Data measurement (Research-III) • Measures of central Tendency (Research-IV) • Geriatrics (Research-V) • Synopsis wrting session (Research Practical Session I) 				
	Radiology	<ul style="list-style-type: none"> • Medical imaging of abdomen- I • Medical imaging of abdomen-II 				
	Family Medicine	<ul style="list-style-type: none"> • Common Abdominal diseases 				
	Behavioral Sciences	<ul style="list-style-type: none"> • Learning & Memory • Eating Disorders 				
Community Medicine	Clinically content relevant to GIT Module - I <ul style="list-style-type: none"> • Concept of health & disease 					

	<ul style="list-style-type: none"> • Epidemiology of Infectious Diseases& Basic Concepts
Vertical Integration	
<ul style="list-style-type: none"> • Gynae and OBS 	<ul style="list-style-type: none"> • Physiologic Changes in the GIT in Pregnancy • Jaundice/Obstetric Cholestasis in Pregnancy
<ul style="list-style-type: none"> • Medicine 	<ul style="list-style-type: none"> • Jaundice • Inflammatory Bowel Diseases
<ul style="list-style-type: none"> • Surgery 	<ul style="list-style-type: none"> • Acute Abdomin • Gall Stones
<ul style="list-style-type: none"> • Pediatrics 	<ul style="list-style-type: none"> • Acute and Chronic Diarrhea Cute & Choronic Diaherrea
<ul style="list-style-type: none"> • Pharmacology 	<ul style="list-style-type: none"> • Anti Diarrheal Drugs
<ul style="list-style-type: none"> • Pathology 	<ul style="list-style-type: none"> • Pathologies of Intestine

GIT Module - I Team

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

Module Committee			Module Task Force Team		
1.	Vice Chancellor RMU	Prof. Dr. Muhammad Umar	1.	Coordinator	Dr. Uzma Kiyani (Senior Demonstrator of Physiology)
2.	Director DME & Dean Basic Sciences	Prof. Dr. Ifra Saeed	2.	DME Focal Person	Dr. Farzana Fatima
3.	Additional Director (Assessment) DME	Dr. Arsalan Manzoor Mughal	3.	Co-coordinator	Dr. Minahil Haq (Senior Demonstrator of Anatomy)
4.	Chairperson Physiology	Prof. Dr. Samia Sarwar	4.	Co-Coordinator	Dr. Shazia Nosheen (Senior Demonstrator of Physiology)
5.	Chairperson Anatomy	Prof. Dr. Ayesha Yousaf	5.	Co-coordinator	Dr. Uzma Zafar (APWMO of Biochemistry)
6.	Chairperson Biochemistry	Dr. Aneela Jamil			
7.	Focal Person Anatomy 1 st Year MBBS	Dr. Maria Tasleem			
8.	Focal Person Physiology	Dr. Sidra Hamid	DME Implementation Team		
9.	Focal Person Pharmacology	Dr. Zunera Hakim	1.	Director DME	Prof. Dr. Ifra Saeed
10.	Focal Person Pathology	Dr. Asiya Niazi	2.	Implementation Incharge 1 st & 2 nd Year MBBS	Dr. Arsalan Manzoor Mughal
11.	Focal Person Behavioral Sciences	Dr. Saadia Yasir			Dr. Farzana Fatima
12.	Focal Person Community Medicine	Dr. Afifa Kulsoom	3.	Assistant Director DME	Dr. Farzana Fatima
13.	Focal Person Quran Translation Lectures	Dr. Uzma Zafar	4.	Editor	Muhammad Arslan Aslam
14.	Focal Person Family Medicine	Dr. Sadia Khan			

Module I -GIT Module - I

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

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

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

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

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

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

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

Module Outcomes

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

Knowledge

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

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

Skills

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

Attitude

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

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

SECTION - II

Teaching and Learning Methodologies / Strategies

Terms & Abbreviations

Contents

- Domains of Learning
- Teaching and Learning Methodologies/Strategies
 - Clinico Concept Connect Session (C³6)
 - 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

Table 1. 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

Clinico - Concept Connect Session (C³6)

Introduction:

A Clinico -Concept Connect Session is a **case-based, concept-driven educational encounter** in which a carefully designed clinical scenario is used as the central anchor to explore and integrate relevant concepts from basic and clinical sciences. This **Session** is an integrated teaching–learning activity designed to bridge the gap between **foundational biomedical concepts** and their **real-world clinical application**. It serves as a structured platform where students actively connect basic science principles with clinical reasoning, patient presentation, and professional decision-making, thereby promoting deeper understanding and long-term retention of knowledge.

This session moves beyond traditional discipline-based teaching by fostering **conceptual integration, contextual learning, and early clinical exposure**, enabling students to appreciate the relevance of basic sciences in patient care from the outset of their medical training.

Rather than teaching facts in isolation, the session emphasizes:

- Understanding **why** a concept matters clinically
- Applying **core principles** to explain patient findings
- Developing **clinical reasoning skills** in a guided, safe learning environment

The focus remains on **conceptual clarity, clinical correlation, and professional competence**, rather than diagnosis-driven or management-heavy discussions.

Structure of the Clinico -Concept Connect Session

The session is structured into clearly defined phases to ensure alignment with learning outcomes and progressive student engagement:

1. Clinical Trigger (Case Introduction)

- A concise, authentic clinical scenario is presented.
- The case is selected to naturally elicit key underlying concepts.
- Information is disclosed in a focused manner to stimulate curiosity and inquiry.

2. Concept Mapping and Exploration

- Relevant foundational concepts (e.g., physiological mechanisms, biochemical pathways, structural–functional relationships) are identified.
- Students are guided to link clinical signs, symptoms, and investigations to these concepts.

C3: Clinico Concept Connect

C6: Bloom's Level C6 (Creation / Synthesis)

Learners integrate knowledge from basic, para-clinical, and clinical sciences to formulate differential diagnoses, management plans, or clinical reasoning pathways, demonstrating higher-order thinking and decision-making.

Reference: Anderson, L. W., & Krathwohl, D. R. (2001). A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives.

- Emphasis is placed on **mechanisms**, not memorization.

3. Integrated Discussion

- Faculty from relevant disciplines facilitate discussion collaboratively.
- Concepts are reinforced through clinical correlation and guided questioning.
- Students actively participate in explaining findings using scientific reasoning.

4. Application and Reflection

- Learners reflect on how conceptual understanding informs clinical thinking.
- Key take-home messages are summarized.
- Opportunities for self-directed learning and further exploration are highlighted.

Implementation Strategy

The Clinico -Concept Connect Session is implemented as a **planned, scheduled activity** within the integrated curriculum and follows these principles:

- **Faculty Collaboration:** Basic science and clinical faculty jointly design and facilitate sessions to ensure coherence and relevance.
- **Curriculum Alignment:** Each session is mapped to predefined learning outcomes, competencies, and entrustable professional activities.
- **Active Learning:** Small-group discussions, guided questioning, and concept linking are emphasized over didactic teaching.
- **Progressive Complexity:** Early sessions focus on core concepts, with increasing clinical depth as students advance.
- **Feedback and Reflection:** Structured feedback is provided to reinforce learning and improve reasoning skills.

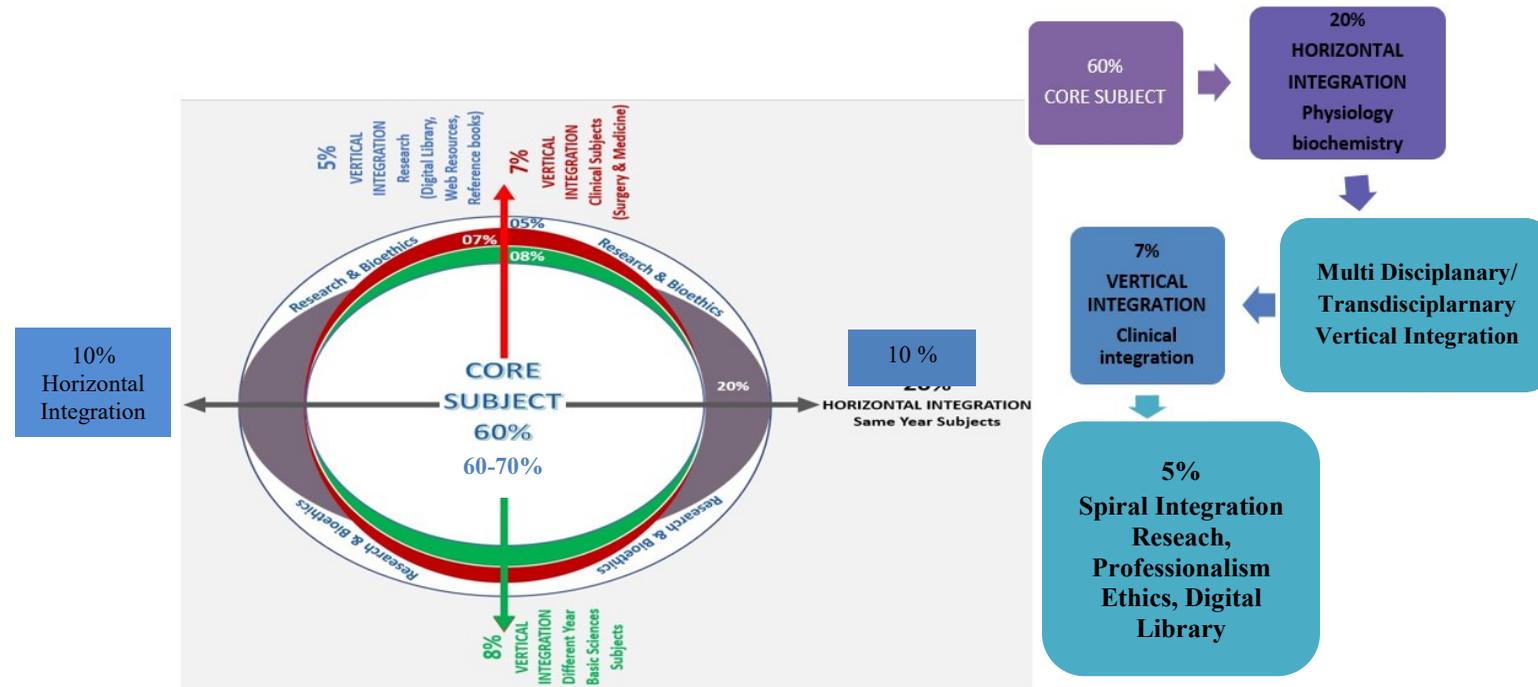
Educational Value

Through its integrated design, the Clinico -Concept Connect Session:

- Strengthens **conceptual understanding**
- Enhances **clinical reasoning and analytical skills**
- Encourages **horizontal and vertical integration**
- Promotes **student engagement and ownership of learning**
- Prepares learners to become **practice-ready, concept-driven clinicians**

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 explain the underlying phenomena through questions, pictures, videos of patients, interviews, and exercises, etc. Students are actively involved in the learning process.



Prof Umar's Model of Integrated Lecture

Small Group Discussion (SGD)

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

Table 2. Standardization of teaching content in Small Group Discussions

S. No	Topics	Approximate %
1	Title Of SGD	
2	Learning Objectives from Study Guides	
3	Core Concepts of the topic	60%
4	Horizontal Integration	24%
5	Vertical Integration	08%
6	Related Advance Research points	08%
7	Related Ethical points	
8	Artificial Intelligence	
9	Family Medicine	

Table 3. Steps of Implementaion of Small Group Discussions

Step 1	Case presentation and 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 multi disciplinary/transdisciplinary and interdisciplinary.
- 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 case scenarios that typically resemble real world examples.
- Case Scenarios must be multi disciplinary/transdisciplinary and interdisciplinary
- 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 (Maastricht Medical School)		Learning Domain
Step 7	Synthese & Report	C6
Step 6	Collect Information from outside	C6
Step 5	Generate learning Issues	C6
Step 4	Discuss and Organise Ideas	C4
Step 3	Brainstorming to Identify Explanations	C3
Step 2	Define the Problem	C1
Step 1	Clarify the Terms and Concepts of the Problem Scenario	C1
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 and relevant clinical videos where required	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 – III

Themes, Learning Objectives, Teaching Strategies & Tool of Assessments

Contents

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

Foundation – I Module – First Year MBBS

Duration of Module (Five Weeks)

Sr No.	Themes	Duration
1.	Dysphagia & Disorders of Oral Cavity and Swallowing	1 st Week
2.	Epigastric Pain & Peptic Ulcer Disease	2 nd Week
3.	Chronic Diarrhea & Malabsorption Syndromes	3 rd Week
4.	Jaundice & Hepatobiliary Disorders	4 th Week
5.	Acute Abdomen & Large Intestinal Disorders	5 th Week

Theme 1: Dysphagia & Disorders of Oral Cavity and Swallowing (1st Week)

Theme	Rationale	Learning objectives
Dysphagia & Disorders of Oral Cavity and Swallowing	Swallowing is a complex neuromuscular process involving coordinated actions of the oral cavity, pharynx, esophagus, and central and peripheral nervous systems. Disorders affecting swallowing significantly impact nutrition, airway protection, and quality of life. This theme integrates gross and microscopic anatomy of the oral cavity, pharynx, and esophagus, physiology of deglutition, and biochemical aspects of saliva and muscle metabolism with clinical conditions such as oropharyngeal and esophageal dysphagia, oral malignancies, neuromuscular disorders, and motility disorders, enabling students to understand the anatomical and physiological basis of clinical presentation and management.	At the end of this theme, students should be able to: <ol style="list-style-type: none"> 1. Describe the anatomy and applied anatomy of the oral cavity, pharynx, esophagus, and related neurovascular structures. 2. Explain the physiological phases of swallowing and neural control mechanisms involved in deglutition. 3. Discuss the composition and biochemical functions of saliva and its role in digestion and oral health. 4. Correlate structural and functional abnormalities with clinical presentations of dysphagia. 5. Interpret basic clinical investigations related to swallowing disorders (e.g., barium swallow, endoscopy). 6. Appreciate the multidisciplinary approach to diagnosis and management involving medicine, surgery, ENT, and radiology.

CASE 1: Dysphagia & Disorders of Oral Cavity and Swallowing

Presenting complaints:

Difficulty in swallowing solid food for 6 months

History of Present Illness:

A 52-year-old male presented to the OPD with progressive difficulty in swallowing, initially for solid food and later for semi-solid food. He also complained of a foreign body sensation in the throat and unintentional weight loss over the last 4 months. There was occasional regurgitation of undigested food. He denied choking or coughing during swallowing. No history of hematemesis. Voice quality remained normal.

Past Medical History:

No history of stroke, diabetes, or neuromuscular disease.

Family History:

Non-contributory.

Social History:

Resident of rural Punjab; chronic smoker for 25 years; uses naswar. Belongs to low socio-economic status.

Drug History:

Occasional use of painkillers; no long-term medications.

Examination:

GPE:

Middle-aged male, lean built, conscious and oriented.

Pulse: 82/min BP: 120/80 mmHg

Temp: 98°F R/R: 16/min

Mild pallor present; no jaundice.

Oral Cavity:

Poor oral hygiene; no visible ulcer or growth.

Systemic Examination:

CVS, Respiratory system, GIT and CNS: Unremarkable

Justification:

This dysphagia case qualifies as Harden Level 11 integration because it dissolves disciplinary boundaries and requires learners to synthesize anatomy, physiology, pathology, clinical medicine, community health, and professionalism to manage a realistic patient problem. The focus on clinical reasoning, social determinants, and interprofessional care mirrors authentic healthcare practice, fulfilling the criteria for interdisciplinary integration.

**Harden Level 11
Transdisciplinary**

CASE 1: Dysphagia & Disorders of Oral Cavity and Swallowing

Presenting Complaints

- Difficulty Swallowing Solid Food for 6 Months

History of Present Illness:

- Progressive difficulty swallowing solid food, later semi-solids
- Foreign body sensation in the throat
- Unintentional weight loss
- Occasional regurgitation of undigested food

History

Past Medical History	Family History	Drug History
<ul style="list-style-type: none">• No stroke, diabetes or neuromuscular disease	<ul style="list-style-type: none">• Non-contributory• Rural Punjab Resident 25 Years• Chronic Smoker• Uses Naswar• Low Socio-economic Status	<ul style="list-style-type: none">• Occasional Painkiller Use

Examination

GPE:	Oral Cavity	Systemic Examination:
<ul style="list-style-type: none">• Middle-aged male, lean built, conscious and oriented• Pulse: 82/min BP: 120/80 mmHg• Temp: 98°F R/R: 16/min• Mild pallor present; No jaundice	<ul style="list-style-type: none">• Poor oral hygiene;• No visible ulcer or growth	<ul style="list-style-type: none">• CVS, Respiratory system, GIT and CNS: Unremarkable

Conclusion:

Cause of Dysphagia?

Obstructive Growth?

Clinico-concept connect (C³6) Sessions

Specific Learning Objectives

Theory							
Subject	Code	Topic	Learning Objectives At the end of lecture students should be able to	Calgary Gauges	Learning Domain	Teaching Strategy	Assessment Tool
Anatomy Embryology	M1-GIT-A-001	Development of Tongue	• Describe the development of pharyngeal apparatus	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
			• Enlist the sources for development of different parts of tongue.	Must Know	C1		
			• Explain the development of tongue along with its nerve supply.	Must Know	C2		
			• Describe the congenital anomalies associated with tongue	Should Know	C2		
			• Describe the developmental basis of physiological and biochemical mechanisms involved in perception and transmission of taste sensation	Must Know	C2		
			• Correlate with the clinical conditions	Should Know	C3		
			• Differentiate clinical conditions on basis of embryo.	Should Know	C4		
			• Understand curative and preventive health care measures	Nice to know	C3		
			• Practice the principles of bioethetics	Nice to know	C3		
	• Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Nice to know	C3 C3 C3				
	M1-GIT-A-002	Development of Salivary glands	• Explain different stages of development of salivary glands	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
			• Enlist the source for development of different type of salivary gland	Must Know	C1		
			• Explain development of its nerve supply	Must Know	C2		
			• Describe the congenital anomalies associated with salivary glands	Must Know	C2		
			• Correlate with the clinical conditions	Should Know	C3		
			• Understand curative and preventive health care measures	Nice to know	C3		
			• Practice the principles of bioethetics • Apply strategic use of A.I in health care	Nice to know	C3 C3		

			<ul style="list-style-type: none"> measures. • Read relevant research articles. • Use HEC digital library 		C3 C3		
Anatomy Histology	M1-GIT-A-003	Tongue	• Discuss surfaces of tongue with their histological features	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
			• Describe different papillae of tongue with their location & features	Must Know	C2		
			• Explain histological features of taste buds	Must Know	C2		
			• Prove with evidence importance of location of tongue wounds	Nice to Know	C5		
	M1-GIT-A-004	Salivary glands	• Explain the physiologic anatomy of GIT	Must know	A	C2	SAQ MCQ VIVA OSPE
			• Explain histological structure of salivary glands	Must Know	C2		
			• Discuss different cells forming parenchyma of salivary glands	Must Know	C2		
			• Discuss histology of duct system	Must Know	C2		
			• Differentiate between major salivary glands on histological basis	Must Know	C2		
Anatomy (SGD)	M1-GIT-A-0010	Topographical organization of Gastrointestinal tract	• Enlist components of gastrointestinal tract	Must Know	C1	SGD	SAQ MCQ VIVA OSPE/OSCE
			• Mark the planes dividing the abdomen into nine quadrants	Should Know	P		
			• Enumerate the parts of GIT lying in the various quadrants	Should Know	C1 C3		
			• Correlate with the clinical conditions	Should Know	C3		
			• Prove symptomatic co relation of 9 quadrants	Nice to know	C5		
			• Understand curative and preventive health care measures.	Nice to know	C3		
			• Practice the principles of bioethetics	Nice to know	C3		
	• Apply strategic use of A.I in health care	Nice to know	C3				
	M1-GIT-A-0011	Oral Cavity, tongue and salivary glands,	• Define the boundaries of oral cavity	Must Know	C1	SGD	SAQ MCQ VIVA OSPE
			• Tabulate the Extrinsic and Intrinsic muscles of the tongue, anatomical location and clinical importance of tongue	Must Know	C2		
			• Brief Introduction of salivary glands with their anatomical location	Must Know	C1		
			• Correlate with the clinical conditions	Should Know	C3		
			• Perform Survey in your own class on	Nice to know	C3		

		<ul style="list-style-type: none"> prevalence of oral cavity pathologies • 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 	<p>Nice to know C6</p> <p>Nice to know C3</p> <p>Nice to know C3</p> <p>Nice to know C3</p>		
M1-GIT-A-0012	Anterolateral abdominal wall	<ul style="list-style-type: none"> • Explain the layers of abdominal wall. • Explain the fascia and muscles of abdominal wall. • Describe nerve supply of anterior and lateral abdominal wall. • Explain the segmental sympathetic supplies • Correlate the Anatomical knowledge with Abdominal Hernias • Analyze the layers of anterolateral abdominal wall to explain the anatomical basis of hernias and surgical approaches for abdominal incisions. • Evaluate different abdominal wall incisions in terms of muscle, nerve, and vascular involvement, and justify the most appropriate incision • 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 	<p>Must Know C2</p> <p>Must Know C2</p> <p>Must Know C2</p> <p>Must Know C2</p> <p>Should Know C3</p> <p>Should Know C3</p> <p>Nice to know C3</p> <p>Nice to know C4</p> <p>Nice to know C3</p> <p>Nice to know C3</p> <p>Nice to know C5</p> <p>Nice to know C4</p> <p>Nice to know C3</p>	SGD	SAQ MCQ VIVA OSPE
M1-GIT-A-0013	Rectus sheath,	<ul style="list-style-type: none"> • Describe Formation of rectus sheath • Enlist contents of rectus sheath • Discuss associated clinical anatomy • Correlate with the clinical conditions • Make video of dissection of rectus sheath in D.H • 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 	<p>Must Know C2</p> <p>Must Know C1</p> <p>Should Know C2</p> <p>Should Know C3</p> <p>Nice to know C6</p> <p>Nice to know C3</p> <p>Nice to know C3</p> <p>Nice to know C3</p> <p>Nice to know C3</p>	SGD	SAQ MCQ VIVA OSPE

Anatomy (SDL)	M1-GIT-A-0043	Layers of Antero lateral abdominal wall & its defects	<ul style="list-style-type: none"> • Explain the layers of abdominal wall. • Explain the fascia and muscles of abdominal wall. • Describe nerve supply of anterior and lateral abdominal wall. • Explain the segmental sympathetic supplies 	<ul style="list-style-type: none"> ❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 183,184-216). ❖ https://3d4medical.com/ 			
	M1-GIT-A-0044	Applied Anatomy of Rectus sheath	<ul style="list-style-type: none"> • Describe Formation of rectus sheath • Enlist contents of rectus sheath • Describe Autonomic innervation of GIT 	<ul style="list-style-type: none"> ❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 188-201). ❖ https://teachmeanatomy.info/ 			
Anatomy (SKL)	M1-GIT-A-0053	Tongue & salivary glands	• Focus & Identify slides of tongue & glands under microscope	Should Know	P	Skill lab	OSPE/OSCE
			• Illustrate histological structure of tongue & salivary glands	Must Know	C2		
			• Write two points of identification	Must Know	C1		
			• Illustrate histological structure of large intestine	Must Know	C2		
			• Write two points of identification	Must Know	C1		
Physiology (LGIS)	M1-GIT-P-001	Introduction to GIT & enteric nervous system	• Introduction to GIT	Must know	C2	LGIS	SEQ MCQ VIVA
			• Electrical activity in GIT	Must know	C1		
			• Describe physiological anatomy of enteric nervous system	Must know	C1		
			• Enlist functions of enteric nervous system	Must know	C1		
			• Compare and contrast Myenteric and Meissner's plexus	Must know	C4		
			• Stages of Swallowing	Must know	C1		
			• Clinical disorders of Swallowing, achalasia & vomiting	Must know	C1		
Physiology (SGD)	M1-GIT-P-0013	Introduction to GIT	• Enlist general four functions performed by GIT	Must Know	C1	SGD	SEQ MCQ VIVA
			• Recall physiological anatomy and blood flow through GIT	Should Know	C1		
			• Briefly discuss electrical activity of GIT smooth muscle	Must Know	C1		
	M1-GIT-P-0014	Swallowing	• Discuss in detail the three stages of swallowing	Must Know	C2		
			• Briefly discuss physiological anatomy of lower esophageal sphincter and distal end of esophagus and state their functional importance	Must Know	C2		
Physiology (SDL)	M1-GIT-P-0019	Introduction to GIT, electrical activity in GIT, Enteric Nervous	<ul style="list-style-type: none"> • Introduction • Role of GIT in control system • Concept of Enteric nervous system • GIT reflexes and its clinical correlation 	<ul style="list-style-type: none"> • Ganong's Review of Medical Physiology.25TH Edition. Overview of gastrointestinal function and regulation (Chapter 25, Page 453,467,472). • Human Physiology by Dee Unglaub Silver thorn. 			

		System and GIT reflexes		8 TH Edition. The Digestive System (Chapter 21 Page 691,700) <ul style="list-style-type: none"> • Physiology by Linda S. Costanzo 6th Edition. Gastrointestinal Physiology (Chapter 8. Page 339) • Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Section 6.Gastrointestinal System. (Chapter 43, Page 681) • Textbook of Medical Physiology by Guyton & Hall.14th Edition. Gastrointestinal Physiology. Section 12. (Chapter 63, Page 787) 			
Physiology (SKL)	M1-GIT-P-0026	Sense of taste	• Apparatus identification	Must Know	P	Skill lab	OSPE
			• Principle	Must Know	C1		
			• Procedure	Must Know	P		
			• Precautions	Should Know	C1		
			• Recall taste modalities, taste pathway & abnormalities of taste	Must Know	C1		
Biochemistry (LGIS)	M1-GIT-B-001	Introduction to Carbohydrate metabolism	• Understand metabolic pathways	Should Know	C2	LGIS	MCQs, SAQs SEQs Viva
			• Discuss glucose entry into the cells	Should Know	C2		
	M1-GIT-B-002	Glycolysis and Fates of Pyruvate	• Explain types, reactions and regulation of Glycolysis	Must Know	C2	LGIS	MCQs, SAQs SEQs Viva
			• Describe fates of Pyruvate	Must Know	C2		
			• Explain related clinical disorders	Nice to Know	C3		
			• Differentiate Between Lactic Acidosis & Diabetics Ketoacidosis	Nice to Know	C4		
	M1-GIT-B-003	Gluconeogenesis	• Discuss substrates, reactions and regulation of Gluconeogenesis	Must Know	C2	LGIS	MCQs, SAQs SEQs Viva
	M1-GIT-B-004	Metabolism of monosaccharides and disaccharides (Fructose, Lactose, Galactose)	• Describe metabolism of monosaccharides and disaccharides (Fructose, Lactose, Galactose)	Must Know	C2	LGIS	MCQs, SAQs SEQs Viva
	M1-GIT-B-005	Saliva	• Explain the composition and functions of saliva	Must Know	C2	LGIS	MCQs, SAQs SEQs Viva
	Biochemistry	M1-GIT-B-0031	Saliva	• Explain formation, composition and biochemical	Should Know	C2	SGD	MCQs

(SGD)			functions of saliva.								
Biochemistry (SDL)	M1-GIT-B-0039	Glycolysis	<ul style="list-style-type: none"> Understand glycolysis, its types and energy yield 	❖ Reference Book: Lippincott's Illustrated reviews of Biochemistry 8th Edition Chapter#8, Page 100							
	M1-GIT-B-0040	Pyruvate kinase deficiency	<ul style="list-style-type: none"> Explain Pyruvate Kinase Deficiency 	❖ Reference Book: Lippincott's Illustrated reviews of Biochemistry 8th Edition Chapter#9, Page 100-119.							
Biochemistry (SKL)	M1-GIT-B-0052	Saliva-I	<ul style="list-style-type: none"> Understand Normal constituents of saliva Discuss effects of saliva on digestion of starch 	Must Know	P	Skill Lab	OSPE				
Gynae & Obs	M1-GIT-VI (Gynae & OBS)-001	Physiologic Changes in the GIT in Pregnancy	<ul style="list-style-type: none"> Describe the hormonal and mechanical factors (especially the role of Progesterone and Human chorionic gonadotropin) responsible for gastrointestinal changes during pregnancy. 	C1		LGIS	MCQs				
			<ul style="list-style-type: none"> Explain the physiological changes in different parts of the GIT (esophagus, stomach, intestines, and hepatobiliary system) and correlate them with common clinical symptoms such as nausea, vomiting, heartburn, and constipation. 	C1							
			<ul style="list-style-type: none"> Discuss the clinical significance of these changes and their implications for nutrition, drug absorption, and management of common gastrointestinal complaints in pregnancy. 	C1							
Community Medicine	M1-GIT-SI(CM)-001	Concept of Health and Disease	<ul style="list-style-type: none"> Define Health Identify different phases of Health Elaborate concepts of Health Acknowledge Dimensions of Health Elucidate Dimensions of health Appreciate Determinants of Health Describe the types of determinants 	C1	C1	C1	C1	C2	C2	LGIS	MCQs
	M1-GIT-VI(CM)-002	Basic Concepts of Infectious Disease Epidemiology	<ul style="list-style-type: none"> Define important terms related to infectious disease epidemiology. Differentiate between epidemic, endemic and pandemic Describe the dynamics of transmission of disease Explain the concept of incubation period and its importance. Demonstrate the incidence of water related diseases in Pakistan and other developing countries 	C1	C2	C2	C2	C1			

Spiral Courses (1st Week)

Behavioral Sciences

Code	Topic	At the End of Lecture Students Should Be Able To	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(BS)-001	Medically Unexplained Symptoms / Stress Diarrhea, Non-Ulcer Dyspepsia	<ul style="list-style-type: none"> • To be able to Identify the role Psychological factors in the aetiology of health problems 	C1	LGIS	MCQs
		<ul style="list-style-type: none"> • To be able to describe the role of Psychological factors in Precipitation of Illness. 	C2		
		<ul style="list-style-type: none"> • To identify clinical presentation of medically (MUS) un explained syptoms / Stess Diarrhea, Non-Ulcer Dyspepsia 	C2		

Pak Studies

Code	Topic	Learning Objectives At the end of the lecture the student should be able to	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(PKS)-001	Nazria Pakistan	<ul style="list-style-type: none"> • Understand the concept of Nazria Pakistan, including its historical, cultural, and religious foundations. 	C2	LGIS	SAQ

Transdisciplinary (Harden's Level 11) Clinico-Concept Connect (C³6) Sessions for 1st Week

Session	Topic	Department	Education Relevance	At the End of The Demonstration Student Should Be Able To	Learning Domain	Assessment Tool
\Clinico-Concept Connect (C ³ 6) Sessions -I	Dysphagia & Disorders of Oral Cavity and Swallowing	Anatomy	Swallowing involves coordinated oral, pharyngeal, and esophageal anatomy.	<ul style="list-style-type: none"> Describe the anatomical divisions of the pharynx and esophagus. 	C2	MCQ
				Identify structures involved in swallowing: <ul style="list-style-type: none"> Tongue Soft palate Epiglottis Upper esophageal sphincter 	C2	MCQ
				<ul style="list-style-type: none"> Explain the anatomical sites of esophageal constrictions where carcinoma commonly occurs. 	C2	MCQ
		Physiology	Dysphagia reflects disruption of normal swallowing mechanisms.	<ul style="list-style-type: none"> Explain the phases of swallowing: 	C2	MCQ
				<ul style="list-style-type: none"> Describe neural control of swallowing reflex. 	C3	MCQ
				Differentiate swallowing dysfunction in: <ul style="list-style-type: none"> Mechanical obstruction Neuromuscular disorders 	C5	MCQ
		Pathology	Progressive dysphagia in smokers raises suspicion of malignancy.	<ul style="list-style-type: none"> Describe pathological types of esophageal carcinoma: 	C4	MCQ
				<ul style="list-style-type: none"> Explain risk factors and premalignant conditions. 	C2	MCQ
				<ul style="list-style-type: none"> Correlate progressive dysphagia with tumor growth and luminal narrowing. 	C2	MCQ
		Pharmacology	Symptomatic management and supportive care involve drug use.	Identify drugs used for: <ul style="list-style-type: none"> GERD-related strictures (PPIs) Pain control in malignancy 	C2	MCQ
				<ul style="list-style-type: none"> Explain the role of chemotherapy agents in esophageal cancer (overview). 	C5	MCQ
				<ul style="list-style-type: none"> Discuss rational use of analgesics and avoidance of self-medication. 	C5	MCQ
		Medicine	Core clinical discipline for evaluation of dysphagia.	<ul style="list-style-type: none"> Differentiate causes of dysphagia: <ul style="list-style-type: none"> Carcinoma esophagus Achalasia Esophageal stricture 	C2	MCQ
				<ul style="list-style-type: none"> Plan stepwise diagnostic evaluation. 	C5	MCQ
				<ul style="list-style-type: none"> Recognize red flag symptoms requiring urgent referral. 	C5	MCQ
		Surgery	Definitive treatment often involves surgical and oncologic care.	<ul style="list-style-type: none"> Outline surgical options for esophageal carcinoma. 	C6	MCQ
				<ul style="list-style-type: none"> Describe principles of cancer staging and multidisciplinary care. 	C3	MCQ
				<ul style="list-style-type: none"> Recognize palliative options in advanced disease. 	C5	MCQ

Theme 2: Epigastric Pain & Peptic Ulcer Disease (2nd Week)

Theme	Rationale	Learning objectives
Epigastric Pain & Peptic Ulcer Disease	Epigastric pain is a common clinical presentation with a wide differential diagnosis. Understanding this symptom requires integration of gastric anatomy, physiology of acid secretion, and biochemical mechanisms of mucosal protection. This theme links foundational knowledge with clinical entities such as gastritis, peptic ulcer disease, Helicobacter pylori infection, and NSAID-induced mucosal injury, allowing students to appreciate disease pathogenesis, clinical features, and rational therapeutic approaches.	Students should be able to: <ol style="list-style-type: none"> Describe the gross and microscopic anatomy of the stomach and proximal duodenum. Explain the physiology of gastric secretion, regulation of acid production, and gastric motility. Discuss the biochemical basis of mucosal defense, including prostaglandins and bicarbonate secretion. Correlate pathophysiological mechanisms with clinical features of peptic ulcer disease. Understand the basis of pharmacological management (e.g., PPIs, H2 blockers). Interpret common diagnostic modalities such as endoscopy and H. pylori testing.

E 2: Epigastric Pain & Peptic Ulcer Disease

Presenting complaints:

Burning epigastric pain for 3 months

History of Present Illness:

A 40-year-old male presented with burning pain in the epigastrium, worse on an empty stomach and partially relieved by meals. Pain occasionally woke him up at night. He also complained of nausea and early satiety. No vomiting or melena. Symptoms worsened after taking painkillers for backache.

Past Medical History:

No known chronic illness.

Family History:

Father had similar complaints and was treated for peptic ulcer disease.

Social History:

Office worker; smokes 10 cigarettes/day; consumes spicy food frequently.

Drug History:

Frequent NSAID use.

Examination:

GPE:

Average-built male, alert and oriented.

Pulse: 76/min BP: 118/76 mmHg

Temp: 98.2°F R/R: 14/min

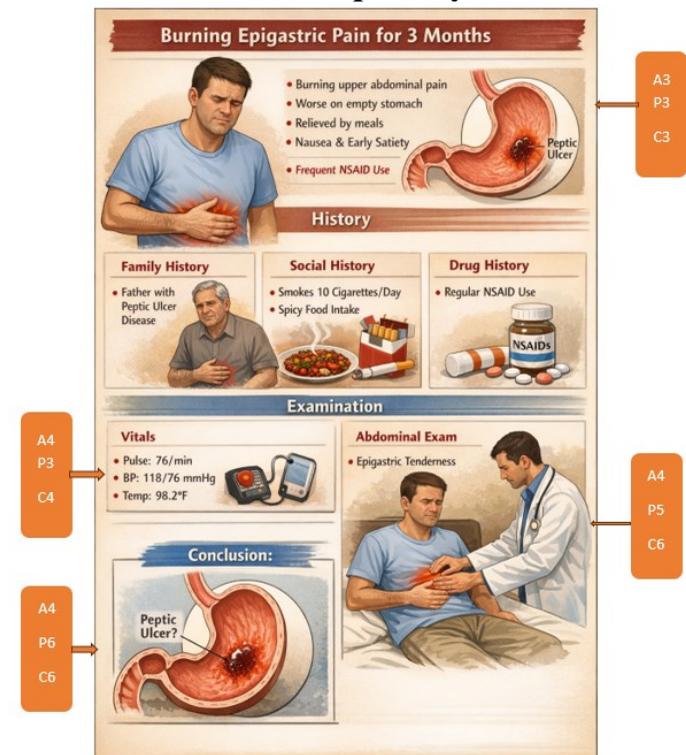
Abdominal Examination:

Mild tenderness in epigastric region; no organomegaly.

Other Systems:

CVS, Respiratory and CNS: Normal.

Harden Level 11 Transdisciplinary



Clinico-concept connect (C³) Sessions

Justification:

This case of epigastric pain suggestive of peptic ulcer disease justifies Harden Level 11 (interdisciplinary integration) as described by Ronald Harden, because it requires learners to synthesize knowledge from multiple disciplines around a real clinical problem rather than studying subjects in isolation. Understanding the patient's symptoms demands integration of anatomy (stomach and duodenum), physiology (gastric acid secretion and mucosal protection), pathology (ulcer formation and mucosal injury), pharmacology (effects of NSAIDs, proton pump inhibitors, H. pylori eradication therapy), and clinical medicine (diagnostic approach and management). Additionally, community medicine and behavioral sciences are incorporated through risk factors such as smoking, dietary habits, and NSAID misuse, highlighting prevention and lifestyle counseling. The case promotes clinical reasoning—linking nocturnal pain, relief with meals, and NSAID use to ulcer disease—while also emphasizing patient education and rational drug use, thereby dissolving disciplinary boundaries and reflecting authentic, holistic patient care consistent with Level 11 integration.

Specific Learning Objectives

Theory							
Subject	Code	Topic	Learning Objectives At the end of lecture students should be able to	Calgary Gauges	Learning Domain	Teaching Strategy	Assessment Tool
Embryology							
Embryology	M1-GIT-A-005	Development of Esophagus	• Discuss the formation of tracheoesophageal septum and its importance	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
			• Describe salient features of esophageal development	Must Know	C2		
			• Describe congenital anomalies of esophagus	Must Know	C2		
			• Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of swallowing	Must Know	C2		
			• Search by available online data highest occurring esophageal developmental defect	Nice to know	C5		
			• Correlate with the clinical conditions	Should Know	C3		
			• Understand curative and preventive health care measures	Nice to know	C3		
			• Practice the principles of bioethetics	Nice to know	C3		
	• Apply strategic use of A.I in health care	Nice to know	C3				
	M1-GIT-A-006	Development of Stomach	• Explain the development of stomach	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
			• Discuss rotations and positional shifts of stomach & their effect on nerve supply and peritoneal attachments	Must Know	C2		
			• Explain formation of omental bursa.	Must Know	C2		
			• Describe congenital anomalies of stomach	Must Know	C2		
			• Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of digestion in the stomach	Must Know	C2		
• Discuss pernicious anemia • Construct a clinico-embryological flow diagram or case scenario linking abnormal stomach development to resultant anatomical and surgical findings.			Nice to know	C6			
• Correlate with the clinical conditions	Should Know	C3					
• Understand curative and preventive health care measures	Nice to know	C3					

			<ul style="list-style-type: none"> • Practice the principles of bioethetics 	Nice to know	C3		
			<ul style="list-style-type: none"> • Apply strategic use of A.I in health care 	Nice to know	C3		
Histology	M1-GIT-A-007	General organization of GIT	<ul style="list-style-type: none"> • Describe the developmental basis of physiological and biochemical mechanisms involved in perception and transmission of taste sensation 	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
			<ul style="list-style-type: none"> • Describe the histological characteristics of each layer with functional significance 	Must Know	C2		
			<ul style="list-style-type: none"> • Discuss associated clinicals (megacolon, chagas disease) • Evaluate histiological basis of pathologies of GIT • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care 	Should Know Should Know Nice to know Nice to know Nice to know	C3 C3 C5 C3 C3 C3		
	M1-GIT-A-008	Esophagus	<ul style="list-style-type: none"> • Describe the histological layers of esophagus. 	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
			<ul style="list-style-type: none"> • Compare between various portions of esophagus histologically. 	Must Know	C2		
			<ul style="list-style-type: none"> • Discuss GERD • Analyze and compare the histological layers and epithelial linings of the esophagus to explain their functional adaptations for protection, secretion, and digestion. • • Correlate with the clinical conditions • Understand curative and preventive heath care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care 	Should Know Should Know Nice to know Nice to know Nice to know	C2 C4 C3 C3 C3		
	M1-GIT-A-009	Stomach	<ul style="list-style-type: none"> • Describe the histological layers of different parts of stomach 	Must Know	C2	LGIS	SAQ MCQ VIVA OSPE
			<ul style="list-style-type: none"> • Describe histological differences of different parts of the gastric glands 	Must Know	C2		
			<ul style="list-style-type: none"> • Describe the structure and function of different cells of gastric glands 	Must Know	C2		
			<ul style="list-style-type: none"> • Explain clinical conditions associated with stomach 	Should Know	C2		

			<ul style="list-style-type: none"> histologically • Discuss pernicious anemia • Develop a clinico-histological correlation using histological features to differentiate normal from pathological sections of the stomach. • 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 	Should Know Should Know Nice to know Nice to know	C2 C6 C3 C3 C3		
Anatomy (SGD)	M1-GIT-A-0024	Inguinal Region & Inguinal Hernias	• Describe Walls of Inguinal Canal	Must Know	C2	SGD/Skill lab	SAQ MCQ VIVA OSPE/OS CE
			• Explain Deep & Superficial Inguinal Ring	Must Know	C2		
			• Enumerate Structures passing through the inguinal canal	Must Know	C1		
			• Enlist Coverings of spermatic cord	Must Know	C1		
			• Explain Mechanics of the inguinal Canal	Must Know	C2		
			• Describe boundaries of Hassalbachs triangle	Must Know	C2		
	• Define hernia	Should Know	C1				
	• Differentiate indirect from direct inguinal hernia	Should Know	C3				
	• Map outline of inguinal canal on simulated patient /model	Should Know	P+A				
	• Evaluate anatomical relationships of inguinal hernias with respect to the inferior epigastric vessels, spermatic cord, and coverings, and justify the clinical distinction between direct and indirect hernias.	Nice to know	C3 C3 C3 C5 C3 C3				
	• Correlate with the clinical conditions						
	• Understand curative and preventive health care measures.	Nice to know					
• Practice the principles of bioethetics	Nice to know						
• Apply strategic use of A.I in health care	Nice to know						
• Read relevant research articles							
• Use of HEC digital library							
M1-GIT-A-0025	Testes, scrotum	• Define Anatomy of Testes and Scrotum	Must Know	C1	SGD/Skill lab	SAQ MCQ VIVA OSPE	
		• Differentiate between Protective Coverings of Testes & scrotum	Must Know	C2			
		• Enumerate Nerve & blood supply of these Structures	Must Know	C1			
		• Discuss the parts of epididymis	Must Know	C2			
		• Discuss Spermatocoele, Varicocoele, Hematocoele, hydrocoele, Testicular torsion	Should Know	C2			
• Evaluate the clinical significance of the anatomical		C3					

			<p>relations, vascular supply, venous drainage, and lymphatic drainage of the testes and scrotum in conditions such as varicocele, torsion of testis, hydrocele, and testicular tumors.</p> <ul style="list-style-type: none"> • 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 	Nice to know	C5		
	M1-GIT-A-0026	Peritoneum & Peritoneal Cavity	<ul style="list-style-type: none"> • Define peritoneum • Explain the different folds of peritoneum. • Describe greater and lesser sacs • Enlist the intra and retroperitoneal viscera • Discuss vertical tracings of peritoneum • Design a clinico-anatomical or imaging-based map of the peritoneal cavity demonstrating fluid pathways, dependent spaces, and safe surgical or laparoscopic access points. • 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 	Must Know	C1	SGD/Skill lab	SAQ MCQ VIVA OSPE
			• Explain the different folds of peritoneum.	Must Know	C2		
			• Describe greater and lesser sacs	Must Know	C2		
			• Enlist the intra and retroperitoneal viscera	Must Know	C1		
			• Discuss vertical tracings of peritoneum	Must Know	C2		
			• Design a clinico-anatomical or imaging-based map of the peritoneal cavity demonstrating fluid pathways, dependent spaces, and safe surgical or laparoscopic access points.	Nice to know	C3 C6		
			• Correlate with the clinical conditions	Should Know			
			• Understand curative and preventive health care measures.	Nice to know	C3		
			• Practice the principles of bioethetics	Nice to know	C3		
			• Apply strategic use of A.I in health care	Nice to know	C3		
			• Read relevant research articles	Nice to know	C3		
			• Use of HEC digital library	Nice to know	C3		
	M1-GIT-A-0027	Subdivisions of Peritoneal Cavity	<ul style="list-style-type: none"> • 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 	Must Know	C2	SGD/Skill lab	SAQ MCQ VIVA OSPE
			• Describe arrangement of peritoneum in transverse section of male pelvis	Must Know	C2		
			• Explain arrangement of peritoneum in transverse section of female pelvis	Must Know	C2		
			• Explain the layers, folds, recesses and compartments of peritoneum with their clinical importance	Must Know	C2		
			• Describe peritonitis	Should Know	C3		
			• Enumerate the signs and symptoms of peritonitis	Should Know	C3		

			<ul style="list-style-type: none"> • 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 	Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3 C3		
M1-GIT-A-0028	Esophagus	• Discuss gross features of abdominal part of esophagus	Must Know	C2	SGD/Skill lab	SAQ MCQ VIVA OSPE	
		• Enumerate their peritoneal & visceral relations.	Must Know	C1			
		• Explain blood supply, lymphatic drainage & nerve supply of esophagus	Must Know	C2			
		<ul style="list-style-type: none"> • Discuss Esophageal varices • Evaluate the vascular supply, venous drainage, nerve supply, and lymphatic drainage of the esophagus to explain their role in portal–systemic anastomosis, carcinoma spread, and surgical complications • 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 	Should Know Should Know Should Know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C5 C3 C3 C3 C3 C3			
M1-GIT-A-0029	Stomach	• Explain gross features of stomach.	Must Know	C2	SGD/Skill lab	SAQ MCQ VIVA OSPE/OS CE	
		• Discuss blood supply, lymphatic drainage & nerve supply of stomach	Must Know	C2			
		• Explain peritoneal & visceral relations of stomach	Must Know	C2			
		• Discuss greater and lesser omentum	Must Know	C2			
		<ul style="list-style-type: none"> • Describe formation and boundaries of epiploic foramen • Map outline of stomach on simulated patient /model • Correlate with the clinical conditions • Construct a clinico-anatomical or radiological correlation model integrating the gross anatomy of the stomach to guide safe surgical, endoscopic, or diagnostic interventions. • Understand curative and preventive health care measures. 	Must Know Should Know Should Know Nice to know Nice to know	C2 P+A C3 C6 C3			
			Nice to know	C3			

			<ul style="list-style-type: none"> Practice the principles of bioethetics Apply strategic use of A.I in health care Read relevant research articles Use of HEC digital library 	Nice to know	C3		
Anatomy (SDL)	M1-GIT-A-0045	Applied Anatomy of Inguinal region & Hernias	<ul style="list-style-type: none"> Enlist contents of rectus sheath 	❖	Clinical Oriented Anatomy by Keith L. Moore.7 TH Edition. (Chapter 2, Page 197, 202-203, 212-213). https://3d4medical.com/		
			<ul style="list-style-type: none"> Describe Walls & detailed anatomy of Inguinal Canal 	❖			
			<ul style="list-style-type: none"> Explain Deep & Superficial Inguinal Ring 	❖			
			<ul style="list-style-type: none"> Associated Clinicals 	❖			
	M1-GIT-A-0046	Peritoneal Dialysis/Peritoneal Lavage	<ul style="list-style-type: none"> Define peritoneum 	❖	Clinical Oriented Anatomy by Keith L. Moore.7 TH Edition. (Chapter 2, Page 219-221,). https://teachmeanatomy.info/		
			<ul style="list-style-type: none"> Explain the different folds of peritoneum. 	❖			
			<ul style="list-style-type: none"> Describe greater and lesser sacs 	❖			
			<ul style="list-style-type: none"> Enlist the intra and retroperitoneal viscera 				
			<ul style="list-style-type: none"> Discuss vertical tracings of peritoneum 				
			<ul style="list-style-type: none"> Describe arrangement of peritoneum in transverse & Longitudinal section of abdomen 				
			<ul style="list-style-type: none"> Describe arrangement of peritoneum in transverse section of male pelvis 				
			<ul style="list-style-type: none"> Explain arrangement of peritoneum in transverse section of female pelvis 				
			<ul style="list-style-type: none"> Explain the layers, folds, recesses and compartments of peritoneum with their clinical importance 				
			<ul style="list-style-type: none"> Describe peritonitis 				
<ul style="list-style-type: none"> Enumerate the signs and symptoms of peritonitis 							
<ul style="list-style-type: none"> Treat peritonitis by antibiotics and peritoneal dialysis 							
Anatomy (SKL)	M1-GIT-A-0054	Esophagus	<ul style="list-style-type: none"> Focus & Identify slide of Esophagus under microscope 	Should Know	P	Skill lab	OSPE/OSCE
			<ul style="list-style-type: none"> Illustrate histological structure of Esophagus 	Must Know	C2		
			<ul style="list-style-type: none"> Write two points of identification 	Must Know	C1		
	M1-GIT-A-0055	Stomach	<ul style="list-style-type: none"> Focus & Identify slide of Stomach under microscope 	Should Know	P	Skill lab	OSPE/OSCE
			<ul style="list-style-type: none"> Illustrate histological structure of Stomach 	Must Know	C2		
			<ul style="list-style-type: none"> Write two points of identification 	Must Know	C1		
			<ul style="list-style-type: none"> Differentiate mucosa of cardiac, fundus, body and pyloric end of stomach 	Must Know	C2		
	Physiology (LGIS)	M1-GIT-P-006	Regulation of Stomach emptying	<ul style="list-style-type: none"> Discuss in detail gastric factors that promote emptying and duodenal factors that inhibit emptying 	Must know	C1	LGIS	MCQs, SAQs Viva
<ul style="list-style-type: none"> Explain the role of enterogastric nervous reflexes and hormonal feedback 				Must know	C1		
<ul style="list-style-type: none"> Recall physiological anatomy of stomach 				Must know	C1		

	M1-GIT-P-007	Motor functions of stomach	Describe motor functions of stomach in detail 1. Storage 2. Mixing and propulsion of food chyme and Hunger contractions 3. Stomach emptying 4. Role of pyloric pump	Must know	C1	LGIS	MCQs, SAQs Viva
			Discuss role of pyloric sphincter	Must know	C1		
	M1-GIT-P-008	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	Must know	C1	LGIS	MCQs, SAQs Viva
			• Summarize the digestive process occurring in stomach	Must know	C2		
			• Categorized the role of gastric juice, hormones and enzymes acting in stomach	Must know	C4		
			• Discuss sites, causes and physiological factors preventing peptic ulcer	Must know	C2		
	M1-GIT-P-009	Liver & gall bladder, liver and biliary secretions	Recall physiological anatomy of liver & portal circulation	Must know	C1	LGIS	MCQs, SAQs Viva
			• Describe in detail metabolic and non-metabolic functions of liver	Must know	C2		
			• Explain the mechanism of secretion of bile.	Must know	C2		
			• Break down the functions of biliary tree.	Must know	C4		
			• Describe the composition of bile	Must know	C2		
			• Explain the role of bile in fat digestion	Must know	C2		
			• Explain the formation of gall stones	Must know	C2		
Physiology (SGD)	M1-GIT-P-0020	Gastric secretion, digestion in stomach, peptic ulcer and gastritis	• Gastric secretion and role in digestion	Must know	C1	SGD	MCQs, SAQs Viva
			• Peptic ulcer disease	Must know	C1		
			• Type of gastritis and clinical importance of gastritis	Must know	C2		
			• Investigations to diagnose gastritis	Must know	C2		
Physiology (SDL)	M1-GIT-P-0020	Gastric secretion, digestion in stomach, peptic ulcer and	• Gastric secretion and role in digestion	❖ 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			
		• Peptic ulcer disease					
		• Type of gastritis and clinical importance of gastritis					
		• Investigations to diagnose gastritis					

		gastritis		21Page 691,700) ❖ Physiology by Linda S. Costanzo 6th Edition. Gastrointestinal Physiology (Chapter 8. Page 339) ❖ Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Section 6.Gastrointestinal System. (Chapter 43, Page 681) ❖ Textbook of Medical Physiology by Guyton & Hall.14 th Edition. Gastrointestinal Physiology. Section 12. (Chapter 63, Page 787)			
Physiology (SKL)	M1-GIT-P-0027	Examination of sense of smell	• Apparatus identification	Must Know	P	Skill lab	OSPE
			• Principle	Must Know	C1		
			• Procedure	Must Know	P		
			• Precautions	Should Know	C1		
			• Recall Olfactory pathways and abnormalities of olfaction	Must Know	C1		
Biochemistry (LGIS)	M1-GIT-B-006	Glycogen metabolism	• Explain the steps and regulation of glycogenesis and glycogenolysis	Must Know	C2	LGIS	MCQs, SAQs Viva
	M1-GIT-B-007	HMP Shunt	• Explain the pathway of HMP shunt	Must Know	C2	LGIS	MCQs, SAQs Viva
	M1-GIT-B-008	Functions of NADPH and G6PD deficiency	• Discuss uses of NADPH	Must Know	C2	LGIS	MCQs, SAQs Viva
			• How will you defend the diagnosis of a case of G6PD deficiency	Nice to Know	C5		
	M1-GIT-B-009	Citric Acid Cycle	• Describe G6PD deficiency	Must Know	C2	LGIS	MCQs, SAQs Viva
	M1-GIT-B-010	Gastric Juice	• Describe citric acid cycle	Must Know	C2	LGIS	MCQs, SAQs Viva
M1-GIT-B-006	Glycogen metabolism	• Describe the composition, functions and related clinical disorders of gastric juice	Must Know	C2	LGIS	MCQs, SAQs Viva	
Biochemistry (SGD)	M1-GIT-B-0032	Glucose 6 Phosphate Dehydrogenase Deficiency	• Discuss Glucose 6 Phosphate Dehydrogenase Deficiency	Should Know	C3	SGD	MCQs SAQs Viva
			• Create a video on symptoms, signs and biochemical diagnosis of a case of G6PD deficiency	Nice to Know	C6		
Biochemistry (SDL)	M1-GIT-B-0041	TCA Cycle & Clinical disorders related to HMP shunt	• Describe steps of TCA cycle • Discuss clinical disorders related to HMP shunt	❖ 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#13, Page 160.			
Biochemistry (SKL)	M1-GIT-B-0053	Silva-II	• Discuss the role of silva in digestion of carbohydrates	Should Know	P	Skill Lab	OSPE
			• Understand related disorder	Should Know	P		

Medicine	M1-GIT-VI(M)-001	Peptic Ulcer	• Describe Mechanism of digestion in stomach	C1	LGIS	MCQs
			• Describe Mechanism of APD and GERD	C2		
			• Discuss Peptic ulcer formation	C2		
			• Enlist Clinical features	C2		
			• Enlist Investigations	C1		

Spiral Courses (2nd Week)

Integrated Undergraduate Research Curriculum (IUGRC)

Code	Topic	Learning Objectives	Cognitive Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(IUGRC) -001	Introduction to descriptive statistics	<ul style="list-style-type: none"> • 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 • Describe the concept of data, variable & sources of data with respect to descriptive statistics 	C1 C2 C1 C2	LGIS	MCQs

Pak Studies

Code	Topic	Learning Objectives <i>At the end of the lecture the student should be able to</i>	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(PKS)-002	Allah SWT ki Hakmiyat ka Nifaz	<ul style="list-style-type: none"> • Understand the concept of Allah's Hakmiyat and its significance in Islamic teachings, emphasizing divine authority in all aspects of life. 	C2	LGIS	SAQ

The Islamiyat

Code	Topic	Learning Objectives <i>At the end of the lecture the student should be able to</i>	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(ISL)-001	Toheed Related Quranic Verses & their Explanation	<ul style="list-style-type: none"> • Understand the concept of Tawheed as presented in the Quran, and its significance in Islamic theology. 	C2	LGIS	SAQ
		<ul style="list-style-type: none"> • Identify key Quranic verses related to Tawheed, focusing on the concepts of divine unity, power, and sovereignty. 	C2	LGIS	SAQ
		<ul style="list-style-type: none"> • Identify key Quranic verses related to Risalat and explain their meanings, emphasizing the messages delivered by the Prophets. 	C2	LGIS	SAQ

Transdisciplinary (Hardens Level 11) **Clinico-Concept Connect (C³6) Sessions for 2nd Week**

Session	Topic	Department	Education Relevance	At the End of The Demonstration Student Should Be Able To	Learning Domain	Assessment Tool
Clinico-Concept Connect (C ³ 6) Sessions -II	Epigastric Pain & Peptic Ulcer Disease	Anatomy	Epigastric pain relates to stomach and duodenal anatomy.	• Describe gross anatomy of stomach and duodenum.	C2	MCQ
				• Identify anatomical relations of epigastric structures.	C2	MCQ
				• Explain common ulcer sites in stomach and duodenum.	C3	MCQ
		Physiology	Acid secretion and mucosal protection are key mechanisms.	• Explain regulation of gastric acid secretion.	C2	MCQ
				• Describe gastric motility and emptying.	C3	MCQ
				• Discuss mucosal defense mechanisms.	C4	MCQ
		Pathology	Ulceration results from mucosal injury and inflammation.	• Describe histopathology of peptic ulcers.	C4	MCQ
				• Explain complications such as perforation and bleeding.	C2	MCQ
				• Correlate chronic NSAID use with mucosal erosion.	C3	MCQ
		Pharmacology	Treatment depends on acid suppression and eradication therapy.	• Describe mechanism of action of PPIs and H2 blockers.	C2	MCQ
				• Explain triple therapy for H. pylori.	C5	MCQ
				• Discuss adverse effects of long-term NSAID use.	C4	MCQ
		Medicine	PUD is a common clinical disorder.	• Identify typical clinical features of ulcer pain.	C4	MCQ
				• Recognize red flags requiring urgent referral.	C5	MCQ
				• Plan stepwise evaluation of dyspepsia.	C4	MCQ
Surgery	Complicated ulcers may require surgical intervention.	• Outline surgical emergencies: perforation, bleeding.	C3	MCQ		
		• Describe basic principles of ulcer repair.	C2	MCQ		
		• Recognize indications for surgery.	C3	MCQ		

Theme 3: Chronic Diarrhea & Malabsorption Syndromes (3rd Week)

Theme	Rationale	Learning objectives
Chronic Diarrhea & Malabsorption Syndromes	Chronic diarrhea and malabsorption represent significant causes of morbidity and nutritional deficiencies. This theme integrates anatomy of the small intestine, physiology of digestion and absorption, and biochemical processes of nutrient metabolism with clinical disorders such as celiac disease, inflammatory bowel disease, pancreatic insufficiency, and parasitic infestations, fostering an understanding of systemic consequences and clinical correlations.	By the end of this theme, students should be able to: <ol style="list-style-type: none"> 1. Describe the structural adaptations of the small intestine facilitating absorption. 2. Explain the physiology of digestion and absorption of carbohydrates, proteins, fats, vitamins, and minerals. 3. Discuss the biochemical basis of nutrient metabolism and deficiencies. 4. Correlate abnormalities in absorption with clinical manifestations of chronic diarrhea. 5. Identify basic laboratory and imaging investigations used in malabsorption syndromes. 6. Appreciate the nutritional and metabolic consequences of chronic gastrointestinal disorders.

CASE 3: Chronic Diarrhea & Malabsorption Syndromes

Presenting complaints:

Chronic diarrhea and weight loss for 8 months

History of Present Illness:

A 28-year-old female presented with frequent loose, bulky, foul-smelling stools occurring 4–5 times daily. She also complained of abdominal bloating, fatigue, and weight loss. Symptoms worsened after intake of wheat-based meals. No blood in stool.

Past Medical History:

Recurrent episodes of anemia treated with iron.

Family History:

A cousin diagnosed with gluten intolerance.

Social History:

Housewife; belongs to middle socio-economic class.

Drug History:

Iron supplements intermittently.

Examination:

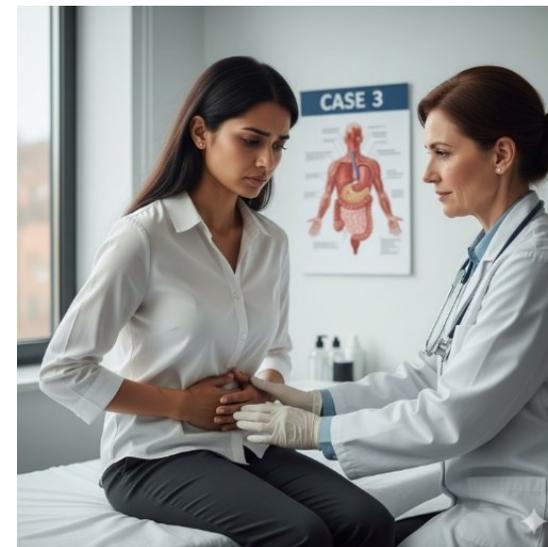
GPE:

Thin female, conscious and cooperative.

Pulse: 90/min BP: 110/70 mmHg

Temp: 98°F R/R: 18/min

Pallor present.



Abdominal Examination:

Soft, mildly distended abdomen; no tenderness.

Systemic Examination:

CVS, Respiratory and CNS: Normal.

Justification:

This case of chronic diarrhea with suspected malabsorption justifies Harden Level 11 (interdisciplinary integration) as proposed by Ronald Harden, because it requires learners to integrate multiple disciplines to understand and manage a real-life clinical scenario. The presentation of bulky, foul-smelling stools, anemia, weight loss, and symptom exacerbation after wheat intake necessitates the integration of anatomy (small intestinal mucosa and villi), physiology (digestion and nutrient absorption), pathology (villous atrophy in celiac disease and other malabsorption syndromes), immunology (autoimmune response to gluten), biochemistry (nutrient deficiencies such as iron), and pharmacology/nutrition (gluten-free diet and supplementation). The case also incorporates community medicine and genetics through family history and dietary patterns, emphasizing prevention, counseling, and long-term management. By promoting clinical reasoning, holistic care, and patient education while dissolving traditional subject boundaries, this case exemplifies authentic interdisciplinary learning consistent with Level 11 integration.

**Harden Level 11
Transdisciplinary**

Chronic Diarrhea & Weight Loss for 8 Months

Presenting Complaints

- Frequent Loose, Bulky, Foul-Smelling Stools

History of Present Illness:

- 4-5 loose, bulky, foul-smelling stools daily
- Abdominal bloating & fatigue
- Unintentional weight loss
- Worsened after wheat intake; No blood in stool

Celiac Disease Test

Positive

History

<p>Past Medical History</p> <ul style="list-style-type: none"> • Recurrent Anemia, Iron Treatment <p>Past Medical History</p> <ul style="list-style-type: none"> • Recurrent Anemia, Iron Treatment 	<p>Family History</p> <ul style="list-style-type: none"> • Cousin Diagnosed with Gluten Intolerance <p>Family History</p> <ul style="list-style-type: none"> • Housewife • Middle Socio-economic Class 	<p>Social History</p> <ul style="list-style-type: none"> • Housewife • Middle Socio-economic Class <p>Drug History</p> <ul style="list-style-type: none"> • Intermittent Iron Supplement Use
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Examination

GPE:

- Thin female, conscious and cooperative,
- Pulse: 90/min BP: 110/70 mmHg
- Temp: 98°F R/R: 18/min
- Pallor present

Abdominal Examination:

- Soft, mildly distended abdomen; No tenderness

Systemic Examination:

- CVS, Respiratory and CNS: Normal

Conclusion:

Malabsorption: Consider Celiac Disease?

Normal Villi vs. Flattened Villi

A4
P3
C4

A3
P3
C3

A4
P5
C6

A4
P6
C6

Clinico-concept connect (C³6) Sessions

Specific Learning Objectives

Subject	Code	Topic	At the end of practical students should be able to	Calgary Gauges	Learning Domain	Teaching Strategy	Assessment Tool
Anatomy Embryology	M1-GIT-A-0056	Development of Liver	• Describe formation of hepatic diverticulum	Should Know	C2	LGIS	SAQ MCQ VIVA OSPE
			• Describe histogenesis of liver during intrauterine life	Should Know	C2		
			• Describe formation of various ligaments of liver.	Should Know	C2		
			• Discuss congenital abnormalities of liver	Should Know	C3		
			• Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of detoxification in the liver	Should Know	C2		
			• Analyze the embryological development of the liver foregut endoderm to explain their duct systems	Must Know	C4		
			• Correlate with the clinical conditions	Must Know	C3		
			• Understand curative and preventive health care measures	Nice to know	C3		
			• Practice the principles of bioethetics	Nice to know	C3		
			• Apply strategic use of A.I in health care	Nice to know	C3		
	• Read relevant research articles	Nice to know	C3				
	• Use of HEC digital library	Nice to know	C3				
	M1-GIT-A-0057	Gall bladder, pancreas and Biliary apparatus	• Discuss development of Gall bladder	Should Know	C2	LGIS	SAQ MCQ VIVA OSPE
			• Describe /congenital anomalies of gall bladder	Should Know	C2		
			• Discuss development and congenital anomalies of pancreas	Should Know	C2		
			• Describe development of extrahepatic biliary apparatus and its parts with abnormalities	Should Know	C2		
			Evaluate the embryological basis of congenital anomalies of the gall bladder and pancreas	Should Know	C5		
			• Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of production of bile and pancreatic vsecretions	Should Know	C2		
			• Correlate with the clinical conditions	Must Know	C3		
• Understand curative and preventive health care measures			Nice to know	C3			
• Practice the principles of bioethetics			Nice to know	C3			
• Apply strategic use of A.I in health care			Nice to know	C3			
M1-GIT-A-0058	Development of small	• Describe development of mid gut, midgut loop and rotation of midgut loop.	Should Know	C2	LGIS	SAQ	

		intestine	<ul style="list-style-type: none"> • Explain physiological umbilical hernia and return of mid gut to abdomen. 	Should Know	C2		MCQ VIVA OSPE
			<ul style="list-style-type: none"> • Describe fixation of intestines and transformations in peritoneal dispositions after mid gut loop return. 	Should Know	C2		
			<ul style="list-style-type: none"> • Describe congenital anomalies and clinical correlation of mid gut development. • Evaluate the embryological basis of congenital anomalies of the small intestine by correlating abnormal midgut development with clinical presentation and complications. 	Should Know	C2		
			<ul style="list-style-type: none"> • 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 	Must know Nice to know Nice to know	C3 C3 C3		
Anatomy Histology	M1-GIT-A-0059	Liver	<ul style="list-style-type: none"> • Discuss in detail the histological organization of liver 	Should Know	C2	LGIS	SAQ MCQ VIVA OSPE
			<ul style="list-style-type: none"> • Explain the structure of liver lobule, portal triads & hepatic acinus and its functional importance 	Should Know	C2		
			<ul style="list-style-type: none"> • Discuss histological features of hepatocytes. 	Should Know	C2		
			<ul style="list-style-type: none"> • Explain Hepatic cords, central vein, portal triad, hepatic venules, hepatic arterioles, bile duct & liver sinusoids. 	Should Know	C2		
			<ul style="list-style-type: none"> • Discuss the blood supply of the liver. 	Should Know	C2		
			<ul style="list-style-type: none"> • Explain different cells of the liver tissue 	Should Know	C2		
			<ul style="list-style-type: none"> • Describe clinical aspects of liver on histological grounds 	Must know	C3		
			<ul style="list-style-type: none"> • Discuss cirrhosis, fatty liver 	Must know	C2		
			<ul style="list-style-type: none"> • Discuss jaundice • Construct a clinico-histological correlation framework linking normal and abnormal liver histology to diagnostic, surgical, or therapeutic decision-making. • 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 	Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C6 C3 C3 C3 C3		
	M1-GIT-A-0060	Pancreas & Gall Bladder	<ul style="list-style-type: none"> • Differentiate between exocrine and endocrine pancreas. • Discuss the cellular structure and function of exocrine pancreatic acinus and ducts. • Discuss acute & chronic pancreatitis and pancreatic 	Should know Should know Should know	C2 C2 C2	LGIS	SAQ MCQ VIVA OSPE

			<ul style="list-style-type: none"> cancer • Explain the histological features of the gallbladder. • Discuss cholelithiasis • Evaluate histopathological changes in gall bladder, cholecystitis, gallstones) by correlating microscopic alterations with clinical signs, symptoms, and laboratory findings. • 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 	<p>Should know Must know Must know Nice to know</p> <p>Nice to know</p> <p>Nice to know Nice to know Nice to know Nice to know</p>	<p>C2 C2 C3 C3 C3</p> <p>C5 C3 C3 C3</p>		
	M1-GIT-A-0061	Small Intestine	<ul style="list-style-type: none"> • Differentiate the histological features of duodenum, jejunum and ileum • Discuss the location and function of villi, crypts of liberkuhn and microvilli in different parts of small intestine • Discuss different cells lining the epithelium of small intestine • Analyze the histological features of the small intestine to explain regional functional specialization of the duodenum, jejunum, and ileum. • • Discuss histological aspects of celiac disease and crohn disease • 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 	<p>Should know Should know</p> <p>Should know Should know Must know</p> <p>Nice to know</p> <p>Nice to know Nice to know Nice to know</p> <p>Nice to know Nice to know</p>	<p>C2 C2</p> <p>C2 C2</p> <p>C3 C4</p> <p>C3 C3 C3</p> <p>C3 C3</p>	LGIS	<p>SAQ MCQ VIVA OSPE</p>
Gross Anatomy	M1-GIT-A-0062	Small Intestine (Duodenum)	<ul style="list-style-type: none"> • Describe the different parts of duodenum with their anatomical differences • Enumerate the relations of different parts of duodenum • Discuss its clinical importance • Map outline of duodenum on simulated patient /model • Correlate with the clinical conditions • Understand curative and preventive health care measures. 	<p>Should know</p> <p>Should know</p> <p>Must know Must know Must know Nice to know</p>	<p>C2</p> <p>C1</p> <p>C2 C6 C3 C3</p>	SGD	<p>SAQ MCQ VIVA OSPE</p>

			<ul style="list-style-type: none"> Practice the principles of bioethetics Apply strategic use of A.I in health care 	Nice to know Nice to know Nice to know	C3 C3 C3		
	M1-GIT-A-0063	Small Intestine (Jejunum and Ileum)	<ul style="list-style-type: none"> Describe jejunum and ileum with their anatomical features Discuss mesentery and its attachment Evaluate the clinical and surgical significance of the small intestine's anatomical relationships to justify approaches in resections, anastomosis, and management of obstruction. Discuss its clinical importance 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 	Should know Should know Should Know Must know Must know Nice to know Nice to know Nice to know Nice to know	C2 C2 C5 C2 C3 C3 C3 C3 C3	SGD	SAQ MCQ VIVA OSPE
	M1-GIT-A-0064	Liver, Portal hypertension, Portosystemic Anastomosis	<ul style="list-style-type: none"> Describe the anatomical structure of liver. Describe the lobes, surfaces and segments of liver Describe peritoneal reflections, ligaments and bare area of liver. Enumerate visceral relations of liver. Enlist the structures in porta hepatis. Discuss Sub hepatic abscess & Live Biopsy Discuss formation, course and parts of portal vein Enumerate relations and tributaries of portal vein Define portal hypertension Describe sites of the portocaval anastomosis and their clinical significance Explain role of portocaval shunts Map outline of liver 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 	Should know Should know Should know Should know Should know Should know Should know Should know Must know Must know Must know Nice to know Nice to know	C2 C2 C2 C1 C1 C2 C2 C1 C1 C2 C2 C6 C3 C3 C3 C3	SGD	SAQ MCQ VIVA OSPE
Anatomy (SDL)	M1-GIT-A-0047	Crohn's Disease, Celiac Disease,	<ul style="list-style-type: none"> Describe the different parts of duodenum with their anatomical differences Enumerate the relations of different parts of duodenum 	❖ Clinical Oriented Anatomy by Keith L. Moore.7 TH Edition. (Chapter 2, Page 239, 241, 244, 245, 325, 436).			

		Irritable Bowel Syndrome	<ul style="list-style-type: none"> • Discuss its clinical importance • Anatomy of Jejunum & Ileum 	❖ https://www.kenhub.com/en/library/anatomy/the-digestive-system			
	M1-GIT-A-0048	Diverticulum, Intussusception	<ul style="list-style-type: none"> • Enlist various parts of large intestine • Demonstrate gross anatomical features of different parts of large intestine • Enlist intra and retroperitoneal parts of large intestine 	❖ Clinical Oriented Anatomy by Keith L. Moore. 7TH Edition. (Chapter 2, Page 227,246,248, 325). ❖ https://www.kenhub.com/en/library/anatomy/the-digestive-system			
Anatomy (SKL)	M1-GIT-A-0056	Liver, Gall bladder & Pancreas	<ul style="list-style-type: none"> • Focus & Identify slides of Liver, Gall bladder & Pancreas under microscope 	Should Know	P	Skill labs	OSPE/OSCE
			<ul style="list-style-type: none"> • Illustrate histological structures of Liver, Gallbladder & Pancreas 	Must Know	C2		
			<ul style="list-style-type: none"> • Write two points of identification 	Must Know	C1		
Physiology (LGIS)	M1-GIT-P-0010	LFTs and jaundice	<ul style="list-style-type: none"> • Enlist liver functions test 	Should know	C1	LGIS	SEQ MCQ VIVA
			<ul style="list-style-type: none"> • Describe liver function tests 	Nice to know	C1		
			<ul style="list-style-type: none"> • Discuss in detail pathophysiology of jaundice 	Must know	C2		
			<ul style="list-style-type: none"> • Compare & contrast different types of jaundice 	Must know	C4		
M1-GIT-P-0011	Cirrhosis & portal hypertension	<ul style="list-style-type: none"> • Describe causes and effects of cirrhosis 	Must know	C1	LGIS	SEQ MCQ VIVA	
		<ul style="list-style-type: none"> • Describe causes and effects of portal hypertension 	Must know	C1			
Physiology (SGD)	M1-GIT-P-0018	Large intestine	<ul style="list-style-type: none"> • Recall movements and functions of large intestine 	Must Know	C1	SGD	MCQs, SAQs Viva
			<ul style="list-style-type: none"> • Enumerate causes of empty rectum 	Should Know	C1		
			<ul style="list-style-type: none"> • Explain defecation reflex, its importance and nervous control 	Must Know	C2		
			<ul style="list-style-type: none"> • Classify GIT reflexes integrated at the level of gut wall, prevertebral sympathetic ganglia and spinal cord/brain stem. 	Must Know	C4		
Physiology (SDL)	M1-GIT-P-0021	Small intestine motility and malabsorption (sprue, paralytic ileus and Crohn's disease)	<ul style="list-style-type: none"> • 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. 25 TH Edition, Gastrointestinal motility. (Chapter 27, Page 495) ❖ Human Physiology by Dee Unglaub Silver thorn. 8 TH Edition. The Digestive System (Chapter 21, Page 697) ❖ Physiology by Linda S. Costanzo 6 th Edition. Gastrointestinal Physiology (Chapter 8. Page 348) ❖ Physiological Basis of Medical Practice by Best & Taylor's. 13 th Edition. Section 6. Gastrointestinal System. (Chapter 44, Page 690,710) ❖ Textbook of Medical Physiology by Guyton & Hall. 14 th Edition. Gastrointestinal Physiology. Section 12. (Chapter 64, Page 797,802)			
Physiology (SKL)	M1-GIT-P-0029	Examination of deep reflexes	<ul style="list-style-type: none"> • Principle 	Must know	C1	Skill lab	OSPE
			<ul style="list-style-type: none"> • Procedure 	Must know	A, P		
			<ul style="list-style-type: none"> • Precautions 	Should know	P		

			<ul style="list-style-type: none"> Recall reflex arc 	Should Know	C1		
			<ul style="list-style-type: none"> Recall effects of UMNL & LMNL on reflexes 	Should Know	C1		
Biochemistry (LGIS)	M1-GIT-B-011	LFTs and Jaundice	<ul style="list-style-type: none"> Describe types of jaundice Understand and interpret LFTs Compare prehepatic, hepatic and post hepatic jaundice 	Must Know	C2	LGIS	MCQs, SAQs, SEQs, Viva
	M1-GIT-B-0012	Bile and Pancreatic Juice	<ul style="list-style-type: none"> Describe the compositions and functions of bile and pancreatic juice 	Must Know	C2			LGIS	MCQs, SAQs, SEQs, Viva
Biochemistry (SGD)	M1-GIT-B-0033	Gluconeogenesis and its regulation	<ul style="list-style-type: none"> Describe the steps and regulations of gluconeogenesis 	Must Know	C2	SGD	MCQs
Biochemistry (SDL)	M1-GIT-B-0042	Glycogen Metabolism and glycogen storage diseases	<ul style="list-style-type: none"> Discuss glycogen metabolism Discuss glycogen storage disease 	❖ Reference Book: Lippincott's Illustrated reviews of Biochemistry 8th Edition Chapter#11, Page 137-150.			
Biochemistry (SKL)	M1-GIT-B-0054	Bile	<ul style="list-style-type: none"> Describe the composition and role of bile in digestion 	Must Know	P	Skill Lab	OSPE
			<ul style="list-style-type: none"> Understand related disorder 	Should Know	P		
Radiology	M1-GIT-VI(R)-001	Medical Imaging of abdomen-I	<ul style="list-style-type: none"> Identify normal and abnormal radiographs of abdomen (AP view) 	C1		LGIS	MCQs
			<ul style="list-style-type: none"> Identify filling defects (Barium meal and Barium enema) Recognize the correct and incorrect positioning of feeding tubes 	C1			
	M1-GIT-VI(R)-002	Medical Imaging of abdomen-II	<ul style="list-style-type: none"> Identify normal and abnormal CT Scan MRI abdomen 	C1		LGIS	MCQs
Pediatrics	M1-GIT-VI(Peads)-001	Acute and Chronic Diarrhea & Chronic Diarrhea	<ul style="list-style-type: none"> Understand the diagnostic approach for both acute and chronic diarrhea, including the use of stool analysis, blood tests, and imaging when appropriate. 	C2		LGIS	MCQs
			<ul style="list-style-type: none"> Explain the management strategies for acute and chronic diarrhea, emphasizing fluid and electrolyte replacement, pharmacological interventions, and addressing the underlying causes. 	C2			
Gynae & Obs	M1-GIT-VI (Gynae & Obs)-001	Jaundice/Obstetric Cholestasis in Pregnancy	<ul style="list-style-type: none"> Define and classify jaundice in pregnancy, including intrahepatic cholestasis (obstetric cholestasis), viral hepatitis, and hemolytic causes. 	C1		LGIS	MCQs
			<ul style="list-style-type: none"> Explain the pathophysiology and clinical features of obstetric 	C2		LGIS	MCQs

			cholestasis, highlighting the role of elevated bile acids and associated maternal symptoms such as pruritus.			
			<ul style="list-style-type: none"> • Discuss the maternal and fetal complications, investigations, and principles of management of jaundice and obstetric cholestasis in pregnancy. 	C1	LGIS	MCQs

Spiral Courses (3rd Week)

Integrated Undergraduate Research Curriculum (IUGRC)

Code	Topic	Learning Objectives	Cognitive Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(IUGRC) -002	Classification of different types of data	<ul style="list-style-type: none"> • Classify data and types of data with examples • Enlist data types with examples in medical background • Enlist different method of data presentation (tables, graphs, diagrams, pie chart, Bar graph, histo gram. line diagram scatter diagram, statistical maps, pictogram and ogive curve) according to type of data 	C2 C1 C1	LGIS	MCQs

The Islamiyat

Code	Topic	Learning Objectives <i>At the end of the lecture the student should be able to</i>	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(ISL)-002	Toheed & Shirk	<ul style="list-style-type: none"> • Understand the concept of Tawheed (Oneness of Allah) and its fundamental importance in Islamic belief and practice. 	C2	LGIS	SAQ
		<ul style="list-style-type: none"> • Explain the different types of Shirk and their theological implications in Islam. 	C2	LGIS	SAQ

Pak Studies

Code	Topic	Learning Objectives <i>At the end of the lecture the student should be able to</i>	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(PKS)-003	Two Nation Theory	<ul style="list-style-type: none"> • Explain the significance of the Two Nation Theory in the creation of Pakistan, emphasizing the cultural, religious, and political differences between Muslims and Hindus in the Indian subcontinent. 	C2	LGIS	SAQ

Transdisciplinary (Hardens Level 11) **Clinico-Concept Connect (C³6)** Sessions for 3rd Week

Session	Topic	Department	Educational Relevance	At the End of The Demonstration Student Should Be Able To	Learning Domain	Assessment Tool
\Clinico-Concept Connect (C ³ 6) Sessions -III	Epigastric Pain & Peptic Ulcer Disease	Anatomy	Structure of villi explains absorption and malabsorption.	• Describe intestinal villi and absorptive surface adaptations.	C2	MCQ
				• Identify regions of nutrient absorption in small intestine.	C2	MCQ
		Physiology	Digestion and transport defects cause diarrhea and nutrient loss.	• Explain digestion and absorption of fats, proteins, carbohydrates.	C2	MCQ
				• Describe mechanisms of diarrhea.	C3	MCQ
		Pathology	Mucosal damage (e.g., Celiac disease) leads to malabsorption.	• Describe villous atrophy in celiac disease.	C4	MCQ
				• Correlate inflammation with malabsorption.	C2	MCQ
		Pharmacology	Antidiarrheals and supplements correct symptoms and deficiencies.	• Identify drugs for chronic diarrhea and supplementation.	C2	MCQ
				• Discuss vitamin replacement therapy.	C5	MCQ
		Medicine	Proper evaluation prevents complications of chronic diarrhea.	• Plan diagnostic approach for chronic diarrhea.	C2	MCQ
				• Recognize systemic consequences of malnutrition.	C5	MCQ
		Community Medicine	Addressing malnutrition burden in Pakistan improves public health outcomes.	• Discuss burden of malabsorption in Pakistan.	C5	MCQ
				• Promote dietary awareness and prevention.	C6	MCQ

Theme 4: Jaundice & Hepatobiliary Disorders (4th Week)

Theme	Rationale	Learning objectives
Jaundice & Hepatobiliary Disorders	Jaundice is a cardinal clinical sign reflecting disturbances in bilirubin metabolism and hepatobiliary function. Understanding jaundice requires integration of liver and biliary tract anatomy, physiology of bile formation and secretion, and biochemistry of bilirubin metabolism. This theme links basic sciences with clinical conditions such as hepatitis, cirrhosis, gallstones, and obstructive jaundice, enabling students to develop a structured diagnostic approach.	<p>Students should be able to:</p> <ol style="list-style-type: none"> 1. Describe the anatomy and applied anatomy of the liver, gallbladder, and biliary tree. 2. Explain the physiology of bile production, secretion, and enterohepatic circulation. 3. Discuss the biochemical pathways of bilirubin metabolism. 4. Differentiate types of jaundice based on pathophysiological mechanisms. 5. Correlate laboratory findings with clinical patterns of hepatobiliary disease. 6. Understand the role of imaging and basic interventions in hepatobiliary disorders.

CASE 4: Jaundice & Hepatobiliary Disorders

Presenting complaints:

Yellow discoloration of eyes and dark urine for 2 weeks

History of Present Illness:

A 35-year-old male presented with progressive yellowing of eyes and skin, dark-colored urine, and pale stools. He complained of generalized itching and right upper abdominal discomfort.

No history of fever or hematemesis.

Past Medical History:

No known liver disease.

Family History:

Non-contributory.

Social History:

Shopkeeper; history of intravenous drug use 5 years ago.

Drug History:

No regular medication.

Examination:

GPE:

Icteric male, conscious and oriented.

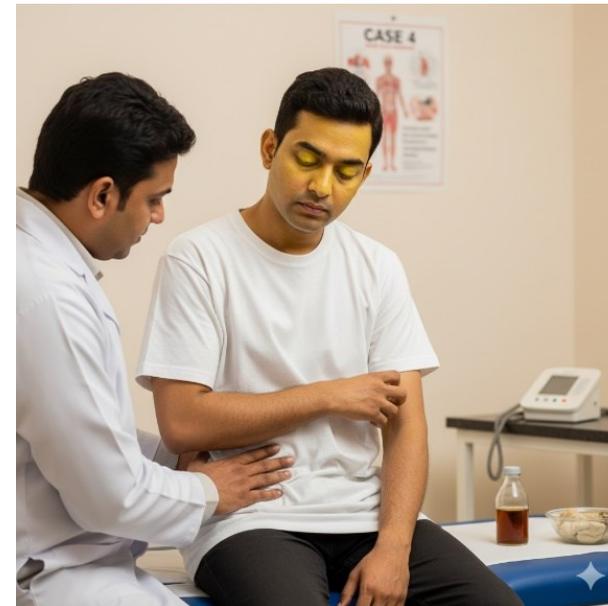
Pulse: 84/min BP: 122/78 mmHg

Temp: 98.4°F R/R: 16/min

Justi

Abdominal Examination:

Mild hepatomegaly; non-tender.



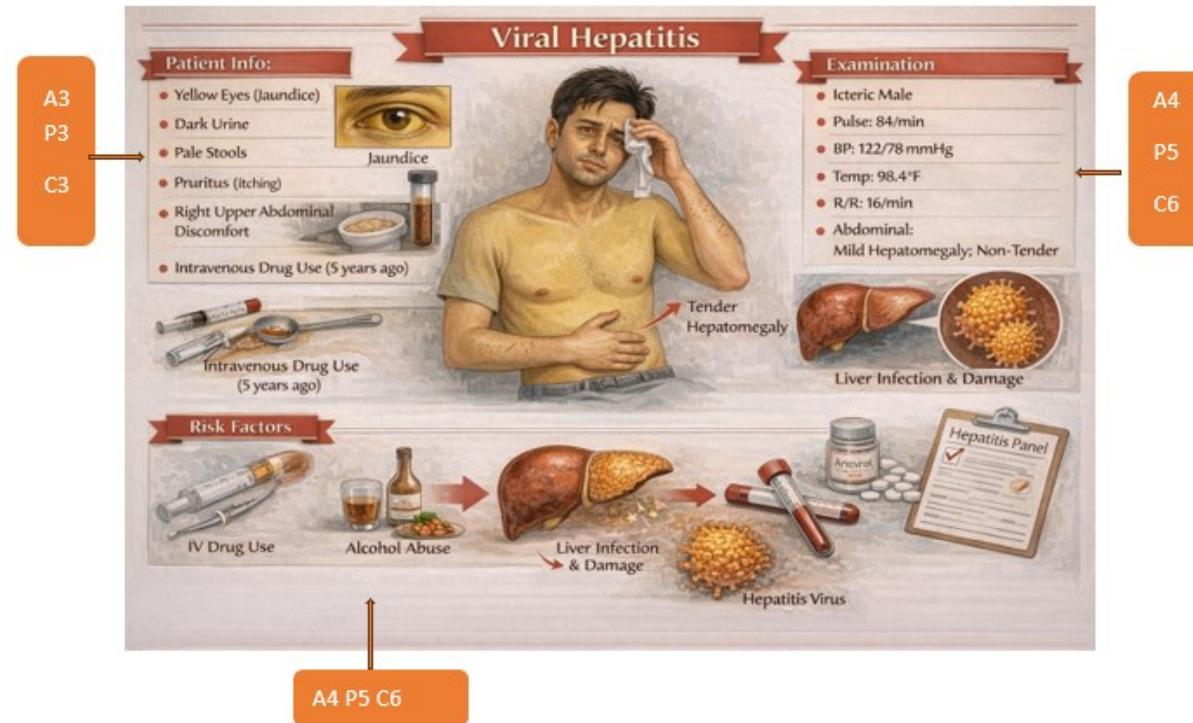
Other Systems:

CVS, Respiratory and CNS: Normal.

Justification:

This case of jaundice with features suggestive of hepatobiliary disorder fits Harden Level 11 (interdisciplinary integration) because it requires learners to integrate knowledge across multiple disciplines to solve a real clinical problem rather than studying subjects in isolation. Understanding the presentation—jaundice, dark urine, pale stools, pruritus, and hepatomegaly—necessitates the integration of anatomy (liver, biliary tract, and hepatocytes), physiology (bilirubin metabolism and bile secretion), pathology (hepatocellular injury vs. cholestasis), microbiology/immunology (viral hepatitis risk due to prior IV drug use), pharmacology (hepatotoxic drugs and management strategies), and clinical medicine (diagnostic approach, liver function tests, imaging, and management). Additionally, community medicine and preventive health are integrated through counseling on infection risks and lifestyle modification. By promoting clinical reasoning, holistic patient care, and application of knowledge from multiple disciplines in a single patient scenario, this case exemplifies authentic interdisciplinary learning, consistent with Level 11 integration.

**Harden Level 11
Transdisciplinary**



Clinico-concept connect (C³6) Sessions

Specific Learning Objectives

Subject	Code	Topic	At the end of practical students should be able to	Calgary Gauges	Learning Domain	Teaching Strategy	Assessment Tool
Anatomy Embryology	M1-GIT-A-0057	Development of large Intestine	<ul style="list-style-type: none"> • Enlist parts of large intestine. 	Should Know	C1	LGIS	SAQ MCQ VIVA OSPE
			<ul style="list-style-type: none"> • Describe partitioning of cloaca and cloacal membrane. 	Should Know	C2		
			<ul style="list-style-type: none"> • Describe development of anal canal. 	Should Know	C2		
			<ul style="list-style-type: none"> • 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 	Must Know Nice to know Nice to know Nice to know	C3 C3 C3 C3		
Anatomy Histology	M1-GIT-A-0058	Large Intestine I (General Histological Features)	<ul style="list-style-type: none"> • Describe histological features of parts of large intestine. 	Should know Should know	C2 C2	LGIS	SAQ MCQ VIVA OSPE
			<ul style="list-style-type: none"> • Discuss cells lining the epithelium 	Should know	C2		
			<ul style="list-style-type: none"> • Explain concept of tenaei coli. 	Should know	C2		
			<ul style="list-style-type: none"> • Differentiate histological structure of the large intestine from the small intestine. 	Must know	C3		
			<ul style="list-style-type: none"> • Correlate with the clinical conditions 	Nice to know	C3		
			<ul style="list-style-type: none"> • Understand curative and preventive health care measures. 	Nice to know	C3		
			<ul style="list-style-type: none"> • Practice the principles of bioethetics • Apply strategic use of A.I in health care 	Nice to know Nice to know	C3 C3		
Gross Anatomy	M1-GIT-A-0059	Gallbladder and Biliary apparatus	<ul style="list-style-type: none"> • Describe location & size of gall bladder 	Should know	C2	Skill lab	SAQ MCQ VIVA OSPE/OSCE
			<ul style="list-style-type: none"> • Enumerate relations of gallbladder. 	Should know	C1		
			<ul style="list-style-type: none"> • Describe clinical conditions related to gallbladder 	Must know	C2		
			<ul style="list-style-type: none"> • Enlist different components of Extra-hepatic biliary System 	Should know	C1		
			<ul style="list-style-type: none"> • Discuss the right & left hepatic ducts, common hepatic duct, cystic ducts, bile duct 	Should know	C2		
			<ul style="list-style-type: none"> • Explain differences between Intra & Extra Hepatic Biliary Systems. 	Should know	C2		
			<ul style="list-style-type: none"> • Discuss clinicals related with biliary apparatus 	Must know	C2		
			<ul style="list-style-type: none"> • Discuss accessory hepatic ducts • Map outline of gallbladder & Bile duct on simulated patient /model 	Should know Must know	C2 P+A		

			<ul style="list-style-type: none"> • 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 	Must know Nice to know Nice to know Nice to know	C3 C3 C3 C3		
M1-GIT-A-0060	Spleen		<ul style="list-style-type: none"> • Discuss anatomical location and features of spleen with its blood supply, and lymphatic drainage 	Should know	C2	Skill lab	SAQ MCQ VIVA OSPE
			<ul style="list-style-type: none"> • 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 	Must know Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3 C3		
M1-GIT-A-0061	Pancreas		<ul style="list-style-type: none"> • Recall location, shape, dimensions and extent of pancreas 	Should know	C2	Skill lab	SAQ MCQ VIVA OSPE/OSCE
			<ul style="list-style-type: none"> • Discuss parts, ducts and relations of pancreas 	Should know	C2		
			<ul style="list-style-type: none"> • Describe arterial supply of pancreas 	Should know	C2		
			<ul style="list-style-type: none"> • 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 	Must know Must know Must know Nice to know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3		
M1-GIT-A-0062	Vasculature of GIT		<ul style="list-style-type: none"> • Describe the position and the vertebral levels of aorta in the abdomen. 	Should know	C2	Skill lab	SAQ MCQ VIVA OSPE/OSCE
			<ul style="list-style-type: none"> • Enlist the main branches of the aorta and its territories. 	Should know	C1		
			<ul style="list-style-type: none"> • Explain the applied anatomy of the aorta 	Should know	C1		
			<ul style="list-style-type: none"> • 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 	Should know Must know Must know Nice to know Nice to know	C2 P+A C3 C3 C3		

			<ul style="list-style-type: none"> • Understand curative and preventive health care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care 	<p>Nice to know Nice to know Nice to know</p>	<p>C3 C3 C3</p>		
	M1-GIT-A-0063	Large Intestine & Appendix	<ul style="list-style-type: none"> • Enlist various parts of large intestine • Demonstrate gross anatomical features of different parts of large intestine • Enlist intra and retroperitoneal parts of large intestine • Discuss gross features of caecum • Describe gross anatomy of appendix • Enlist different anatomical positions of vermiform appendix. • Mark McBurney's point • Demonstrate McBurney's incision • Discuss common features, differential diagnosis of acute appendicitis and appendicectomy • Map outline of Transverse and descending colon on simulator 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 	<p>Should know Should know Should know Should know Should know Must know Must know Must know Must know Must know Must know Nice to know Nice to know Nice to know Nice to know</p>	<p>C1 C2 C1 C2 C2 C1 P P C3 P+A C3 C3 C3 C3 C3</p>	Skill lab	SAQ MCQ VIVA OSPE
Anatomy (SDL)	M1-GIT-A-0049	Liver Biopsy, Liver Abscess and hepatitis	<ul style="list-style-type: none"> • Describe formation of hepatic diverticulum • Describe histogenesis of liver during intrauterine life • Describe formation of various ligaments of liver. • Discuss congenital abnormalities of liver • Differentiate between exocrine and endocrine pancreas. • Discuss the cellular structure and function of exocrine pancreatic acinus and ducts. 	<ul style="list-style-type: none"> ❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 267-268, 272-278, 282,323, 395). ❖ https://www.kenhub.com/en/library/anatomy/the-digestive-system 			
	M1-GIT-A-0050	Applied Anatomy of Vasculature of GIT (Blood	<ul style="list-style-type: none"> • Explain the applied anatomy of the aorta • Explain origin, course, branches and distribution of celiac trunk • Discuss formation, course and parts of portal vein 	<ul style="list-style-type: none"> ❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 228-233, 249-250, 263-285). ❖ http://www.anatomyzone.com 3D anatomy 			

		Supply, Venous drainage, Lymphatic drainage)	<ul style="list-style-type: none"> Enumerate relations and tributaries of portal vein Define portal hypertension Discuss Major Lymphatic Channels 				
Anatomy (SKL)	M1-GIT-A-0057	Small Intestine	<ul style="list-style-type: none"> Focus & Identify slide of small intestine under microscope 	Should Know	P	Skill lab	OSPE/OSCE
			<ul style="list-style-type: none"> Illustrate histological structure of small intestine 	Must Know	C2		
			<ul style="list-style-type: none"> Write two points of identification 	Must Know	C1		
Physiology (LGIS)	M1-GIT-P-0012	Physiology of pancreas Pancreatic secretions	<ul style="list-style-type: none"> Describe mechanism of secretion of bicarbonate ions 	Must know	C1	LGIS	MCQs, SAQs Viva
			<ul style="list-style-type: none"> Describe the regulation and phases of pancreatic secretion. 	Must know	C1		
			<ul style="list-style-type: none"> breakdown composition of pancreatic secretions 	Should know	C4		
	M1-GIT-P-0013	Motor functions of large Gut	<ul style="list-style-type: none"> Defecation reflex 	Must know	C1	LGIS	MCQs, SAQs Viva
<ul style="list-style-type: none"> Pathophysiology of diarrhea, constipation & ulcerative colitis 			Must know	C2			
Physiology (SGD)	M1-GIT-P-0025	LFTs and jaundice	<ul style="list-style-type: none"> Enlist liver functions test 	Should know	C1	SGD	MCQs,
			<ul style="list-style-type: none"> Describe liver function tests 	Nice to know	C1		
			<ul style="list-style-type: none"> Discuss in detail pathophysiology of jaundice 	Must know	C2		
Physiology (SDL)	M1-GIT-P-0026	LFTs and jaundice	<ul style="list-style-type: none"> Enlist liver functions test Describe liver function tests Discuss in detail pathophysiology of jaundice 	<ul style="list-style-type: none"> Ganong's Review of Medical Physiology. 25TH Edition, Gastrointestinal motility. (Chapter 27, Page 495) 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) 			
Physiology (SKL)	M1-GIT-P-0027	Examination of superficial reflexes	<ul style="list-style-type: none"> Apparatus identification 	Must Know	C1	Skill lab	OSPE
			<ul style="list-style-type: none"> Principle 	Must Know	C1		
			<ul style="list-style-type: none"> Procedure 	Must Know	A, P		
			<ul style="list-style-type: none"> Precautions 	Should Know	P		
			<ul style="list-style-type: none"> Recall reflex arc 	Should Know	C1		
			<ul style="list-style-type: none"> Recall effects of UMNL & LMNL on reflexes 	Should Know	C1		
Biochemistry (LGIS)	M1-GIT-B-013	Nutrition -I	<ul style="list-style-type: none"> Describe nutrition 	Must Know	C2	LGIS	MCQs, SAQs Viva
			<ul style="list-style-type: none"> Discuss various food classes 	Must Know	C2		
	M1-GIT-B-014	GIT hormones and succusertericus	<ul style="list-style-type: none"> Explain the GIT hormones and their functions 	Must Know	C2	LGIS	MCQs, SAQs Viva
			<ul style="list-style-type: none"> Describe the secretions of succusertericus and enlist their functions 	Must Know	C2		

Biochemistry (SGD)	M1-GIT-B-0034	LFTs and Jaundice	• Describe types of jaundice	Should Know	C2	SGD	MCQs,
			• Understand and interpret LFTs	Should Know	C2		
			• How will you defend diagnosis of patients of prehepatic, hepatic and post hepatic jaundice	Should Know	C5		
Biochemistry (SDL)	M1-GIT-B-0043	Individual sugars	• Discuss individual sugars and their significance	❖ Reference Book: Lippincott's Illustrated reviews of Biochemistry 8th Edition Chapter#7,8 Page 92-119.			
	M1-GIT-B-0044	Clinical aspects of digestive juices	• Discuss clinical aspects of digestive juices				
Biochemistry (SKL)	M1-GIT-B-0055	Estimation of ALT & ALP	• Perform estimation of ALT	Must Know	P	Skill Lab	OSPE
			• Perform estimation of ALP	Must Know	P		
Surgery	M1-GIT-VI(S)-002	Gall Stones	• Identify the causes, types, and risk factors of gallstones.	C1		LGIS	MCQs
			• Understand the clinical presentation, diagnostic methods, and complications associated with gallstones.	C2			
			• Describe the management options, including medical and surgical interventions, for patients with gallstones.	C2			

Spiral Courses (4th Week)

Behavioral Sciences

Code	Topic	At the End of Lecture Students Should Be Able To	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(BS)-002	Learning	<ul style="list-style-type: none"> • To define Learning. • To describe the types of Learning i.e Classical and Operant conditioning. • To relate the concept of different types of learning in everyday practice, disease causation and psychotherapy 	C1 C2 C3	LGIS	MCQs

Integrated Undergraduate Research Curriculum (IUGRC)

Code	Topic	Learning Objectives	Cognitive Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(IUGRC) -003	Scales of Data Measurement	<ul style="list-style-type: none"> • Define a scale of measurement • Classify data according to their scale of measurement • Distinguish between discrete and continuous variable 	C1 C3 C2	LGIS	MCQs
M1-GIT-SI(IUGRC) -004	Measures of central tendency	<ul style="list-style-type: none"> • Explain concept of Measures of central tendency with illustrations form medical background • Compute and Interpret results of different measures of central tendency form a given data file • Explain concept of Measures of dispersion with illustrations form medical background • Compute and Interpret results of different measures of dispersion from a given data file 	C2 C3 C1 C3	LGIS	MCQs

Family Medicine

Code	Topic	Learning Objectives	Cognitive Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(IUGRC) -003	Approch To A Patient with Hepatobiliary Disorders	•Outline a systematic clinical approach to a patient with hepatobiliary disorders, including focused history, physical examination, and appropriate interpretation of liver function tests and imaging.	C1	LGIS	MCQs
M1-GIT-SI(IUGRC) -004		•Differentiate hepatocellular, cholestatic, and obstructive patterns of liver disease to formulate a provisional diagnosis and plan further management.	C2		

Pak Studies

Code	Topic	Learning Objectives <i>At the end of the lecture the student should be able to</i>	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(PKS)-004	Establishment of an Islamic state	<ul style="list-style-type: none"> Understand the concept of an Islamic state, focusing on its foundational principles based on Islamic teachings, governance, and law. 	C2	LGIS	SAQ

Islamiyat

Code	Topic	Learning Objectives <i>At the end of the lecture the student should be able to</i>	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(ISL)-003	Risalat Related Quranic Verses & Their Explanation	<ul style="list-style-type: none"> Understand the concept of Risalat in Islam, focusing on the role and responsibilities of the Prophets as conveyed in the Quran. 	C2	LGIS	SAQ
		<ul style="list-style-type: none"> Identify key Quranic verses related to Risalat and explain their meanings, emphasizing the messages delivered by the Prophets. 	C2	LGIS	SAQ

Transdisciplinary (Hardens Level 11) **Clinico-Concept Connect (C³6) Sessions** for 4th Week

Session	Topic	Department	Educational Relevance	At the End of The Demonstration Student Should Be Able To	Learning Domain	Assessment Tool
\Clinico-Concept Connect (C ³ 6) Sessions -IV	Jaundice & Hepatobiliary Disorders	Anatomy	Knowledge of liver, gallbladder, and biliary tree anatomy helps localize sites of obstruction causing jaundice.	<ul style="list-style-type: none"> Describe liver, gallbladder and biliary tree anatomy. Identify common sites of obstruction. 	C2	MCQ
		Physiology	Understanding bile formation and enterohepatic circulation explains mechanisms of cholestasis.	<ul style="list-style-type: none"> Explain bile formation and enterohepatic circulation. 	C2	MCQ
		Biochemistry	Bilirubin metabolism clarifies the basis of conjugated and unconjugated hyperbilirubinemia.	<ul style="list-style-type: none"> Describe bilirubin conjugation and excretion pathways 	C4	MCQ
		Pathology	Differentiating hepatocellular and obstructive injury patterns guides diagnosis and management.	<ul style="list-style-type: none"> Differentiate hepatocellular vs obstructive patterns of injury. 	C2	MCQ
		Pharmacology	Overview of drugs for hepatitis and cholestasis supports rational therapeutic decisions.	<ul style="list-style-type: none"> Outline drugs used in hepatitis and cholestasis (overview). 	C2	MCQ
		Medicine	Interpreting LFT patterns enables early recognition of severe jaundice and urgent complications.	<ul style="list-style-type: none"> Interpret LFT patterns in jaundice. 	C5	MCQ
				<ul style="list-style-type: none"> Recognize red flags requiring urgent care. 	C5	MCQ
		Community Medicine	Addressing hepatitis burden in Pakistan emphasizes vaccination and harm-reduction strategies.	<ul style="list-style-type: none"> Discuss hepatitis burden in Pakistan. 	C5	MCQ
<ul style="list-style-type: none"> Promote vaccination and harm-reduction strategies. 	C6			MCQ		

Theme 5: Acute Abdomen & Large Intestinal Disorders (5th Week)

Theme	Rationale	Learning objectives
Acute Abdomen & Large Intestinal Disorders	Acute abdominal pain is a medical and surgical emergency requiring rapid assessment and decision-making. This theme integrates anatomy of the large intestine and peritoneum, physiology of colonic motility and absorption, and biochemical aspects of fluid and electrolyte balance with clinical entities such as appendicitis, intestinal obstruction, inflammatory and ischemic colonic disorders, emphasizing clinical reasoning and early recognition.	At the completion of this theme, students should be able to: <ol style="list-style-type: none"> 1. Describe the anatomy and surface anatomy of the large intestine and peritoneal cavity. 2. Explain the physiological functions of the colon, including water and electrolyte absorption. 3. Discuss the biochemical basis of fluid, electrolyte, and acid–base disturbances in acute abdominal conditions. 4. Correlate anatomical and physiological derangements with clinical features of acute abdomen. 5. Understand the principles of initial evaluation, including clinical examination and basic investigations. 6. Appreciate the integration of medical and surgical perspectives in managing acute gastrointestinal emergencies.

CASE 5: Acute Abdomen & Large Intestinal Disorders

Presenting complaints:

Severe abdominal pain and vomiting for 12 hours

History of Present Illness:

A 22-year-old male presented to emergency with severe pain starting around the umbilicus and later shifting to the right lower abdomen. Pain was associated with nausea and vomiting. He also complained of low-grade fever and loss of appetite.

Past Medical History:

No known illness.

Family History:

Non-contributory.

Social History:

University student; hostel resident.

Drug History:

No drug intake.

Examination:

GPE:

Young male in pain, conscious and oriented.

Pulse: 100/min BP: 110/70 mmHg

Temp: 99.5°F R/R: 20/min



Abdominal Examination:

Tenderness and guarding in right iliac fossa; rebound tenderness present.

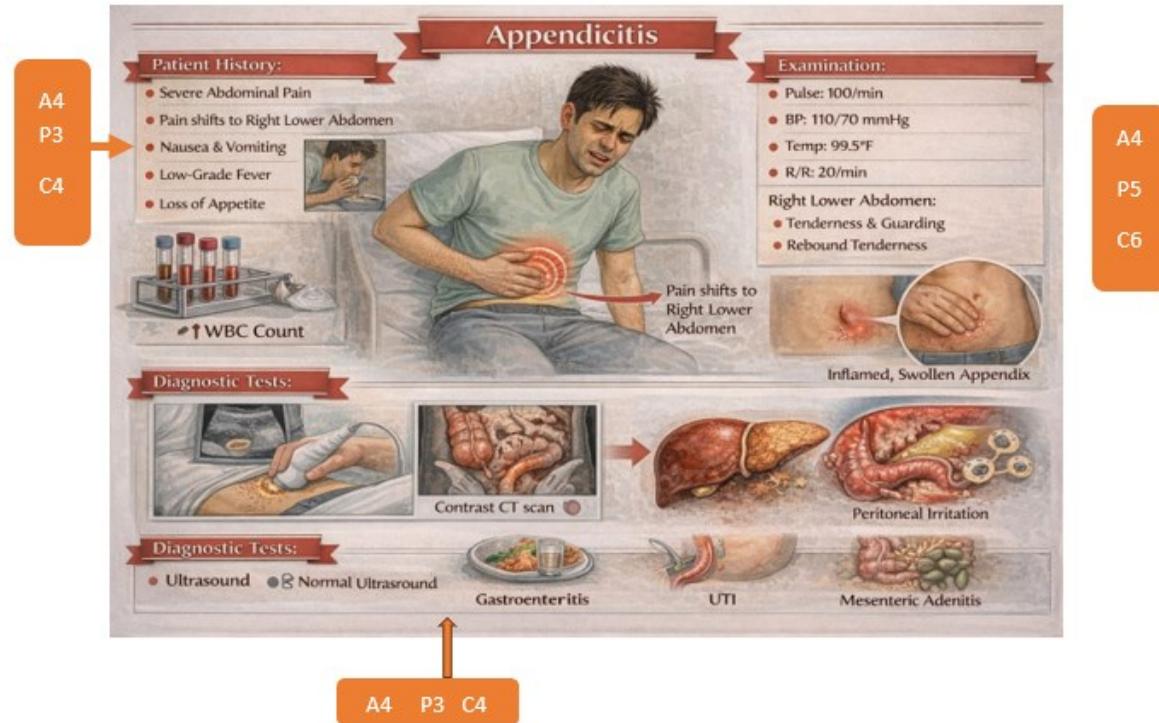
Other Systems:

CVS, Respiratory and CNS: Normal.

Justification:

This case of acute abdominal pain with features suggestive of acute appendicitis justifies Harden Level 11 (interdisciplinary integration) because it requires learners to apply knowledge from multiple disciplines in a real clinical context rather than in isolation. The presentation—peri-umbilical pain migrating to the right iliac fossa, nausea, vomiting, low-grade fever, and localized tenderness with rebound—necessitates integration of anatomy (appendix, peritoneum, and gastrointestinal tract), physiology (inflammatory response, pain pathways, gastrointestinal motility), pathology (appendiceal inflammation, possible perforation), microbiology (bacterial involvement in infection), pharmacology (analgesics, antibiotics), and clinical medicine/surgery (diagnosis, surgical management, and perioperative care). Additionally, public health and patient counseling are incorporated through early recognition of warning signs and timely referral. By requiring students to synthesize these disciplines for clinical reasoning, decision-making, and holistic patient management in a time-sensitive scenario, this case exemplifies authentic interdisciplinary learning consistent with Harden Level 11.

**Harden Level 11
Transdisciplinary**



Clinico-concept connect (C³6) Sessions

Specific Learning Objectives

Subject	Code	Topic	At the end of practical students should be able to	Calgary Gauges	Learning Domain	Teaching Strategy	Assessment Tool	
Anatomy Embryology	M1-GIT-A-0058	Development of Body cavities I & II	• Enumerate different body cavities	Should Know	C1	LGIS	SAQ MCQ VIVA OSPE	
			• Describe division of embryonic body cavity	Should Know	C2			
			• Discuss formation and significance of pleuropericardial membranes and pleuroperitoneal membranes	Should Know	C2			
			• Describe muscular ingrowth from Lateral body walls	Should Know	C2			
			• Correlate with the clinical conditions	Must Know	C3			
			• Understand curative and preventive health care measures	Nice to know	C3			
			• Practice the principles of bioethetics	Nice to know	C3			
			• Apply strategic use of A.I in health care measures.	Nice to know	C3			
Anatomy Histology	M1-GIT-A-0059	Large Intestine II (Histological features of different parts)	• Describe histological features of appendix, caecum, rectum and anal canal	Should know	C2	LGIS	SAQ MCQ VIVA OSPE	
			• Discuss clinical conditions (Colorectal cancer)	Must know	C3			
			• Correlate with the clinical conditions	Must know	C3			
			• Understand curative and preventive health care measures.	Nice to know	C3			
			• Practice the principles of bioethetics	Nice to know	C3			
			• Apply strategic use of A.I in health care	Nice to know	C3			
Gross Anatomy	M1-GIT-A-0060	Nerve supply and Lymphatic drainage of GIT	• Discus enteric nervous system with formation of plexuses and its parasympathetic role	Should know	C2	Skill lab	SAQ MCQ VIVA OSPE	
			• Enlist the types of lymph nodes draining the abdomen	Should know	C1			
			• Describe lymphatic drainage of GIT with special reference to lymphatic trunks, cisterna chyli & the thoracic duct	Should know	C2			
			• Correlate with the clinical conditions	Must know	C3			
			• Understand curative and preventive health care measures.	Nice to know	C3			
			• Practice the principles of bioethetics	Nice to know	C3			
	• Apply strategic use of A.I in health care	Nice to know	C3					
	M1-GIT-A-0061	Cross Sectional Anatomy		• Identify different viscera located at different levels of vertebral column; T10, T11, T12, L1, L2	Should know	C1	Skill lab	SAQ MCQ VIVA OSPE
				• Correlate with the clinical conditions	Must Know	C3		
				• Understand curative and preventive health care measures.	Nice to know	C3		
				Nice to know	C3			

			<ul style="list-style-type: none"> Practice the principles of bioethetics Apply strategic use of A.I in health care 	Nice to know Nice to know	C3 C3		
M1-GIT-A-0062	Rectum	<ul style="list-style-type: none"> Discuss the location and extent of rectum 	Should know	C2	Skill lab	SCQ MCQ VIVA OSPE	
		<ul style="list-style-type: none"> Describe the internal and external features of rectum 	Should know	C2			
		<ul style="list-style-type: none"> Discuss peritoneal reflections rectouterine, rectovesical fossae and their clinical significance 	Should know	C2			
		<ul style="list-style-type: none"> Enumerate relations of rectum 	Should know	C1			
		<ul style="list-style-type: none"> Discuss blood supply, nerve supply, venous and lymphatic drainage 	Should know	C1			
		<ul style="list-style-type: none"> Describe the basis and features of rectal prolapsed 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 	Must know Nice to know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3 C3			
M1-GIT-A-0063	Anal canal	<ul style="list-style-type: none"> Discuss location and extent of anal canal 	Should know	C2	Skill lab	SAQ MCQ VIVA OSPE	
		<ul style="list-style-type: none"> Describe external and internal features of Anal Canal 	Should know	C2			
		<ul style="list-style-type: none"> Discuss features of anal sphincters 	Should know	C2			
		<ul style="list-style-type: none"> Tabulate relations of the anal canal with the surrounding structures 	Should know	C2			
		<ul style="list-style-type: none"> Describe the Blood supply, venous and lymphatic drainage & innervations of anal canal 	Should know	C2			
		<ul style="list-style-type: none"> Discuss anal continence 	Should know	C2			
		<ul style="list-style-type: none"> Differentiate between internal and external haemorrhoids 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 	Must know Must know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3			
M1-GIT-A-0064	Radiological Anatomy	<ul style="list-style-type: none"> Identify structures on a normal X-ray abdomen 	Should know	C2	Skill lab	OSPE	
		<ul style="list-style-type: none"> Appreciate Air fluid shadows. 	Should know	C2			
		<ul style="list-style-type: none"> Mark anatomical landmarks. 	Should know	C2			
		<ul style="list-style-type: none"> Correlate the clinical conditions 	Should know	C3			
		<ul style="list-style-type: none"> Understand the preventive and curative health care 	Nice to know Nice to know	C3 C3			

			measures <ul style="list-style-type: none"> Practice the principles of Bioethics Apply Strategic use of AI in health care 	Nice to know Nice to know	C3 C3		
Anatomy (SDL)	M1-GIT-A-0065	Hemorrhoids & Anal Fissure	<ul style="list-style-type: none"> Discuss the location and extent of rectum Describe the internal and external features of rectum Discuss peritoneal reflections rectouterine, rectovesical fossae and their clinical significance Enumerate relations of rectum Discuss blood supply, nerve supply, venous and lymphatic drainage Describe the basis and features of rectal prolapsed Discuss location and extent of anal canal Describe external and internal features of Anal Canal Discuss features of anal sphincters Tabulate relations of the anal canal with the surrounding structures Describe the Blood supply, venous and lymphatic drainage & innervations of anal canal Discuss anal continence Differentiate between internal and external hemorrhoids 	<ul style="list-style-type: none"> Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 239, 248,253 368-371,436,438). http://www.anatomyzone.com 3D anatomy 			
	M1-GIT-A-0066	Applied Anatomy of Innervation of Abdominal Viscera's	<ul style="list-style-type: none"> Discuss cutaneous & Somatic innervation of GIT Describe Autonomic innervation of GIT 	<ul style="list-style-type: none"> Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 301-305). http://www.anatomyzone.com 3D anatomy 			
Anatomy (SKL)	M1-GIT-A-0058	Large Intestine	<ul style="list-style-type: none"> Focus & Identify slide of Large Intestine under microscope 	Should Know	P	Skill lab	OSPE/OSCE
			<ul style="list-style-type: none"> Illustrate histological structure of large intestine 	Must Know	C2		
			<ul style="list-style-type: none"> Write two points of identification 	Must Know	C1		
Physiology (SGD)	M1-GIT-P-0028	Acute Abdomen & Large Intestinal Disorders	<ul style="list-style-type: none"> Define acute abdomen & identify its common cause Identify its common large gut disorders 	Must Know	C1	SGD	MCQs
	M1-GIT-P-0025	Acute Abdomen & Large Intestinal Disorders	<ul style="list-style-type: none"> Define acute abdomen & identify its common cause Identify its common large gut disorders 	<ul style="list-style-type: none"> 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)			
Physiology (SKL)	M1-GIT-P-0029	Examination of deep reflexes	• Principle	Must know	C1	Skill lab	OSPE
			• Procedure	Must know	A, P		
			• Precautions	Should know	P		
			• Recall reflex arc	Should Know	C1		
			• Recall effects of UMNL & LMNL on reflexes	Should Know	C1		
Biochemistry (LGIS)	M1-GIT-B-015	Digestion and absorption-I	• Understand the digestion and absorption of carbohydrates	Should Know	C2	LGIS	MCQs, SAQs Viva
			• Discuss glucose entry into the cells	Should Know	C2		
	M1-GIT-B-016	Digestion and absorption-II	• Describe the digestion and absorption of proteins and lipids	Should Know	C2	LGIS	MCQs, SAQs Viva
			• Discuss clinical disorders related to digestion & absorption	Should Know	C2		
	M1-GIT-B-017	Nutrition-II	• Discuss BMR and BMI and their calculations	Should Know	C2	LGIS	MCQs, SAQs Viva
	M1-GIT-B-018	Nutrition-III	• Discuss clinical disorders related to nutrition	Should Know	C2	LGIS	MCQs, SAQs SEQs Viva
			• Create a video on protein calorie malnutrition in children	Should Know	C6		
	Biochemistry (SGD)	M1-GIT-B-0035	Lactose intolerance	• Discuss lactose intolerance and dietary modifications required during its treatment	Should Know	C2	SGD	MCQs
Biochemistry (SDL)	M1-GIT-B-0045	Lipid digestion and absorption	• Discuss digestion and absorption of lipids	❖ Reference Book: Lippincott's Illustrated reviews of Biochemistry 8th Edition Chapter#15, Page 191-200.			
	M1-GIT-B-0046	Clinical disorders related to digestion and absorption	• Understand the clinical disorders related to digestion and absorption	❖ Reference Book: Lippincott's Illustrated reviews of Biochemistry 8th Edition Chapter#15, Page 191-200.			
Biochemistry (SKL)	M1-GIT-B-0056	Analysis of Food Component (Wheat)	• Analyze the different constituents of wheat	Must Know	P	SKL	OSPE
Medicine	M1-GIT-VI(M)-003	Inflammatory Bowel Diseases	• 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			

Pharmacology	M1-GIT-VI(Pharm)-001	Anti Diarrheal Drugs	<ul style="list-style-type: none"> Classify the antidiarrheal drugs 	C1	LGIS	MCQs
			<ul style="list-style-type: none"> Describe the mechanism of action and clinical uses of antidiarrheal drugs 	C2		
			<ul style="list-style-type: none"> Describe the adverse effects and contraindications of these drugs 	C2		
Pathology	M1-GIT-VI(Path)-001	Pathologies of Intestine	<ul style="list-style-type: none"> Understand the normal structure and function of the intestine, and how these are altered in disease states. 	C1	LGIS	MCQs
			<ul style="list-style-type: none"> Explain the pathophysiology of common intestinal disorders, including infections, inflammations, and neoplasms. 	C2		
			<ul style="list-style-type: none"> Identify the clinical features and diagnostic approaches for inflammatory bowel diseases, intestinal infections, and tumors. 	C2		
Surgery	M1-GIT-VI(S)-002	Acute Abdomen	<ul style="list-style-type: none"> Identify the clinical features of acute abdomen, including its presentation, common causes, and potential complications. 	C1	LGIS	MCQs
			<ul style="list-style-type: none"> Describe the role of laboratory investigations, imaging studies (such as ultrasound and CT scan) 	C2		
			<ul style="list-style-type: none"> Describe the general principles of management of acute abdomen 	C2		

Spiral Courses (5th Week)

Behavioral Sciences

Code	Topic	At the End of Lecture Students Should Be Able To	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(BS)-003	Memory	<ul style="list-style-type: none"> • To define the types of memory. • To explain the areas in brain responsible for memory storage and Retrieval. • To describe ways to improve memory 	C2 C2 C3	LGIS	MCQs

Undergraduate Research Curriculum (IUGRC)

Code	Topic	Learning Objectives	Cognitive Domain	Teaching Strategy	Assessment Tool
M1-GIT-SI(IUGRC) -005	Geriatrics	<ul style="list-style-type: none"> • Differentiate between geriatrics and gerontology • Explain the public health importance of geriatrics • Enlist common health and other problems related to old age • Recommend preventive, rehabilitative measures for older age health problems • Appreciate the role of health physicians in giving health advise to elderly 	C2 C2 C1 C2 C1	LGIS	MCQs

Transdisciplinary (Hardens Level 11) **Clinico-Concept Connect (C³6)** Sessions for 5th Week

Session	Topic	Department	Educational Relevance	At the End of The Demonstration Student Should Be Able To	Learning Domain	Assessment Tool
\Clinico-Concept Connect (C ³ 6) Sessions -V	Acute Abdomen & Large Intestinal Disorders	Anatomy	Understanding appendix location and McBurney's point explains pain migration and aids early diagnosis of appendicitis.	<ul style="list-style-type: none"> Describe appendix location and peritoneal relations. 	C2	MCQ
				<ul style="list-style-type: none"> Explain McBurney's point and pain migration. 	C2	MCQ
		Physiology	Knowledge of colonic motility and fluid absorption clarifies symptoms like pain and altered bowel habits.	<ul style="list-style-type: none"> Discuss colonic motility and fluid absorption. 	C2	MCQ
		Pathology	Acute inflammation and risk of perforation explain complications of appendicitis.	<ul style="list-style-type: none"> Describe acute inflammation and complications (perforation). 	C3	MCQ
		Pharmacology	Appropriate antibiotics and cautious analgesic use improve outcomes in acute appendicitis.	<ul style="list-style-type: none"> Identify antibiotics used in acute appendicitis. 	C2	MCQ
				<ul style="list-style-type: none"> Discuss analgesic use in acute abdomen. 	C3	MCQ
		Surgery	Principles of emergency appendectomy highlight timely intervention to prevent morbidity.	<ul style="list-style-type: none"> Outline appendectomy and emergency surgical principles. 	C6	MCQ
		Community Medicine	Early hospital presentation and reducing access barriers lower complications and mortality from acute appendicitis.	<ul style="list-style-type: none"> Discuss importance of early hospital presentation. 	C5	MCQ
<ul style="list-style-type: none"> Address barriers in emergency healthcare access. 	C6			MCQ		

Anatomy LGIS Syllabus of Learning Management System (LMS)

Code	Topic	Learning Objectives At the end of lecture students should be able to	Calgary Gauge	Learning Domain	References
Embryology					
M1-GIT-A-0059	Development of Tongue	• Describe the development of pharyngeal apparatus	Should Know	C2	<ul style="list-style-type: none"> • Embryology: - KLM Embryology Developing Human 11th Edition • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024
		• Enlist the sources for development of different parts of tongue.	Should Know	C1	
		• Explain the development of tongue along with its nerve supply.	Should Know	C2	
		• Describe the congenital anomalies associated with tongue	Must Know	C2	
		• Describe the developmental basis of physiological and biochemical mechanisms involved in perception and transmission of taste sensation	Should Know	C2	
		• Correlate with the clinical conditions	Must Know	C3	
		• Understand curative and preventive health care measures	Nice to know	C3	
		• Practice the principles of bioethetics	Nice to know	C3	
		• Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library	Nice to know	C3 C3 C3	
M1-GIT-A-0060	Development of Body cavities I & II	• Enumerate different body cavities	Should Know	C1	<ul style="list-style-type: none"> • Embryology: - KLM Embryology Developing Human 11th Edition • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024
		• Describe division of embryonic body cavity	Should Know	C2	
		• Discuss formation and significance of pleuropericardial membranes and pleuroperitoneal membranes	Should Know	C2	
		• Describe muscular ingrowth from Lateral body walls	Should Know	C2	
		• Correlate with the clinical conditions	Must Know	C3	
		• Understand curative and preventive health care measures	Nice to know	C3	
		• Practice the principles of bioethetics	Nice to know	C3	
		• Apply strategic use of A.I in health care measures. • Read relevant research articles. • Use HEC digital library	Nice to know	C3 C3 C3	
		M1-GIT-A-0061	Development of Salivary glands	• Explain different stages of development of salivary glands		Should Know	C2	• Embryology:- KLM Embryology Developing Human 11^{th} Edition
• Enlist the source for development of different type of salivary gland	Should Know			C1	
• Explain development of its nerve supply	Should Know			C2	

		<ul style="list-style-type: none"> Describe the congenital anomalies associated with salivary glands 	Should Know	C2	<ul style="list-style-type: none"> USMLE Q Bank Step 1 (Volume 1) 2023-2034 UWORLD Step 1 (Volume 3) 2023-2024 Embryology: - KLM Embryology Developing Human 11th Edition USMLE Q Bank Step 1 (Volume 1) 2023-2034
		<ul style="list-style-type: none"> Correlate with the clinical conditions 	Must Know	C3	
		<ul style="list-style-type: none"> Understand curative and preventive health care measures 	Nice to know	C3	
		<ul style="list-style-type: none"> Practice the principles of bioethetics 		C3	
		<ul style="list-style-type: none"> Apply strategic use of A.I in health care Read relevant research articles Use of HEC digital library 		C3	
M1-GIT-A-0062	Development of Esophagus	<ul style="list-style-type: none"> Discuss the formation of tracheoesophageal septum and its importance 	Should Know	C2	<ul style="list-style-type: none"> Embryology: - KLM Embryology Developing Human 11th Edition USMLE Q Bank Step 1 (Volume 1) 2023-2034 UWORLD Step 1 (Volume 3) 2023-2024
		<ul style="list-style-type: none"> Describe salient features of esophageal development 	Should Know	C2	
		<ul style="list-style-type: none"> Describe congenital anomalies of esophagus 	Should Know	C2	
		<ul style="list-style-type: none"> Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of swallowing 	Should Know	C2	
		<ul style="list-style-type: none"> Correlate with the clinical conditions 	Must Know	C3	
		<ul style="list-style-type: none"> Understand curative and preventive health care measures 	Nice to know	C3	
		<ul style="list-style-type: none"> Practice the principles of bioethetics 	Nice to know	C3	
		<ul style="list-style-type: none"> Apply strategic use of A.I in health care Read relevant research articles Use of HEC digital library 	Nice to know	C3	
M1-GIT-A-0063	Development of Stomach	<ul style="list-style-type: none"> Explain the development of stomach 	Should Know	C2	<ul style="list-style-type: none"> Embryology:- KLM Embryology Developing Human 11th Edition USMLE Q Bank Step 1 (Volume 1) 2023-2034 UWORLD Step 1 (Volume 3) 2023-2024
		<ul style="list-style-type: none"> Discuss rotations and positional shifts of stomach & their effect on nerve supply and peritoneal attachments 	Should Know	C2	
		<ul style="list-style-type: none"> Explain formation of omental bursa. 	Should Know	C2	
		<ul style="list-style-type: none"> Describe congenital anomalies of stomach 	Should Know	C2	
		<ul style="list-style-type: none"> Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of digestion in the stomach 	Should Know	C2	
		<ul style="list-style-type: none"> Discuss pernicious anemia 		C2	
		<ul style="list-style-type: none"> Correlate with the clinical conditions 	Must Know	C3	
		<ul style="list-style-type: none"> Understand curative and preventive health care measures 	Nice to know	C3	
		<ul style="list-style-type: none"> Practice the principles of bioethetics 	Nice to know	C3	

		<ul style="list-style-type: none"> • Apply strategic use of A.I in health care 	Nice to know	C3	
		<ul style="list-style-type: none"> • Read relevant research articles 	Nice to know	C3	
		<ul style="list-style-type: none"> • Use of HEC digital library 	Nice to know	C3	
M1-GIT-A-0064	Development of Liver	<ul style="list-style-type: none"> • Describe formation of hepatic diverticulum 	Should Know	C2	<ul style="list-style-type: none"> • Embryology: - KLM Embryology Developing Human 11th Edition • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024
		<ul style="list-style-type: none"> • Describe histogenesis of liver during intrauterine life 	Should Know	C2	
		<ul style="list-style-type: none"> • Describe formation of various ligaments of liver. 	Should Know	C2	
		<ul style="list-style-type: none"> • Discuss congenital abnormalities of liver 	Should Know	C3	
		<ul style="list-style-type: none"> • Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of detoxification in the liver 	Should Know	C2	
		<ul style="list-style-type: none"> • Correlate with the clinical conditions 	Must Know	C3	
		<ul style="list-style-type: none"> • Understand curative and preventive health care measures 	Nice to know	C3	
		<ul style="list-style-type: none"> • Practice the principles of bioethetics 	Nice to know	C3	
		<ul style="list-style-type: none"> • Apply strategic use of A.I in health care 	Nice to know	C3	
		<ul style="list-style-type: none"> • Read relevant research articles 	Nice to know	C3	
		<ul style="list-style-type: none"> • Use of HEC digital library 	Nice to know	C3	
M1-GIT-A-0065	Gall bladder, pancreas and Biliary apparatus	<ul style="list-style-type: none"> • Discuss development of Gall bladder 	Should Know	C2	<ul style="list-style-type: none"> • Embryology: - KLM Embryology Developing Human 11th Edition • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024
		<ul style="list-style-type: none"> • Describe /congenital anomalies of gall bladder 	Should Know	C2	
		<ul style="list-style-type: none"> • Discuss development and congenital anomalies of pancreas 	Should Know	C2	
		<ul style="list-style-type: none"> • Describe development of extrahepatic biliary apparatus and its parts with abnormalities 	Should Know	C2	
		<ul style="list-style-type: none"> • Describe the developmental basis for the physiological and biochemical mechanisms involved in the process of production of bile and pancreatic vsecretions 	Should Know	C2	
		<ul style="list-style-type: none"> • Correlate with the clinical conditions 	Must Know	C3	
		<ul style="list-style-type: none"> • Understand curative and preventive health care measures 	Nice to know	C3	
		<ul style="list-style-type: none"> • Practice the principles of bioethetics 	Nice to know	C3	
		<ul style="list-style-type: none"> • Apply strategic use of A.I in health care 	Nice to know	C3	
		<ul style="list-style-type: none"> • Read relevant research articles 	Nice to know	C3	
		<ul style="list-style-type: none"> • Use of HEC digital library 	Nice to know	C3	
	Development	<ul style="list-style-type: none"> • Describe development of mid gut, midgut loop and rotation of midgut loop. 	Should Know	C2	<ul style="list-style-type: none"> • Embryology:- KLM Embryology Developing Human 11th Edition • USMLE Q Bank Step 1
		<ul style="list-style-type: none"> • Explain physiological umbilical hernia and return of mid gut to abdomen. 	Should Know	C2	

M1-GIT-A-0066	of small intestine	• Describe fixation of intestines and transformations in peritoneal dispositions after mid gut loop return.	Should Know	C2	<ul style="list-style-type: none"> (Volume 1) 2023-2034 UWORLD Step 1 (Volume 3) 2023-2024
		• Describe congenital anomalies and clinical correlation of mid gut development.	Should Know	C2	
		• Correlate with the clinical conditions	Must know	C3	
		• Understand curative and preventive health care measures.	Nice to know	C3	
		• Practice the principles of bioethetics	Nice to know	C3	
• Apply strategic use of A.I in health care	Nice to know	C3			
• Read relevant research articles	Nice to know	C3			
• Use HEC digital library	Nice to know	C3			
M1-GIT-A-0067	Development of large intestine	• Enlist parts of large intestine.	Should Know	C1	<ul style="list-style-type: none"> Embryology: - KLM Embryology Developing Human 11th Edition USMLE Q Bank Step 1 (Volume 1) 2023-2034 UWORLD Step 1 (Volume 3) 2023-2024
		• Describe partitioning of cloaca and cloacal membrane.	Should Know	C2	
		• Describe development of anal canal.	Should Know	C2	
		• Describe congenital anomalies of large intestine.	Should Know	C3	
		• Correlate with the clinical conditions	Must Know	C3	
		• Understand curative and preventive health care measures.	Nice to know	C3	
		• Practice the principles of bioethetics	Nice to know	C3	
• Apply strategic use of A.I in health care	Nice to know	C3			
• Read relevant research articles	Nice to know	C3			
• Use HEC digital library	Nice to know	C3			
M1-GIT-A-0068	Tongue	• Discuss surfaces of tongue with their histological features	Should Know	C2	<ul style="list-style-type: none"> Histology: -Junqueira's Basic Histology 18th Edition USMLE Q Bank Step 1 (Volume 1) 2023-2034 UWORLD Step 1 (Volume 3) 2023-2024
		• Describe different papillae of tongue with their location & features	Should Know	C2	
		• Explain histological features of taste buds	Should Know	C2	
		• Discuss leukoplakia and oral thrush	Must Know	C2	
• Correlate with the clinical conditions	Must Know	C3			
• Understand curative and preventive health care measures.	Nice to know	C3			
• Practice the principles of bioethetics	Nice to know	C3			
• Apply strategic use of A.I in health care	Nice to know	C3			
• Read relevant research articles	Nice to know	C3			
• Use HEC digital library	Nice to know	C3			
		• Enlist major salivary glands	Should Know	C1	<ul style="list-style-type: none"> Histology: -Junqueira's Basic Histology 18th Edition

M1-GIT-A-0069	Salivary glands	• Explain histological structure of salivary glands	Should Know	C2	<ul style="list-style-type: none"> • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024
		• Discuss different cells forming parenchyma of salivary glands	Should Know	C2	
		• Discuss histology of duct system	Should Know	C2	
		• Differentiate between major salivary glands on histological basis	Should Know	C2	
		• Discuss effects of viral infections on salivary glands	Must Know	C3	
		• Correlate with the clinical conditions	Must Know	C3	
		• Understand curative and preventive health care measures.	Nice to know	C3	
M1-GIT-A-0070	General organization of GIT	• Practice the principles of bioethetics	Nice to know	C3	<ul style="list-style-type: none"> • Histology: -Junqueira's Basic Histology 18th Edition • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024
		• Apply strategic use of A.I in health care	Nice to know	C3	
		• Read relevant research articles	Nice to know	C3	
		• Use HEC digital library	Nice to know	C3	
		• Describe the developmental basis of physiological and biochemical mechanisms involved in perception and transmission of taste sensation	Should Know	C2	
		• Describe the histological characteristics of each layer with functional significance	Should Know	C2	
		• Discuss associated clinicals (megacolon, chagas disease)	Must Know	C3	
M1-GIT-A-0071	Esophagus	• Correlate with the clinical conditions	Must Know	C3	<ul style="list-style-type: none"> • Histology: -Junqueira's Basic Histology 18th Edition • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024
		• Understand curative and preventive health care measures.	Nice to know	C3	
		• Practice the principles of bioethetics	Nice to know	C3	
		• Apply strategic use of A.I in health care	Nice to know	C3	
		• Read relevant research articles	Nice to know	C3	
		• Use HEC digital library	Nice to know	C3	
		• Describe GERD	Must Know	C2	
		• Describe the histological layers of esophagus.	Should Know	C2	<ul style="list-style-type: none"> • Histology: -Junqueira's Basic Histology 18th Edition • USMLE Q Bank Step 1 (Volume 1) 2023-2034
		• Compare between various portions of esophagus histologically.	Should Know	C2	
		• Describe the histological layers of different parts of stomach	Should Know	C2	<ul style="list-style-type: none"> • Histology: -Junqueira's Basic Histology 18th Edition

M1-GIT-A-0072	Stomach	<ul style="list-style-type: none"> Describe histological differences of different parts of the gastric glands 	Should Know	C2	<ul style="list-style-type: none"> USMLE Q Bank Step 1 (Volume 1) 2023-2034 UWORLD Step 1 (Volume 3) 2023-2024
		<ul style="list-style-type: none"> Describe the structure and function of different cells of gastric glands 	Should Know	C2	
		<ul style="list-style-type: none"> Explain clinical conditions associated with stomach histologically 	Must know	C2	
		<ul style="list-style-type: none"> Discuss pernicious anemia 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 HEC digital library 	Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3	
M1-GIT-A-0073	Liver	<ul style="list-style-type: none"> Discuss in detail the histological organization of liver 	Should Know	C2	<ul style="list-style-type: none"> Histology: -Junqueira's Basic Histology 18th Edition USMLE Q Bank Step 1 (Volume 1) 2023-2034 UWORLD Step 1 (Volume 3) 2023-2024
		<ul style="list-style-type: none"> Explain the structure of liver lobule, portal triads& hepatic acinus and its functional importance 	Should Know	C2	
		<ul style="list-style-type: none"> Discuss histological features of hepatocytes. 	Should Know	C2	
		<ul style="list-style-type: none"> Explain Hepatic cords, central vein, portal triad, hepatic venules, hepatic arterioles, bile duct & liver sinusoids. 	Should Know	C2	
		<ul style="list-style-type: none"> Discuss the blood supply of the liver. 	Should Know	C2	
		<ul style="list-style-type: none"> Explain different cells of the liver tissue 	Should Know	C2	
		<ul style="list-style-type: none"> Describe clinical aspects of liver on histological grounds 	Must know	C3	
		<ul style="list-style-type: none"> Discuss cirrhosis, fatty liver 	Must know	C2	
		<ul style="list-style-type: none"> Discuss jaundice 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 HEC digital library 	Must know Nice to know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 C3 C3 C3 C3 C3 C3	
		<ul style="list-style-type: none"> Differentiate between exocrine and endocrine pancreas. Discuss the cellular structure and function of exocrine pancreatic acinus and ducts. Discuss acute & chronic pancreatitis and pancreatic cancer 	Should know Should know Should know Should know	C2 C2 C2 C2	<ul style="list-style-type: none"> Histology: -Junqueira's Basic Histology 18th Edition USMLE Q Bank Step 1 (Volume 1) 2023-2034

M1-GIT-A-0074	Pancreas & Gall Bladder	<ul style="list-style-type: none"> • Explain the histological features of the gallbladder. • Discuss cholelithiasis • 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 HEC digital library 	<p>Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know</p>	<p>C2 C3 C3 C3 C3 C3 C3</p>	<p>UWORLD Step 1 (Volume 3) 2023-2024</p> <ul style="list-style-type: none"> •
M1-GIT-A-0075	Small Intestine	<ul style="list-style-type: none"> • Differentiate the histological features of duodenum, jejunum and ileum • Discuss the location and function of villi, crypts of lieberkuhn and microvilli in different parts of small intestine • Discuss different cells lining the epithelium of small intestine • Discuss histological aspects of celiac disease and crohn disease • Correlate with the clinical conditions • Understand curative and preventive health care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library 	<p>Should know Should know Should know Should know Must know Nice to know Nice to know Nice to know Nice to know Nice to know</p>	<p>C2 C2 C2 C2 C3 C3 C3 C3 C3 C3</p>	<ul style="list-style-type: none"> • Histology: -Junqueira's Basic Histology 18th Edition USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024 •
M1-GIT-A-0076	Large Intestine I (General Histological Features)	<ul style="list-style-type: none"> • Describe histological features of parts of large intestine. • Discuss cells lining the epithelium • Explain concept of tenaei coli. • Differentiate histological structure of the large intestine from the small intestine. • Correlate with the clinical conditions • Understand curative and preventive health care measures. • Practice the principles of bioethetics • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library 	<p>Should know Should know Should know Should know Must know Nice to know Nice to know Nice to know Nice to know Nice to know</p>	<p>C2 C2 C2 C2 C3 C3 C3 C3 C3 C3</p>	<ul style="list-style-type: none"> • Histology :-Junqueira's Basic Histology 18th Edition USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024 •
M1-GIT-A-0077	Large Intestine II (Histological	<ul style="list-style-type: none"> • Describe histological features of appendix, caecum, rectum and anal canal • Discuss clinical conditions (Colorectal cancer) • Correlate with the clinical conditions 	<p>Should know Must know Must know Nice to know</p>	<p>C2 C3 C3 C3</p>	<ul style="list-style-type: none"> • Histology :-Junqueira's Basic Histology 18th Edition USMLE Q Bank Step 1 (Volume 1) 2023-2034

	Features of different parts)	<ul style="list-style-type: none"> • 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 HEC digital library 	Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3	<ul style="list-style-type: none"> • UWORLD Step 1 (Volume 3) 2023-2024
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Anatomy SGDs Syllabus of Learning Management System (LMS)

Code	Topic	Learning Objectives Students Should Be Able To	Importance	C/P/A	
M1-GIT-A-0078	Topographical organization of Gastrointestinal tract	• Enlist components of gastrointestinal tract	Should know	C1	<ul style="list-style-type: none"> • Gross Anatomy :- KLM clinically oriented anatomy edition 10 • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024
		• Mark the planes dividing the abdomen into nine quadrants	Must know	P	
		• Enumerate the parts of GIT lying in the various quadrants	Must know	C1	
		• Correlate with the clinical conditions	Must know	C3	
		• Understand curative and preventive health care measures.	Nice to know	C3	
		• Practice the principles of bioethetics	Nice to know	C3	
		• Apply strategic use of A.I in health care	Nice to know	C3	
• Read relevant research articles	Nice to know	C3			
• Use of HEC digital library	Nice to know	C3			
M1-GIT-A-0079	Oral Cavity, tongue and salivary glands,	• Define the boundaries of oral cavity	Should know	C1	<ul style="list-style-type: none"> • Gross Anatomy :- KLM clinically oriented anatomy edition 10 • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024
		• Tabulate the Extrinsic and Intrinsic muscles of the tongue, anatomical location and clinical importance of tongue	Should know	C2	
		• Brief Introduction of salivary glands with their anatomical location	Should know	C1	
		• Correlate with the clinical conditions	Must know	C3	
		• Understand curative and	Nice to know	C3	

		<p>preventive health care measures.</p> <ul style="list-style-type: none"> Practice the principles of bioethetics Apply strategic use of A.I in health care Read relevant research articles Use of HEC digital library 	<p>Nice to know</p> <p>Nice to know</p>	<p>C3</p> <p>C3</p>	
M1-GIT-A-0080	Anterolateral abdominal wall	<ul style="list-style-type: none"> Explain the layers of abdominal wall. 	Should know	C2	<p>❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 183,184-216). https://3d4medical.com/</p>
		<ul style="list-style-type: none"> Explain the fascia and muscles of abdominal wall. 	Should know	C2	
		<ul style="list-style-type: none"> Describe nerve supply of anterior and lateral abdominal wall. 	Should know	C2	
		<ul style="list-style-type: none"> Explain the segmental sympathetic supplies 	Should know	C2	
		<ul style="list-style-type: none"> Correlate the Anatomical knowledge with Abdominal Hernias 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 	<p>Must know</p> <p>Must know</p> <p>Nice to know</p>	<p>C3</p> <p>C3</p> <p>C3</p> <p>C3</p> <p>C3</p> <p>C3</p>	
M1-GIT-A-0081	Rectus sheath,	<ul style="list-style-type: none"> Describe Formation of rectus sheath 	Should know	C2	<p>❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 188-201). https://teachmeanatomy.info</p>
		<ul style="list-style-type: none"> Enlist contents of rectus sheath 	Should know	C1	
		<ul style="list-style-type: none"> Discuss associated clinical anatomy 	Must know	C2	
		<ul style="list-style-type: none"> Correlate with the clinical conditions 	<p>Must know</p> <p>Nice to know</p>	<p>C3</p> <p>C3</p>	

		<ul style="list-style-type: none"> • 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 	<p>Nice to know Nice to know Nice to know Nice to know</p>	<p>C3 C3 C3 C3</p>	/
M1-GIT-A-0082	Inguinal Region & Inguinal Hernias	<ul style="list-style-type: none"> • Describe Walls of Inguinal Canal • Explain Deep & Superficial Inguinal Ring • Enumerate Structures passing through the inguinal canal • Enlist Coverings of spermatic cord • Explain Mechanics of the inguinal Canal • Describe boundaries of Hassalbachs triangle • Define hernia • Differentiate indirect from direct inguinal hernia • Map outline of inguinal canal 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 	<p>Should know Should know Should know Should know Should know Should know Must know Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know Nice to know</p>	<p>C2 C2 C1 C1 C2 C2 C1 C3 P+A C3 C3 C3 C3 C3 C3</p>	<p>❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 197, 202-203, 212-213). https://3d4medical.com/</p>
M1-GIT-A-0083	Testes, scrotum	<ul style="list-style-type: none"> • Define Anatomy of Testes and Scrotum • Differentiate between Protective Coverings of Testes & scrotum 	<p>Should know Should know</p>	<p>C1 C2</p>	<ul style="list-style-type: none"> • Gross Anatomy :- KLM clinically oriented anatomy edition 10 • USMLE Q Bank Step 1

		<ul style="list-style-type: none"> Enumerate Nerve & blood supply of these Structures 	Should know	C1	(Volume 1) 2023-2034 UWORLD Step 1 (Volume 3) 2023-2024
		<ul style="list-style-type: none"> Discuss the parts of epididymis 	Should know	C2	
		<ul style="list-style-type: none"> Discuss Spermatocoele, Varicocoele, Hematocoele, hydrocoele, Testicular torsion 	Must know	C2	
		<ul style="list-style-type: none"> Correlate with the clinical conditions 	Must know	C3	
		<ul style="list-style-type: none"> Understand curative and preventive health care measures. 	Nice to know	C3	
		<ul style="list-style-type: none"> Understand curative and preventive health care measures. 	Nice to know	C3	
		<ul style="list-style-type: none"> Practice the principles of bioethetics 	Nice to know	C3	
		<ul style="list-style-type: none"> Apply strategic use of A.I in health care Read relevant research articles Use of HEC digital library 	Nice to know	C3	
M1-GIT-A-0084	Peritoneum & Peritoneal Cavity	<ul style="list-style-type: none"> Define peritoneum 	Should know	C1	❖ Clinical Oriented Anatomy by Keith L. Moore. 7 TH Edition. (Chapter 2, Page 219-221). https://teachmeanatomy.info/
		<ul style="list-style-type: none"> Explain the different folds of peritoneum. 	Should know	C2	
		<ul style="list-style-type: none"> Describe greater and lesser sacs 	Should know	C2	
		<ul style="list-style-type: none"> Enlist the intra and retroperitoneal viscera 	Should know	C1	
		<ul style="list-style-type: none"> Discuss vertical tracings of peritoneum 	Should know	C2	
		<ul style="list-style-type: none"> Correlate with the clinical conditions 	Must know	C3	
		<ul style="list-style-type: none"> Understand curative and preventive health care measures. 	Nice to know	C3	
		<ul style="list-style-type: none"> Understand curative and preventive health care measures. 	Nice to know	C3	
<ul style="list-style-type: none"> Practice the principles of bioethetics 	Nice to know	C3			
<ul style="list-style-type: none"> Apply strategic use of A.I in health care Read relevant research articles Use of HEC digital library 	Nice to know	C3			

M1-GIT-A-0085	Subdivisions of Peritoneal Cavity	<ul style="list-style-type: none"> Describe arrangement of peritoneum in transverse & Longitudinal section of abdomen 	Should know	C2	<ul style="list-style-type: none"> Gross Anatomy :- KLM clinically oriented anatomy edition 10 USMLE Q Bank Step 1 (Volume 1) 2023-2034 UWORLD Step 1 (Volume 3) 2023-2024
		<ul style="list-style-type: none"> Describe arrangement of peritoneum in transverse section of male pelvis 	Should know	C2	
		<ul style="list-style-type: none"> Explain arrangement of peritoneum in transverse section of female pelvis 	Should know	C2	
		<ul style="list-style-type: none"> Explain the layers, folds, recesses and compartments of peritoneum with their clinical importance 	Should know	C2	
		<ul style="list-style-type: none"> Describe peritonitis 	Must know	C3	
		<ul style="list-style-type: none"> Enumerate the signs and symptoms of peritonitis 	Must know	C3	
		<ul style="list-style-type: none"> 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 	Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3	
M1-GIT-A-0086	Esophagus	<ul style="list-style-type: none"> Discuss gross features of abdominal part of esophagus 	Should know	C2	<ul style="list-style-type: none"> Gross Anatomy :- KLM clinically oriented anatomy edition 10 USMLE Q Bank Step 1 (Volume 1) 2023-2034 UWORLD Step 1 (Volume 3) 2023-2024
		<ul style="list-style-type: none"> Enumerate their peritoneal & visceral relations. 	Should know	C1	
		<ul style="list-style-type: none"> Explain blood supply, lymphatic drainage & nerve supply of esophagus 	Should know	C2	
		<ul style="list-style-type: none"> Discuss Esophageal varices Correlate with the clinical conditions 	Must know Must know Nice to know	C2 C3 C3	

		<ul style="list-style-type: none"> • 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 	<p>Nice to know Nice to know Nice to know Nice to know</p>	<p>C3 C3 C3 C3</p>	
M1-GIT-A-0087	Stomach	<ul style="list-style-type: none"> • Explain gross features of stomach. • Discuss blood supply, lymphatic drainage & nerve supply of stomach • Explain peritoneal & visceral relations of stomach • Discuss greater and lesser omentum • Describe formation and boundaries of epiploic foramen • Map outline of stomach 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 	<p>Should know Should know Should know Should know</p>	<p>C2 C2 C2 C2</p>	<ul style="list-style-type: none"> • Gross Anatomy :- KLM clinically oriented anatomy edition 10 • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024
	Small Intestine	<ul style="list-style-type: none"> • Describe the different parts of duodenum with their anatomical differences • Enumerate the relations of different parts of duodenum • Discuss its clinical importance 	<p>Should know Should know Must know</p>	<p>C2 C1 C2</p>	<ul style="list-style-type: none"> ❖ Clinical Oriented Anatomy by Keith L. Moore. 7TH Edition. (Chapter 2, Page 239, 241, 244, 245, 325, 436).

M1-GIT-A-0088	(Duodenum)	<ul style="list-style-type: none"> • Map outline of duodenum 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 	<p>Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know</p>	<p>P+A C3 C3 C3 C3 C3 C3</p>	<p>https://www.kenhub.com/en/library/anatomy/the-digestive-system</p>
M1-GIT-A-0089	Small Intestine (Jejunum and Ileum)	<ul style="list-style-type: none"> • Describe jejunum and ileum with their anatomical features 	Should know	C2	<ul style="list-style-type: none"> • Gross Anatomy :- KLM clinically oriented anatomy edition 10 • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024
		<ul style="list-style-type: none"> • Discuss mesentery and its attachment 	Should know	C2	
<ul style="list-style-type: none"> • Discuss its clinical importance • 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 	<p>Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know</p>	<p>C2 C3 C3 C3 C3 C3 C3</p>			
M1-GIT-A-0090	Large Intestine & Appendix	<ul style="list-style-type: none"> • Enlist various parts of large intestine 	Should know	C1	
		<ul style="list-style-type: none"> • Demonstrate gross anatomical features of different parts of large intestine 	Should know	C2	
		<ul style="list-style-type: none"> • Enlist intra and retroperitoneal parts of large intestine 	Should know	C1	
		<ul style="list-style-type: none"> • Discuss gross features of caecum • Describe gross anatomy of appendix 	<p>Should know Should know</p>	<p>C2 C2</p>	<p>❖ Clinical Oriented Anatomy by Keith L. Moore.7TH Edition. (Chapter 2, Page 227,246,248, 325). https://www.kenhub.com/en/library/anatomy/the-digestive-system</p>

		<ul style="list-style-type: none"> • Enlist different anatomical positions of vermiform appendix. 	Must know	C1	
		<ul style="list-style-type: none"> • Mark McBurney's point 	Must know	P	
		<ul style="list-style-type: none"> • Demonstrate McBurney's incision 	Must know	P	
		<ul style="list-style-type: none"> • Discuss common features, differential diagnosis of acute appendicitis and appendectomy 	Must know	C3	
		<ul style="list-style-type: none"> • Map outline of Transverse and descending colon on simulatrs patient /model 	Must know	P+A	
		<ul style="list-style-type: none"> • Correlate with the clinical conditions 	Nice to know	C3	
		<ul style="list-style-type: none"> • Correlate with the clinical conditions 	Nice to know	C3	
		<ul style="list-style-type: none"> • Understand curative and preventive heath care measures. 	Nice to know	C3	
		<ul style="list-style-type: none"> • Understand curative and preventive heath care measures. 	Nice to know	C3	
		<ul style="list-style-type: none"> • Practice the principles of bioethetics 			
		<ul style="list-style-type: none"> • Apply strategic use of A.I in health care 			
		<ul style="list-style-type: none"> • Read relevant research articles 			
		<ul style="list-style-type: none"> • Use HEC digital library 			
M1-GIT-A-0091	Liver, Portal hypertension, Portosystemic Anastomosis	<ul style="list-style-type: none"> • Describe the anatomical structure of liver. 	Should know	C2	<ul style="list-style-type: none"> • Gross Anatomy :- KLM clinically oriented anatomy edition 10 • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024
		<ul style="list-style-type: none"> • Describe the lobes, surfaces and segments of liver 	Should know	C2	
		<ul style="list-style-type: none"> • Describe peritoneal reflections, ligaments and bare area of liver. 	Should know	C2	
		<ul style="list-style-type: none"> • Enumerate visceral relations of liver. 	Should know	C1	
		<ul style="list-style-type: none"> • Enlist the structures in porta hepatis. 	Should know	C1	
		<ul style="list-style-type: none"> • Discuss Sub hepatic abscess & Live Biopsy 	Should know	C2	
		<ul style="list-style-type: none"> • Discuss formation, course and parts of portal vein 	Should know	C2	
		<ul style="list-style-type: none"> • Enumerate relations and tributaries of portal vein 	Should know	C1	
		<ul style="list-style-type: none"> • Define portal hypertension 	Must know	C1	
		<ul style="list-style-type: none"> • Describe sites of the portocaval 	Must know	C2	

		anastomosis and their clinical significance			
		<ul style="list-style-type: none"> • Explain role of portocaval shunts • Map outline of liver 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 HEC digital library 	<p>Must know Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know</p>	<p>C2 P+A C3 C3 C3 C3 C3</p>	
M1-GIT-A-0092	Gallbladder and Biliary apparatus	<ul style="list-style-type: none"> • Describe location & size of gall bladder • Enumerate relations of gallbladder. • Describe clinical conditions related to gallbladder • Enlist different components of Extra-hepatic biliary System • Discuss the right & left hepatic ducts, common hepatic duct, cystic ducts, bile duct • Explain differences between Intra & Extra Hepatic Biliary Systems. • Discuss clinicals related with biliary apparatus • Discuss accessory hepatic ducts • Map outline of gallbladder & Bile duct on simulated patient /model • Correlate with the clinical conditions • Understand curative and preventive health care measures. • Practice the principles of 	<p>Should know Should know Must know Should know Should know Should know Must know Should know Must know Must know Nice to know Nice to know Nice to know</p>	<p>C2 C1 C2 C1 C2 C2 C2 C2 P+A C3 C3 C3</p>	<ul style="list-style-type: none"> • Gross Anatomy :- KLM clinically oriented anatomy edition 10 • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024

		bioethetics <ul style="list-style-type: none"> • Apply strategic use of A.I in health care • Read relevant research articles • Use HEC digital library 	Nice to know	C3	
M1-GIT-A-0093	Spleen	<ul style="list-style-type: none"> • Discuss anatomical location and features of spleen with its blood supply, and lymphatic drainage 	Should know	C2	<ul style="list-style-type: none"> • Gross Anatomy :- KLM clinically oriented anatomy edition 10 • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024
		<ul style="list-style-type: none"> • 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 	Must know Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3 C3	
M1-GIT-A-0094	Pancreas	<ul style="list-style-type: none"> • Recall location, shape, dimensions and extent of pancreas 	Should know	C2	<ul style="list-style-type: none"> • Gross Anatomy :- KLM clinically oriented anatomy edition 10 • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024
		<ul style="list-style-type: none"> • Discuss parts, ducts and relations of pancreas 	Should know	C2	
		<ul style="list-style-type: none"> • Describe arterial supply of pancreas 	Should know	C2	
		<ul style="list-style-type: none"> • Explain applied aspects of pancreas • Map outline of pancrease on simulated patient/ model • Correlate with the clinical conditions • Understand curative and preventive health care measures. • Practice the principles of bioethetics 	Must know Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C2 P+A C3 C3 C3 C3 C3	

		<ul style="list-style-type: none"> • Apply strategic use of A.I in health care • Read relevant research articles • Use of HEC digital library 			
M1-GIT-A-0095	Vasculature of GIT	<ul style="list-style-type: none"> • Describe the position and the vertebral levels of aorta in the abdomen. 	Should know	C2	❖ 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
		<ul style="list-style-type: none"> • Enlist the main branches of the aorta and its territories. 	Should know	C1	
		<ul style="list-style-type: none"> • Explain the applied anatomy of the aorta 	Should know	C1	
		<ul style="list-style-type: none"> • 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 	Should know Must know	C2 P+A	
M1-GIT-A-0096	Nerve supply and Lymphatic drainage of GIT	<ul style="list-style-type: none"> • Discus enteric nervous system with formation of plexuses and its parasympathetic role 	Should know	C2	❖ Clinical Oriented Anatomy by Keith L. Moore.7 TH Edition. (Chapter 2, Page 301-305). http://www.anatomyzone.com 3D anatomy
		<ul style="list-style-type: none"> • Enlist the types of lymph nodes draining the abdomen 	Should know	C1	
		<ul style="list-style-type: none"> • Describe lymphatic drainage of GIT with special reference to 	Should know	C2	

		lymphatic trunks, cisterna chyli & the thoracic duct <ul style="list-style-type: none"> • 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 	Must know Nice to know Nice to know Nice to know Nice to know Nice to know	C3 C3 C3 C3 C3 C3	
M1-GIT-A-0097	Cross Sectional Anatomy	<ul style="list-style-type: none"> • Identify different viscera located at different levels of vertebral column; T10, T11,T12,L1,L2 • 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 	Should know Must Know Nice to know Nice to know Nice to know Nice to know Nice to know	C1 C3 C3 C3 C3 C3	<ul style="list-style-type: none"> • Gross Anatomy :- KLM clinically oriented anatomy edition 10 • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024
M1-GIT-A-0098	Rectum	<ul style="list-style-type: none"> • Discuss the location and extent of rectum • Describe the internal and external features of rectum • Discuss peritoneal reflections rectouterine, rectovesical fossae and their clinical significance • Enumerate relations of rectum • Discuss blood supply, nerve supply, venous and lymphatic drainage 	Should know Should know Should know Should know Should know	C2 C2 C2 C1 C1	❖ Clinical Oriented Anatomy by Keith L. Moore.7 TH Edition. (Chapter 2, Page 239, 248,253 368-371,436,438). http://www.anatomyzone.com m 3D anatomy

		<ul style="list-style-type: none"> Describe the basis and features of rectal prolapsed 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 	<p>Must know Nice to know Nice to know Nice to know Nice to know</p>	<p>C3 C3 C3 C3 C3 C3</p>	
M1-GIT-A-0099	Anal canal	<ul style="list-style-type: none"> Discuss location and extent of anal canal 	Should know	C2	<ul style="list-style-type: none"> Gross Anatomy :- KLM clinically oriented anatomy edition 10 USMLE Q Bank Step 1 (Volume 1) 2023-2034 UWORLD Step 1 (Volume 3) 2023-2024
		<ul style="list-style-type: none"> Describe external and internal features of Anal Canal 	Should know	C2	
		<ul style="list-style-type: none"> Discuss features of anal sphincters 	Should know	C2	
		<ul style="list-style-type: none"> Tabulate relations of the anal canal with the surrounding structures 	Should know	C2	
		<ul style="list-style-type: none"> Describe the Blood supply, venous and lymphatic drainage & innervations of anal canal 	Should know	C2	
		<ul style="list-style-type: none"> Discuss anal continence 	Should know	C2	
		<ul style="list-style-type: none"> Differentiate between internal and external haemorrhoids 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 	<p>Must know Must know Nice to know Nice to know Nice to know Nice to know Nice to know</p>	<p>C3 C3 C3 C3 C3 C3 C3</p>	
M1-GIT-A-00200	Radiological	<ul style="list-style-type: none"> Identify structures on a normal X-ray abdomen 	Should know	C2	<ul style="list-style-type: none"> Gross Anatomy :- KLM clinically oriented

	Anatomy	<ul style="list-style-type: none"> • Appreciate Air fluid shadows. • Mark anatomical landmarks. • Correlate the clinical conditions • Understand the preventive and curative health care measures • Practice the principles of Bioethics • Apply Strategic use of AI in health care • Read relevant research articles 	Should know Should know Should know Nice to know Nice to know Nice to know Nice to know	C2 C2 C3 C3 C3 C3 C3	anatomy edition 10 <ul style="list-style-type: none"> • USMLE Q Bank Step 1 (Volume 1) 2023-2034 • UWORLD Step 1 (Volume 3) 2023-2024
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Anatomy Histology Syllabus of Learning Management System (LMS)

Code	Topic	At the end of practical students should be able to	Calgary Gauge	Learning Domain	
M1-GIT-A-00201	Tongue & salivary glands	• Focus & Identify slides of tongue & glands under microscope	Must know	P	<ul style="list-style-type: none"> • Histology :-Junqueira's Basic Histology 18th Edition USMLE Q Bank Step 1 (Volume 1) 2023-2034
		• Illustrate histological structure of tongue & salivary glands	Should know	C2	
		• Write two points of identification	Must know	C1	
M1-GIT-A-00202	Esophagus	• Focus & Identify slide of Esophagus under microscope	Must know	P	
		• Illustrate histological structure of Esophagus	Should know	C2	
		• Write two points of identification	Must know	C1	
M1-GIT-A-00203	Stomach	• Focus & Identify slide of Stomach under microscope	Must know	P	
		• Illustrate histological structure of Stomach	Should know	C2	
		• Write two points of identification	Must know	C1	
		• Differentiate mucosa of cardiac, fundus, body and pyloric end of stomach	Must know	C2	
M1-GIT-A-00204	Liver, Gall bladder & Pancreas	• Focus & Identify slides of Liver, Gall bladder & Pancreas under microscope	Must know	P	
		• Illustrate histological structures of	Should know	C2	

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

Biochemistry LGIS Syllabus of Learning Management System (LMS)

Code	Topic	Learning Objectives At the End of Assessment Students Should be able to	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-B-0024	Introduction to carbohydrate Metabolism	<ul style="list-style-type: none"> • Introduction and stages of Metabolism • Differentiation between Anabolism and Catabolism • Transportr of glucose across the cell. (Glucose Transporters) 	C2 C2 C2	LGIS	MCQs
M1-GIT-B-0025	Metabolism of monosaccharide & Disaccharide (Fructose, Lactose, Galactose)	<ul style="list-style-type: none"> • Explain the Metabolism of Fructose, Lactose, Galactose and there related clinical Disotders. 	C2	LGIS	MCQs
M1-GIT-B-0026	Glycolysis	<ul style="list-style-type: none"> • Steps of Glycolysis • Regulation of the Committed Steps • Enetgy calculation in Anaerobic Gylcolosis. 	C2 C2 C2	LGIS	MCQs
M1-GIT-B-0027	Fate of Pyruvate	<ul style="list-style-type: none"> • Pate of Pyruvate • Ciru's Lactic Acid Cycle & Lactic Acidosis 	C2 C2	LGIS	MCQs
M1-GIT-B-0028	Function of NADPH and deficiency of G6PD	<ul style="list-style-type: none"> • Describe hexose monophosphate pathway • Explain functions of NADPH with G6PD deficiency 	C2 C2	LGIS	MCQs
M1-GIT-B-0029	Glycogen Metabolism	<ul style="list-style-type: none"> • Explain synthesis and breakdown of glycogen • Discuss glycogen storage diseases 	C2 C3	LGIS	MCQs
M1-GIT-B-0030	Gastric Juice	<ul style="list-style-type: none"> • Explain composition, function, formation of gastric juice and related disorders • Peptic ulcer disease 	C2 C3	LGIS	MCQs
M1-GIT-B-0031	Bile and Pancreatic Juice	<ul style="list-style-type: none"> • Describe composition, function, formation of bile and related disorders • Describe composition, function and formation of pancreatic juice and related disorder 	C2 C2	LGIS	MCQs
M1-GIT-B-0032	GIT Hormones and Succus Entericus	<ul style="list-style-type: none"> • Understand the sources, functions, and regulation of gastrointestinal hormones. • Describe the composition, secretion, and role of succus entericus in digestion. 	C2 C2	LGIS	MCQs
M1-GIT-B-0033	Nutrition	<ul style="list-style-type: none"> • Understand the roles of macronutrients and micronutrients in energy production and overall health. • Describe the consequences of nutrient deficiencies and excesses in the human body 	C2 C2	LGIS	MCQs
M1-GIT-B-0034	Citric acid cycle	<ul style="list-style-type: none"> • Describe steps, regulations, energy calculations and significance of CAC • Deficiencies of coenzymes of pyruvate dehydrogenase complex 	C2 C3	LGIS	MCQs

M1-GIT-B-0035	Digestion and Absorption of lipids, proteins and carbohydrates	<ul style="list-style-type: none"> • Explain the enzymatic processes involved in the digestion of lipids, proteins, and carbohydrates. • Describe the pathophysiology of related disorders 	C2 C3	LGIS	MCQs
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Biochemistry SGDs Syllabus of Learning Management System (LMS)

Code	Topic	Learning Objectives At the End of Assessment Students Should be able to	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-B-0036	Gluconeogenesis and its regulation	<ul style="list-style-type: none"> • Describe the steps and regulations of gluconeogenesis 	C2	SGD	MCQs
M1-GIT-B-0037	LFTs and Jaundice	<ul style="list-style-type: none"> • Describe types of jaundice • Understand and interpret LFTs 	C2 C2	SGD	MCQs
M1-GIT-B-0038	Saliva	<ul style="list-style-type: none"> • Explain formation, composition and biochemical functions of saliva. 	C2	SGD	MCQs

Biochemistry SDL Syllabus of Learning Management System (LMS)

Code	Topic	Learning Objectives At the End of Assessment Students Should be able to	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-B-0039	Pyruvate Kinase Deficiency	<ul style="list-style-type: none"> • Understand Role of Pyruvate Kinase • Discuss Pathogenesis of PK Deficiency • Understand Clinical Features of PK Deficiency 	C1 C2 C3	SDL	MCQs
M1-GIT-B-0040	Clinical disorders related to HMP Shunt	<ul style="list-style-type: none"> • Explain applied aspects and importance of HMP shunt • Discuss the role of NADPH in phagocytosis 	C2 C3	SDL	MCQs
M1-GIT-B-0041	Glycogen storage diseases	<ul style="list-style-type: none"> • Describe the sign and symptoms and deficient enzymes of glycogen storage diseases 	C3	SDL	MCQs
M1-GIT-B-0042	Clinical aspects of Digestive Juices	<ul style="list-style-type: none"> • Understand the disorder of salivary glands • Discuss clinical aspects related to gastric and pancreatic juice • Understand the pathogenesis of gall stones 	C2 C2 C2	SDL	MCQs
M1-GIT-B-0043	Clinical disorders related to digestion and absorption	<ul style="list-style-type: none"> • Explain disorders i.e. lactose intolerance, cystinuria, hartnup disorder, steatorrhea and cystic fibrosis 	C3	SDL	MCQs

Biochemistry Practical Syllabus of Learning Management System (LMS)

Code	Topic	Learning Objectives At the End of Assessment Students Should be able to	Learning Domain	Teaching Strategy	Assessment Tool
M1-GIT-B-0044	Glucose 6 phosphate dehydrogenase deficiency	<ul style="list-style-type: none"> • Explain the biochemical basis of G6PD deficiency and related disorders 	C3	CBL	MCQs
M1-GIT-B-0045	Lactose intolerance	<ul style="list-style-type: none"> • Explain enzymatic deficiency and its related genetic factor • Explain the treatment of lactose intolerance 	C2 C2	CBL	MCQs

Transdisciplinary, Interdisciplinary & Multidisciplinary 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

SECTION – IV

RMU – 12 Integrated Modular MBBS Curriculum 2026 **Isolation to Beyond Boundaries**

Assessment

RMU – 12 Assessment Framework of Integrated Modular MBBS Curriculum 2026
Isolation to **Beyond Boundaries**

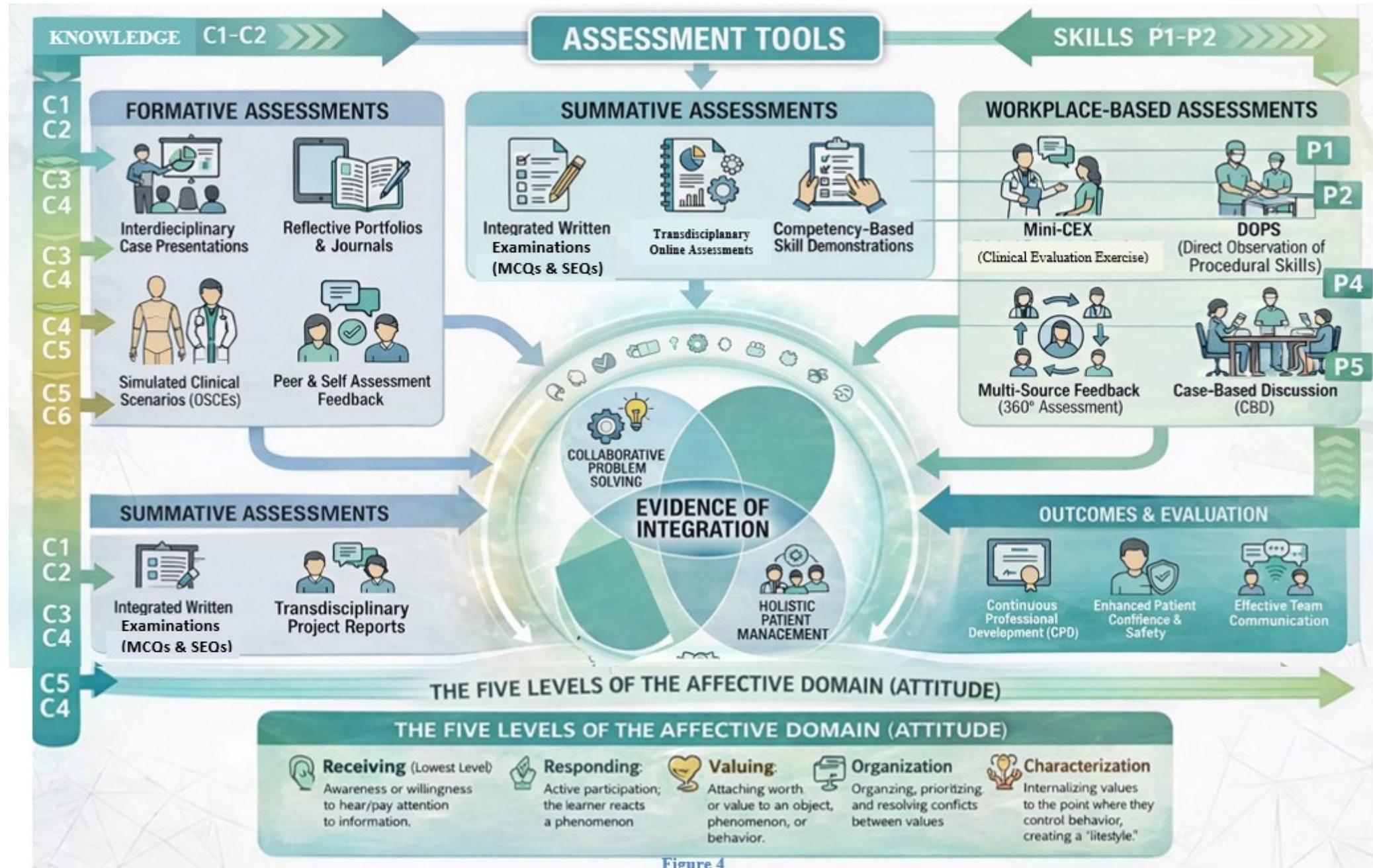


Figure 4

Assessment

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

Assessment Policy

Scope

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

1. Guiding principles

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

2. Purposes of Assessment.

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

3. Forms of assessments

3.1 Formative Assessment

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

3.2 Summative Assessment

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

3.2.1 Components of Assessment

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

3.2.2 End of Module Assessment (EMA)

- End of module assessments will be conducted at the end of each module.

- The module teams will be responsible for the assessment plan including assessment strategies, timings, and other essentials

3.2.3 End of Block Assessment (EBA)

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

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

Domains: C-Core Subject (70%) Levels C1-C2, HV- Horizontal & Vertical Integration (20%) Levels C2-C3, S- Spiral Integration (10%) Levels C2-C3																																		
End of Module Assessment	Subject	Theory (Cognitive) Assessment																		Practical (Skill & Attitude) Assessment							Grand Total	Total Time of Module Assessment						
		MCQs					EMQs			SAQs				SEQs				Marks	Total Marks Theory	Total Time	AV OSPE					Time			AED Reflective Writing	OSVE			Total Practical Marks	
		C	HV	S	Total	Marks	C	Total	Marks	C	HV	S	Total	Marks	C	HV	S				Total	C	HV	S	Total					Marks	Viva	Copy		Total
First Module	Anatomy	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
	Physiology	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
	Biochemistry	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
Formative- Weekly LMS Based Assessment of 30 MCQs (10 MCQs per Subject)																																		
End of Module Assessment	Subject	Theory (Cognitive) Assessment																		Practical (Skill & Attitude) Assessment							Grand Total	Total Time of Module Assessment						
		MCQs					EMQs			SAQs				SEQs				Marks	Total Marks Theory	Total Time	AV OSPE					Time			AED Reflective Writing	OSVE			Total Practical Marks	
		C	HV	S	Total	Marks	C	Total	Marks	C	HV	S	Total	Marks	C	HV	S				Total	C	HV	S	Total					Marks	Viva	Copy		Total
Second Module	Anatomy	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
	Physiology	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
	Biochemistry	19	4	2	25	25	1	1	5	3	1	1	5	25	3	1	1	5	45	100	2 HRS	7	2	1	10	50	50 min	15 min	45	5	50	100	200	6 HRS
Formative- Weekly LMS Based Assessment of 30 MCQs (10 MCQs per Subject)																																		

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

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

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

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

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

3.2.4 Continuous Internal Assessment (CIA)

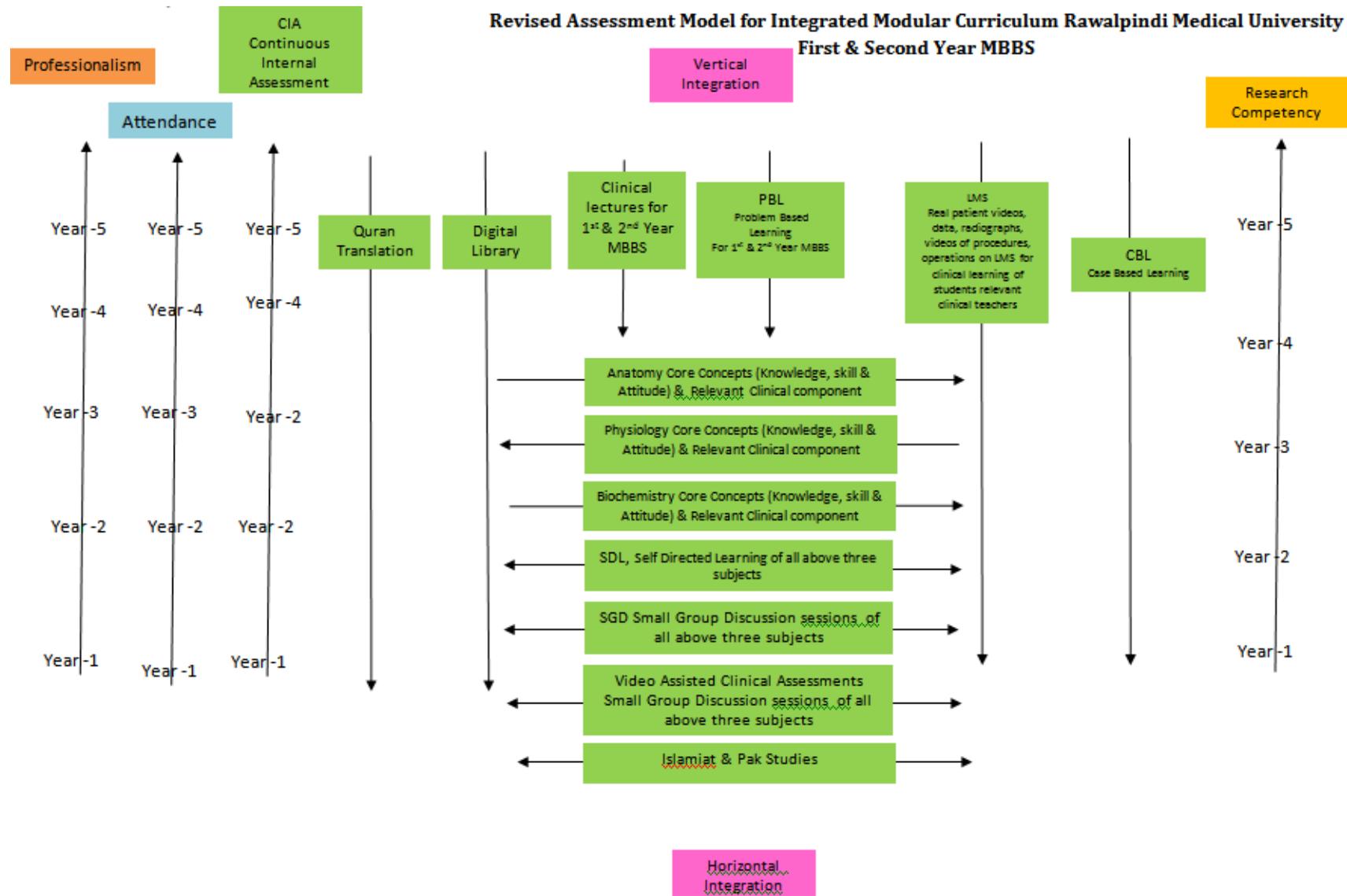
Continuous Internal Assessment means the assessment based on tests and assignments given to the students during an academic period.

Break up of internal assessment is as follows:

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

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

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



Reference: The Integrated & Clinically Oriented Assessment Model For Under Graduates Rawalpindi Medical University “Mumtahn” “ممتحن” (The Examiner)

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

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

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

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

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

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

Total Time of Anatomy Assessments for Second Year MBBS:

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

Total Teaching Hours vs Total Assessment Hours

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

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

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

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

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

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

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

Total Time of Physiology Assessments for Second Year MBBS:

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

Total Teaching Hours vs Total Assessment Hours

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

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

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

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

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

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

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

Total Time of Biochemistry Assessments for Second Year MBBS:

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

Total Teaching Hours vs Total Assessment Hours

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

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

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

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

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

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

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

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

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

Total Teaching Hours vs Total Assessment Hours

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

3.2.4 Pre- Annual Assessment (PAA)

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

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

- Total Marks: 845

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

Notes:

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

A - Blockwise Distribution of Marks

Total Marks	BLOCK IV Marks	BLOCK V Marks	BLOCK VI Marks	Total Marks
845 Marks	285 Marks	285 Marks	275 Marks	845 Marks

B - Subject wise marks breakup in Blocks

Subjects	Block IV	Block V	Block VI	Total Marks
Anatomy	80 Marks	80 Marks	80 Marks	240 Marks (28%)
Physiology	80 Marks	80 Marks	80 Marks	240 Marks (28%)
Biochemistry	80 Marks	80 Marks	80 Marks	240 Marks (28%)
Integrated Subjects	45 Marks	45 Marks	35 Marks	125 Marks (16%)

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

Block	Subjects	Theory (Knowledge)	Practical (Skill/attitude)	Total marks	Total marks (Core subjects + Integrated Subjects)
Block IV (Core subjects + Integrated	Anatomy	50	30	80 marks	240+ 45 = 285 marks
	Physiology	50	30	80 marks	
	Biochemistry	50	30	80 marks	
	Total			240 marks	
	Integrated Subjects				
	Community Medicine /Research	6 Marks		45 Marks	

Subjects) 285 Marks	Behavioural Sciences	3 Marks			
	Pathology	2 Marks			
	Pharmacology	3 Marks			
	Radiology	2 Marks			
	Gynae & Obs	4 Marks			
	Medicine	2 Marks			
	Family Medicine	2 Marks			
	Paediatrics	4 Marks			
	Surgery	2 Marks			
	ECE		5 Marks		
	ALPHA and GEC		5 Marks		
marks		Total	240+ 45 = 285 marks		

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

Block	Subjects	Theory (Knowledge)	Practical (Skill/attitude)	Total marks	Total marks (Core subjects + Integrated Subjects)
Block V (Core subjects + Integrated Subjects)	Anatomy	50	30	80 marks	240+ 45 = 285 marks
	Physiology	50	30	80 marks	
	Biochemistry	50	30	80 marks	
	Total			240 marks	
285 Marks	Integrated Subjects			45 Marks	
	Community Medicine /Research	4 Marks			
	Family Medicine	3 Marks			
	Orthopedics	3 Marks			
	Radiology	3 Marks			
	Medicine	3 Marks			
	Gynae & Obs	3 Marks			
	Behavioural Sciences	4 Marks			
	Pathology	2 Marks			

	ECE		5 Marks		
	ALPHA and GEC		5 Marks		
marks	Total		240+ 45 = 285 marks		

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

Block	Subjects	Theory (Knowledge)	Practical (Skill/attitude)	Total marks	Total marks (Core subjects + Integrated Subjects)
Block VI	Anatomy	50	30	80 marks	240+35 = 275 marks
	Physiology	50	30	80 marks	
	Biochemistry	50	30	80 marks	
	Total			240 marks	
Total marks (Core subjects + Integrated Subjects)	Integrated Subjects			35 Marks	
	Community Medicine	2 Marks			
	Behavioural Sciences	2Marks			
	Medicine	3 Marks			
	Family medicine	3 Marks			
	Gynae & Obs	2 Marks			
	Radiology	2 Marks			
	Pediatrics	2 Marks			
	Otorhinolaryngology	3 Marks			
	Ophthalmology	2 Marks			
	Pathology	2Marks			
	Pharmacology	2 Marks			
275 Marks	ECE		5 Marks		
	ALPHA and GEC		5 Marks		
Total marks		240+35 = 275 marks			
GRAND TOTAL MARKS		800			

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

Block -IV Theory Component (Knowledge)

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

Block -IV Practical Component (Skill & Attitude)

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

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

Block -V Theory Component (Knowledge)

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

Block -V Practical Component (Skill & Attitude)

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

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

Block -VI Theory Component (Knowledge)

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

Block -VI Practical Component (Skill & Attitude)

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

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

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

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

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

3.2.5 Annual Professional Assessment (APA)

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

Regulations

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

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

Reference: UHS INTEGRATED CURRICULUM VERSION 2

Statutes:

- **Scheduling:** The Second Professional MBBS will be held at the end of Second year whereas the Second Professional MBBS shall be held at the end of Second year.

- **Subjects:** Every candidate is required to appear in the following subjects in each Block

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

b. Vertically integrated Subjects- Community Medicine C Public Health, Behavioral Sciences, Pathology, Pharmacology, associated Clinical Subjects

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

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

Paper	Second year MBBS	Second year MBBS
Paper-1	Block -IV	Block -IV

Paper-2	Block- V	Block- V
Paper-3	Block-VI	Block-VI
Paper-4	-----	GEC (Islamic Studies C Pakistan Studies)

a. Second Professional Examination Total Marks = 600*

- i. Block I Assessment Total Marks = 300
- ii. Block II Assessment Total Marks = 300
- iii. Block III Assessment Total Marks = 300

b. Second Professional Examination- 1000 Marks*

- i. Block I Assessment Total Marks = 300
- ii. Block II Assessment Total Marks = 300
- iii. Block III Assessment Total Marks = 300
- iv. GEC Assessment (Islamic Studies C Pakistan Studies) Total Marks = 100

*Marks Adopted from University of Health Sciences (UHS)

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

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

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

• **Block Assessment Components:** the components of Block Assessment shall be as follows:

a. One theory Paper (K) having two sections

- i. **Section:1** One best type Multiple choice questions of 75 Marks (1 mark for each MCQ) and time allocated will be 90 Minutes. The integration ratio in MCQs will be 70% core content, 10% horizontal integration, and 20% vertical integration. There will be no negative marking
- ii. **Section:2** will have Structured Essay Questions of 5 marks each and time allocated for 1 SEQ will be 10 minutes.

Second year MBBS	Number of MCQs	Number of SEQs
Block -IV	75	6
Block -V	75	6
Block -VI	75	6
Second Year MBBS	Number of MCQs	Number of SEQs
Block -IV	70	7
Block -V	75	6

Block -VI	80	5
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b. Practical Component (Skill and Attitude): The assessment will include an Objective Structured Practical Examination (OSPE) with a total of 15 stations, time allocated for each station will be 4 minutes.

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

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

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

ii. Objective Structured Viva Examinations (OSVE): This section will consist of table viva for each core subject. Students will be evaluated by internal and external examiner using a structured marking rubric, with each viva carries 15 marks.

Second year MBBS	Number of LabOSPE Stations	Number of iOSPE Stations	Number of OSCE Stations	Number of tables VIVA
Block -IV	5	3	4	3
Block -V	5	3	4	3
Block -VI	4	3	5	3
Second Year MBBS	Number of LabOSPE Stations	Number of iOSPE Stations	Number of OSCE Stations	Number of tables VIVA
Block -IV	4	3	5	3
Block -V	5	3	4	3
Block -VI	5	3	4	3

- **Annual Examination Eligibility Criteria:** Eligibility to appear in Annual Professional will be as per RMU Assessment Policy approved by the Academic Council and Syndicate.

- **Passing Criteria:** A student will be declared pass in a block assessment if he/she scores 50% and above marks in each block assessment component (Theory and Practical) and 50% and above marks in each Core Subject (Anatomy, Physiology C Biochemistry).

- **Supplementary Examination Criteria:** The student who fails in any component of a block assessment will have to appear in the supplementary examination of the entire block.

Table of Abbreviation

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

Annual Assessment Plan of Second Year MBBS 2025 (Batch 52)

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

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

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

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

Blocks	Modules	Anatomy	Physiology	Biochemistry	Total
Block IV 1470 Marks	Module 1	200	200	200	600
	Module 2	200	200	200	600
	Block Exam	90	90	90	270
	Total	490	490	490	1470
Block V 1470 Marks	Module 1	200	200	200	600
	Module 2	200	200	200	600
	Block Exam	90	90	90	270
	Total	490	490	490	1470
Block VI	Module 1	200	200	200	600

1470 Marks	Module 2	200	200	200	600
	Block Exam	90	90	90	270
	Total	490	490	490	1470
Total Marks		1470	1470	1470	4410

Note:

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

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

Annual Second Professional Examinations 2025

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

A: Second Professional Examination (70%)

A: Second Professional Examination (70%)		
Total marks = 630 Marks		
Subjects	% Weightage of subjects	Marks distribution as per weightage
Anatomy	35%	218 Marks
Physiology	30%	192 Marks
Biochemistry	23%	137 Marks
Integrated Subjects <ul style="list-style-type: none"> • Community Medicine C Public Health/Research • Behavioural Sciences • Pathology • Pharmacology • Radiology • Family Medicine • Surgery • Medicine • Gynae C Obs • Orthopedics • Pediatrics • Surgery • Ophthalmology • Otorhinolaryngology 	11%	73 Marks
<ul style="list-style-type: none"> • Early Clinical Exposure • ALPHA and General Education Cluster (GEC) 	2%	10 Marks
Total Marks		630 Marks

B: Blockwise Distribution of Marks

Total Annual Professional Marks (70%)	BLOCK IV Marks	BLOCK V Marks	BLOCK VI Marks	Total Marks
630 Marks	210 Marks	210 Marks	210 Marks	630 Marks

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

C: Subject Wise Marks Breakup in Blocks

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

D: Subject Wise Distribution of Marks for Second Year MBBS

Block	Subjects	Theory	Practical	Total marks	Total marks Core Subject + Integrated Subjects
Block IV	Anatomy	45 marks	40 marks	85 marks	
	Physiology	20 marks	25 marks	45 marks	
	Biochemistry	23 marks	30 marks	53 marks	
	Total	88	95	183 marks	
	Integrated Subjects				
	• Community Medicine/Research	4 Marks			
• Behavioural Sciences	2 Marks				

210 Marks	• Pathology	2 Marks		27 Marks	183+27 = 210 marks
	• Pharmacology	3 Marks			
	• Radiology	1 Marks			
	• Gynae C Obs	1 Marks			
	• Medicine	1 Marks			
	• Family Medicine	1 Marks			
	• Paediatrics	1 Marks			
	• Surgery	1 Marks			
	• ECE		5 Marks		
	• ALPHA and GEC		5 Marks		
Total marks			183+27 = 210 marks		

Block	Subjects	Theory	Practical	Total marks	Total marks Core Subject + Integrated Subjects
Block V	Anatomy	38 marks	40 marks	78 marks	181+29 = 210 marks
	Physiology	34 marks	30 marks	64 marks	
	Biochemistry	14 marks	25 marks	39 marks	
	Total	86	95	181 Marks	
	Integrated Subjects			29 Marks	
	• Community Medicine /Research	4 Marks			
	• Family Medicine	1 Marks			
	• Orthopedics	2 Marks			
	• Radiology	2 Marks			
	• Medicine	3 Marks			
210 Marks					

	• Gynae C Obs	1 Marks			
	• Behavioural Sciences	4 Marks			
	• Pathology	2 Marks			
	• ECE		5 Marks		
	• ALPHA and GEC		5 Marks		
Total marks		181+29 = 210 marks			
Block	Subjects	Theory	Practical	Total marks	Total marks Core Subject + Integrated Subjects
	Anatomy	25 marks	30 marks	55 marks	

Block VI	Physiology	48 marks	35 marks	83 marks	27 Marks	183+27 = 210 marks
	Biochemistry	15 marks	30 marks	45 marks		
	Total	88	95	183 marks		
	Integrated Subjects					
	• Community Medicine	3 Marks				
	• Behavioural Sciences	2 Marks				
	• Medicine	2 Marks				
	• Family medicine	1 Marks				
	• Gynae C Obs	1 Marks				
	• Radiology	1 Marks				
	• Pediatrics	1 Marks				
	• Otorhinolaryngology	1 Marks				
	• Ophthalmology	1 Marks				
	• Pathology	2 Marks				
	• Pharmacology	2 Marks				
• ECE		5 Marks				
• ALPHA and GEC		5 Marks				
Total marks	183+27 = 210 marks					
GRAND TOTAL MARKS	630 Marks					

E: Block Wise Distribution of Marks for Second Year MBBS (Batch 52) (Annual Professional Marks + CIA)

Subject	Theory			Practical			Total Marks
	Component	No of Items	Marks	Component	No of Items	Marks	
Block IV (GIT / Renal) Total Annual marks=210	Section I- MCQ	75	75	LabOSPE	5	25	210
	Section II- SEQ	6	30	iOSPE	3	15	
				OSCE	4	20	
				OSVE	3	45	
CIA = 90 Marks	Continuous Internal Assessment (30%)		45	Continuous Internal Assessment (30%)		45	90
Total Annual marks+ CIA =210+90= 300	Total Marks		150	Total Marks		150	300
Block V (Reproduction, CNS) Total Annual marks=210	Section I- MCQ	75	75	LabOSPE	5	25	210
	Section II- SEQ	6	30	iOSPE	3	15	
				OSCE	4	20	
				OSVE	3	45	
CIA = 90 Marks	Continuous Internal Assessment (30%)		45	Continuous Internal Assessment (30%)		45	90
Total Annual marks+ CIA =210+90= 300	Total Marks		150	Total Marks		150	300
Block VI (Special Senses, Endocrinology) Total Annual marks=210	Section I- MCQ	75	75	LabOSPE	4	20	210
	Section II- SEQ	6	30	iOSPE	3	15	
				OSCE	5	25	
				OSVE	3	45	
CIA = G0 Marks	Continuous Internal Assessment (30%)		45	Continuous Internal Assessment (30%)		45	90
Total Annual marks + CIA =210+G0= 300	Total Marks		150	Total Marks		150	300
Grand Total Marks							G00

F: 2nd Professional Examination 2025 (Batch 52)

Block IV Assessment Breakup (GIT, Renal Module-I)

Themes	Discipline	Theory				Practical (OSPE)			OSVE	Marks	%	Total Marks per subject	
		No of MCQs (1 marks each)	No of SEQs (5 marks each)	Marks	%	No of Stations of LabOSPE (5 marks each)	No of Stations of iOSPE (5 marks each)	No of Stations of OSCE (5 marks each)	OSVE (15 Marks)			Marks	%
Core s Horizontally Integrated Subjects	Anatomy C Applied /Clinical	30	3	45	30	3	1	1	1	40	32	85	40
	Physiology C Applied/Clinical	10	2	20	26	1	1	-	1	25	29	45	21
	Biochemistry C Applied/clinical	18	1	23	26	1	1	1	1	30	29	53	25
Vertically Integrated Subjects	Communit y Medicine C Public Health/Research	4	-	3	4	-	-	-	-	-	-	4	14
	Behavioural Sciences	2	-	1	2	-	-	-	-	-	-	2	
	Pathology	2	-	2	2	-	-	-	-	-	-	2	
	Radiology	1		1								1	
	Gynae C Obs	1		1								1	
	Medicine	1		1								1	
	Family Medicine	1		1								1	
	Paediatrics	1		1								1	
	Surgery	1		1								1	
	Pharmacology	3	-	3	3	-	-		-	-	-	3	
Spirally Integrated Subjects	ECE	-	-	-		-	-	1	-	5	5	5	
	ALPHA and GEC	-	-	-		-	-	1	-	5	5	5	
Total		75	6x5=30	105	100	5x5=25	3x5=15	4x5=20	3x15=45	105	100	210	100
Total		105				105				105+105=210			

G: 2nd Professional Examination 2025 (Batch 52)

Block V Assessment

Reproduction, CNS Module-I

Theme	Subject	Theory			Practical			OSVE	Marks	Total Marks per subject	
		No of MCQs (1 marks each)	No of SEQs (5 marks each)	Marks	No of Stations of LabOSPE (5 marks each)	No of Stations of iOSPE (5 marks each)	No of Stations of OSCE (5 marks each)	OSVE (15 Marks)		Total Marks	%
Core s Horizontally Integrated Subjects	Anatomy C Applied /Clinical	23	3	38	3	1	1	1	40	78	37
	Physiology C Applied/Clinical	24	2	29	1	1	1	1	30	64	30
	Biochemistry C Applied/clinical	9	1	14	1	1	-	1	25	39	18
Vertically Integrated Subjects	Community Medicine C Public Health	4	-	4	-	-	-	-	-	4	15
	Behavioural Sciences	4	-	4	-	-	-	-	-	4	
	Pathology	2	-	2	-	-	-	-	-	2	
	Family Medicine	1								1	
	Orthopedics	2								2	
	Radiology	2								2	
	Medicine	3								3	
	Gynae C Obs	1								1	
Spirally Integrated Subjects	ECE	-	-	-	-	-	1	-	5	5	
	ALPHA and GEC	-	-	-	-	-	1	-	5	5	
Total		75	6x5=30	105	5x5=25	3x5=15	4x5=20	3x15=45	105	210	100
Total		105			105					105+105=210	

H: 2nd Professional Examination 2025 (Batch 52)

Block VI Assessment

Special Senses, Endocrinology Modules

Themes	Discipline	Theory			Practical			OSVE	Marks	Total Marks per subject	
		No of MC Qs (1 marks each)	No of SEQs (5 marks each)	Marks	No of Stations of LabOSPE (5 marks each)	No of Stations of iOSPE (5 marks each)	No of Stations of OSCE (5 marks each)	OSVE (15 Marks)		Marks	%
Core s Horizontally Integrated Subjects	Anatomy C Applied /Clinical	15	2	25	1	1	1	1	30	55	26
	Physiology C Applied/Clinical	33	3	48	2	1	1	1	35	83	40
	Biochemistry C Applied/clinical	10	1	15	1	1	1	1	30	45	21
Vertically Integrated Subjects	Community Medicine C Public Health	2	-	2	-	-	-	-	-	2	13
	Behavioural Sciences	2	-	2	-	-	-	-	-	2	
	Pathology	2	-	2	-	-	-	-	-	2	
	Medicine	2		2						2	
	Family medicine	1		1						1	
	Gynae C Obs	1		1						1	
	Radiology	1		1						1	
	Pediatrics	1		1						1	
	Otorhinolaryngology	1		1						1	
	Ophthalmology	1		1						1	
	Pathology	2		2						2	
	Pharmacology	1	-	1	-	-	-	-		1	
Spirally Integrated Subjects	ECE	-	-	-	-	-	1	-	5	5	
	ALPHA and GEC	-	-	-	-	-	1	-	5	5	
Total		75	6x5=30	105	4x5=20	3x5=15	5x5=25	3x15=45	105	210	100
Total			105			105				105+105=210	

SECTION – V

Time Table

Clinically Oriented Integrated Modular MBBS Curriculum 2026
RMU 12 - Isolation to Beyond Boundaries

GIT Module - I Time Table

Second Year MBBS

Session 2025 - 2026

Batch- 52

GIT Module - I Team

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

Module Committee			Module Task Force Team		
1.	Vice Chancellor RMU	Prof. Dr. Muhammad Umar	1.	Coordinator	Dr. Uzma Kiyani (Senior Demonstrator of Physiology)
2.	Director DME & Dean Basic Sciences	Prof. Dr. Ifra Saeed	2.	DME Focal Person	Dr. Farzana Fatima
3.	Additional Director (Assessment) DME	Dr. Arsalan Manzoor Mughal	3.	Co-coordinator	Dr. Minahil Haq (Senior Demonstrator of Anatomy)
4.	Chairperson Physiology	Prof. Dr. Samia Sarwar	4.	Co-Coordinator	Dr. Shazia Nosheen (Senior Demonstrator of Physiology)
5.	Chairperson Anatomy	Prof. Dr. Ayesha Yousaf	5.	Co-coordinator	Dr. Uzma Zafar (APWMO of Biochemistry)
6.	Chairperson Biochemistry	Dr. Aneela Jamil	DME Implementation Team		
7.	Focal Person Anatomy 1 st Year MBBS	Dr. Maria Tasleem			
8.	Focal Person Physiology	Dr. Sidra Hamid	1.	Director DME	Prof. Dr. Ifra Saeed
9.	Focal Person Pharmacology	Dr. Zunera Hakim	2.	Implementation Incharge 1st & 2 nd Year MBBS	Dr. Arsalan Manzoor Mughal
10.	Focal Person Pathology	Dr. Asiya Niazi			Dr. Farzana Fatima
11.	Focal Person Behavioral Sciences	Dr. Saadia Yasir	3.	Assistant Director DME	Dr. Farzana Fatima
12.	Focal Person Community Medicine	Dr. Afifa Kulsoom	4.	Editor	Muhammad Arslan Aslam
13.	Focal Person Quran Translation Lectures	Dr. Uzma Zafar			
14.	Focal Person Family Medicine	Dr. Sadia Khan			

Discipline Wise Details of Modular Content

Integration						
Themes						
Block	Module	General Anatomy	Embryology	Histology	Gross Anatomy	
IV	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				
	Spiral Courses					
	Pak Studies	<ul style="list-style-type: none"> • Nazria Pakistan-I • Nazria Pakistan -II • Allah SWT ki Hakmiyat ka Nifaz • Two Nation Theory • Establishment of an Islamic state 				
	Islamiyat	<ul style="list-style-type: none"> • Toheed Related Quranic Verses & their Explanation • Toheed & Shirk • Risalat Related Quranic Verses & Their Explanation 				
	Research (IUGRC)	<ul style="list-style-type: none"> • Introduction to descriptive statistics (Research-I) • Classification of different types of Data (Research-II) • Scales of Data measurement (Research-III) • Measures of central Tendency (Research-IV) • Geriatrics (Research-V) • Synopsis wrting session (Research Practical Session I) 				
	Radiology	<ul style="list-style-type: none"> • Medical imaging of abdomen- I • Medical imaging of abdomen-II 				
	Family Medicine	<ul style="list-style-type: none"> • Common Abdominal diseases 				
	Behavioral Sciences	<ul style="list-style-type: none"> • Learning & Memory • Eating Disorders 				
	Community Medicine	Clinically content relevant to GIT Module - I <ul style="list-style-type: none"> • Concept of health & disease • Epidemiology of Infectious Diseases& Basic Concepts 				
	Vertical Integration					
	<ul style="list-style-type: none"> • Gynae and OBS 	<ul style="list-style-type: none"> • Physiologic Changes in the GIT in Pregnancy • Jaundice/Obstetric Cholestasis in Pregnancy 				

	<ul style="list-style-type: none"> • Medicine 	<ul style="list-style-type: none"> • Jaundice • Inflammatory Bowel Diseases
	<ul style="list-style-type: none"> • Surgery 	<ul style="list-style-type: none"> • Acute Abdomin • Gall Stones
	<ul style="list-style-type: none"> • Pediatrics 	<ul style="list-style-type: none"> • Acute and Chronic Diarrhea Cute & Choronic Diaherrea
	<ul style="list-style-type: none"> • Pharmacology 	<ul style="list-style-type: none"> • Anti Diarrheal Drugs
	<ul style="list-style-type: none"> • Pathology 	<ul style="list-style-type: none"> • Pathologies of Intestine

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	<ul style="list-style-type: none"> • Histology of Tongue & Salivary glands • Esophagus & Stomach • Liver & Gallbladder • Small Intestine • Large Intestine 	<ul style="list-style-type: none"> • Acute Appendicitis • Liver & Portal Hypertension 	<ul style="list-style-type: none"> • Subdivision of Pretonial Cavity • Liver-II (Functional Sgments) • Spleen • Pancrease 	<ul style="list-style-type: none"> • Layers of Antero lateral abdominal wall & its defects • Applied Anatomy of Rectus sheath • Applied Anatomy of Inguinal region & Hernias • Peritoneal Dialysis/ Peritoneal Lavage • Crohn's Disease, Celiac Disease, Irritable Bowel Syndrome • Diverticulum, Intussusception • Liver Biopsy, Liver Abscess and hepatitis • Applied Anatomy of Vasculature of GIT (Blood Supply, Venous drainage, Lymphatic drainage Hemorrhoids & Anal Fissure • Applied Anatomy of Innervation of Abdominal Viscera's
	Development of Body Cavities Histology Of Liver					

Category A: By Professors

Category B: By Associate & Assistant Professors

Category C: By Senior Demonstrators

Teaching Staff / Human Resource of Department of Anatomy

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

Contact Hours (Faculty)

Sr. #	Hours Calculation for Various Type of Teaching Strategies	Total Hours
1.	Large Group Interactive Session (LGIS)	32 hours
2.	Small Group Discussions (SGD)	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)	16 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.	Saliva and mastication, stages of swallowing, clinical disorders of esophagus and swallowing, achalasia and	PBL:

Samia Sarwar)	vomiting (Dr. Shazia)	
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
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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 of Teaching 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
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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 (LGIS)	20 hours	10 hours
2.	Small Group Discussions (SGD)	38 hours	7.5 hours
4.	Practical / Skill Lab	38 hours	7.5 hours
5.	Self-Directed Learning (SDL)	4 hours	05 hours

Time Table for GIT Module - I (First Week) (02-03-2026 to 07-03-2026)

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

Date/Day	Theme	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)
02-03-2026	☾	Practical &CBL/SGD	PHYSIOLOGY LGIS	☾	BEHAVIORAL SCIENCES	ANATOMY LGIS	DISSECTION/SGD	SDL Physiology

Monday		Topic & Venue Mentioned at The End	Introduction to GIT Electrical Activity in GIT, Enteric Nervous System & GIT Reflexes	Saliva & Mastication, Stages of Swallowing, Clinical Disorders of Esophagus & Swallowing, Achalasia & Vomiting		Medically Unexplained Symptoms / Stress Diarrhea	Development of Tongue	Histology of Tongue	Topographical Organization of GIT Refere to Table No. 1	Enteric Nervous System		
			Prof. Dr. Samia Sarwar / Dr. Aneela (Even)	Dr Shazia (Odd)		Dr. Sadia Yasir (Even)	Dr. Zona Tahir (Odd)	Prof. Dr Ifra (Even)	Ass. Prof. Dr Maria (Odd)			
03-03-2026 Tuesday		Practical & CBL/SGD Topic & Venue Mentioned at The End	PHYSIOLOGY LGIS			ANATOMY LGIS		BIOCHEMISTRY LGIS		DISSECTION/SGD		
			Saliva & Mastication, Stages of Swallowing, Clinical Disorders of Esophagus & Swallowing, Achalasia & Vomiting	Introduction to GIT Electrical Activity in GIT, Enteric Nervous System & GIT Reflexes		Histology of Tongue	Development of Tongue	Introduction to Carbohydrate Metabolism	Saliva	Oral Cavity, Tongue and Salivary Glands Refere to Table No.		
			Dr Shazia (Even)	Prof. Dr. Samia Sarwar / Dr. Aneela (Odd)		Ass. Prof. Dr Maria (Even)	Prof. Dr Ifra (Odd)	Dr Uzma Zafar (Even)	Dr. Tayba (Odd)			
04-03-2026 Wednesday		Practical & CBL/SGD Topic & Venue Mentioned at The End	BIOCHEMISTRY LGIS			BIOCHEMISTRY LGIS		PBL-1 (SESSION-I)		DISSECTION/SGD		
			Carbohydrate Metabolism	Saliva		Metabolism of Monosaccharide & Disaccharide (Fructose, Lactose, Galactose)	Glycolysis	PBL Team		Anterolateral Abdominal Wall Refere to Table No.1		
			Dr Uzma Zafar (Odd)	Dr. Tayba (Even)		Dr. Aneela (Even)	Dr Uzma Zafar (Odd)			SDL Biochemistry Glycolysis		
05-03-2026 Thursday		Practical & CBL/SGD Topic & Venue Mentioned at The End	COMMUNITY MEDICINE LGIS			ANATOMY LGIS		BIOCHEMISTRY LGIS		DISSECTION/SGD		
			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)	SDL Anatomy Layers of Antero lateral abdominal wall & its defects		
06-03-2026 Friday			8:00-9:00AM	9:00-10:00AM	10:00-11:00AM	11:00-12:00PM						
			GYNAE & OBS	BIOCHEMISTRY LGIS	ANATOMY LGIS	PAK STUDIES						
		Physiologic Changes in the GIT in Pregnancy	Fate of Pyruvate	Gluconeogenesis	Histology Salivary Glands	Development Of Salivary Glands	Nazria Pakistan-I		SDL Biochemistry Pyruvate Kinase Deficiency			
		Dr. Farah (Even)	Dr. Saira (Odd)	Dr Uzma Zafar (Even)	Dr. Aneela (Odd)	Ass. Prof. Dr Maria (Even)	Prof. Dr Ifra (Odd)	Miss. Kinza Fiaz				
Date/Day		8:00am - 9:00am	9:00am – 10:00am		10:00am – 10:20am	10:20am-11:00am	11:00am-11:40am	11:40am – 01:00pm	Home Assignments (2hrs)			
07-03-2026 Saturday		Practical & CBL/SGD Topic & Venue Mentioned at The End	CLINICO-CONCEPT CONNECT (C*6) SESSIONS-I		Break	PBL-1 (SESSION-II)		COMMUNITY MEDICINE		Elections	SDL Applied Anatomy Of Rectus Sheath	
			Dysphagia & Disorders of Oral Cavity and Swallowing				PBL Team		Epidemiology of Infectious Diseases Basic Concepts			Concept of Health & Disease
			Anatomy									
			Physiology									
			Pathology									
			Pharmacology									
			Medicine					Dr. Asif (Even)	Dr. Rizwana Shahid (Odd)			
			Surgery									

Table No. 1 (Time: 08:00am – 09:20am)

Batch Distribution for Practical Skills (all subjects) CBL / Small Group Discussion (Biochemistry)	Topics for Skill Lab with Venue	Schedule for Practical													
	• Histology of Tongue and Salivary Glands (Anatomy Histology Practical) Venue-Histology Lab-	Day	Histology Practical		Biochemistry Practical			Physiology Practical			Physiology SGD	Biochemistry SGD			
			Batch	Teacher Name	Batch	Teacher Name	Super	Batch	Teacher Name	Supervis		Batch	Teacher Name	Batch	Teacher Name

and Physiology)			Dr. Sadia Baqir • Saliva I (Biochemistry Practical) Venue- Biochemistry Laboratory • Sense of Taste (Physiology Practical) Venue – Physiology Lab											
Sr. No	Batch	Roll No.		Monday	C	Supervised by HOD	B	Dr. Rahat	E	Dr. Fareed	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. Jawad	A	Dr. Romessa
3.	C	141-210		Thursday	B		A	Dr. Almas	D	Dr. Fahd	E	Dr. Fareed	C	Dr. Nayab
4.	D	211-280		Saturday	A		E	Dr. Romessa	C	Dr. Jawad	D	Dr. Fahd	B	Dr. Rahat
5.	E	281-onwards												

Topics for SGDs / CBL with Venue

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

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

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

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

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

Table No. 4 Batch Distribution and Venues for Anatomy Small Group Discussion SGDs / Dissections					Table No. 5 Batch Distribution and Venues for Physiology Small Group Discussion SGDs				
Batches	Roll No	Subgroup	Anatomy Teacher	Venue	Batches	Roll No	Subgroup	Physiology Teacher	Venue
A	01- 70	A1: Roll No (1 – 17) A2: Roll No (18 – 34) A3: Roll No (35 – 51) A4: Roll No (52 – 70)	Dr. Sadia Baqir (APWMO)	New Lecture Hall Complex 03	A	01-70	A1: Roll No (1 – 14) A2: Roll No (15 – 28) A3: Roll No (29 – 42) A4: Roll No (43 – 56) A5: Roll No (57 – 70)	Dr. Aneela Yasmeen (APWMO)	Physiology Lecture Hall 5
B	71-140	B1: Roll No (71 – 87) B2: Roll No (88 – 104) B3: Roll No (105 – 121) B4: Roll No (122 – 140)	Dr. Tariq Furqan (Senior. Demonstrator)	New Lecture Hall Complex 1	B	71-140	B1: Roll No (71 – 84) B2: Roll No (85 – 98) B3: Roll No (99 – 112) B4: Roll No (113 – 126) B5: Roll No (127 – 140)	Dr. Shazia Nosheen (APWMO)	Physiology Lecture Hall 5
C	141-210	C1: Roll No (141 – 157) C2: Roll No (158 – 174) C3: Roll No (175 – 191) C4: Roll No (192 – 210)	Dr. Minahil Haq (Senior. Demonstrator)	Anatomy Lecture Hall 04	C	141-210	C1: Roll No (141 – 154) C2: Roll No (155 – 168) C3: Roll No (169 – 182) C4: Roll No (183 – 196) C5: Roll No (197 – 210)	Dr. Fahd Anwar (Demonstrator)	Physiology Lecture Hall 5
D	211- 280	D1: Roll No (211 – 227) D2: Roll No (228 - 244) D3: Roll No (245 – 261) D4: Roll No (262 – 280)	Dr. Sadia Tehseem (PG trainee)	Anatomy Lecture Hall 03	D	211-280	D1: Roll No (211 – 224) D2: Roll No (225 – 238) D3: Roll No (239 – 252) D4: Roll No (253 – 266) D5: Roll No (267 – 280)	Dr. Jawad (Demonstrator)	Physiology Lecture Hall 5
E	281- onwards	E1: Roll No (281 – 297) E2: Roll No (298 – 314) E3: Roll No (315 – 331) E4: Roll No (332 – onwards)	Dr. Sara bano / Dr. Amaan (Assistant Professor)	New Lecture Hall Complex 02	E	281- onwards	E1: Roll No (281 – 294) E2: Roll No (295 – 308) E3: Roll No (309 – 322) E4: Roll No (323 – 336) E5: Roll No (337 – onwards)	Dr. Fareed Ullah (Demonstrator)	Physiology Lecture Hall 5
Supervised by Prof. Dr. Ayesha Yousaf					Supervised by Prof. Dr. Samia Sarwar				

Time Table for GIT Module - I (Second Week)
(09-03-2026 to 14-03-2026)

Date/Day	Theme	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)				
09-03-2026 Monday	Epigastric Pain & Peptic Ulcer Disease	Practical &CBL/SGD Topic & Venue Mentioned at The End	PHYSIOLOGY LGIS		Break	BIOCHEMISTRY LGIS		RESEARCH-I LGIS		DISSECTION/SGD	SDL Physiology Control of GI Motility & Factors Affecting GIT Blood Flow	
			Movements of GIT, control of GIT motility and factors affecting GIT blood flow, hormones of GIT	Motor functions of stomach, physiology of regulation of gastric emptying		Gluconeogenesis	Fate of Pyruvate	Introduction to Descriptive Statistics				Inguinal Region And Hernias Refere to Table No.1
		Dr. Aneela (Even)	Dr. Shazia (Odd)	Dr. Aneela (Even)		Dr Uzma Zafar (Odd)	Dr. Asif Maqsood (Even)	Dr. Rizwana Shahid (Odd)				
		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)							
Practical &CBL/SGD Topic & Venue Mentioned at The End	PHYSIOLOGY LGIS		ANATOMY LGIS		PAK STUDIES		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	Nazria Pakistan -II				Peritoneum & Peritoneal Cavity Refere to Table No.1			
Dr. Aneela (Even)	Dr. Shazia (Odd)	Ass. Prof. Dr Maria (Even)	Prof. Dr Ifra (Odd)	Miss. Kinza Fiaz								
Practical &CBL/SGD Topic & Venue Mentioned at The End	PHYSIOLOGY LGIS		PHYSIOLOGY SGD		BIOCHEMISTRY LGIS		SSDL	SDL Applied Anatomy of Inguinal region & Hernias				
	Gastric secretion, digestion in stomach, peptic ulcer and gastritis	Physiology of liver and gall bladder, liver and biliary secretion	Movements of GIT, control of GIT motility and factors affecting GIT blood flow, hormones of GIT		Citric Acid Cycle	Function of NADPH & Deficiency of G6PD			Sub divisions of Peritoneal Cavity Refere to Table No.1			
Dr. Shazia (Even)	Dr. Aneela (Odd)	Dr. Farah / Dr. Jawad		Dr Uzma Zafar (Even)	Dr. Aneela (Odd)							
13-03-2026 Friday	Epigastric Pain & Peptic Ulcer Disease	8:00-9:00am		9:00-10:00am		10:00-11:00am		11:00-12:00pm		SDL Biochemistry Clinical disorders related to HMP shunt		
		Medicine		ANATOMY LGIS		ISLAMIYAT		PBL-2 (SESSION-I)				
		Peptic Ulcer	Development of Stomach-2	Histology of Stomach	Toheed Related Quranic Verses & their Explanation		PBL: Team					
		Prof. Dr. Ifra (Even)	Ass. Prof. Dr Maria (Odd)	Mufti Naem Sherazi								
14-03-2026 Saturday	Epigastric Pain & Peptic Ulcer Disease	8:00am-9:20am		9:20am – 10:10am		10:10am – 10:30am		11:10am-11:50am		11:50am – 01:00pm		Home Assignments (2hrs)
		Practical &CBL/SGD Topic & Venue Mentioned at The End	CLINICO-CONCEPT CONNECT (C'6) SESSIONS-II		Break	ANATOMY LGIS		BIOCHEMISTRY LGIS		DISSECTION/SGD	SDL Anatomy Peritoneal Dialysis/ Peritonal Lavage	
			Epigastric Pain & Peptic Ulcer Disease			Histology of Stomach	Development of Stomach-2	Glycogen Metabolism	Gastric Juice			
			Anatomy									
			Physiology									
			Pathology									
			Pharmacology									
Medicine												
Surgery												
		Ass. Prof. Dr Maria (Even)	Prof. Dr. Ifra (Odd)	Dr. Aneela (Even)	Dr. Tayba (Odd)							

Table No. 1 (Time: 08:00am – 09:20am)																	
Batch Distribution for Practical Skills (all subjects) CBL / Small Group Discussion (Biochemistry and Physiology)			Topics for Skill Lab with Venue	Schedule for Practical													
				Day	Histology Practical		Biochemistry Practical		Physiology Practical		Physiology SGD		Biochemistry SGD				
Sr. No	Batch	Roll No.			Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name			
1.	A	01-70	<ul style="list-style-type: none"> Histology of Esophagus & Stomach (Anatomy Histology Practical) Venue-Histology lab-Dr Tariq Furqan Saliva II (Biochemistry Practical) Venue- Biochemistry laboratory Sense of Smell (Physiology Practical) Venue – Physiology Lab 	Monday	C	Supervised by HOD	B	Dr. Rahat	Supervised by HOD	E	Dr. Fareed	A	Dr. Aneela	D	Dr. Uzma		
2.	B	71-140		Tuesday	D		C	Dr. Nayab		A	Dr. Aneela	B	Dr. Shazia	B	Dr. Shazia	E	Dr. Almas
3.	C	141-210		Wednesday	E		D	Dr. Uzma		B	Dr. Shazia	C	Dr. Jawad	A	Dr. Romessa	C	Dr. Romessa
4.	D	211-280		Thursday	B		A	Dr. Almas		D	Dr. Fahd	E	Dr. Fahd	C	Dr. Fahd	D	Dr. Rahat
5.	E	281-onwards		Saturday	A		E	Dr. Romessa		C	Dr. Jawad	D	Dr. Fahd	B	Dr. Rahat	B	Dr. Rahat
			Topics for SGDs / CBL with Venue														
			<ul style="list-style-type: none"> Physiology SGD: Peptic Ulcer Venue: Lecture Hall No 5) Biochemistry CBL: Glucose 6 Phosphate Dehydrogenase Deficiency (Venue: Lecture Hall No 2) 														

Table No. 2 Batch Distribution with Venues and Teachers Name for Problem Based Learning (PBL) Sessions									
Sr No.	Batches	Roll No	Venue	Teachers	Sr No.	Batches	Roll No	Venue	Teachers
1.	A1	(01-35)	Lecture Hall no.05 Physiology	Dr. Khalid Yaqoob (Senior Demonstrator Biochemistry)	6.	C2	(176-210)	New Lecture Hall Complex Lecture Theater # 01	Dr. Najam (PGT Physiology)
2.	A2	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Dr. Farah Ali Shah (Demonstrator Physiology)	7.	D1	(210-245)	New Lecture Hall Complex Lecture Theater # 04	Dr. Jawad (Demonstrator Physiology)
3.	B1	(71-105)	Anatomy Museum (First Floor Anatomy)	Dr. Almas Aijaz (APWMO Biochemistry)	8.	D2	(246-280)	New Lecture Hall Complex Lecture Theater # 04	Dr. Sadia Baqir (Senior Demonstrator Anatomy)
4.	B2	(106-140)	Lecture Hall no.03 (First Floor)	Dr. Sajjad (Senior Demonstrator of Anatomy)	9.	E1	(281-315)	Anatomy Museum (First Floor Anatomy)	Dr. Uzma Zafar (APWMO Biochemistry)
5.	C1	(141-175)	New Lecture Hall Complex Lecture Theater # 01	Dr. Ali Zain (PGT Physiology)	10	E2	(315 onwards)	Lecture Hall no.04 (Basement)	Dr. Afsheen (PGT Physiology)

Table No. 3 Venues for Large Group Interactive Session (LGIS)	
Odd Roll Numbers	New Lecture Hall Complex Lecture Theater # 01
Even Roll Number	New Lecture Hall Complex Lecture Theater # 04

Table No. 4 Batch Distribution and Venues for Anatomy Small Group Discussion SGDs / Dissections					Table No. 5 Batch Distribution and Venues for Physiology Small Group Discussion SGDs				
Batches	Roll No	Subgroup	Anatomy Teacher	Venue	Batches	Roll No	Subgroup	Physiology Teacher	Venue
A	01- 70	A1: Roll No (1 – 17) A2: Roll No (18 – 34) A3: Roll No (35 – 51) A4: Roll No (52 – 70)	Dr. Sadia Baqir (APWMO)	New Lecture Hall Complex 03	A	01-70	A1: Roll No (1 – 14) A2: Roll No (15 – 28) A3: Roll No (29 – 42) A4: Roll No (43 – 56) A5: Roll No (57 – 70)	Dr. Aneela Yasmeen (APWMO)	Physiology Lecture Hall 5
B	71-140	B1: Roll No (71 – 87) B2: Roll No (88 – 104) B3: Roll No (105 – 121) B4: Roll No (122 – 140)	Dr. Tariq Furqan (Senior. Demonstrator)	New Lecture Hall Complex 1	B	71-140	B1: Roll No (71 – 84) B2: Roll No (85 – 98) B3: Roll No (99 – 112) B4: Roll No (113 – 126) B5: Roll No (127 – 140)	Dr. Shazia Nosheen (APWMO)	Physiology Lecture Hall 5
C	141-210	C1: Roll No (141 – 157) C2: Roll No (158 – 174) C3: Roll No (175 – 191) C4: Roll No (192 – 210)	Dr. Minahil Haq (Senior. Demonstrator)	Anatomy Lecture Hall 04	C	141-210	C1: Roll No (141 – 154) C2: Roll No (155 – 168) C3: Roll No (169 – 182) C4: Roll No (183 – 196) C5: Roll No (197 – 210)	Dr. Fahd Anwar (Demonstrator)	Physiology Lecture Hall 5
D	211- 280	D1: Roll No (211 – 227) D2: Roll No (228 - 244) D3: Roll No (245 – 261) D4: Roll No (262 – 280)	Dr. Sadia Tehseem (PG trainee)	Anatomy Lecture Hall 03	D	211-280	D1: Roll No (211 – 224) D2: Roll No (225 – 238) D3: Roll No (239 – 252) D4: Roll No (253 – 266) D5: Roll No (267 – 280)	Dr. Jawad (Demonstrator)	Physiology Lecture Hall 5
E	281- onwards	E1: Roll No (281 – 297) E2: Roll No (298 – 314) E3: Roll No (315 – 331) E4: Roll No (332 – onwards)	Dr. Sara bano / Dr. Amaan (Assistant Professor)	New Lecture Hall Complex 02	E	281- onwards	E1: Roll No (281 – 294) E2: Roll No (295 – 308) E3: Roll No (309 – 322) E4: Roll No (323 – 336) E5: Roll No (337 – onwards)	Dr. Fareed Ullah (Demonstrator)	Physiology Lecture Hall 5
Supervised by Prof. Dr. Ayesha Yousaf					Supervised by Prof. Dr. Samia Sarwar				

Time Table for GIT Module - I (Third Week)
(16-03-2026 to 25-03-2026)

Date/Day	Theme	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)			
16-03-2026 Monday	Chronic Diarrhea & Malabsorption Syndromes	Practical & CBL/SGD Topic & Venue Mentioned at The End	PHYSIOLOGY LGIS		Break	PHYSIOLOGY SDL-I		BIOCHEMISTRY LGIS		DISSECTION/SGD	SDL Physiology Clinical disorders of Esophagus & Swallowing., Achalasia/ vomiting
			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)	Small intestine motility and malabsorption (sprue, paralytic ileus and Crohn's disease)		Diarrhea & Malabsorption Syndromes	Gastric Juice	Glycogen Metabolism	Small intestine (Duodenum) Refer to Table No.1		
		Dr. Aneela (Even)	Prof. Dr. Samia Sarwar / Dr. Shazia (Odd)	Dr. Jawad (Even)		Dr. Fareed (Even)	Dr. Tayba (Even)	Dr. Aneela (Odd)	DISSECTION/SGD		
		PHYSIOLOGY LGIS		ANATOMY LGIS		RADIOLOGY		DISSECTION/SGD			
17-03-2026 Tuesday	Practical & CBL/SGD Topic & Venue Mentioned at The End	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)	Break	Development of Liver & Biliary Apparatus	Histology of Liver	Medical Imaging of abdomen-I		Small intestine (Jejunum & ileum) Refer to Table No.1	SDL Physiology Motor function of stomach	
		Prof. Dr. Samia Sarwar / Dr. Shazia (Even)	Dr. Aneela (Odd)		Prof. Dr. Ifra (Even)	Prof. Dr. Ayesha / Dr. Maria (Odd)	Dr. Zeenat (Odd)	Dr. Saba Binte Kashmir (Even)	DISSECTION/CBL		
18-03-2026 Wednesday	Practical & CBL/SGD Topic & Venue Mentioned at The End	RESEARCH-II LGIS			Break	ANATOMY LGIS		BIOCHEMISTRY LGIS		DISSECTION/CBL	SDL Biochemistry Glycogen Metabolism
		Classification of different types of data				Histology of Liver	Development of Liver & Biliary Apparatus	LFT's Jaundice	Bile & pancreatic juice			Liver-I CBL- Liver & portal Hypertension Refer to Table No.1
Dr. Rizwana Shahid (Even)	Dr. Asif (Odd)	Prof. Dr. Ayesha / Dr. Maria (Even)	Prof. Dr. Ifra (Odd)	Dr. Nayab (Even)		Dr. Tayba (Odd)	SSDL				
ANATOMY		RADIOLOGY		PBL-2 SESSION – II		SSDL					
19-03-2026 Thursday	Practical & CBL/SGD Topic & Venue Mentioned at The End	Development of Gallbladder & Pancreas	Histology of Gallbladder & Pancreas	Break	Medical Imaging of abdomen-II		PBL Team		Liver II (Functional Sagment) Refer to Table No.1	SDL Anatomy Crohn's Disease, Celiac Disease, Irritable Bowel Syndrome	
		Prof. Dr. Ifra (Even).	Ass. Prof. Dr. Maria (Odd)		Dr. Saba Binte Kashmir (Odd)	Dr. Zeenat (Even)					

Eid al-Fitr Holidays (20th March – 23rd March 2026)

Date/Day	Theme	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 – 1:15pm	1:15pm – 2:00pm	Home Assignments(2hrs)	
24-03-2026 Tuesday	Chronic Diarrhea & Malabsorption Syndromes	Practical & CBL/SGD Topic & Venue Mentioned at The End	ANATOMY LGIS		Break	PEDIATRICS		ISLAMIYAT		SDL Biochemistry Glycogen Storage Disorders	
			Histology of Gallbladder & Pancreas	Development of Gallbladder & Pancreas		Acute and Chronic Diarrhea & Chronic Diarrhea		Toheed & Shirk			
Ass. Prof. Dr. Maria (Even)	Prof. Dr. Ifra (Odd)	Dr. Maryam (Even)	Dr. Sumbal (Odd)	Mufti Naeem Sherazi							
PHYSIOLOGY SDL-II		ANATOMY LGIS		GYNAE & OBS		Break					
Diarrhea		Development of Small Intestine	Histology of Small Intestine	Jaundice/Obstetric Cholestasis in Pregnancy							
Dr. Farah (Even)	Dr. Jawad (Odd)	Prof. Dr. Ifra (Even)	Ass. Prof. Dr. Maria (Odd)	Dr. Ayesha Zulfikar (Even)	Dr. Asma Khan (Odd)						
CLINICO-CONCEPT CONNECT (C ³) SESSIONS-III		Chronic Diarrhea & Malabsorption Syndromes		SDL Anatomy Diverticulum, Intussusception Mid Module Online Evaluation							
25-03-2026 Wednesday	Chronic Diarrhea & Malabsorption Syndromes	Practical & CBL/SGD Topic & Venue Mentioned at The End	ANATOMY		Break	PEDIATRICS		ISLAMIYAT		SDL Biochemistry Glycogen Storage Disorders	
			Histology of Gallbladder & Pancreas			Acute and Chronic Diarrhea & Chronic Diarrhea		Toheed & Shirk			
			Development of Gallbladder & Pancreas			Mufti Naeem Sherazi					
			PHYSIOLOGY LGIS			ANATOMY LGIS		GYNAE & OBS			Break
			Diarrhea			Development of Small Intestine	Histology of Small Intestine	Jaundice/Obstetric Cholestasis in Pregnancy			
Dr. Farah (Even)	Dr. Jawad (Odd)	Prof. Dr. Ifra (Even)	Ass. Prof. Dr. Maria (Odd)	Dr. Ayesha Zulfikar (Even)	Dr. Asma Khan (Odd)						
CLINICO-CONCEPT CONNECT (C ³) SESSIONS-III		Chronic Diarrhea & Malabsorption Syndromes		SDL Anatomy Diverticulum, Intussusception Mid Module Online Evaluation							
ANATOMY		PEDIATRICS		ISLAMIYAT		Break					
Physiology		Acute and Chronic Diarrhea & Chronic Diarrhea		Toheed & Shirk							
Pathology		Mufti Naeem Sherazi									
Pharmacology		PHYSIOLOGY LGIS		GYNAE & OBS			Break				
Medicine		Development of Small Intestine	Histology of Small Intestine	Jaundice/Obstetric Cholestasis in Pregnancy							
Community Med		Dr. Farah (Even)	Dr. Jawad (Odd)	Prof. Dr. Ifra (Even)	Ass. Prof. Dr. Maria (Odd)	Dr. Ayesha Zulfikar (Even)		Dr. Asma Khan (Odd)			

Table No. 1 (Time: 08:00am – 09:20am)

Batch Distribution for Practical Skills (all subjects) CBL / Small Group Discussion (Biochemistry and Physiology)			Topics for Skill Lab with Venue	Schedule for Practical												
Sr. No	Batch	Roll No.	<ul style="list-style-type: none"> Histology of Liver & Gall Bladder (Anatomy Histology Practical) Venue- Histology Laboratory- Dr Sadia Tehseem Bile (Biochemistry Practical) Venue- Biochemistry Laboratory Examination of Superficial Reflexes (Physiology Practical) Venue – Physiology Lab 	Day	Histology Practical		Biochemistry Practical		Physiology Practical		Supervised by HOD	Physiology SGD		Biochemistry SGD		
					Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name		Batch	Teacher Name	Batch	Teacher Name	
1.	A	01-70		Monday	C	Supervised by HOD	B	Dr. Rahat	Supervised by HOD	E	Dr. Fareed	Supervised by HOD	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. Jawad	A	Dr. Romessa
4.	D	211-280		Thursday	B		A	Dr. Almas		D	Dr. Fahd		E	Dr. Fareed	C	Dr. Nayab
5.	E	281-onwards		Saturday	A		E	Dr. Romessa		C	Dr. Jawad		D	Dr. Fahd	B	Dr. Rahat
			Topics for SGDs / CBL with Venue	<ul style="list-style-type: none"> Physiology SGD: Motor Function of Large Gut (Venue: Lecture Hall No 5) Biochemistry SGD: Gluconeogenesis and Its Regulation (Venue: Lecture Hall No 2) Anatomy CBL: Liver and Portal Hypertension 												

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

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

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

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

Table No. 4 Batch Distribution and Venues for Anatomy Small Group Discussion SGDs / Dissections					Table No. 5 Batch Distribution and Venues for Physiology Small Group Discussion SGDs				
Batches	Roll No	Subgroup	Anatomy Teacher	Venue	Batches	Roll No	Subgroup	Physiology Teacher	Venue
A	01- 70	A1: Roll No (1 – 17) A2: Roll No (18 – 34) A3: Roll No (35 – 51) A4: Roll No (52 – 70)	Dr. Sadia Baqir (APWMO)	New Lecture Hall Complex 03	A	01-70	A1: Roll No (1 – 14) A2: Roll No (15 – 28) A3: Roll No (29 – 42) A4: Roll No (43 – 56) A5: Roll No (57 – 70)	Dr. Aneela Yasmeen (APWMO)	Physiology Lecture Hall 5
B	71-140	B1: Roll No (71 – 87) B2: Roll No (88 – 104) B3: Roll No (105 – 121) B4: Roll No (122 – 140)	Dr. Tariq Furqan (Senior. Demonstrator)	New Lecture Hall Complex 1	B	71-140	B1: Roll No (71 – 84) B2: Roll No (85 – 98) B3: Roll No (99 – 112) B4: Roll No (113 – 126) B5: Roll No (127 – 140)	Dr. Shazia Nosheen (APWMO)	Physiology Lecture Hall 5
C	141-210	C1: Roll No (141 – 157) C2: Roll No (158 – 174) C3: Roll No (175 – 191) C4: Roll No (192 – 210)	Dr. Minahil Haq (Senior. Demonstrator)	Anatomy Lecture Hall 04	C	141-210	C1: Roll No (141 – 154) C2: Roll No (155 – 168) C3: Roll No (169 – 182) C4: Roll No (183 – 196) C5: Roll No (197 – 210)	Dr. Fahd Anwar (Demonstrator)	Physiology Lecture Hall 5
D	211- 280	D1: Roll No (211 – 227) D2: Roll No (228 - 244) D3: Roll No (245 – 261) D4: Roll No (262 – 280)	Dr. Sadia Tehseem (PG trainee)	Anatomy Lecture Hall 03	D	211-280	D1: Roll No (211 – 224) D2: Roll No (225 – 238) D3: Roll No (239 – 252) D4: Roll No (253 – 266) D5: Roll No (267 – 280)	Dr. Jawad (Demonstrator)	Physiology Lecture Hall 5
E	281- onwards	E1: Roll No (281 – 297) E2: Roll No (298 – 314) E3: Roll No (315 – 331) E4: Roll No (332 – onwards)	Dr. Sara bano / Dr. Amaan (Assistant Professor)	New Lecture Hall Complex 02	E	281- onwards	E1: Roll No (281 – 294) E2: Roll No (295 – 308) E3: Roll No (309 – 322) E4: Roll No (323 – 336) E5: Roll No (337 – onwards)	Dr. Fareed Ullah (Demonstrator)	Physiology Lecture Hall 5
Supervised by Prof. Dr. Ayesha Yousaf					Supervised by Prof. Dr. Samia Sarwar				

Time Table for GIT Module - I (Fourth Week)
(26-03-2026 to 01-04-2026)

Date/Day	Theme	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)				
26-03-2026 Thursday	Jaundice & Hepatobiliary Disorders	Practical &CBL/SGD Topic & Venue Mentioned at The End	PHYSIOLOGY LGIS		Break	ANATOMY LGIS		BEHAVIORAL SCIENCES		Break	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)	Liver function tests, types of jaundice, pathophysiology of cirrhosis and portal hypertension		History of Small Intestine	Development of Small Intestine	Learning			Spleen		
			Dr Shazia (Even)	Dr Aneela (Odd)		Ass. Prof. Dr. Maria (Even)	Prof. Dr. Ifra (Odd)	Dr. Sara Afzal (Odd)	Dr. Mehboob Ali Shah (Even)				
Date/Day		8:00 AM – 9:00 AM	9:00 AM – 10:00 AM	10:00 – 11:00AM	11:00AM – 12:00PM	SDL				Applied Anatomy of Vasculature of GIT (Blood Supply, Venous drainage,			
27-03-2026 Friday		DISSECTION		BIOCHEMISTRY LGIS		RESEARCH-III		PHYSIOLOGY SDL-III					
		Dissection / Spotting	Bile & Pancreatic Juice	LFT's Jaundice	Scales of Data Measurement		Jaundice & Hepatobiliary Disorders						
Date/Day		8:00am-9:20am	9:20:00am - 02:00pm						Home Assignments(2hrs)				
28-03-2026 Saturday		Practical &CBL/SGD Topic & Venue Mentioned at The End	Early Clinical Exposure (ECE)							SDL Anatomy Liver Biopsy, Liver Abscess and hepatitis			
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)				
30-03-2026 Monday		Practical &CBL/SGD Topic & Venue Mentioned at The End	FAMILY MEDICINE LGIS		Break	PHYSIOLOGY LGIS		ANATOMY LGIS		Break	SSDL		SDL Physiology LFTs, Jaundice
	Approch To A Patient with Hepatobiliary Disorders		Liver function tests, types of jaundice, pathophysiology of cirrhosis and portal hypertension	Motor function of large gut, defecation reflex and pathophysiology (diarrhea, constipation, ulcerative colitis, mega colon and carcinoma of colon)		Development of Large Intestine	Histology of Large Intestine I	Pancreas					
	Dr. Sana Latif (Even)		Dr. Sidra Hamid (Odd)	Dr Aneela (Even)		Dr Shazia (Odd)	Prof. Dr. Ifra (Even)	Prof Dr. Saima (Odd)					
31-03-2026 Tuesday	Practical &CBL/SGD Topic & Venue Mentioned at The End	BIOCHEMISTRY LGIS		Break	PAK STUDIES		RESEARCH-IV		Break	CBL		SDL Biochemistry Individual Sugars	
		Nutrition-I	GIT Hormones & Succusertericus		Establishment of an Islamic state		Measures of central tendency			Large intestine CBL- Acute Appendicitis			
	Dr. Rahat (Even)	Dr. Tayba (Odd)				Dr. Rizwana Shahid (Even)	Dr. Asif (Odd)						
01-04-2026 Wednesday	SURGERY		CLINICO-CONCEPT CONNECT (C⁶) SESSIONS-IV		ANATOMY LGIS		ISLAMİYAT			DISSECTION/ SGD		SDL Biochemistry Clinical Aspects of Digestive Juices	
		Jaundice & Hepatobiliary Disorders			History of Large Intestine-I	Development of Large Intestine	Risalat Related Quranic Verses & Their Explanation			Vasculature of GIT (Blood Supply, Venous drainage, Lymphatic drainage)			
		Gall Stones	Anatomy										
			Physiology										
			Biochemistry										
	Pathology												
	Dr. Faiza (Odd)	Dr. Asad Amir (Even)	Pharmacology		Prof Dr. Saima (Even)	Prof. Dr. Ifra (Odd)	Mufti Naeem Sherazi						
			Medicine										
			Community Medicine										

Table No. 1 (Time: 08:00am – 09:20am)

Batch Distribution for Practical Skills (all subjects) CBL / Small Group Discussion (Biochemistry and Physiology)			Topics for Skill Lab with Venue	Schedule for Practical														
				Day	Histology Practical		Biochemistry Practical		Physiology Practical		Physiology SGD		Biochemistry SGD					
Sr. No	Batch	Roll No.	Batch		Teacher Name	Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name			
1.	A	01-70	<ul style="list-style-type: none"> Histology of Small Intestine (Anatomy Histology Practical) Venue-Histology laboratory- Dr Minahil Haq Estimation of ALT & ALP (wheat) (Biochemistry Practical) Venue-Biochemistry laboratory Examination of Deep reflexes (Physiology Practical) Venue – Physiology Lab 	Monday	C	Supervised by HOD	B	Dr. Rahat	Supervised by HOD	E	Dr. Fareed	Supervised by HOD	A	Dr. Aneela	D	Dr. Uzma		
2.	B	71-140		Tuesday	D		C	Dr. Romessa		A	Dr. Aneela		B	Dr. Shazia	B	Dr. Shazia	E	Dr. Almas
3.	C	141-210		Wednesday	E		D	Dr. Uzma		B	Dr. Shazia		C	Dr. Jawad	A	Dr. Romessa	C	Dr. Romessa
4.	D	211-280		Thursday	B		A	Dr. Almas		D	Dr. Fahd		E	Dr. Fareed	C	Dr. Romessa	E	Dr. Romessa
5.	E	281-onwards		Saturday	A		E	Dr. Romessa		C	Dr. Jawad		D	Dr. Fahd	B	Dr. Rahat	D	Dr. Rahat
			Topics for SGDs / CBL with Venue	<ul style="list-style-type: none"> Physiology SGD: Jaundice (Venue: Lecture Hall No 5) Biochemistry SGD: Jaundice & LFTs (Venue: Lecture Hall No 2) Anatomy CBL: Acute Appendicitis 														

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

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

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

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

Table No. 4 Batch Distribution and Venues for Anatomy Small Group Discussion SGDs / Dissections					Table No. 5 Batch Distribution and Venues for Physiology Small Group Discussion SGDs				
Batches	Roll No	Subgroup	Anatomy Teacher	Venue	Batches	Roll No	Subgroup	Physiology Teacher	Venue
A	01- 70	A1: Roll No (1 – 17) A2: Roll No (18 – 34) A3: Roll No (35 – 51) A4: Roll No (52 – 70)	Dr. Sadia Baqir (APWMO)	New Lecture Hall Complex 03	A	01-70	A1: Roll No (1 – 14) A2: Roll No (15 – 28) A3: Roll No (29 – 42) A4: Roll No (43 – 56) A5: Roll No (57 – 70)	Dr. Aneela Yasmeen (APWMO)	Physiology Lecture Hall 5
B	71-140	B1: Roll No (71 – 87) B2: Roll No (88 – 104) B3: Roll No (105 – 121) B4: Roll No (122 – 140)	Dr. Tariq Furqan (Senior. Demonstrator)	New Lecture Hall Complex 1	B	71-140	B1: Roll No (71 – 84) B2: Roll No (85 – 98) B3: Roll No (99 – 112) B4: Roll No (113 – 126) B5: Roll No (127 – 140)	Dr. Shazia Nosheen (APWMO)	Physiology Lecture Hall 5
C	141-210	C1: Roll No (141 – 157) C2: Roll No (158 – 174) C3: Roll No (175 – 191) C4: Roll No (192 – 210)	Dr. Minahil Haq (Senior. Demonstrator)	Anatomy Lecture Hall 04	C	141-210	C1: Roll No (141 – 154) C2: Roll No (155 – 168) C3: Roll No (169 – 182) C4: Roll No (183 – 196) C5: Roll No (197 – 210)	Dr. Fahd Anwar (Demonstrator)	Physiology Lecture Hall 5
D	211- 280	D1: Roll No (211 – 227) D2: Roll No (228 - 244) D3: Roll No (245 – 261) D4: Roll No (262 – 280)	Dr. Sadia Tehseem (PG trainee)	Anatomy Lecture Hall 03	D	211-280	D1: Roll No (211 – 224) D2: Roll No (225 – 238) D3: Roll No (239 – 252) D4: Roll No (253 – 266) D5: Roll No (267 – 280)	Dr. Jawad (Demonstrator)	Physiology Lecture Hall 5
E	281- onwards	E1: Roll No (281 – 297) E2: Roll No (298 – 314) E3: Roll No (315 – 331) E4: Roll No (332 – onwards)	Dr. Sara bano / Dr. Amaan (Assistant Professor)	New Lecture Hall Complex 02	E	281- onwards	E1: Roll No (281 – 294) E2: Roll No (295 – 308) E3: Roll No (309 – 322) E4: Roll No (323 – 336) E5: Roll No (337 – onwards)	Dr. Fareed Ullah (Demonstrator)	Physiology Lecture Hall 5
Supervised by Prof. Dr. Ayesha Yousaf					Supervised by Prof. Dr. Samia Sarwar				

Time Table for GIT Module - I (Fifth Week)
(02-04-2026 To 08-04-2026)

Date/Day	Theme	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)					
02-04-2026 Thursday	Acute Abdomen & Large Intestinal Disorders	Practical &CBL/SGD Topic & Venue Mentioned at The End	PHYSIOLOGY SDL-IV		Break	MEDICINE		ANATOMY LGIS		Break	DISSECTION/SGD	SDL Physiology Hormones of GIT		
Acute Abdomen			Inflammatory Bowel Diseases			Development of Body Cavities-I	Histology of Large Intestine-II		Radiological Anatomy					
Dr. Jawad (Even)			Dr. Fareed (Odd)	Dr. Sadia (Even)		Dr. Aqsa (Odd)	Prof Dr. Ifra Saeed (Even)	Prof. Dr. Ayesha / Ass. Prof Dr Maria (Odd)						
Date/Day		8:00 AM – 9:00 AM	9:00 AM – 10:00 AM	10:00 – 11:00AM	11:00AM – 12:00PM				SDL Applied Anatomy of Innervation of Abdominal Viscera's					
03-04-2026 Friday		BEHAVIORAL SCIENCES	PHARMACOLOGY	BIOCHEMISTRY LGIS		PATHOLOGY								
Memory		Anti Diarrheal Drugs		GIT Hormones & Succuserentericus		Nutrition-I		Pathologies of Intestine						
Dr. Mehmood Ali Khan (Odd)		Dr. Azeem Rao (Even)	Dr. Zaheer (Odd)	Dr. Arsheen (Even)		Dr. Tayba (Even)	Dr. Rahat (Odd)	Dr. Rabbiya (Odd)	Dr. Sara (Even)					
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)					
04-04-2026 Saturday	Acute Abdomen & Large Intestinal Disorders	Practical &CBL/SGD Topic & Venue Mentioned at The End	PHYSIOLOGY SDL-V		Break	ANATOMY LGIS		BIOCHEMISTRY LGIS		Break	DISSECTION/SGD	SDL Physiology Digestion & Absorption		
Large intestinal Disorders			Histology of Large Intestine-II			Development of Body Cavities-I	Digestion & Absorption-I		Nutrition-II					
Dr. Jawad (Even)			Dr. Farah (Odd)	Prof. Dr. Ayesha / Ass. Prof Dr Maria (Even)		Prof Dr. Ifra Saeed (Odd)	Dr. Khalid (Even)	Dr. Rahat (Odd)						
06-04-2026 Monday		Practical &CBL/SGD Topic & Venue Mentioned at The End	ANATOMY LGIS			RESEARCH V		BIOCHEMISTRY LGIS			DISSECTION/SGD	SDL Biochemistry Lipid digestion and absorption		
Development of body Cavities-II			Development of body Cavities-II			Geriatrics		Digestion and absorption-I			Nutrition-II			
Prof. Dr. Ifra Saeed (Even)			Prof. Dr. Saima (Odd)			Dr. Asif (Even)	Dr. Rizwana Shahid (Odd)	Dr. Khalid (Odd)	Dr. Rahat (Even)					
07-04-2026 Tuesday		Practical &CBL/SGD Topic & Venue Mentioned at The End	BIOCHEMISTRY LGIS			SURGERY		PHYSIOLOGY SDL-VI			DISSECTION/SGD	SDL Biochemistry Clinical disorders related to digestion and absorption		
Nutrition-III			Digestion & Absorption-II			Acute Abdomen		Pathophysiology (diarrhea, constipation, ulcerative colitis, mega colon and carcinoma of colon)						
Dr. Rahat (Even)	Dr. Khalid (Odd)		Dr. Asad Amir (Odd)	Dr. Faiza (Even)	Dr. Farah (Even)	Dr. Fareed (Odd)								
Date/Day	8:00am-9:00am	9:00am – 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)						
08-04-2026 Wednesday	Practical &CBL/SGD Topic & Venue Mentioned at The End	CLINICO-CONCEPT CONNECT (C'6) SESSIONS-V		Break	RESEARCH PRACTICAL SESSION I		BIOCHEMISTRY LGIS		Break	DISSECTION/SGD	SDL Anatomy Hemorrhoids & Anal Fissure End Module Online Clinical Evaluation			
Acute Abdomen & Large Intestinal Disorders		Synopsis wrting session			Digestion & Absorption-II		Nutrition-III							
Anatomy														
Physiology														
Pathology														
Pharmacology														
Surgery														
Community Medicine														

Table No. 1 (Time: 08:00am – 09:20am)																	
Batch Distribution for Practical Skills (all subjects) CBL / Small Group Discussion (Biochemistry and Physiology)			Topics for Skill Lab with Venue		Schedule for Practical												
					Day	Histology Practical		Biochemistry Practical		Physiology Practical		Physiology SGD	Biochemistry SGD				
Sr. No	Batch	Roll No.	Batch	Teacher Name		Batch	Teacher Name	Batch	Teacher Name	Batch	Teacher Name		Batch	Teacher Name			
1.	A	01-70	Monday	C	Supervised by HOD	B	Dr. Rahat	Supervised by HOD	E	Dr. Fareed	Supervised by HOD	A	Dr. Aneela	D	Dr. Uzma		
2.	B	71-140	Tuesday	D		C	Dr. Romessa		A	Dr. Aneela		B	Dr. Shazia	B	Dr. Shazia	E	Dr. Almas
3.	C	141-210	Wednesday	E		D	Dr. Uzma		B	Dr. Shazia		C	Dr. Jawad	A	Dr. Romessa	C	Dr. Romessa
4.	D	211-280	Thursday	B		A	Dr. Almas		D	Dr. Fahd		E	Dr. Fareed	C	Dr. Romessa	E	Dr. Romessa
5.	E	281-onwards	Saturday	A		E	Dr. Romessa		C	Dr. Jawad		D	Dr. Fahd	B	Dr. Rahat	D	Dr. Rahat
			Topics for SGDs / CBL with Venue														
			<ul style="list-style-type: none"> Physiology CBL: Food Poisoning (Venue: Lecture Hall No 5) Biochemistry CBL: Lactose Intolerance (Venue: Lecture Hall No 2) 														

Table No. 2 Batch Distribution with Venues and Teachers Name for Problem Based Learning (PBL) Sessions									
Sr No.	Batches	Roll No	Venue	Teachers	Sr No.	Batches	Roll No	Venue	Teachers
1.	A1	(01-35)	Lecture Hall no.05 Physiology	Dr. Khalid Yaqoob (Senior Demonstrator Biochemistry)	6.	C2	(176-210)	New Lecture Hall Complex Lecture Theater # 01	Dr. Najam (PGT Physiology)
2.	A2	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Dr. Farah Ali Shah (Demonstrator Physiology)	7.	D1	(210-245)	New Lecture Hall Complex Lecture Theater # 04	Dr. Jawad (Demonstrator Physiology)
3.	B1	(71-105)	Anatomy Museum (First Floor Anatomy)	Dr. Almas Aijaz (APWMO Biochemistry)	8.	D2	(246-280)	New Lecture Hall Complex Lecture Theater # 04	Dr. Sadia Baqir (Senior Demonstrator Anatomy)
4.	B2	(106-140)	Lecture Hall no.03 (First Floor)	Dr. Sajjad (Senior Demonstrator of Anatomy)	9.	E1	(281-315)	Anatomy Museum (First Floor Anatomy)	Dr. Uzma Zafar (APWMO Biochemistry)
5.	C1	(141-175)	New Lecture Hall Complex Lecture Theater # 01	Dr. Ali Zain (PGT Physiology)	10	E2	(315 onwards)	Lecture Hall no.04 (Basement)	Dr. Afsheen (PGT Physiology)

Table No. 3 Venues for Large Group Interactive Session (LGIS)	
Odd Roll Numbers	New Lecture Hall Complex Lecture Theater # 01
Even Roll Number	New Lecture Hall Complex Lecture Theater # 04

Table No. 4 Batch Distribution and Venues for Anatomy Small Group Discussion SGDs / Dissections					Table No. 5 Batch Distribution and Venues for Physiology Small Group Discussion SGDs				
Batches	Roll No	Subgroup	Anatomy Teacher	Venue	Batches	Roll No	Subgroup	Physiology Teacher	Venue
A	01- 70	A1: Roll No (1 – 17) A2: Roll No (18 – 34) A3: Roll No (35 – 51) A4: Roll No (52 – 70)	Dr. Sadia Baqir (APWMO)	New Lecture Hall Complex 03	A	01-70	A1: Roll No (1 – 14) A2: Roll No (15 – 28) A3: Roll No (29 – 42) A4: Roll No (43 – 56) A5: Roll No (57 – 70)	Dr. Aneela Yasmeen (APWMO)	Physiology Lecture Hall 5
B	71-140	B1: Roll No (71 – 87) B2: Roll No (88 – 104) B3: Roll No (105 – 121) B4: Roll No (122 – 140)	Dr. Tariq Furqan (Senior. Demonstrator)	New Lecture Hall Complex 1	B	71-140	B1: Roll No (71 – 84) B2: Roll No (85 – 98) B3: Roll No (99 – 112) B4: Roll No (113 – 126) B5: Roll No (127 – 140)	Dr. Shazia Nosheen (APWMO)	Physiology Lecture Hall 5
C	141-210	C1: Roll No (141 – 157) C2: Roll No (158 – 174) C3: Roll No (175 – 191) C4: Roll No (192 – 210)	Dr. Minahil Haq (Senior. Demonstrator)	Anatomy Lecture Hall 04	C	141-210	C1: Roll No (141 – 154) C2: Roll No (155 – 168) C3: Roll No (169 – 182) C4: Roll No (183 – 196) C5: Roll No (197 – 210)	Dr. Fahd Anwar (Demonstrator)	Physiology Lecture Hall 5
D	211- 280	D1: Roll No (211 – 227) D2: Roll No (228 - 244) D3: Roll No (245 – 261) D4: Roll No (262 – 280)	Dr. Sadia Tehseem (PG trainee)	Anatomy Lecture Hall 03	D	211-280	D1: Roll No (211 – 224) D2: Roll No (225 – 238) D3: Roll No (239 – 252) D4: Roll No (253 – 266) D5: Roll No (267 – 280)	Dr. Jawad (Demonstrator)	Physiology Lecture Hall 5
E	281- onwards	E1: Roll No (281 – 297) E2: Roll No (298 – 314) E3: Roll No (315 – 331) E4: Roll No (332 – onwards)	Dr. Sara bano / Dr. Amaan (Assistant Professor)	New Lecture Hall Complex 02	E	281- onwards	E1: Roll No (281 – 294) E2: Roll No (295 – 308) E3: Roll No (309 – 322) E4: Roll No (323 – 336) E5: Roll No (337 – onwards)	Dr. Fareed Ullah (Demonstrator)	Physiology Lecture Hall 5
Supervised by Prof. Dr. Ayesha Yousaf					Supervised by Prof. Dr. Samia Sarwar				

Tentative Schedule for LMS Based Weekly Online Assessments for Second Year MBBS (GIT Module - I) Batch 52

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

Class	Module	Day & Date	Time of Assessment	Focal person	Department Responsible
Second Year MBBS	GIT Module - I	Monday 16 th March, 2026	4:00 pm - 4:30pm	Prof. Dr Ayesha Yousaf	Anatomy
		Tuesday 17 th March, 2026	4:00 pm - 4:30pm	Prof. Dr Samia Sarwar	Physiology
		Wednesday 18 th March, 2026	4:00 pm - 4:30pm	Dr Aneela Jamil	Biochemistry
		Monday 30 th March, 2026	4:00 pm - 4:30pm	Prof. Dr Ayesha Yousaf	Anatomy
		Tuesday 31 st March, 2026	4:00 pm - 4:30pm	Prof. Dr Samia Sarwar	Physiology
		Wednesday 01 st April, 2026	4:00 pm - 4:30pm	Dr Aneela Jamil	Biochemistry
		Monday 06 th April, 2026	4:00 pm - 4:30pm	Prof. Dr Ayesha Yousaf	Anatomy
		Tuesday 07 th April, 2026	4:00 pm - 4:30pm	Prof. Dr Samia Sarwar	Physiology
		Wednesday 08 th April, 2026	4:00 pm - 4:30pm	Dr Aneela Jamil	Biochemistry

*Note: All dates are subject to change.

Time Table for GIT Module - I (Sixth Week)
(09-04-2026 To 15-04-2026)

Date / Days	Tentative Exam Discipline Details
09-04-2026 Thursday	
10-04-2026 Friday	
11-04-2026 Saturday	Assessment Week
13-04-2026 Monday	
14-04-2026 Tuesday	
15-04-2026 Wednesday	

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

Note: Timetable and dates of end of module assessment are subject to change according to the Eid & Spring vacations.

Note: OSPE will be conducted in block exam.

SECTION VI

Annexure I

Templates for Theory Paper

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

Templates for AV OSPE/OSPE

Templates for Structured Viva

Rawalpindi Medical University Rawalpindi
Department of Anatomy, Physiology & Biochemistry
MCQs & EMQ Paper for _____ Module, Second Year MBBS Batch 52
Date: 00-00-0000

Total Marks: 30 (MCQs: 25, EMQ: 5)

Roll No. _____

Total Time: 30 Minutes

Name. _____

Each MCQ carries 1 mark and EMQ carries 5 marks

Encircle the single best response

Q.#	Integrated & Clinically Oriented Assessment of the Subject Anatomy, Physiology & Biochemistry Section A: Core Knowledge of Anatomy / Physiology / Biochemistry (70%)	Level of Cognition
1.	Question a. b. c. d. e. USMLE: Type Question Reference: Ganong 25 th Edition Page No. 101	C1
Section – B: Integrations (30%)		
Horizontal Integration Anatomy / Physiology / Biochemistry (5%)		
2.	Horizontal Integration with Anatomy (2.5%) Questions a. b. c. d. e. USMLE: Type Question Reference: Ganong 25 th Edition Page No. 101	C1
Vertical Integration with Medicine / Surgery / Gynae Obs etc (15%)		
3.	Question a. b. c. d. e. USMLE: Type Question Reference: Ganong 25 th Edition Page No. 101	C3
Spiral Integration (10%)		
Medical Bioethics		

4.	Question a. b. c. d. e. USMLE: Type Question Reference: Ganong 25 th Edition Page No. 101	C2
Family Medicine		
5.	Question a. b. c. d. e. USMLE: Type Question Reference: Ganong 25 th Edition Page No. 101	

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

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

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

Attempt all Questions

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

	USMLE Question. References: Part a: Guyton & Hall 14 th Edition page # 114 Part b: Guyton & Hall 14 th Edition Page # 116	CK	1	8%	C2
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Q.#	Construct your Answers according to the given Scenarios and Questions	Domain	Marks	% Weightage	Level of Cognition
Short Essay Question (SEQs) Total Marks: 45					
SEQ 1	A 55 years Male, Known case of Coronary Artery Disease, presented to.....	CK & VI	.....	.....	.....
	a.	HI with Anatomy	2	6.66%	C2
	b.	CK	3	6.66%	C2
	c.	CK	2	6.66%	C2
	d.	CK	1	6.66%	C2
	e. USMLE Style Question. References: • Part a: Guyton & Hall 14 th Edition page # 101 • Part b: Guyton & Hall 14 th Edition Page # 103 • Part c: Guyton & Hall 14 th Edition Page # 103	CK	1	6.66%	C2

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

_____ Year MBBS (Batch _____)

Day: _____

Date: _____

10 AV OSPE Slides

Time Allowed: 50 minutes

05 minutes for each slide

Chairperson

Department of _____
Rawalpindi Medical University, Rawalpindi

Additional Director Assessment

Rawalpindi Medical University
Rawalpindi

Director DME

Rawalpindi Medical University
Rawalpindi

Vice Chancellor

Rawalpindi Medical University
Rawalpindi

Slide 1

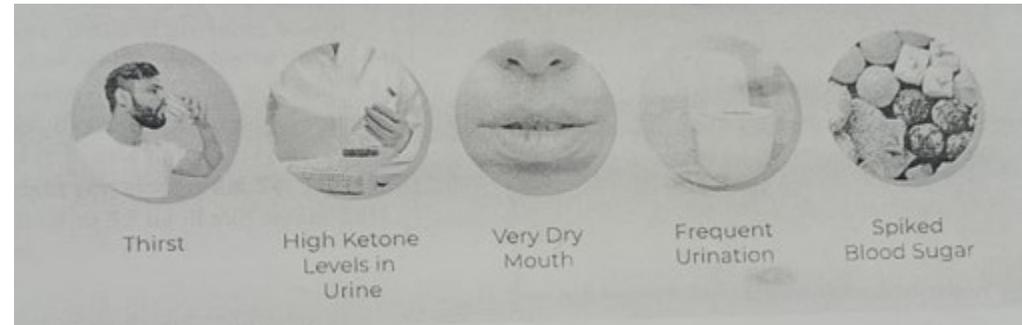
Core Knowledge with Horizontal / Vertical / Spiral Integration

Topic:

Teaching Strategy:

Requirements: Answer sheet, Pen

Objective: _____



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

Slide 1

Key for Examiner

- 1.
- 2.
- 3.
- 4.
- 5.

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

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

Rawalpindi Medical University
2nd Year MBBS Model EMQ

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

Options for Questions:

- A. Congenital defect in the closure of the umbilical ring
- B. Increased intra-abdominal pressure
- C. Failure of complete fusion of the fascial layers
- D. Common in premature infants
- E. Often self-resolves by 1-2 years of age
- F. Surgical repair is generally recommended if symptoms persist after 4-5 years of age

Questions:

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

Rawalpindi Medical University
2nd Year MBBS Model SEQs & SAQs (USMLE Format)

<p>1. A 10-year-old boy is brought to the emergency department with a 24-hour history of lower abdominal pain, nausea, and intermittent vomiting. The pain is localized to the right lower quadrant, and the patient has had mild fever. There is no history of recent trauma. His past medical history is unremarkable. Physical examination reveals tenderness in the right lower quadrant, but no signs of peritonitis. Blood tests show mild leukocytosis. An ultrasound is inconclusive, so a CT scan is performed, revealing a small diverticulum located 70 cm from the ileocecal valve,</p> <ol style="list-style-type: none"> What is the most likely diagnosis in this patient based on the imaging findings? (1) What embryological abnormality leads to the formation of Meckel's diverticulum? (1) What is the most common complication of Meckel's diverticulum? (1) How does Meckel's diverticulum typically present in children? (1) What is the treatment of choice for symptomatic Meckel's diverticulum? (1) 	Anatomy
<p>1. A 5-year-old child visits an amusement park and enjoys several rides. After taking a rotatory ride, the child suddenly complains of nausea, vomiting, and a sensation of spinning (vertigo). The child is visibly uncomfortable and has difficulty standing due to dizziness. The child's vital signs are stable, and there is no history of any previous medical conditions. The parents are concerned, as they have never seen this happen before, and bring the child to the clinic.</p> <ol style="list-style-type: none"> What is the most likely cause of the child's symptoms following the rotatory ride? What physiological process explains the development of nausea and vertigo in this case? How does the inner ear contribute to balance, and what part is most likely involved in this scenario? What are some common treatments or interventions to help alleviate symptoms of motion sickness in children? What other conditions could present similarly to motion sickness and should be considered in the differential diagnosis? 	Physiology
<p>2. A 32-year-old male presents to the clinic with complaints of heartburn, acid reflux, and occasional stomach discomfort. He reports that these symptoms worsen after eating spicy or fatty foods and when lying down. Upon further questioning, the patient admits to a history of alcohol consumption and high-stress levels. His physical examination reveals mild tenderness in the epigastric region. Based on the symptoms and history, the physician suspects gastroesophageal reflux disease (GERD). The doctor explains to the patient the role of gastric juice in digestion and how excessive secretion or improper regulation can contribute to the development of GERD.</p> <ol style="list-style-type: none"> What are the main components of gastric juice? What role does hydrochloric acid (HCl) play in the stomach's digestive process? How does pepsin function in the stomach, and what is its role in digestion? What is the role of intrinsic factor in gastric juice, and why is it important? How can an imbalance in gastric juice secretion contribute to conditions like GERD? 	Biochemistry

Rawalpindi Medical University
2nd Year MBBS Model AV OSPE

Slide 1 / Video

Core Knowledge with Horizontal / Vertical / Spiral Integration

Topic: Erbs Palsy

Teaching Strategy: Small Group Discussion

Requirements: Answer sheet, Pen

Objective: To Assess the Knowledge of Students Regarding Nerves Injuries in Upper Limb



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