



RMU – 12

Integrated Modular

MBBS Curriculum 2026

Isolation to **Beyond Boundaries**

Study Guide

Reproduction Module-I

Department of Medical Education

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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.

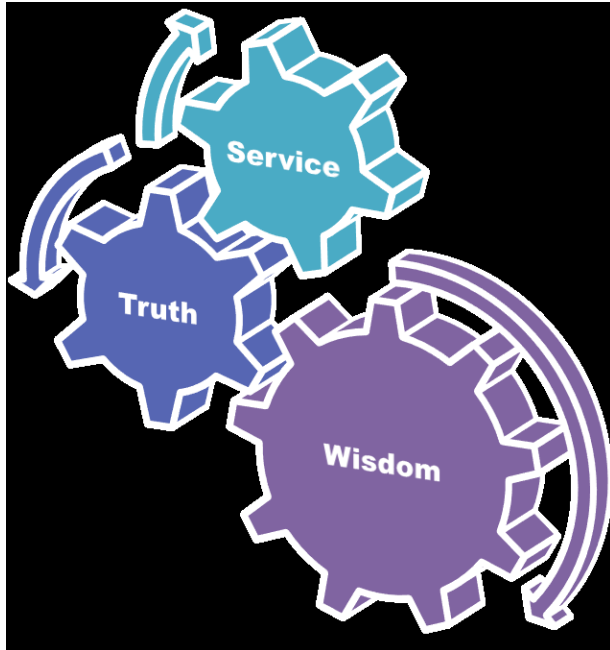
The Clinically Oriented Integrated Modular Curriculum transcends traditional disciplinary silos by promoting horizontal and vertical integration across basic, para-clinical, and clinical sciences. Learning experiences are contextualized around clinical problems and patient-centered care, fostering early 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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Isolation to Beyond Boundaries

Competency Framework



References

Harden RM. The integration ladder: a tool for curriculum planning and evaluation. *Medical education*. 2000 Jul 1;34(7).

Ten Cate O. Nuts and bolts of entrustable professional activities. *Journal of graduate medical education*. 2013 Mar 1;5(1):157-8.

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

Figure 1

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

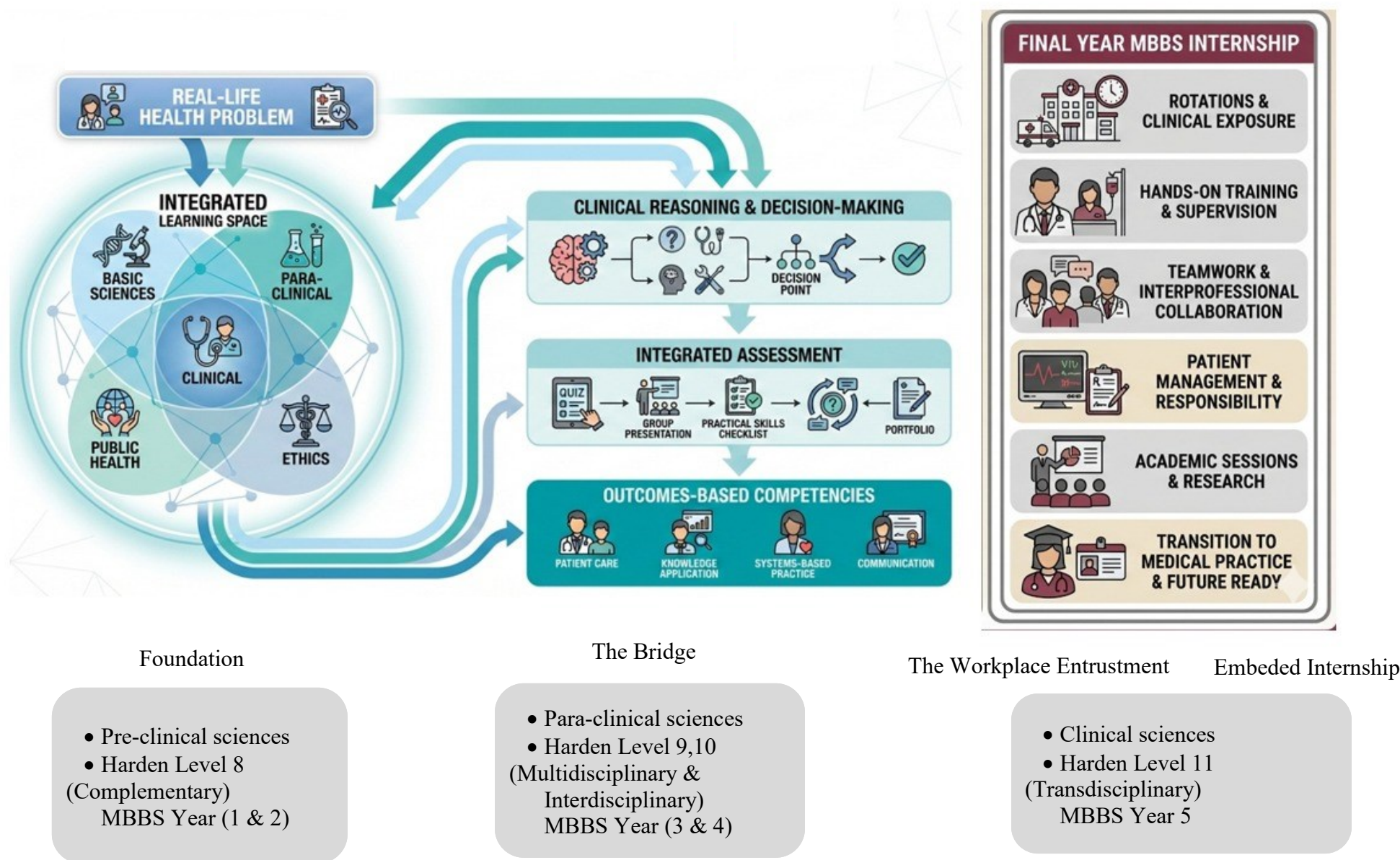


Figure 2

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

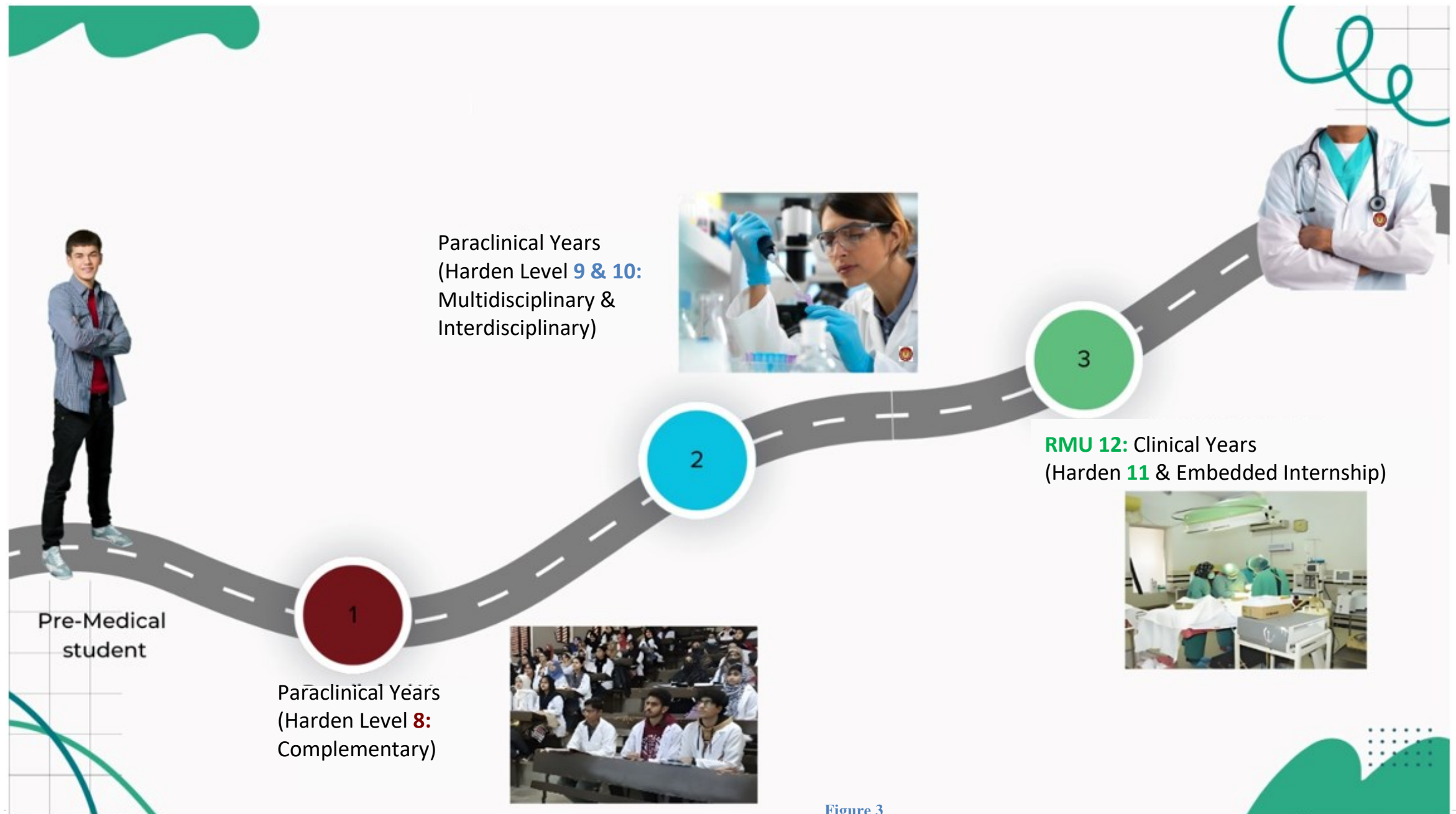


Figure 3

RMU – 12 Assessment Framework of Integrated Modular MBBS Curriculum 2026
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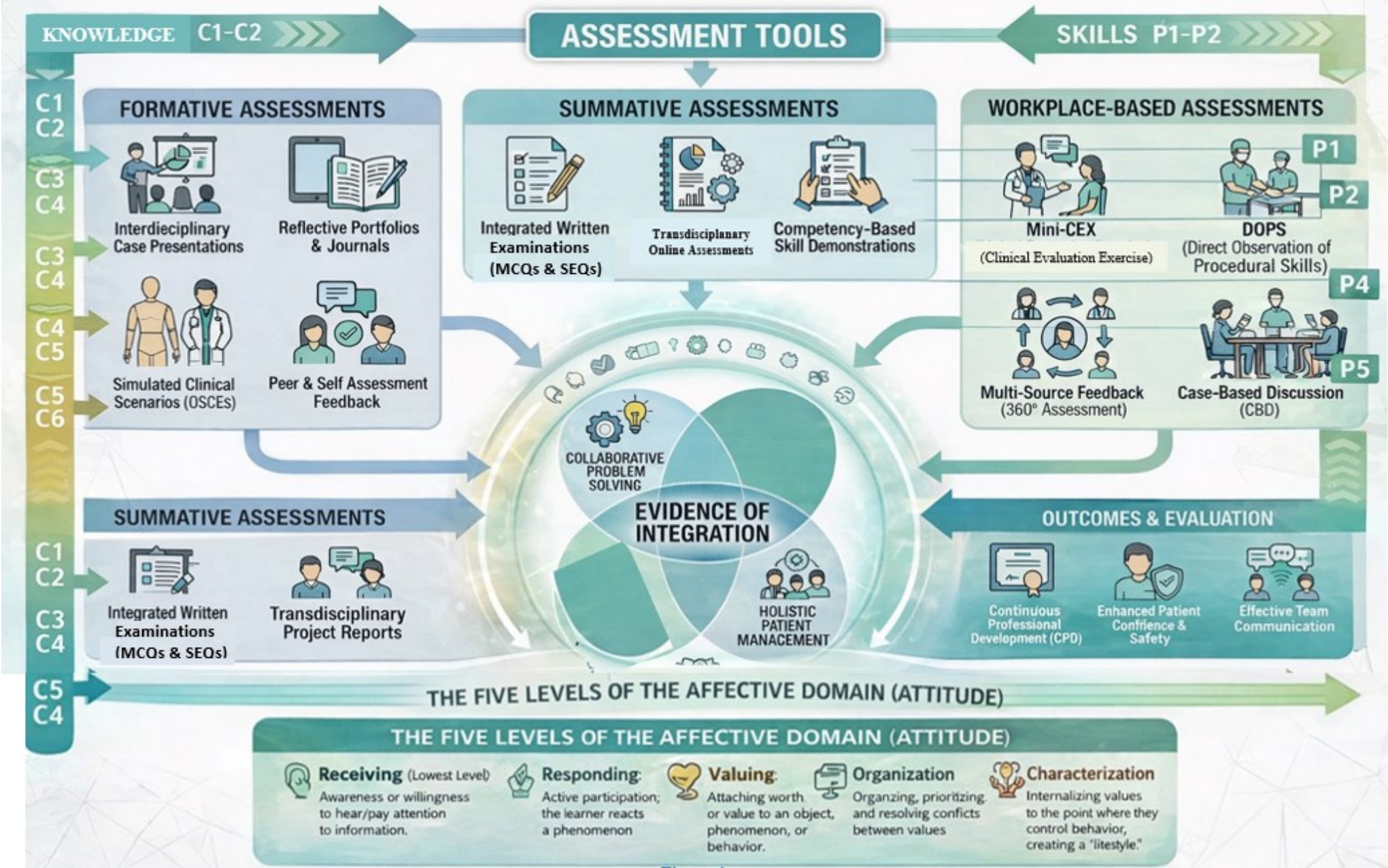


Figure 4

Harden Level 8

Harden Level 9

Harden Level 10

Harden Level 11

RMU 12



MBBS Year 1&2

MBBS Year 3&4

MBBS Year 5

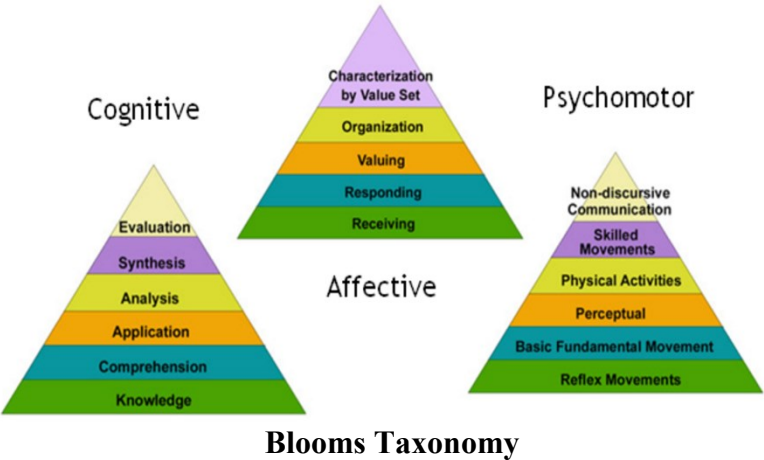
Rawalpindi Medical University has adopted a staged curricular framework that reflects a progressive movement along Harden’s integration ladder, culminating in going beyond the ladder to **RMU 12**. The curriculum is designed to ensure that knowledge acquired in the early years is not isolated or terminal, 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

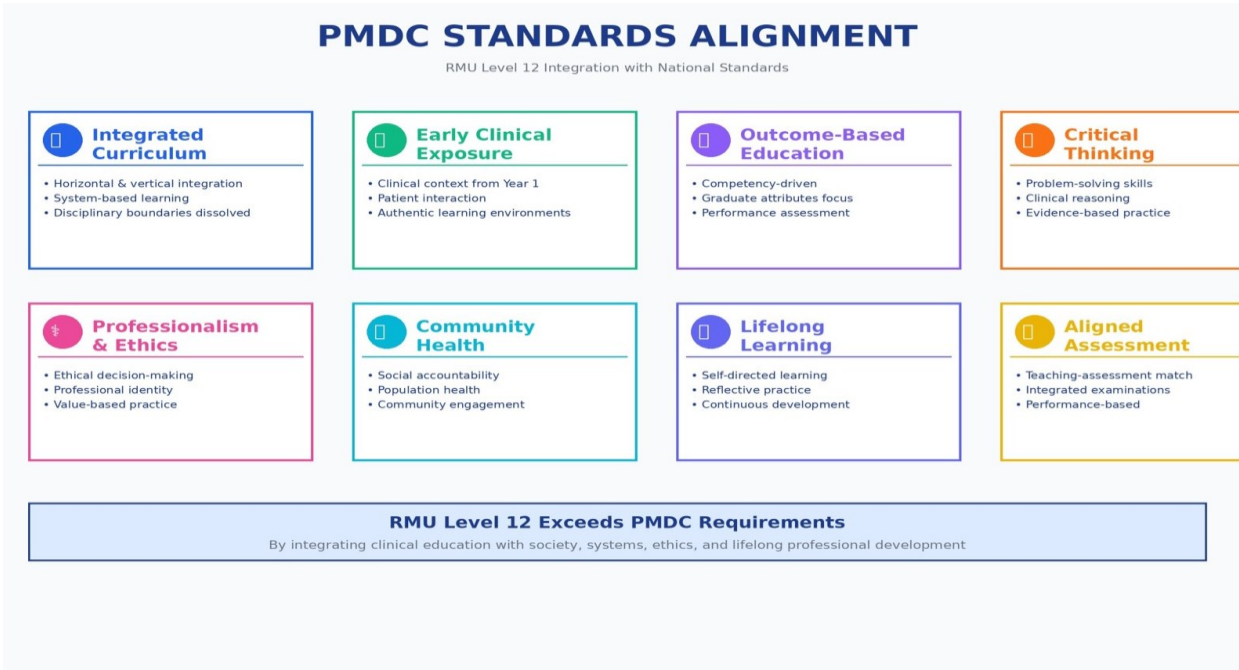
1.1 PMDC Standards for Medical Education

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

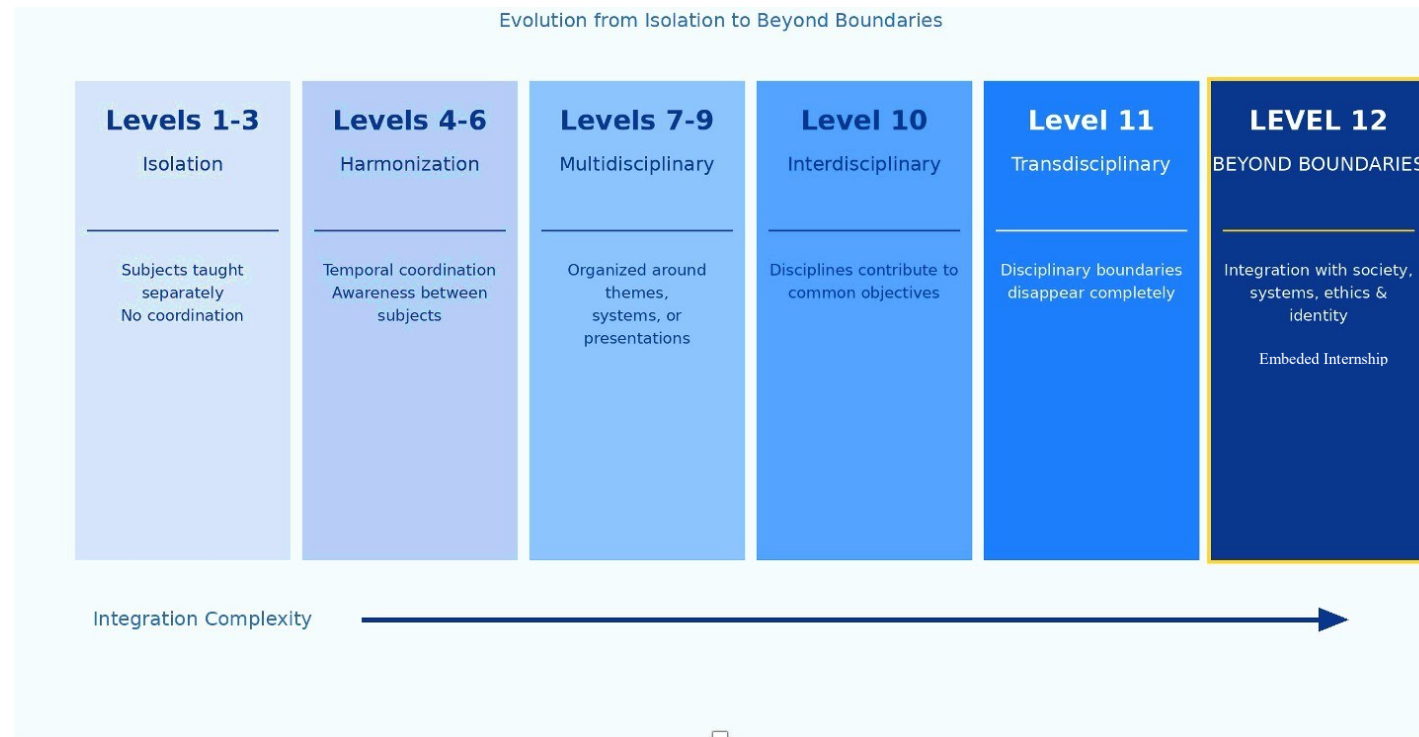
Harden's Integration Ladder provides a systematic framework for evaluating curricular integration, progressing through 11 levels:



Harden's Integration Ladder

RMU

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.

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

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

- 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:

4. Bloom's Taxonomy & Higher-Order Thinking

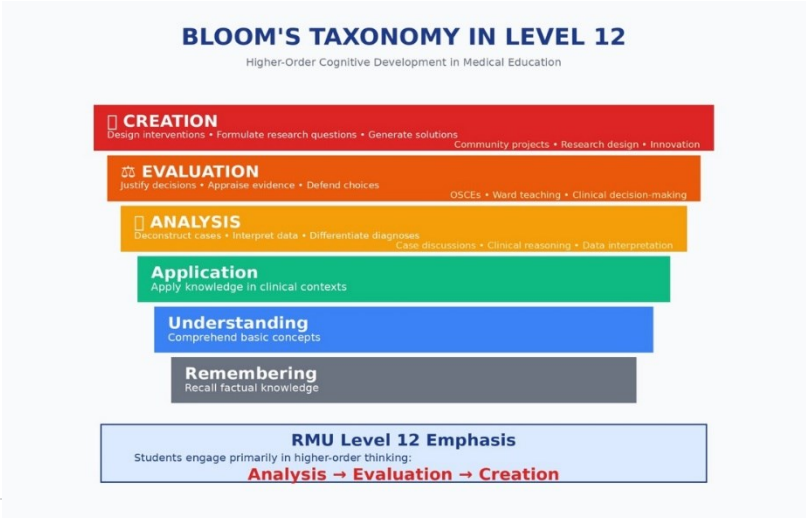
PMDC Competency	RMU Implementation	Level 12 Justification
Medical Knowledge	Integrated system-based modules combining anatomy, physiology, pathology, pharmacology, radiology, and clinical medicine	Knowledge constructed through real patient problems; subject boundaries dissolved
Clinical Skills & Patient 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

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

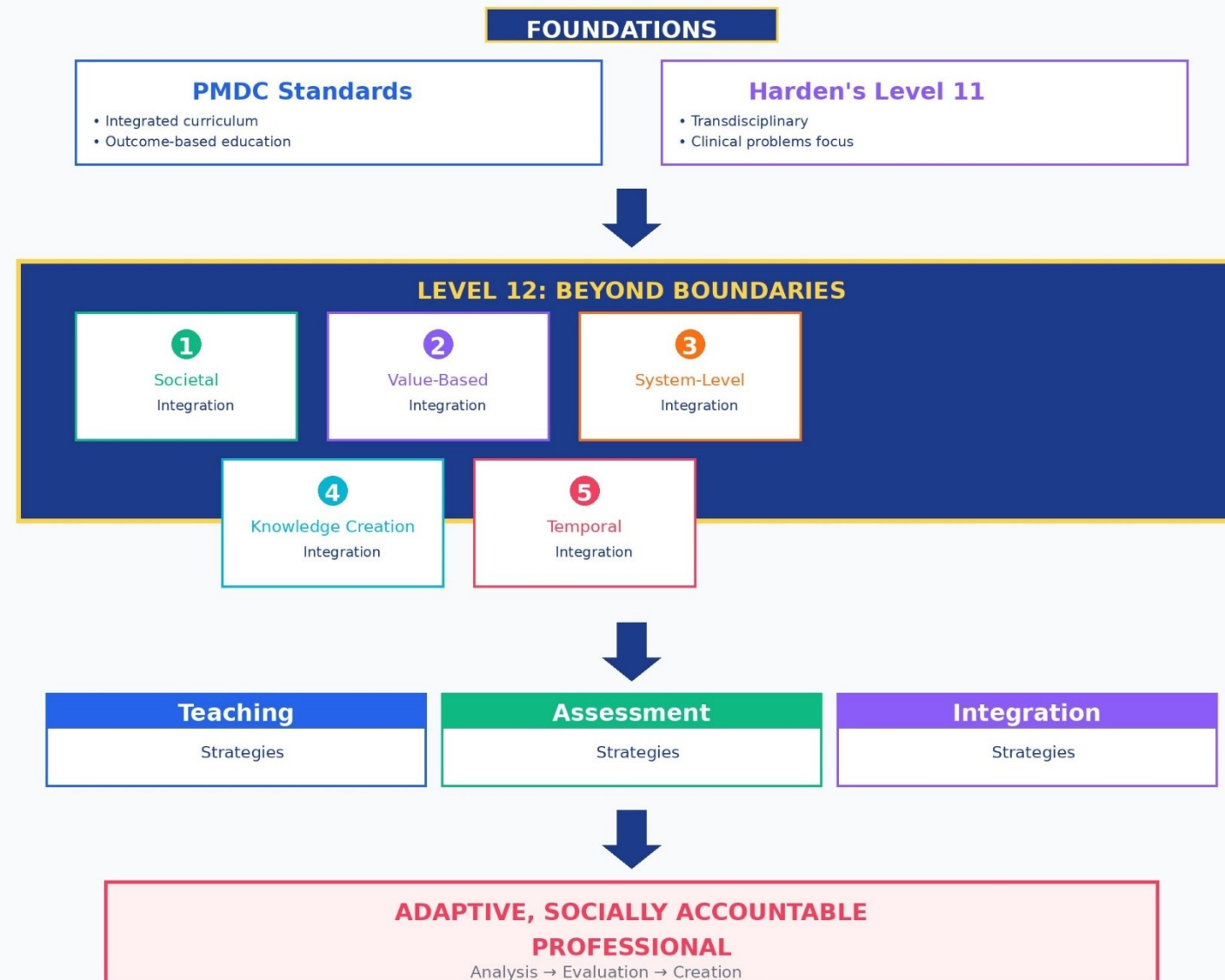
📁 Leadership

Innovation
Change management
Team development

**ADAPTIVE, SOCIALLY ACCOUNTABLE
PROFESSIONAL**

RMU LEVEL 12 FRAMEWORK

Complete Conceptual Flow



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

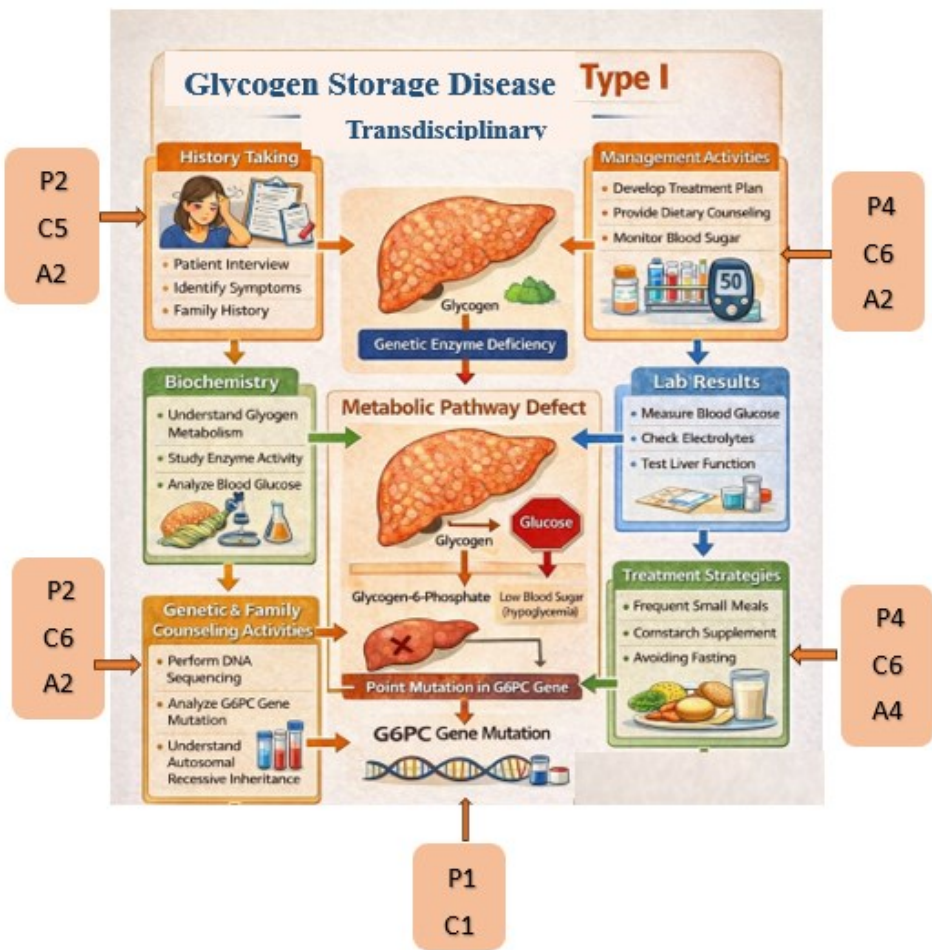
Clinical Case Scenario: A lady with progressive fatigue

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



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

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:

- 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**

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				

- 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.

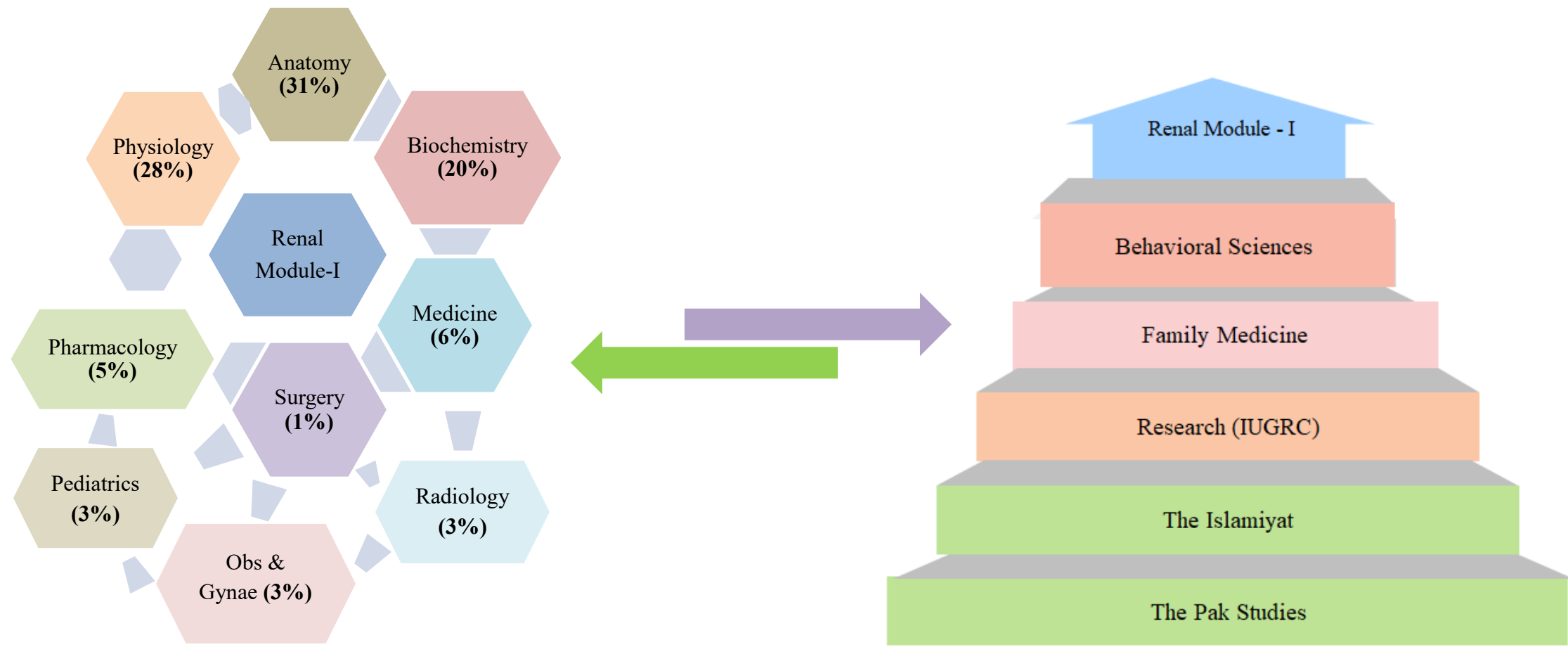
RMU – 12 Integrated Modular MBBS Curriculum 2026

Isolation to Beyond Boundaries

Study Guide

Reproduction Module - I

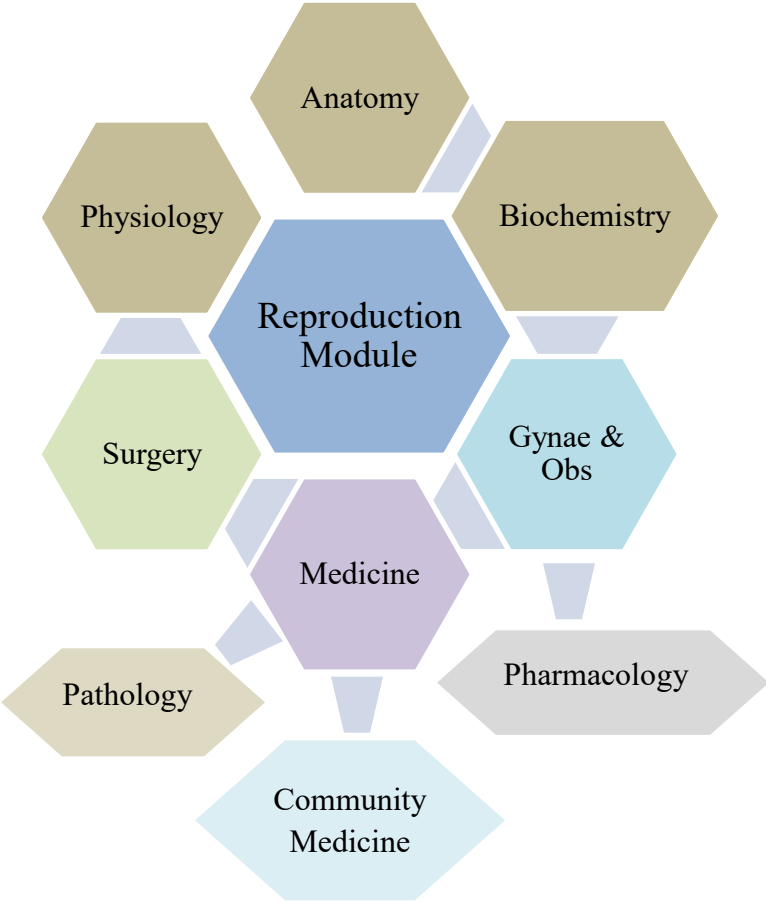
Multi Disciplinary Integration



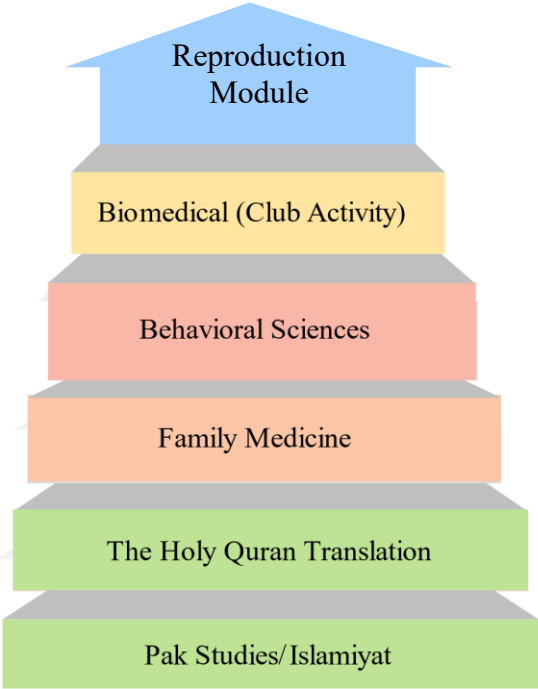
Disciplines in Renal Module - I

Spiral / General Education Cluster Courses (5%)

Integration



Disciplines in Reproduction Module-I



Spiral / General Education Cluster Courses

Discipline Wise Details of Modular Contents

Block	Subjects	Embryology	Histology	Gross Anatomy
V	Anatomy	Embryology/Development - Testis - Genital Ducts - Prostate & Accessory Glands - Uterus & Uterine tubes - Ovary & Vagina	Histology - Testis - Genital Ducts - Prostate & Accessory Glands - Uterus & Uterine Tubes - Ovary & Vagina	- Sacrum - Bony Pelvis & Joints of Pelvis - Pelvic Fascia, Pelvic Diaphragm, & Pelvic Peritoneum - Male External Genitalia, Scrotum, & Testis - Prostate Vas Deferens, Seminal Vesicles & Ejaculatory Ducts - Female External Genitalia, Ovaries, Fallopian Tubes - Uterus, Cervix & Vagina - Ischioanal Fossa - Urogenital Diaphragm - Perineum, Superficial Perineal Pouch and its contents - Deep Perineal Pouch and its contents - Blood Supply & Lymphatic Drainage of Pelvis & Perineum - Sacral and Coccygeal Plexus - Radiology, Surface Marking
	Biochemistry	- Digestion of nucleic acid & biosynthesis of purines - Purine catabolism and related disorders - Pyrimidine metabolism - Regulation of gene expression - Male Gonadal Hormones - Female Gonadal Hormones		
	Physiology	- Physiological anatomy of male reproductive system & spermatogenesis - Physiological anatomy female reproductive system - Semen, capacitation & acrosome reaction - Monthly Ovarian Cycle, ovulation - Male sex hormones, Abnormalities of male sexual function and spermatogenesis - Monthly Endometrial Cycle and Menstruation - Response of mother's body to pregnancy and parturition - Female sex hormones (oestrogen and progesterone) - Lactation, Milk composition, breast feeding		

		• Puberty, menarche, menopause, postmenopausal symptoms & anovulatory cycles, Abnormalities of secretion by ovaries • Growth & functional development of fetus, Adjustments of infant to extrauterine life, Growth & development in child • Fertilization of ovum, transport, implantation, Functions of placenta • Hormonal factors in pregnancy, Special functional problems in neonate. Prematurity and its problems
Spiral Courses		
	• Community Medicine (CHEPI)	• Introduction to health education and communication • Preventive aspect of STDs • Preventive aspect of AIDS • Personal hygiene (hand, eye, oral) • Prevention of dengue
	• Islamiyat	• 7) Sharing the verses related to the unity of the Ummah and the need for unity • 8) Verses related to enjoining what is right and forbidding what is wrong, and the need for enjoining good and forbidding evil along with its principles and methods • 9) Qualities of successful people
	• Family Medicine	• AIDS
	• Pak Studies	• 6) The Ideology of Pakistan and Quaid-e-Azam • 8) Islamic democracy • 9) The economic system of Islam
	• Behavioural Sciences	• Emotion • Intelligence
Vertical Integration		
	• Gynae & Obs	• Normal Menstrual Cycle & Its Abnormalities • Menstrual irregularities • Puerperium & Lactation
	• Pharmacology	• Hormonal Contraceptives
	• Surgery	• Undescended Testes & Scrotal Swellings • Male hypogonadism / Acute Scrotum
	• Pathology	• BPH/Prostatitis / Sexually Transmitted Diseases • Polycystic Ovaries
Early Clinical Exposure (ECE)		

	Gynecology	- Ovarian Tumors - Uterine Tumors - Polycystic Ovaries - Menstrual Irregularities
	Obstetrics	- Important points in History of pregnant lady - Obstetrics Trimesters - Fetal heart sounds
	Surgery	- Testicular Tumors - Hydrocele - Undescended Testis - Hypospadias/ Epispadias

Reproduction Module-I Team

Module Name	:	Reproduction Module-I
Duration of module	:	04 Weeks
Coordinator	:	Dr. Uzma Zafar
Co-coordinator	:	Dr. Romessa Naeem
Reviewed by	:	Module Committee

Module Committee			Module Task Force Team		
1.	Vice Chancellor RMU	Prof. Dr. Muhammad Umar	1.	Coordinator	Dr. Sheena Tariq (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. Tariq Furqan (Senior Demonstrator of Anatomy)
4.	Chairperson Physiology	Prof. Dr. Samia Sarwar	4.	Co-Coordinator	Dr. Jawad Hassan (Senior Demonstrator of Physiology)
5.	Chairperson Anatomy	Prof. Dr. Ayesha Yousaf	5.	Co-coordinator	Dr. Sana Latif (Demonstrator of Biochemistry)
6.	Chairperson Biochemistry	Dr. Aneela Jamil			
7.	Focal Person Anatomy 2 nd 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. Syeda Ayesha	2.	Implementation Incharge 1st & 2 nd Year MBBS	Dr. Arsalan Manzoor Mughal
11.	Focal Person Behavioral Sciences	Dr. Zona Tahir			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. Fahd Anwar	4.	Editor	Muhammad Arslan Aslam
14.	Focal Person Family Medicine	Dr. Sadia Khan			

Module III – Reproduction Module-I

Rationale: Reproductive system plays an important role in person life although it does not contribute to homeostasis and is not essential for the survival of individual e.g. the manner in which people relate as sexual beings contributes in significant ways to psychosocial behavior and has an important influence on how people view themselves and how they interact with others. Reproductive function also has profound effect on society. The universal organization of societies into family units provide a stable environment that is conducive for perpetuating our species.

Module Outcomes

By the end of the module, students will be able to:

Knowledge

- This module is expected to build students basic knowledge about normal structure, organization, functions and development of reproductive system.
- Used technology based Medical Education including **Artificial Intelligence**
- Appreciate concept and importance of
 - **Family Medicine**
 - **Biomedical Ethics**
 - **Research**

Skills

- Demonstrate effective skill for performing and interpreting various laboratory tests like pregnancy test.
- Demonstrate awareness of ethical, legal and social implication of issues related to bioethics

Attitude

- Demonstrate **professional attitude, team building spirit and good communication** specially in small group discussions.

This module will run in 4 weeks duration. Instructional strategies are given in the time table and learning objectives are given in the study guides. Study guides will be uploaded on the university website. Good luck!

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.

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

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- Faculty from relevant disciplines facilitate discussion collaboratively.
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- Learners reflect on how conceptual understanding informs clinical thinking.
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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.
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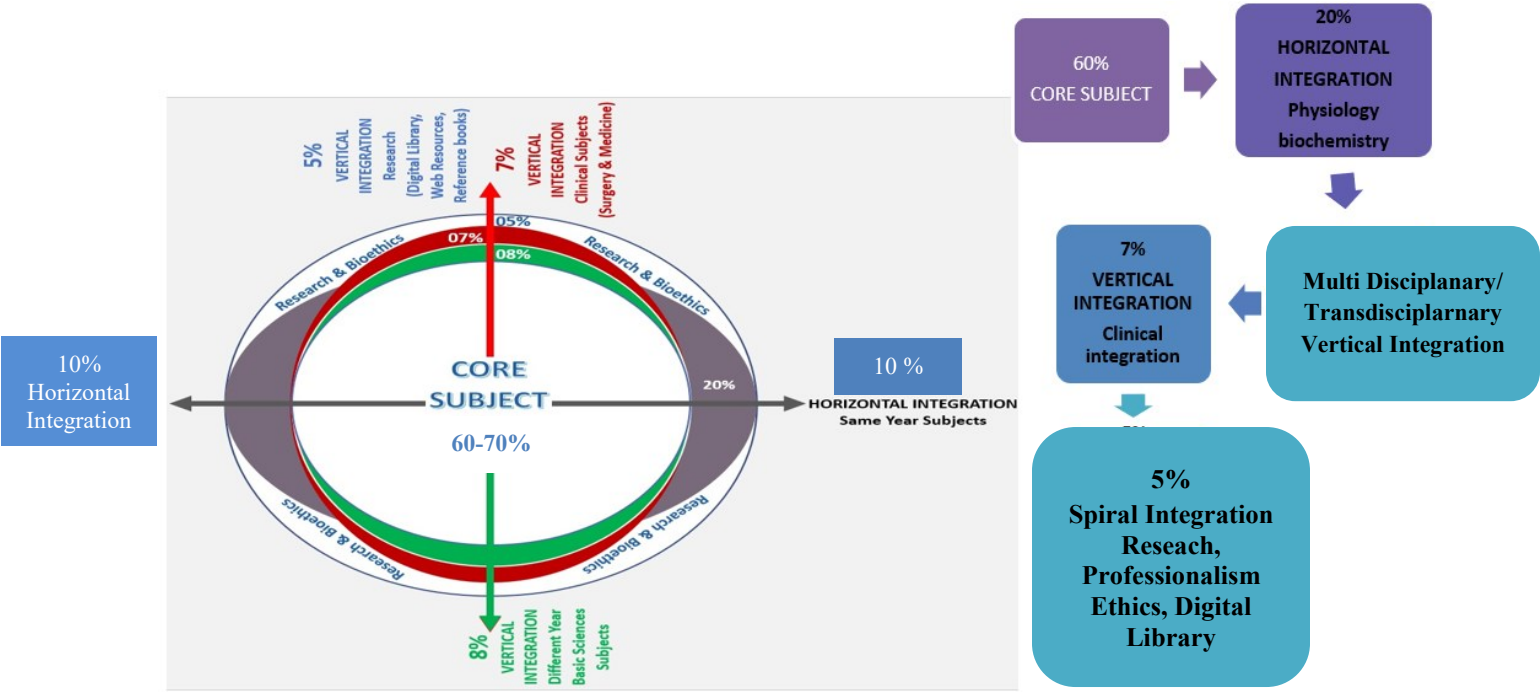
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Through its integrated design, the Clinico -Concept Connect Session:

- 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 the followed for delivery of all LGIS. The lecturer will introduce a topic or common clinical condition and explains the underlying phenomena through questions, pictures, videos of patients, interviews, and exercises, etc. Students are actively involved in the learning process.



Prof Umar's Model of Integrated Lecture

Small Group Discussion (SGD)

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

Table 2. Standardization of teaching content in Small Group Discussions

S. No	Topics	Approximate %
1	Title Of SGD	
2	Learning Objectives from Study Guides	
3	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 Implementation 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

Self Directed Learning (SDL) at Rawalpindi Medical University (RMU)

What is Self-Directed Learning (SDL)?

Self-Directed Learning (SDL) is a learning approach in which students take responsibility for their own learning. In SDL, students are expected to:

- Identify what they need to learn
- Set learning goals
- Use appropriate learning resources
- Study independently
- Evaluate their own understanding

Faculty members act as facilitators and guides, helping students stay on track and achieve the learning outcomes.

Why is SDL Important in Medical Education?

SDL is a key part of modern medical education because it helps students develop skills needed for **lifelong learning**. SDL is important because it:

- Encourages independent and active learning
- Builds critical thinking and problem-solving skills
- Improves the ability to search and use evidence-based medical information
- Helps students become responsible and reflective learners
- Prepares future doctors to keep learning throughout their careers

Medical knowledge is constantly changing, so SDL helps students stay updated even after graduation.

SDL at RMU (How It is Conducted)

Rawalpindi Medical University (RMU) has formally incorporated SDL into the MBBS curriculum from Second Year to Final Year.

RMU has developed structured curricula of Self-Directed Learning (SDL) across all professional years. These SDL curricula include:

- Approved SDL topics aligned with each module
- Clearly stated learning objectives for every topic
- A wide range of learning resources, including:
 - Textbook chapters
 - Research articles
 - Clinical guidelines
 - Online videos and interactive learning content
 - Resource links shared through official platforms

SDL at RMU is therefore a planned, organized, and curriculum-based learning activity, not just additional reading.

SDL Hours in the MBBS Program

SDL at RMU is implemented longitudinally across all professional years.

- The total SDL contribution is more than 500 hours



- These hours are distributed from Second Year to Final Year MBBS
- The purpose is to gradually develop independent learning skills throughout the program

Assessment of SDL at RMU

At RMU, SDL is not only a learning strategy but also an assessed component of the curriculum.

- Students are provided SDL topics with objectives and learning resources.
- Students study these topics independently.
- To ensure regular engagement, RMU conducts weekly online LMS-based assessments
- These assessments help students:
 - Stay consistent in learning
 - Test their understanding
 - Receive feedback for improvement

Thus, SDL learning progress is continuously monitored through the institutional LMS system.

Alignment with PM&DC and WFME Standards

SDL at RMU is aligned with national and international standards of medical education.

PM&DC

Pakistan Medical & Dental Council (PM&DC) emphasizes structured teaching, learning strategies, and internal assessment systems within undergraduate medical education.

WFME

World Federation for Medical Education (WFME) standards highlight the importance of:

- Student-centered learning
- Independent learning skills
- Use of diverse learning resources
- Continuous assessment and quality assurance

RMU's structured SDL program supports these global standards.

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)

Reproduction Module – I – Second Year MBBS

Duration of Module (Three Weeks)

Sr No.	Themes	Duration
1.	Primary Infertility & Menstrual Irregularities	1 st Week
2.	Patient with Pelvic Pain & Hormonal Dysfunction	2 nd Week
3.	Pregnancy Loss and Disorders of Sexual Development	3 rd Week

Theme 1: Primary Infertility & Menstrual Irregularities. (1st Week)

Theme	Rationale	Learning objectives
Primary Infertility & Menstrual Irregularities	Weekly sessions cover ovarian and endometrial cycles, spermatogenesis, pelvic anatomy, contraception, endocrine control, and prostate structures. Together, these explain the clinical basis of infertility, anovulation, dysmenorrhea, and other menstrual disturbances.	By the end of this session, students should be able to: • Explain female infertility as a consequence of integrated dysfunction of the hypothalamic-pituitary-ovarian axis, ovarian morphology, and metabolic disturbances. • Describe the pathophysiological basis of anovulation, irregular menstrual cycles, hyperandrogenism, and subfertility in polycystic ovarian syndrome. • Interpret the clinical presentation, hormonal profile, and ultrasound findings in a patient with PCOS-related infertility. • Correlate obesity, insulin resistance, and androgen excess with impaired follicular maturation and reproductive dysfunction. • Discuss the structural, functional, biochemical, and pathological changes occurring in the ovaries and endometrium in chronic anovulation. • Recognize the short- and long-term reproductive, metabolic, and endometrial complications associated with PCOS. • Demonstrate empathetic, ethical, and patient-centered communication while addressing infertility-related distress and social pressure.
Case 1: “When the Cycle Fails – A Systems Approach to Female Infertility” A 25-year-old woman, Mrs. A, presents to the infertility clinic with her husband with a history of primary infertility. The couple has been married for three years and has been trying to conceive for the past two years without success. She appears anxious during the consultation and expresses emotional distress, stating that her menstrual cycles have never been regular and sometimes occur after gaps of two months. She also feels embarrassed due to increased facial hair and reports social pressure from family members frequently asking about childbearing. She attained menarche at the age of 13 years, and since adolescence her cycles have remained irregular, typically occurring every 40–60 days with moderate flow and no significant dysmenorrhea. Over the past four years, she has experienced progressive weight gain of approximately 10 kilograms, along with acne, increased facial hair growth, and occasional mood swings. There is no history of pelvic infections, thyroid disease, galactorrhea, or prior surgical procedures. Notably, her elder sister also experienced difficulty in conceiving.		

ON Examination it was observed:

- BMI: 31 kg/m²
- Mild hirsutism
- Acne over jawline
- Acanthosis nigricans over neck
- Normal blood pressure
- Pelvic exam: Normal-sized uterus, no adnexal mass

Investigations:

Hormonal Profile:

- LH: Elevated
- FSH: Normal
- LH/FSH ratio: >2
- Serum Testosterone: Mildly elevated
- Serum Prolactin: Normal
- TSH: Normal
- Fasting Insulin: Elevated

Ultrasound Pelvis:

- Bilaterally enlarged ovaries
- Multiple small peripheral follicles
- Increased stromal echogenicity

She asks:

“Doctor, why is my body not functioning normally? Is it my fault?”

Entrustable Professional Activities (EPAs)

EPA-1: Interpret laboratory and imaging findings and apply basic science to explain infertility. (Level 2)

EPA-2: Communicate the diagnosis and its underlying mechanism in simple, understandable language. (Level 2–3)

EPA-3: Demonstrate professionalism, empathy, and sensitivity while addressing the patient’s concerns. (Level 2)

EPAs Detail Annexure-II**Justification:**

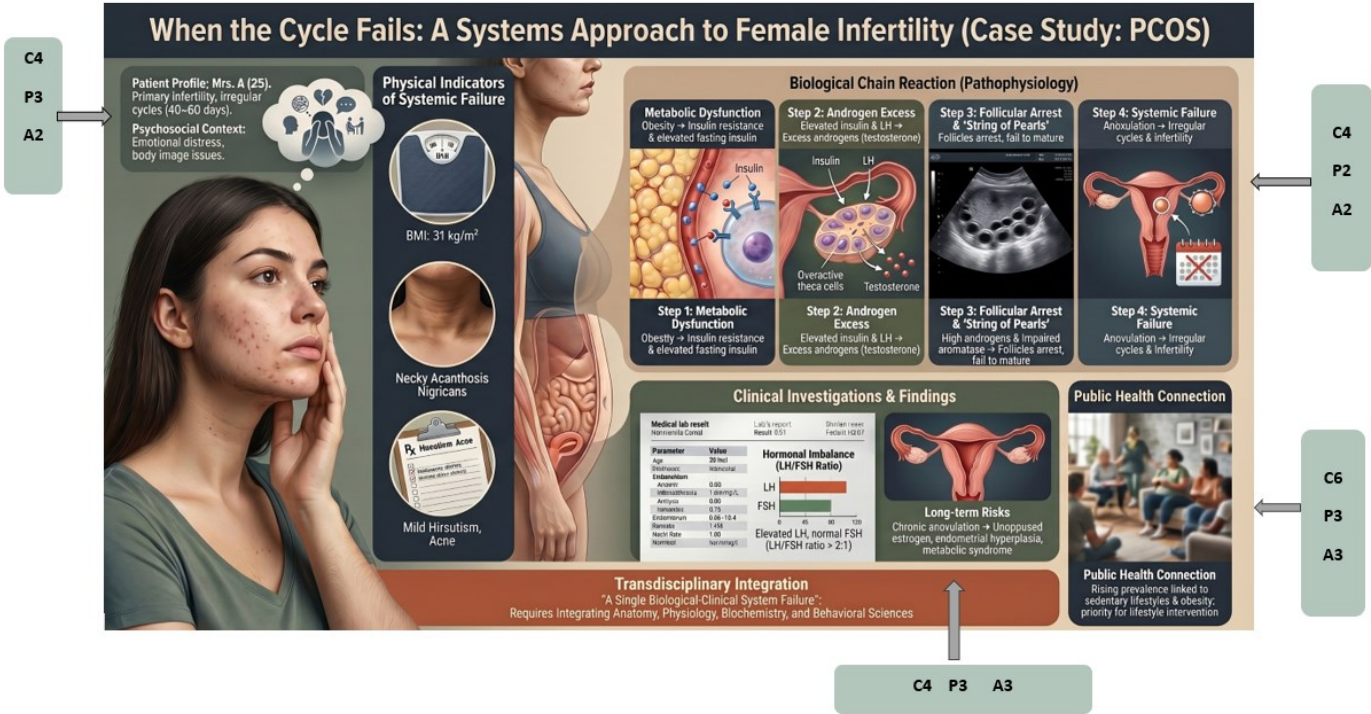
No subject is taught independently.

Students do not identify “this is physiology” or “this is biochemistry.”

The patient problem drives learning.

Molecular → Structural → Hormonal → Clinical → Psychosocial → Public health layers are integrated.
Faculty function as co-facilitators rather than subject lecturers. This represents true **transdisciplinary integration**

Theme 1 Clinico-concept connect (C³6)



Harden Level 11 Transdisciplinary

Specific Learning Objectives

Subject	Code	Topic	Learning Objectives At the end of lecture students should be able to	Calgary Gauge	Learning Domain	Teaching Strategy	Assessment Tools
Anatomy Embryology	M3-Repro-A-001	Testis	Recall the time of early sex differentiation and genes involved in it.	Must know	C2	LGIS	MCQS SAQS VIVA
			Explain the development of male gonads and formation of testis.	Must know	C2		
			Describe the descent of testis.	Must know	C2		
			Describe the concepts of chromosomal determination of sex, primordial germ cells and indifferent gonads.	Must know	C2		
			Describe histogenesis of interstitial cells of leydig and seminiferous tubules.	Must know	C2		
			Correlate with the clinical conditions	Must know	C2		
			Understand curative and preventive health care measures.	Must know	C3		
			Practice the principles of bioethics.	Should know	P		
			Apply strategic use of A.I in health care.	Should know	C3		
			Read relevant research article	Nice to know	C3		
			Analyze the step-by-step process of how early genes (SRY and SOX9) trigger the development of key cells (Sertoli and Leydig) to turn the indifferent gonad into a testis.	Should know	C4		
			Evaluate the clinical implications of an embryological failure in testicular descent (cryptorchidism).	Must know	C5		
			Formulate a step-by-step diagnostic algorithm for a neonate presenting with disorders of sex development (ambiguous genitalia), integrating your knowledge of normal testicular embryogenesis, the role of anti-Müllerian hormone (AMH), and early testosterone production.	Nice to know	C6		
Anatomy Embryology	M3-Repro-A-002	Male external genitalia	Explain the different stages and further development of external genitalia.	Must know	C2	LGIS	MCQS SAQS

			Discuss the related clinical like ambiguous genitalia, Androgen insensitivity syndrome, hypospadias, epispadias, bifid penis, micropenis	Must know	C2		VIVA
			Understand curative and preventive health care measures.	Must know	C2		
			Practice the principles of bioethics.	Must know	C2		
			Apply strategic use of A.I in health care.	Must know	C2		
			Read relevant research article.	Must know	C2		
Anatomy Embryology	M3-Repro-A-003	Uterus and uterine tubes	Describe role of paramesonephric ducts, uterovaginal primordium in development of uterine tubes	Must know	C2	LGIS	MCQS SAQS VIVA
			Discuss the role of paramesonephric ducts and uterovaginal primordium in the development of uterus.	Must know	C2		
			Discuss the related clinicals like bicornuate uterus, unicornuate uterus, double uterus.	Must know	C2		
			Analyze the chronological steps involved in the fusion of paired paramesonephric ducts and apoptosis of midline septum to form a single, unified uterine cavity.	Must know	C4		
			Evaluate the clinical presentation of specific congenital Müllerian anomalies	Must know	C5		
			Formulate a diagnostic and patient counseling pathway for a young adult presenting with primary amenorrhea	Must know	C6		
			Read relevant research article	Must know	C3		
Anatomy (LGIS)	M3-Repro-A-006	Testis	Discuss germ cells at different steps of spermatogenesis in the seminiferous tubule.	Must know	C2	LGIS	MCQS SAQS VIVA
			Describe histology of Sertoli cells and Leydig cells.				
			Explain their roles in the production of sperm and regulation of the male reproductive system.	Must know	C2		
			Understand the bio-physiological aspects of spermatogenesis.	Must know	C2		

			Discuss the related clinicals like orchitis, male infertility, testicular cancers, and cryptorchidism.	Must know	C2		
			Evaluate testicular biopsy micrographs to assess the integrity of the seminiferous epithelium.	Must know	C5		
			Understand curative and preventive health care measures.	Should know	C3		
			Practice the principles of bioethics.	Nice to know	P		
			Apply strategic use of A.I in health care.	Nice to know	C3		
			Read relevant research article	Nice to know	C3		
	M3-Repro-A-008	Accessory male reproductive glands	Describe the histological organization of prostate gland, seminal vesicles and bulbourethral glands.	Must know	C2	LGIS	MCQS SAQS VIVA
			Describe microscopic features of these glands.	Must know	C2		
			Discuss the related clinical like prostatitis.	Should know	C3		
			Understand curative and preventive health care measures.	Nice to know	C3		
			Practice the principles of bioethics.	Nice to know	C3		
			Apply strategic use of A.I in health care.	Nice to know	C3		
			Read relevant research article	Nice to know	C3		
			Recollect knowledge of histological features of endometrium in various phases	Must know	C2		
	M3-Repro-A-009	Uterus and uterine tubes	Discuss microanatomy of layers of uterus	Must know	C2	LGIS	MCQS SAQS VIVA
			Describe parts of uterine tubes	Should know	C3		
			Explain microscopic features of all parts of uterine tubes.	Nice to know	C3		
			Discuss the related clinicals like endometriosis, tubal ligation, salpingitis, and cervical cancers	Nice to know	C3		
			Understand curative and preventive health care measures.	Nice to know	C3		
			Differentiate the regional mucosal variations of uterine tube and the hormone-driven cyclic changes of the endometrium	Nice to know	C4		

			Evaluate microscopic sections of uterine endometrium to accurately identify the specific phase of the menstrual cycle	Nice to know	C5		
			Formulate a clinico-histological framework that correlates specific microscopic abnormalities in the uterus or uterine tubes	Nice to know	C6		
Anatomy (SGD)	M3-Repro-A-0011	Sacrum	Identify the bone	Must know	C2	SGD	MCQS SAQS OSPE VIVA
			Place the bone in anatomical position	Must know	C2		
			Demonstrate anatomical features on bone	Must know	C2		
			Discuss attachments and relations on bone	Must know	C2		
			Discuss important clinical anatomy of bone	Should know	C2		
			Understand curative and preventive health care measures	Nice to Know	C3		
			Analyze the gross anatomical differences between the male and female sacrum.	Nice to Know	C4		
			Evaluate lumbosacral radiographs to assess the alignment of the sacroiliac joints	Nice to Know	C5		
			Formulate a clinically safe, step-by-step anatomical approach for administering a caudal epidural block.	Nice to Know	C6		
	M3-Repro-A-0012	Bony pelvis	Identify type of pelvis	Must know	C2	SGD	MCQS SAQS OSPE VIVA
			Place pelvis in anatomical position	Must know	C2		
			Demonstrate different diameters of each type	Must know	C2		
			Differentiate bony features of each type	Must know	C2		
			Clinical importance of each type	Should know	C2		
			Understand curative and preventive health care measures	Nice to Know	C3		
			Practice the principles of bioethics.	Nice to Know	C3		
			Apply strategic use of A.I in health care	Nice to Know	C3		
			Read a relevant research article	Nice to Know	C3	Skill Lab	MCQS SAQS OSPE VIVA
Anatomy Histology	M3-Repro-A-0013	Pelvic Peritoneum and its contents	Identify viscera present in pelvis	Must know	C2		
			Demonstrate peritoneal reflections on pelvic viscera	Must know	C2		
			Discuss pouches formed by peritoneum	Must know	C2		

			• Discuss clinical anatomy of pelvic peritoneum and pelvic viscera	Must know	C3		
			• Understand curative and preventive health care measures	Should know	C2		
			• Analyze the specific anatomical reflections of the pelvic peritoneum	Nice to Know	C4		
			• Evaluate the anatomically dependent position of the rectouterine (Pouch of Douglas).	Nice to Know	C5		
			• Formulate a safe, anatomically guided procedural plan for performing a culdocentesis	Nice to Know	C6		
	M3-Repro-A-0014	Pelvic diaphragm	• Identify the muscles forming pelvic diaphragm	Must know	C2	Skill Lab	MCQS SAQS OSPE VIVA
			• Demonstrate the attachments and nerve supply of muscles of pelvic diaphragm	Must know	C2		
			• Locate the structures piercing the pelvic diaphragm	Must know	C2		
			• Discuss clinical anatomy of pelvic diaphragm	Must know	C3		
			• Understand curative and preventive health care measures	Should know	C2		
			• Practice the principles of bioethics.	Nice to Know	C3		
			• Apply strategic use of A.I in health care	Nice to Know	C3		
			• Read a relevant research article	Nice to Know	C3		
	M3-Repro-A-0015	Male external genitalia	• Identify the anatomical structures of external genitalia	Must know	C2	Skill Lab	MCQS SAQS OSPE VIVA
			• Demonstrate anatomical position of testis	Must know	C2		
			• Enlist layers of scrotum with its neurovasculature	Must know	C2		
			• Discuss clinical anatomy of scrotum	Must know	C3		
			• Understand curative and preventive health care measures	Should know	C2		
			• Analyze the distinct muscular components of the levator ani complex	Nice to Know	C4		
			• Evaluate the anatomical integrity of the pelvic diaphragm following obstetric trauma.	Nice to Know	C5		
			• Formulate an anatomically targeted rehabilitation protocol (such as Kegel	Nice to Know	C6		

			exercises) designed to selectively strengthen the puborectalis.				
	M3-Repro-A-0016	Testis	• Identify the structure	Must know	C2	Skill Lab	MCQS SAQS OSPE VIVA
			• Demonstrate anatomical position of testis	Must know	C2		
			• Discuss layers and structure of testis	Must know	C2		
			• Discuss important clinical anatomy related to testis	Must know	C3		
			• Understand curative and preventive health care measures	Should know	C2		
			• Practice the principles of bioethics.	Nice to Know	C3		
			• Apply strategic use of A.I in health care	Nice to Know	C3		
			• Read a relevant research article	Nice to Know	C3		
	M3-Repro-A-0017	Male genital ducts	• Describe the anatomical position of vas deferens, seminal vesicles, ejaculatory ducts on model	Must know	C2	Skill Lab	MCQS SAQS OSPE VIVA
			• Discuss the anatomical relations of vas deferens, seminal vesicles, ejaculatory ducts	Must know	C2		
			• Discuss clinical anatomy	Must know	C3		
			• Understand curative and preventive health care measures	Must know	C2		
			• Practice the principles of bioethics.	Should know	C2		
			• Apply strategic use of A.I in health care	Nice to Know	C3		
			• Read a relevant research article	Nice to Know	C3		
	M3-Repro-A-0018	Prostate	• Identify the position of prostate	Must know	C2	Skill Lab	MCQS SAQS OSPE VIVA
			• Demonstrate the anatomical features and relations of prostate	Must know	C2		
			• Discuss clinical anatomy	Must know	C3		
			• Analyze the topographic relationships between the anatomical zones of the prostate, the prostatic urethra, and the ejaculatory ducts	Must know	C4		
			• Evaluate the anatomical contours and median sulcus palpable during a digital rectal examination.	Should know	C5		

			Formulate a clinico-anatomical framework that maps the distinct gross lobes and zones of the prostate.	Nice to Know	C6		
			Read a relevant research article	Nice to Know	C3		
	M3-Repro-A-0019	Ovaries	Identify the site of ovarian fossa	Must know	C2	Skill Lab	MCQS SAQS OSPE VIVA
			Discuss anatomical relations of ovary	Must know	C2		
			Discuss neurovasculature and hormonal effects of ovaries	Must know	C2		
			Discuss important clinical anatomy of ovary	Must know	C3		
			Understand curative and preventive health care measures	Should know	C2		
			Practice the principles of bioethics.	Nice to Know	C3		
			Apply strategic use of A.I in health care	Nice to Know	C3		
			Read a relevant research article	Nice to Know	C3		
	M3-Repro-A-0020	Fallopian tubes, Uterus	Identify the location of structures in pelvis	Must know	C2	Skill Lab	MCQS SAQS OSPE VIVA
			Demonstrate anatomical relations of these structures	Must know	C2		
			Discuss normal positions of uterus with its ligaments	Must know	C2		
			Discuss its neurovasculature	Must know	C2		
			Discuss important clinical anatomy of fallopian tubes, uterus and uterine tube	Should know	C2		
			Understand curative and preventive health care measures	Nice to Know	C3		
			Practice the principles of bioethics.	Nice to Know	C3		
			Apply strategic use of A.I in health care	Nice to Know	C3		
			Read a relevant research article	Nice to Know	C3		
	M3-Repro-A-0021	Cervix	Discuss anatomy of cervix	Must know	C2	Skill Lab	MCQS SAQS OSPE VIVA
			Describe anatomical relations of cervix	Must know	C2		
			Describe its neurovasculature	Must know	C2		
			Understand curative and preventive health care measures	Must know	C3		
			Analyze the close anatomical relationships of the supravaginal cervix to the ureters, bladder, and uterine arteries.	Should know	C4		

			Evaluate the anatomical integrity of the transverse cervical (Mackenrodt's) to accurately assess a patient's clinical risk for uterine prolapse.	Nice to Know	C5		
			Formulate a clinico-anatomical map that correlates the visual appearance of the external os.	Nice to Know	C6		
	M3-Repro-A-0047	Testis, Epididymis, Ductus deferens	Identify the histological slide of testis, Ductus deferens and epididymis	Must know	P	Skill Lab	OSPE
			Illustrate the microscopic picture of testis, Ductus deferens and epididymis	Should know	C2		
			Enlist two points of identification of each	Must know	C1		
			Read relevant research article	Nice to know	C3		
			Use digital library	Nice to know	C3		

Physiology (LGIS)	M3-Repro-P-001	Physiological anatomy of male reproductive system & spermatogenesis	DescribePhysiological anatomy of male reproductive system	C2	Must Know	A	LGIS	MCQ SEQ VIVA
			Explainthestepsof spermatogenesis	C2	Must know	A		
			Identifytheprocessof meiosis	C2	Should Know	B		
			Describethehormonal factors that stimulate spermatogenesis	C2	Must know	A		
			Describefunctionsof seminal vesicles	C2	Must know	A		
	M3-Repro-P-002	Physiological anatomy female reproductive system	Describe oogenesis & folliculardevelopmentin ovaries	C2	Must know	A	LGIS	MCQ SEQ VIVA
			Discussfemalehormonal system	C2	Nice to know	C		
	M3-Repro-P-003	Semen, capacitation& acrosome reaction	Explain capacitation	C2	Must Know	A	LGIS	MCQ SEQ VIVA
			Describe acrosomal reaction	C2	Must know	A		
			- Summarize the abnormalities related to spermatogenesis: - Bilateral orchitis - Effects of temperature - Cryptorchidism	C2	Should Know	B		
	M3-Repro-P-004	MonthlyOvarian Cycle, ovulation	Describe gonadotropic hormones & their effects on ovaries	C2	Must know	A	LGIS	MCQ SEQ VIVA
			Explain follicular phase of ovarian cycle	C2	Must know	A		
			Explain ovulation hormones	C2	Must know	A	LGIS	MCQ

			• Explain LH surge	C2	Nice to know	C		SEQ
			• Describe luteinizing function of Luteinizing	C 1	Nice to know	C		VIVA
Physiology (CBL)	M3-Repro-P-0014	Infertility	• Correlate basic knowledge with clinical application	C3	Should know	A	CBL	MCQ SEQ
Physiology (SDL)	M3-Repro-P-0017	Fertilization of ovum, transport, implantation, Functions of placenta	• Maturation and fertilization of ovum • Transport and Implantation • Early nutrition of the Embryo • Functions of Placenta	• Ganong's Review of Medical Physiology.25TH Edition. Reproductive development and Function of female reproductive system (Chapter 22, Page 410) • Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Fertilization, Pregnancy and Lactation. (Chapter 59, Page 975) • Textbook of Medical Physiology by Guyton & Hall.14th Edition. • Pregnancy and Lactation. Section 14. (Chapter 83, Page 1045) • https://teachmephysiology.com/reproductive-system/ • https://my.clevelandclinic.org/health/articles/11585-conception				
	M3-Repro-P-0018	Growth & functional development of fetus, Adjustments of infant to extrauterine life, Growth & development in child	• Growth & functional development of fetus • Fetal Metabolism • Changes in Fetal circulation at Birth • Adjustment of the Infant to the Extrauterine life	• Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Physiology of Pregnancy (Chapter 60, Page 998) • Textbook of Medical Physiology by Guyton & Hall.14th Edition. Fetal and Neonatal Physiology. Section 14. (Chapter 84, Page 1061-1065) • https://youtu.be/rYVGjbzmAtg • https://www.msdmanuals.com/home/women-s-health-issues/normal-pregnancy/stages-of-development-of-the-fetus				
Physiology (SKL)	M3-Repro-P-0020	Examination of 7 th Cranial nerve	• Principle • Procedure • Clinical correlation • Overview of Cranial nerves • Performance of student	Should know Should know Must know Nice to know Should know	A A B C A	C1 P3 C3 C1 P3	Skill Lab	OSPE

Biochemistry (LGIS)	M3-Repro-B-001	Gene Expression	• Explain the regulation of gene expression • Apply the strategic use of artificial intelligence in healthcare • Use HEC digital library • Practice principles of bioethics	Should Know	C2 C2 C3 C3	LGIS	MCQs, SAQs SEQs Viva
	M3- Repro-B-002	Digestion of nucleic acid and purine synthesis	• Explain digestion of nucleoprotein • Describe purine biosynthesis (Denovosynthesis and salvage pathway)	Must Know	C2 C2	LGIS	MCQs, SAQs SEQs Viva
			• Apply the strategic use of artificial intelligence in healthcare • Use HEC digital library • Practice principles of bioethics • Understand the curative and preventive health care measures	Must Know	C3 C3 C4 C2	LGIS	MCQs, SAQs SEQs Viva
Biochemistry (SGD)	M3-Repro-B-003	Deno synthesis of purine, describe salvage pathway (Purine Metabolism)	• Purine denovo synthesis and describe salvage pathway • Apply the strategic use of artificial intelligence in healthcare • Use HEC digital library • Practice principles of bioethics • Understand the curative and preventive health care measures	Should Know	C2 C4 C3 C4 C2	SGD	MCQs
Biochemistry (SDL)	M3-Repro-B-004	Applied aspect of nucleic acid and purine synthesis	• Describe Role of Deficient enzymes • Relate Clinical Features & Investigation	C2 C4	• Lippincott Illustrated reviews of biochemistry 8th edition (Chapter 22, page 292-295) • https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/purine-synthesis • https://www.youtube.com/watch?v=VXWyWzbigrg • Use digital library • https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3243375/		

	M3-Repro-B-005	Applied aspect of Regulation of gene expression	• Explain the regulation of gene expression • Relate with clinical disorders	C2 C4	Lippincott Illustrated reviews of biochemistry 8 th edition (Chapter 22, page 465-477) • https://www.healio.com/hematology-oncology/learn-genomics/genomics-primer/regulation-of-gene-expression-in-eukaryotes • https://www.youtube.com/watch?v=J9jhg90A7Lw • Use digital library • https://www.nature.com/scitable/topicpage/regulation-of-transcription-and-gene-expression-in-1086/		
Biochemistry (SKL)	M3-Repro-B-006	Estimation of serum Uric acid by Spectrophotometer	• Perform estimation of uric acid by spectrophotometer	Should Know	P	Skill Lab	OSPE

Theme 2: Patient with Pelvic Pain & Hormonal Dysfunction. (2nd Week)

Theme	Rationale	Learning objectives
Patient with Pelvic Pain & Hormonal Dysfunction	Focus on undescended testes, scrotal swellings, sex hormone physiology, puberty disorders, BPH/prostatitis, and STDs. This knowledge supports clinical reasoning in patients presenting with pelvic pain, genital lumps, reproductive infections, and androgen/estrogen imbalance.	By the end of the session, students should be able to: • Explain pelvic pain and heavy menstrual bleeding in this case through integrated hormonal, structural, and vascular mechanisms. • Correlate the clinical presentation and examination findings with uterine fibroid. • Interpret ultrasound and laboratory findings in a patient with fibroid-related menorrhagia and anemia. • Describe the systemic consequences of chronic blood loss, particularly iron deficiency anemia and fatigue. • Discuss the effects of fibroid mass on adjacent pelvic organs and resulting pressure symptoms. • Demonstrate empathetic and patient-centered communication while addressing the patient’s concerns and quality of life issues.
Case 2: “When the Uterus Speaks – Pelvic Pain as a Hormonal–Structural Disorder” A 34-year-old woman, Mrs. S, presents to the Gynecology OPD with an eight-month history of progressive lower abdominal heaviness and excessive menstrual bleeding, accompanied by severe fatigue and difficulty performing her daily activities. She reports that her menstrual flow has become so heavy that she needs to change sanitary pads every hour and frequently passes clots. Her cycles are regular, occurring every 28 days, but the bleeding lasts for 8–10 days. She denies any intermenstrual bleeding. In addition to menorrhagia, she complains of a persistent pelvic pressure sensation, urinary frequency, constipation, and occasional lower back pain. She feels constantly weak and states that she is unable to adequately care for her children due to her symptoms. Her obstetric history reveals three full-term vaginal deliveries with no history of miscarriages. On general examination, the patient appears pale and mildly fatigued, with a pulse rate of 96 beats per minute. On abdominal examination, a palpable firm mass is noted in the midline of the lower abdomen. Pelvic examination reveals an enlarged, irregular uterus corresponding approximately to a 12-week gestational size. The uterus is non-tender on palpation, and no adnexal masses are detected. Investigations: • Hemoglobin: 8.2 g/dL • Serum Ferritin: Low • Thyroid profile: Normal • Ultrasound pelvis: 6.5 cm intramural fibroid in anterior wall • Endometrial thickness: Increased She asks: “Why is my uterus growing like this? Is this dangerous?”		

Entrustable Professional Activities (EPAs)

- EPA-1: Interpret laboratory and imaging data and apply integrated basic sciences to explain pelvic pathology. (Level 2)
- EPA-2: Communicate findings clearly and compassionately in language appropriate for the patient. (Level 2–3)
- EPA-3: Recognize the impact of the condition on patient quality of life and demonstrate professionalism and empathy. (Level 2)

EPAs Detail Annexure-II

Justification:

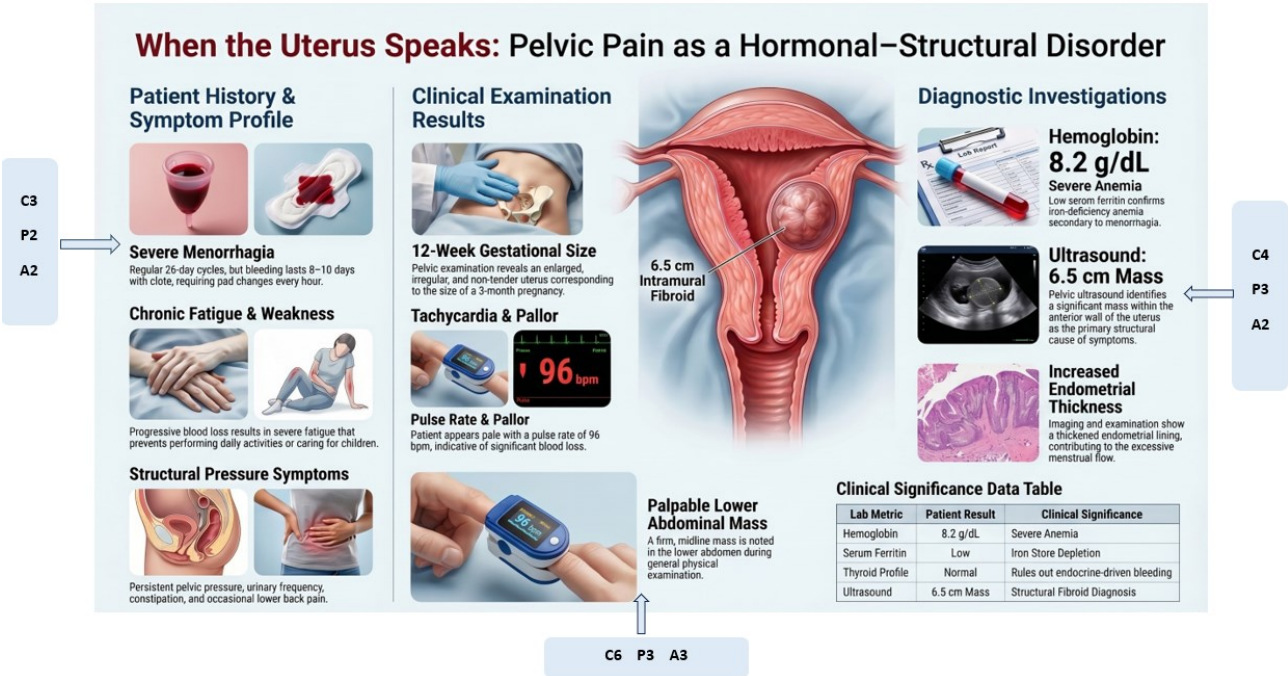
No discipline dominates the session.

Students approach pelvic pain as a biological system problem.

Hormonal, structural, vascular, systemic and psychosocial dimensions are unified.

Faculty from Anatomy, Physiology, Biochemistry and Gynae facilitate together. Learning is patient-driven, not subject-driven. This fulfills **true transdisciplinary integration**.

Theme 2 Clinico-concept connect (C³6)



Harden Level 11 Transdisciplinary

Specific Learning Objective

Subject	Code	Topic	Learning Objectives At the end of lecture students should be able to	Calgary Gauge	Learning Domain	Teaching Strategy	Assessment Tools
Anatomy Embryology	M3-Repro-A-004	Ovary	Recall the process of oogenesis in female.	Must know	C2	LGIS	MCQS SAQS VIVA
			Explain the different steps involved in early oogenesis.	Must know	C2		
			Explain the ovarian and menstrual cycle and phases.	Must know	C2		
			Explain the hormonal changes occurring during reproductive cycle.	Must know	C2		
			Describe role of paramesonephric ducts, uterovaginal primordium in development of ovary	Must know	C2		
			Analyze specific embryonic contributions of the coelomic surface epithelium, and migrating primordial germ cells to the formation of definitive ovarian follicles.	Must know	C4		
			Understand curative and preventive health care measures	Must know	C3		
			Practice the principles of bioethics.	Should know	P		
			Evaluate the embryological impact of the absence of the SRY gene.	Should know	C5		
			Link gonadal ridge development defects to the cause of congenital anomalies like gonadal dysgenesis.	Nice to know	C6		
Anatomy Embryology	M3-Repro-A-005	Vagina	Discuss the developmental stages of vagina and female external genitalia	Must know	C2	LGIS	MCQS SAQS VIVA
			Enlist different congenital anomalies of female reproductive system.	Must know	C3		
			Describe different syndromes and gene defects associated with congenital anomalies	Should know	C3		
			Understand curative and preventive health care measures	Nice to know	C3		
			.	Nice to know	C3		
			Apply strategic use of A.I in health care	Nice to know	C3		

	M3-Repro-A-007	Male genital ducts	• Read a relevant research article	Must know	C3	LGIS	MCQS SAQS VIVA
			• Describe the histological organization of epididymis, ductus deferens and ejaculatory ducts.	Must know	C2		
			• Describe the epithelium and microscopic features of epididymis, ductus deferens and ejaculatory ducts.	Must know	C3		
			• Understand the bio-physiological aspects of epithelium of ducts.	Should know	P		
			• Discuss the related clinical like vasectomy, epididymitis.	Nice to know	C3		
			• Understand curative and preventive health care measures.	Nice to know	C3		
			• Analyze the distinct variations in the epithelial lining and smooth muscle thickness along the progression of the male genital ducts.	Nice to know	C4		
			• Evaluate microscopic sections of the male reproductive tract to accurately differentiate the epididymis from the ductus deferens.	Nice to know	C5		
			• Formulate a clinico-histological framework that correlates specific microscopic structural anomalies in the male genital ducts	Nice to know	C6		
			• Describe microscopic features of these glands.	Must know	C2		
			• Discuss the related clinical like prostatitis.	Should know	C3		
			• Understand curative and preventive health care measures.	Nice to know	C3		
			• Practice the principles of bioethics.	Nice to know	C3		
			• Apply strategic use of A.I in health care.	Nice to know	C3		
			• Read relevant research article	Nice to know	C3		
Anatomy Histology	M3-Repro-A-0010	Ovary and Vagina	• Discuss the stages of follicular growth (primordial, primary, secondary, tertiary), as well as the changes that occur in the follicular wall.	Must know	C2	LGIS	MCQS SAQS VIVA
			• Discuss ovarian cycle and menstrual cycle.	Must know	C2		

			Describe the histological features of corpus luteum of mensuration and pregnancy.	Must know	C2		
			Discuss the related clinicals like PCOS, Follicular cyst, hemorrhagic cyst.	Should know	C3		
			Analyze the histological features of ovarian cortex and medulla across different phases of the menstrual cycle.	Must know	C4		
			Justify the use of ovarian histology in distinguishing between normal follicular development and pathological conditions like polycystic ovary syndrome.	Nice to know	C5		
			Discuss the related clinical like vaginitis, squamous cell carcinoma of vagina.	Nice to know	C3		
			Understand curative and preventive health care measures.	Nice to know	C3		
			Design a labeled histological atlas entry that correlates microscopic structure of the ovary with its endocrine and gametogenic functions.	Nice to know	C6		
			Apply strategic use of A.I in health care.	Nice to know	C3		
			Read relevant research article	Nice to know	C3		
Gross Anatomy	M3-Repro-A-0022	Ischio-anal fossa	Discuss the dimensions, boundaries and recesses	Must know	C2	SGD	MCQS SAQS OSPE VIVA
			Describe the contents of Ischio anal fossa	Must know	C2		
			Describe pudendal canal and its contents	Must know	C2		
			Discuss important clinical anatomy of structures	Must know	C2		
			Understand curative and preventive health care measures	Should know	C2		
			Practice the principles of bioethics.	Nice to Know	C3		
			Apply strategic use of A.I in health care	Nice to Know	C3		
			Read a relevant research article	Nice to Know	C3		
Gross Anatomy	M3-Repro-A-0023	Urogenital diaphragm	Discuss the formation of diaphragm	Must know	C2		MCQS
			Identify the relations and contents of diaphragm	Must know	C1		
			Discuss organs piercing urogenital diaphragm	Must know	C2		

			Discuss important clinical anatomy related to diaphragm	Should know	C2	SGD	SAQS OSPE VIVA
			Understand curative and preventive health care measures	Nice to Know	C3		
			Practice the principles of bioethics.	Nice to Know	C3		
			Apply strategic use of A.I in health care	Nice to Know	C3		
			Read a relevant research article	Nice to Know	C3		
Gross Anatomy	M3-Repro-A-0024	Perineum & Superficial perineal pouches	Identify boundaries and divisions of perineum	Must know	C2	SGD	MCQS SAQS OSPE VIVA
			Discuss formation of perineal pouches	Must know	C2		
			Discuss in detail the contents of superficial perineal pouches in male and female	Must know	C2		
			Discuss important clinical anatomy related to superficial perineal pouches	Should know	C2		
			Understand curative and preventive health care measures	Nice to Know	C3		
			Analyze the boundaries and contents of the superficial perineal pouch in males versus females.	Nice to Know	C4		
			Evaluate spread of infection or urine in a superficial perineal pouch injury based on its anatomical limits.	Nice to Know	C5		
			Design a surgical approach to drain an abscess in the superficial perineal pouch while avoiding damage to neurovascular structures.	Nice to Know	C6		
Anatomy Histology	M3-Repro-A-0025	Deep perineal pouches	Discuss in detail the contents of deep perineal pouches in male and female	Must know	C2	Skill Lab	MCQS SAQS OSPE VIVA
			Discuss important clinical anatomy related to deep perineal pouches.	Must know	C2		
			Understand curative and preventive health care measures	Should know	C2		
			Practice the principles of bioethics.	Nice to Know	C3		
			Apply strategic use of A.I in health care	Nice to Know	C3		
			Read a relevant research article	Nice to Know	C3		
	M3-Repro-A-0048		Identify the histological slide of seminal vesicles and prostate	Must know	P		

		Seminal vesicles, prostate	• Illustrate the microscopic picture of seminal vesicles and prostate • Analyze histological structure of the seminal vesicle and prostate gland in relation to their secretory functions. • Evaluate histological changes in the prostate (e.g., glandular hyperplasia or acinar atrophy) • Design a histology-based diagnostic flowchart to differentiate normal, hyperplastic, and malignant prostate tissue using microscopic features.	Should know	C2	Skill Lab	OSPE	
				Must know	C4			
				Nice to know	C5			
				Nice to know	C6			
Physiology (CBL)	M3-Repro-P-0015	Menorrhagia	• Correlate basic knowledge with clinical application	Should know	A	C3	CBL	MCQ SEQ VIVA
Physiology (SGD)	M3-Repro-P-0016	Neonatal problems of Prematurity	• Correlate basic knowledge with clinical application	Should know	A	C3	SGD	MCQ SEQ VIVA
Physiology (SDL)	M3-Repro-P-0019	Hormonal factors in pregnancy, Special functional problems in neonate. Prematurity and its problems.	• Special functional problems in neonate • Prematurity • Immature development of the premature Infant • Instability of Homeostasis in Premature Infant • Instability of body temperature in Infants	• Physiological Basis of Medical Practice by Best & Taylor's.13th Edition. Physiology of Pregnancy (Chapter 60, Page 998) • Textbook of Medical Physiology by Guyton & Hall.14th Edition. Fetal and Neonatal Physiology. Section 14. (Chapter 84, Page 1066-1070) ○ https://teachmephysiology.com/reproductive-system/ ○ https://patient.info/pregnancy/premature-babies				
Physiology (SKL)	M3-Repro-P-0021	Pregnancy Test	• Apparatus identification • Principle • Procedure • Precautions • Recall types of pregnancy test • Performance of student	Sould know Should know Shold know Must know Nice to know Should know	A A A B C A	P3/A3 C1 P3 C1 C1 P3	Skill lab	OSPE
	M3-Repro-P-0023	Examination of 3 rd ,4 th ,6 th cranial nerves	• Principle • Procedure • Clinical correlation of reflexes	Should know Should know Should know Must know	A A A B	C1 P3 C3 C1	Skill lab	OSPE

			Overview of cranial nerves				
Biochemistry (LGIS)	M3-Repro-B-007	Purine Catabolism	- Explain purine catabolism - Correlate causes and effects of disorders of purine catabolism - Reframe the mechanism of purine catabolism - Design the curative and preventive healthcare measures - Read a relevant research article - Use HEC digital library	Must Know	C2 C4 C5 C6 C2 C3	LGIS	MCQs, SAQs Viva
	M3-Repro-B-008	Male gonadal hormones	- Describe Synthesis, mechanism of action and functions of male gonadal hormones - Reframe related inherited disorders - Role play principles of bioethics - Design the curative and preventive healthcare measures. - Use HEC digital library	Must Know	C2 C5 C6 C6 C3	LGIS	MCQs, SAQs SEQs Viva
Biochemistry (CBL)	M3-Repro-B-009	Gout	- Reframe the mechanism of gout formation - Design the curative and preventive healthcare measures	Should Know	C5 C6	CBL	MCQs SAQs Viva
Biochemistry (SDL)	M3-Repro-B-010	Applied aspect of Male gonadal hormones	- Explain the Biochemical basis of Clinical Features - Relate the causes of hypersecretion & Hyposecretion Treatment	- Text Book of Harper, 32 edition (chapter 41 page – 487-488) https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/gonad-function https://www.youtube.com/watch?v=A5u_TY1A0t8 - Use digital library https://www.ncbi.nlm.nih.gov/books/NBK29/			
Biochemistry (SKL)	M3-Repro-B-011	Estimation of Cholesterol by Spectrophotometer	Perform estimation of Cholesterol by Spectrophotometer	Should Know	P	Skill Lab	OSPE

Theme 3: Pregnancy Loss and Disorders of Sexual Development. (3rd Week)

Theme	Rationale	Learning objectives
Pregnancy Loss and Disorders of Sexual Development	Teaching includes fertilization, implantation, placentation, neonatal issues, PCOS, hypogonadism, hermaphroditism, acute scrotum and ovarian pathology. These concepts relate to presentations such as ambiguous genitalia, recurrent pregnancy loss, menstrual dysregulation, and neonatal morbidity.	By the end of the session, students should be able to: • Explain heavy menstrual bleeding and pelvic pain through integrated hormonal, structural, and vascular mechanisms. • Correlate the patient’s clinical presentation and examination findings with uterine fibroid. • Interpret ultrasound and laboratory findings in a patient with fibroid-related menorrhagia and anemia. • Describe the effects of fibroid growth on the uterus and adjacent pelvic organs. • Explain iron deficiency anemia as a systemic consequence of chronic abnormal uterine bleeding. • Demonstrate empathetic and patient-centered communication while addressing the patient’s concerns and quality of life.
Case 3: “When Implantation Fails – The Biology Behind Early Pregnancy Loss” A 27-year-old woman, gravida 2 para 0, presents to the emergency department with vaginal bleeding at 10 weeks of gestation. She reports mild lower abdominal cramping for two days followed by spotting which has gradually increased. She had a previous miscarriage at 8 weeks one year ago. There is no history of diabetes, hypertension, thyroid disease, or trauma. She is deeply anxious and repeatedly asks, “Why does this keep happening? Is there something wrong with my body?” She denies fever or foul discharge. Her last menstrual period was regular, and pregnancy was confirmed with a positive home test six weeks earlier. She has been taking no medications except folic acid. Clinical Examination On general examination, she appears emotionally distressed but hemodynamically stable. Pulse is 84/min, blood pressure 110/70 mmHg, temperature normal. There is mild pallor but no jaundice or edema. Abdominal examination reveals mild suprapubic tenderness without guarding or rigidity. On speculum examination, minimal vaginal bleeding is noted. The cervical os appears closed. Bimanual examination shows a uterus slightly smaller than expected for gestational age, non-tender, with no adnexal masses. Investigations • Serum β-hCG levels are lower than expected for gestational age and show declining trend on repeat testing after 48 hours. • Serum progesterone levels are reduced. • Thyroid profile and prolactin levels are within normal limits. • Complete blood count reveals mild anemia. • Transvaginal ultrasound shows an intrauterine gestational sac without fetal cardiac activity and minimal subchorionic hemorrhage. No adnexal pathology is visualized.		

Entrustable Professional Activities (EPAs)

EPA-1: Interpret laboratory and ultrasound findings and apply integrated basic sciences to explain pregnancy loss. (Level 2)

EPA-2: Communicate findings compassionately and explain the condition in a patient-centered manner. (Level 2–3)

EPA-3: Demonstrate professionalism, emotional sensitivity, and empathy in managing the patient encounter. (Level 2)

EPAs Detail Annexure-II

Justification:

Disciplines are not taught separately.

Students approach miscarriage as a unified biological and psychosocial phenomenon.

Molecular, endocrine, structural, vascular and emotional dimensions are integrated.

Faculty collaborate across departments without subject boundaries.

The patient narrative drives the learning, not the discipline. This fulfills true transdisciplinary integration under Harden Level 11.

Theme 3 Clinico-concept connect (C³6)



Specific Learning Objective

Subject	Code	Topic	Learning Objectives At the end of lecture students should be able to	Calgary Gauge	Learning Domain	Teaching Strategy	Assessment Tools
Anatomy Embryology	M3-Repro-A-004	Ovary	Recall the process of oogenesis in female.	Must know	C2	LGIS	MCQS SAQS VIVA
			Explain the different steps involved in early oogenesis.	Must know	C2		
			Explain the ovarian and menstrual cycle and phases.	Must know	C2		
			Explain the hormonal changes occurring during reproductive cycle.	Must know	C2		
			Describe role of paramesonephric ducts, uterovaginal primordium in development of ovary	Must know	C2		
			Describe the descent of ovaries.	Must know	C2		
			Understand curative and preventive health care measures	Must know	C3		
			Practice the principles of bioethics.	Should know	P		
			Apply strategic use of A.I in health care	Should know	C3		
			Read a relevant research article	Nice to know	C3		
Anatomy Embryology	M3-Repro-A-005	Vagina	Discuss the developmental stages of vagina and female external genitalia	Must know	C2	LGIS	MCQS SAQS VIVA
			Enlist different congenital anomalies of female reproductive system.	Must know	C3		
			Describe different syndromes and gene defects associated with congenital anomalies	Should know	C3		
			Understand curative and preventive health care measures	Nice to know	C3		
			Analyze embryonic origins of the upper versus lower vagina and their respective anomalies.	Nice to know	C4		
			Evaluate type of vaginal anomaly based on the timing and site of a developmental arrest in sinovaginal bulb formation.	Nice to know	C5		
			Design a table correlating specific embryologic defects of the paramesonephric ducts and sinovaginal bulbs.	Must know	C6		

Gross Anatomy	M3-Repro-A-0026	Blood supply of pelvis and perineum	• Identify major blood vessels & nerves of pelvis and perineum	Must know	C1	SGD	MCQS SAQS OSPE VIVA
			• Demonstrate anatomical relationships	Must know	C2		
			• Describe important clinical anatomy related to blood vessels of pelvis and perineum	Should know	C2		
			• Understand curative and preventive health care measures	Nice to Know	C3		
			• Practice the principles of bioethics.	Nice to Know	C3		
			• Apply strategic use of A.I in health care	Nice to Know	C3		
			• Read a relevant research article	Nice to Know	C3		
Gross Anatomy	M3-Repro-A-0027	Lymphatic drainage of pelvis and perineum	• Identify major lymphatic vessels of pelvis and perineum	Must know	C1	SGD	MCQS SAQS OSPE VIVA
			• Discuss lymphatic drainage of pelvis and perineum	Must know	C2		
			• Discuss important clinical anatomy	Should know	C2		
			• Understand curative and preventive health care measures	Nice to Know	C3		
			• Compare the lymphatic drainage pathways of the pelvic viscera versus the perineum.	Nice to Know	C4		
			• Evaluate pattern of lymph node metastasis from a carcinoma of the uterine cervix	Nice to Know	C5		
			• Design a clinical algorithm that traces the route of lymphatic spread from a perineal infection or malignancy.	Nice to Know	C6		
Gross Anatomy	M3-Repro-A-0028	Sacral and Coccygeal plexus	• Identify various branches of sacral and coccygeal plexus	Must know	C1	Skill Lab	MCQS SAQS OSPE VIVA
			• Discuss anatomical relations	Must know	C2		
			• Describe root values of each branch of plexus and its related applied	Should know	C2		
			• Understand curative and preventive health care measures	Nice to Know	C3		
			• Practice the principles of bioethics.	Nice to Know	C3		
			• Apply strategic use of A.I in health care	Nice to Know	C3		

			• Read a relevant research article	Nice to Know	C3		
	M3-Repro-A-0049	Ovary	• Identify the histological slide of ovary	Must know	P	Skill Lab	OSPE
			• Illustrate the microscopic picture of ovary	Should know	C2		
			• Enlist two points of identification	Must know	C1		
			• Read relevant research article	Nice to know	C3		
			• Use digital library	Nice to know	C3		
	M3-Repro-A-0050	Uterus, uterine tubes	• Identify the histological slide of Uterus and uterine tubes	Must know	P	Skill Lab	OSPE
			• Illustrate the microscopic picture of Uterus and uterine tubes	Should know	C2		
			• Compare the histological layers of the uterus and uterine tubes	Must know	C4		
			• Evaluate cyclical histological changes in the endometrium	Nice to know	C5		
• Design a histology-based decision tree to differentiate normal endometrium (proliferative vs. secretory), and endometrial hyperplasia.			Nice to know	C6			

Physiology (CBL)	M3-Repro-P-0015	Menorrhagia	• Correlate basic knowledge with clinical application	Should know	A	C3	CBL	MCQ SEQ VIVA
Physiology (SGD)	M3-Repro-P-0016	Neonatal problems of Prematurity	• Correlate basic knowledge with clinical application	Should know	A	C3	SGD	MCQ SEQ VIVA
Physiology (SDL)	M3-Repro-P-0019	Hormonal factors in pregnancy, Special functional problems in neonate. Prematurity and its problems.	• Special functional problems in neonate • Prematurity • Immature development of the premature Infant • Instability of Homeostasis in Premature Infant - Instability of body temperature in Infants	• Physiological Basis of Medical Practice by Best & Taylor’s.13th Edition. Physiology of Pregnancy (Chapter 60, Page 998) • Textbook of Medical Physiology by Guyton & Hall.14th Edition. Fetal and Neonatal Physiology. Section 14. (Chapter 84, Page 1066-1070) ○ https://teachmephysiology.com/reproductive-system/ ○ https://patient.info/pregnancy/premature-babies				

Physiology (SKL)	M3-Repro-P-0021	Pregnancy Test	• Apparatus identification • Principle • Procedure • Precautions • Recall types of pregnancy test • Performance of student	Sould know Should know Shold know Must know Nice to know Should know	A A A B C A	P3/A3 C1 P3 C1 C1 P3	Skill lab	OSPE
	M3-Repro-P-0023	Examination of 3 rd ,4 th ,6 th cranial nerves	• Principle • Procedure • Clinical correlation of reflexes • Overview of cranial nerves	Should know Should know Should know Must know	A A A B	C1 P3 C3 C1	Skill lab	OSPE
Biochemistry (LGIS)	M3-Repro-B-012	Female gonadal hormones	• Describe the synthesis, mechanism of action and functions of female sex hormones • Reframe causes related disorders • Categorize related hormonal disorders disorders • Design the curative and preventive healthcare measures. • Read a relevant research article • Use HEC digital library		Must Know	C2 C5 C4 C6 C2 C3	LGIS	MCQs, SAQs SEQs Viva
	M3-Repro-B-013	Pyrimidine Metabolism	• Describe the synthesis and degradation of pyrimidine nucleotides • Design the curative and preventive healthcare measures for associated disorders. • Apply the use of artificial intelligence in healthcare • Read a relevant research article • Use HEC digital library		Must Know	C2 C6 C3 C2 C3	LGIS	MCQs, SAQs SEQs Viva
Biochemistry (SGD)	M3-Repro-B-014	Synthesis, mechanism of action and functions of sex hormones	• Describe Synthesis, mechanism of action and functions of male and female gonadal hormones • Apply the strategic use of artificial intelligence in healthcare • Use HEC digital library • Role play principles of bioethics • Understand the curative and preventive health care measures		Must Know	C2 C3 C2 C6 C2	SGD	MCQs

Biochemistry (SDL)	M3-Repro-B-015	Clinical role Pyrimidine metabolism	Explain Pyrimidine metabolism and related disorders	- Lippincott Illustrated reviews of biochemistry 8th edition (Chapter 22, page 302-304) https://www.cliffsnotes.com/study-guides/biology/biochemistry-ii/purines-and-pyrimidines/pyrimidine-metabolism https://www.youtube.com/watch?v=n7Uec8Jtr4E - Use digital library https://www.ncbi.nlm.nih.gov/pmc/articles/PMC378357/			
	M3-Repro-B-16	Clinical aspects Female gonadal hormones	- Describe Biochemical basis of Clinical Features - Corelate Causes of hypersecretion & Hyposecretion - Discuss Treatment options	- Text Book of Harper,32 edition (chapter 41 page – 487-488) https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/gonad-functionn https://www.youtube.com/watch?v=A5u_TY1A0t8 - Use digital library https://www.ncbi.nlm.nih.gov/books/NBK29/			
Biochemistry (SKL)	M3-Repro-B-017	Interpretation of female hormonal profile	Perform tests of female hormonal profile	Must Know	P	Skill Lab	OSPE

Physiology Syllabus of Learning Management System (LMS)

Theory					
Code	Topics	Learning Objectives	Calgary Model	Mode of Assessment	Tool of Assessment
M3-Repro-P-0024	Physiological anatomy of male reproductive system & spermatogenesis	• Physiological anatomy of male sexual organs • Spermatogenesis and its steps • Hormonal Factors that stimulate spermatogenesis	Nice to know (C)	SDL	MCQs
M3-Repro-P-0025	Physiological anatomy female reproductive system	• Physiological anatomy of female sex organs • Oogenesis and follicular development in the ovaries • Female hormonal system	Nice to know (C)	SDL	MCQs
M3-Repro-P-0026	Semen, capacitation & acrosome reaction	• Semen and its components • Capacitation and its role in Fertilization • Acrosome reaction and Penetration of the Ovum	Must Know (A)	LGIS&SDL	MCQs
M3-Repro-P-0027	Monthly Ovarian Cycle, ovulation	• Monthly Ovarian Cycle • Function of Gonadotropic Hormones • Three phases of Ovarian cycle • (Follicular,Ovulation and luteal phase)	Must Know (A)	LGIS&SDL	MCQs

M3-Repro-P-0028	Male sex hormones, Abnormalities of male sexual function and spermatogenesis	• Testosterone and other male sex hormones • Function of Testosterone • Role of Hypothalamus and anterior pituitary gland	Must Know (A)/ Should know (B)	LGIS&SDL	MCQs
M3-Repro-P-0029	Monthly Endometrial Cycle and Menstruation	• Monthly Endometrial Cycle • Menstruation • Phases of Menstrual cycle • (Proliferative, Secretory and Menstrual phase)	Must Know (A)/ Should know (B)	LGIS&SDL	MCQs
M3-Repro-P-0030	Response of mother's body to pregnancy, Parturition	• Maturation and Fertilization of Ovum • Anatomy and function of placenta • Hormonal Factors in Pregnancy • Parturition • Hormonal and Mechanical factors in Parturition	Must Know (A)/ Should know (B)	LGIS&SDL	MCQs
M3-Repro-P-0031	Female sex hormones (oestrogen and progesterone)	• Functions of Ovarian Hormones • Estradiol and Progesterone • Effects of primary and secondary female sex characteristics	Must Know (A)/ Should know (B)	LGIS&SDL	MCQs

Biochemistry LGIS Syllabus of Learning Management System (LMS)

Theory							
Code	Topics	At the end of lecture students should be able to:	Calgary Gauge	Learning Domains	Teaching Strategy	Assessment Tools	Learning Resources
M3-Repro-B-0018	Male gonadal hormones	Synthesis mechanism of action and functions of male gonadal hormones	Should Know	C2	LGIS	MCQ SEQ VIVA	Lippincott Illustrated reviews of biochemistry 8 th edition
		- Apply the strategic use of artificial intelligence in healthcare - Use HEC digital library - Practice principles of bioethics - Understand the curative and preventive health care measures	Nice to know	C3			
M3-Repro-B-0019	Female gonadal hormones	Synthesis mechanism of action and functions of female gonadal hormones	Should Know	C2	LGIS	MCQ SEQ VIVA	Lippincott Illustrated reviews of biochemistry 8 th edition
		- Apply the strategic use of artificial intelligence in healthcare - Use HEC digital library - Practice principles of bioethics - Understand the curative and preventive health care measures	Nice to know	C3			
M3-Repro-B-0020	Digestion of nucleic acid and purine synthesis	- Explain digestion of nucleoprotein - Describe purine biosynthesis (Denovosynthesis and salvage pathway)	Should Know	C2 C2	LGIS	MCQ SEQ VIVA	Lippincott Illustrated reviews of biochemistry 8 th edition
		- Apply the strategic use of artificial intelligence in healthcare - Use HEC digital library - Practice principles of bioethics - Understand the curative and preventive health care measures	Nice to know	C3			
M3-Repro-B-0021	Purine catabolism and	- Explain purine catabolism - Discuss related disorders	Should Know Must Know	C2	LGIS	MCQ SEQ VIVA	Lippincott Illustrated reviews of

	related disorders			C3			biochemistry 8 th edition
		• Apply the strategic use of artificial intelligence in healthcare • Use HEC digital library • Practice principles of bioethics • Understand the curative and preventive health care measures	Nice to know	C3			Lippincott Illustrated reviews of biochemistry 8 th edition
M3-Repro-B-0022	Pyrimidine metabolism	• Explain Pyrimidine catabolism • Related disorders	Should Know Must Know	C2 C3	LGIS	MCQ SEQ VIVA	Lippincott Illustrated reviews of biochemistry 8 th edition
		• Apply the strategic use of artificial intelligence in healthcare • Use HEC digital library • Practice principles of bioethics • Understand the curative and preventive health care measures	Nice to know	C3			
M3-Repro-B-0023	Regulation of gene expression	• Explain the regulation of gene expression	Should Know	C2	LGIS	MCQ SEQ VIVA	Lippincott Illustrated reviews of biochemistry 8 th edition
		• Apply the strategic use of artificial intelligence in healthcare • Use HEC digital library • Practice principles of bioethics • Understand the curative and preventive health care measures	Nice to know	C3			

Biochemistry SGD Syllabus of Learning Management System (LMS)

Code	Topics	At the end of tutorial students should be able to	Calgary Gauge	Learning Domains	Teaching Strategy	Assessment Tools
M3-Repro-B-0024	Purine metabolism	Purine denovo synthesis and describe salvage pathway	Should Know	C2	SGD	MCQ SEQ VIVA
		- Apply the strategic use of artificial intelligence in healthcare - Use HEC digital library - Practice principles of bioethics - Understand the curative and preventive health care measures	Nice to know	C3		
M3-Repro-B-0025	Male female sex hormones	- Synthesis, mechanism of action and functions of male female gonadal hormones	Should Know	C2	SGD	MCQ SEQ VIVA
		- Apply the strategic use of artificial intelligence in healthcare - Use HEC digital library - Practice principles of bioethics - Understand the curative and preventive health care measures	Nice to know	C3		

Biochemistry SDL Syllabus of Learning Management System (LMS)

Code	Topics Of SDL	Learning Objectives	Learning resources
M3-Repro-B-0026	Applied aspect of Male gonadal hormones	- Biochemical basis of Clinical Features - Causes of hypersecretion & Hyposecretion - Treatment	- Text Book of Harper, 32nd edition (chapter 41 page – 487-488) https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/gonad-function https://www.youtube.com/watch?v=A5u_TY1A0t8 - Use digital library https://www.ncbi.nlm.nih.gov/books/NBK29/
M3-Repro-B-0027	Clinical aspects Female gonadal hormones	- Biochemical basis of Clinical Features - Causes of hypersecretion & Hyposecretion - Treatment	- Text Book of Harper, 32nd edition (chapter 41 page – 487-488) https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/gonad-function https://www.youtube.com/watch?v=A5u_TY1A0t8 - Use digital library https://www.ncbi.nlm.nih.gov/books/NBK29/
M3-Repro-B-0028	Applied aspect of nucleic acid and purine synthesis	- Role of Deficient enzymes - Clinical Features - Investigation	- Lippincott Illustrated reviews of biochemistry 8th edition (Chapter 22, page 292-295) https://www.sciencedirect.com/topics/biochemistry-genetics-and-molecular-biology/purine-synthesis https://www.youtube.com/watch?v=VXWyWzbigrg - Use digital library https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3243375/
M3-Repro-B-0029	Purine catabolism Related disorder	- Explain purine catabolism - Discuss related disorder	- Lippincott Illustrated reviews of biochemistry 8th edition (Chapter 22, page 298-301) https://www.sciencedirect.com/topics/medicine-and-dentistry/purine-metabolism-disorder https://www.youtube.com/watch?v=e2KFVvI8Akk - Use digital library https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4215161/

M3-Repro-B-0030	Clinical role Pyrimidine metabolism	• Explain Pyrimidine catabolism and related disorders	• Lippincott Illustrated reviews of biochemistry 8th edition (Chapter 22, page 302-304) • https://www.cliffsnotes.com/study-guides/biology/biochemistry-ii/purines-and-pyrimidines/pyrimidine-metabolism • https://www.youtube.com/watch?v=n7Uec8Jtr4E • Use digital library • https://www.ncbi.nlm.nih.gov/pmc/articles/PMC378357/
M3-Repro-B-0031	Applied aspect of Regulation of gene expression	• Explain the regulation of gene expression • Related clinical disorders	• Lippincott Illustrated reviews of biochemistry 8th edition (Chapter 22, page 465-477) • https://www.healio.com/hematology-oncology/learn-genomics/genomics-primer/regulation-of-gene-expression-in-eukaryotes • https://www.youtube.com/watch?v=J9jhg90A7Lw • Use digital library • https://www.nature.com/scitable/topicpage/regulation-of-transcription-and-gene-expression-in-1086/

Transdisciplinary, Interdisciplinary & Multidisciplinary Case Based Learning (CBL)

Subjects	Topics	At the end of the session the student should be able to	Learning Domains
Anatomy	• Prostatic Hyperplasia	Apply basic knowledge of subject to study clinical case.	C3
	• Ovarian Cyst	Apply basic knowledge of subject to study clinical case.	C3
Physiology	• Infertility	Apply basic knowledge of subject to study clinical case.	C3
	• Menorrhagia	Apply basic knowledge of subject to study clinical case.	C3
	• Neonatal problems of Prematurity	Apply basic knowledge of subject to study clinical case.	C3
Biochemistry	• Gout	Apply basic knowledge of subject to study clinical case.	C3

Vertical Integration LGIS Pathology

Theory					
Code	Topics	At the end of lecture students of should be able to:	Learning Domains	Teaching Strategy	Assessment Tools
M3-Repro-VI(Path)-001	Sexually transmitted diseases	- Enumerate the STDs - Describe the pathogenesis of syphilis and gonorrhea	C1 C2	LGIS	MCQ's
M3-Repro-VI(Path)-002	BPH/Prostatitis	- Define benign prostatic hyperplasia - Briefly discuss the morphological features of BPH & prostatitis	C1 C2	LGIS	MCQ's
M3-Repro-VI(Path)-003	Polycystic ovaries	- Define the polycystic ovaries - Describe the pathophysiology of polycystic ovaries	C1 C2	LGIS	MCQ's

Surgery

Theory					
Code	Topics	At the End of Lecture, Students Should Be Able To:	Learning Domains	Teaching Strategy	Assessment Tools
M3-Repro-VI(S)-001	Male hypogonadism	- Discuss pathophysiology, signs and symptoms of male hypogonadism - Describe altered hormonal levels in male hypogonadism - Outline treatment plan for hypogonadism	C2 C2 C1	LGIS	MCQ
M3-Repro-VI(S)-002	Undescended Testes & Scrotal Swelling	- Define UDT - Define Retractable Testes - Define Ectopic Testes - Causes of UDT/Ectopic Testes - Differentiate between UDT and Retractable Testes - Differentiate between different scrotal swellings (Hydrocele, Spermatocoele, Hemoatocele, Hernia, Tumors) - Management plan	C1 C1 C1 C2 C2 C2 C2	LGIS	MCQ
	Acute Scrotum	- Enumerate the causes of acute scrotum - Describe Torsion, orchitis, epididymorchitisetc - Differentiate between Torsion and Epididymorchitis - Describe the approach towards diagnosis of acute scrotum	C1 C2 C2 C2	LGIS	MCQ

Obstetrics & Gynaecology

Theory					
Code	Topics	At the end of lecture students should be able to:	Learning Domains	Teaching Strategy	Assessment Tool
M3-Repro-VI(OBG)-001	Menstrual irregularities	• Classify Menstrual cycle abnormalities • Discuss each abnormality • Outline treatment plan for menstrual cycle abnormalities	C1 C2 C1	LGIS	MCQs
M3-Repro-VI(OBG)-002	Puerperium & Lactation	• Understand physiological changes in puerperium • Comprehend the hormonal control of breast development and lactation know the physiology of initiation of lactation • Enlist the differences between human and cows milk composition • Discuss the effect of lactation on menstrual cycle • Enlist advantages of breast feeding	C1 C2 C4 C1	LGIS	MCQs

Medicine

Theory					
Code	Topics	At the end of lecture students should be able to:	Learning Domains	Teaching Strategy	Assessment Tool
M3-Repro-VI(M)-001	Hermaphroditism	• Define Hermaphroditism (Disorders of Sex Development - DSD) and differentiate between true hermaphroditism and pseudohermaphroditism	C2	LGIS	MCQs
		• Describe the normal sexual differentiation process, including chromosomal, gonadal, and phenotypic sex development.	C2	LGIS	MCQs

Pharmacology

Theory					
Code	Topics	At the end of lecture students should be able to:	Learning Domains	Teaching Strategy	Assessment Tool
M3-Repro-VI(Pharm)-001	Hormonal Contraceptives	• Classify hormonal contraceptives	C1	LGIS	MCQs
		• Describe their mechanism of action	C2		
		• Describe different clinical uses of hormonal contraceptives	C2		
		• Identify the adverse effects and contraindications of different hormonal contraceptives	C2		

SECTION – IV

Spiral Courses

Content

- Longitudinal Themes
 - The Islamiyat
 - The Pak Studies
 - Family Medicine
 - Behavioral Sciences
 - Early Clinical Exposure (ECE)

The Islamiyat

Theory					
Code	Topic	Learning Objectives At the end of the lecture the student should be able to	Learning Domain	Teaching Strategy	Assessment Tool
M3-Repro-SI(ISL)-001		• Identify key Qur’anic verses that emphasize the concept of	C2	LGIS	MCQs

	7) Sharing the verses related to the unity of the Ummah and the need for unity	unity among Muslims (Ummah), such as Surah Al-Hujurat (49:10) and Surah Aal-e-Imran (3:103). • Explain the Islamic perspective on unity, brotherhood, and cooperation, particularly as it relates to interpersonal and professional relationships.	C1	LGIS	MCQs
M3-Repro-SI(ISL)-002	8) Verses related to enjoining what is right and forbidding what is wrong, and the need for enjoining good and forbidding evil along with its principles and methods	• Identify Qur’anic verses and Prophetic traditions (Hadith) that emphasize the duty of enjoining what is right (al-ma’ruf) and forbidding what is wrong (al-munkar), such as Surah Aal-e-Imran (3:104, 3:110) and Surah At-Tawbah (9:71).	C2	LGIS	MCQs
		• Explain the Islamic ethical foundation behind this principle, including its significance in building a morally conscious and responsible society.	C1	LGIS	MCQs
M3-Repro-SI(ISL)-003	9) Qualities of successful people	• Identify key qualities of successful individuals as highlighted in the Qur'an and Sunnah (e.g., Surah Al-Mu’minun 23:1–11), such as honesty, patience, perseverance, sincerity, and humility.	C2	LGIS	MCQs
		• Explain the importance of self-discipline, time management, empathy, and teamwork as essential traits for success in medical education and practice.	C1	LGIS	MCQs

The Pak Studies

Theory					
Code	Topic	Learning Objectives At the end of the lecture the student should be able to	Learning Domain	Teaching Strategy	Assessment Tool
M3-Repro-SI(PKS)-001	6) The Ideology of Pakistan and Quaid-e-Azam	• Define the concept of the Ideology of Pakistan and its roots in Islamic principles such as unity, justice, equality, and moral integrity.	C2	LGIS	MCQs
		• Explain Quaid-e-Azam Muhammad Ali Jinnah’s vision for Pakistan, particularly his emphasis on religious freedom, rule of law, and social justice.	C2	LGIS	MCQs
M3-Repro-SI(PKS)-002	8) Islamic democracy	• Define the concept of Islamic democracy and distinguish it from secular democratic systems, highlighting its basis in Shura (consultation), justice, accountability, and equality.	C2	LGIS	MCQs

		Explain the principles of Islamic governance as derived from the Qur'an and Sunnah, including the role of mutual consultation, rule of law, and collective responsibility.	C1	LGIS	MCQs
M3-Repro-SI(PKS)-003	9) The economic system of Islam	Define the core principles of the Islamic economic system, including justice, equity, prohibition of interest (riba), and promotion of lawful (halal) earning and spending.	C2	LGIS	MCQs
		Explain key concepts such as Zakat (obligatory charity), Sadaqah (voluntary charity), trusteeship (amanah), and wealth distribution, and their impact on reducing poverty and promoting social welfare.	C1	LGIS	MCQs

Family Medicine

Theory					
Code	Topic	At The End Of Lecture, Students Should Be Able To:	Learning Domain	Teaching Strategy	Assessment Tools
M3-Repro-SI(FMed)-001	AIDS	- Discuss pathophysiology, signs and symptoms of patients with HIV - Discuss the diagnostic criteria - Discuss the complications - Discuss the management of disease and its complications.	C1 C2 C2 C2	LGIS	MCQs

Behavioural Sciences

Theory					
Code	Topic	Learning Objectives At the end of the lecture the student should be able to	Learning Domain	Teaching Strategy	Assessment Tool

M3-Repro-SI(BS)-001	Emotion	- To define emotions. - To explain the neuroanatomy and neurochemistry of emotion - To handle situations with heightened emotions encountered in daily life and clinical practice	C3	LGIS	MCQs
M3-Repro-SI(BS)-002	Intelligence	- To define Intelligence. - To handle situations with heightened Intelligence encountered in daily life and clinical practice	C3	LGIS	MCQs

Community Medicine (CHEPI)

Theory & Practical				
Code	Topic	Time Allocated	Learning Objectives	Learning Domain
M3-Repro-SI(CHEPI)-001	Introduction to health education and communication 1 hour	1 hour	- Define health communication and understand its types. - Explain role of sender, receiver, feedback and content of health message - Appreciate communication barriers - Explain various functions of health Communication - Understand the scope /contents of health education - Explain different approaches of health education Community awareness programs under the umbrella of CHC (Centre for Health Communication)	C1 C2 C2 C2 C3 C2 C3
M3-Repro-SI(CHEPI)-002	Preventive aspect of STDs 2 hours	1 hour theory 1 hour practical	Theory - Define STD and its various factors - Discuss the problem statement of STD worldwide. - Enumerate different types of STDs - Discuss all host factors responsible for STDs	C1 C2 C1 C2 C2

			• Discuss in detail the role of demographic factors in STD spread. • Discuss in detail the role of social factors in STDs • Discuss in detail the role of intervention strategies and planning in control of STDs Practical Conduct group activity on following scenarios • A young adult visits a clinic with symptoms but fears social stigma. • A couple seeks counseling after one partner tests positive. • A school principal resists implementing STD education; a debate follows. • A public health team designs an intervention for a rural area with limited access.	C2 C2 P3
M3-Repro-SI(CHEPI)-003	Preventive aspect of AIDS (2hours)	1hour theory 1-hour practical	Theory • Discuss in detail the definition of AIDS • Discuss in detail the problem statement of HIV and AIDs • Discuss its impact on the underdeveloped world • Appraise the gravity of the situation. • Discuss the key risk factors in HIV responsible • Explain agent details • Describe the effect of agent stability and its biological determinants • Detailed discussion on the host factors, reservoir of infection and transmission factors responsible	C2 C2 C2 C3 C2 C1 C2 C2 C2

			- Discuss in detail the symptomology, treatment and prevention of AIDS and HIV Practical Conduct group activity on following scenarios - Alleviate fear, stigma, and denial in Newly diagnosed HIV-positive patient - A rural village meeting addresses rising HIV cases and poor healthcare access. - Teens reflect on risky behaviors after one tests positive for HIV. - A scientist explains how the HIV virus infects and survives in the body. - A health team debates how to prevent HIV through education and outreach. - Role of social worker for A woman in poverty struggles to get HIV treatment amid systemic barriers.	P3
M3-Repro-SI(CHEPI)-004	Personal hygiene (hand, eye, oral) 2 hours	1 hour theory 1 hour practical	Theory - Define personal hygiene - Explain importance of personal hygiene in preventing illness. - Identify common hygiene practices that contribute to personal well-being. - Explain the importance of proper handwashing .	C1 C2 C2 C2

			• Describe the correct technique for washing hands • Identify key times when handwashing is necessary • List the steps involved in effective toothbrushing and flossing routines. • Explain the role of diet and regular dental check-ups in maintaining oral health • Explain the importance of eye hygiene • Describe common practices for maintaining eye hygiene. • Demonstrate proper techniques for cleaning around the eyes Practical Conduct group activities on • Importance of personal hygiene • Importance of hand washing • Importance of oral hygiene • Importance of eye hygiene	C3 C2 C2 C2 C2 C2 P3
M3-Repro-SI(CHEPI)-005	Importance of vaccination 1 hour	1 hour	Practical Conduct group activities on • Addressing common myths associated with polio vaccine • Develop a plan for increasing COVID-19 booster uptake among health staff • Addressing vaccine hesitancy for measles vaccine • Addressing issue of Migrant Population and Missed Vaccinations • Address Religious Resistance to Vaccination • Resolve the issue of Adverse Events following immunization	P3
M3-Repro-SI(CHEPI)-006	Prevention of dengue 2hours	1-hour theory 1-hour practical	Theory • Define dengue fever and explain its etiological agent	C1

			• Describe the epidemiology of dengue • Explain the transmission cycle of dengue • List the clinical features of dengue • Identify diagnostic tests used for dengue • Describe the management of dengue • Explain the principles of dengue prevention and control	C2 C2 C1 C2 C2 C2
			Practical Conduct group activities on: • Diagnosing dengue fever • Implementing preventive and control measures for dengue • Design School-Based Dengue Awareness Campaign	P3

Introduction to Spiral Courses

The Holy Quran Translation

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

Bioethics

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

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

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

Professionalism

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

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

Communication Skills

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

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

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

Behavioral Sciences

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

Family Medicine

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

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

RMU's Family Medicine Curriculum integrates theoretical knowledge with practical experience. Students are exposed to a variety of learning environments, including community health centers, outpatient clinics, and inpatient settings, providing them with a well-rounded understanding of the different facets of family medicine. This hands-on approach

is complemented by interactive sessions, workshops, and seminars that cover a wide range of topics from behavioral health to geriatric care, ensuring students are well-equipped to address the comprehensive health needs of individuals and families.

Artificial Intelligence

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

Integrated Undergraduate Research Curriculum

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

Entrepreneurship

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

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

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

Digital Literacy Module

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

Early Clinical Exposure (ECE)

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

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

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

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**

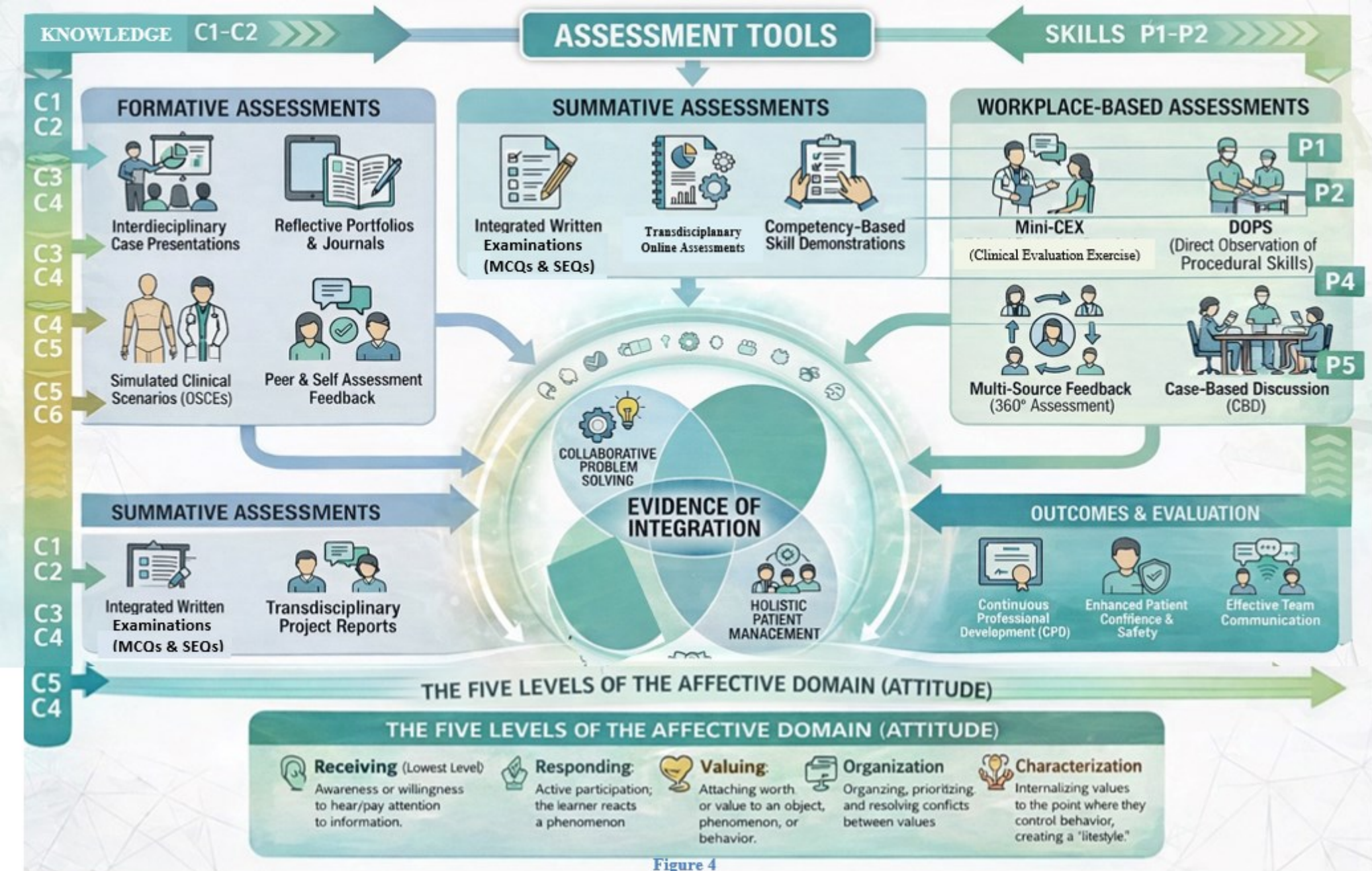


Figure 4

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. Formative assessment is conducted at both mid-module and end-module stages for clinical lectures and joint multidisciplinary sessions. These assessments are carried out through an on-campus online assessment platform to monitor students' ongoing learning and progress.

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
- 85% attendance in each subject will be mandatory
- Student must pass in all LMS, mid module assessments to appear in EBA
- There will be no remedial classes for attendance compensation
- There will be no remedial of assessment in case of poor academic performance

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

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

Block	Subjects	LMS Based Assessment					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	
	Biochemistrv	21	6	3	30	30 min	14	4	2	20	60	6 HRS	90	10 HRS	

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

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

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					

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			

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.

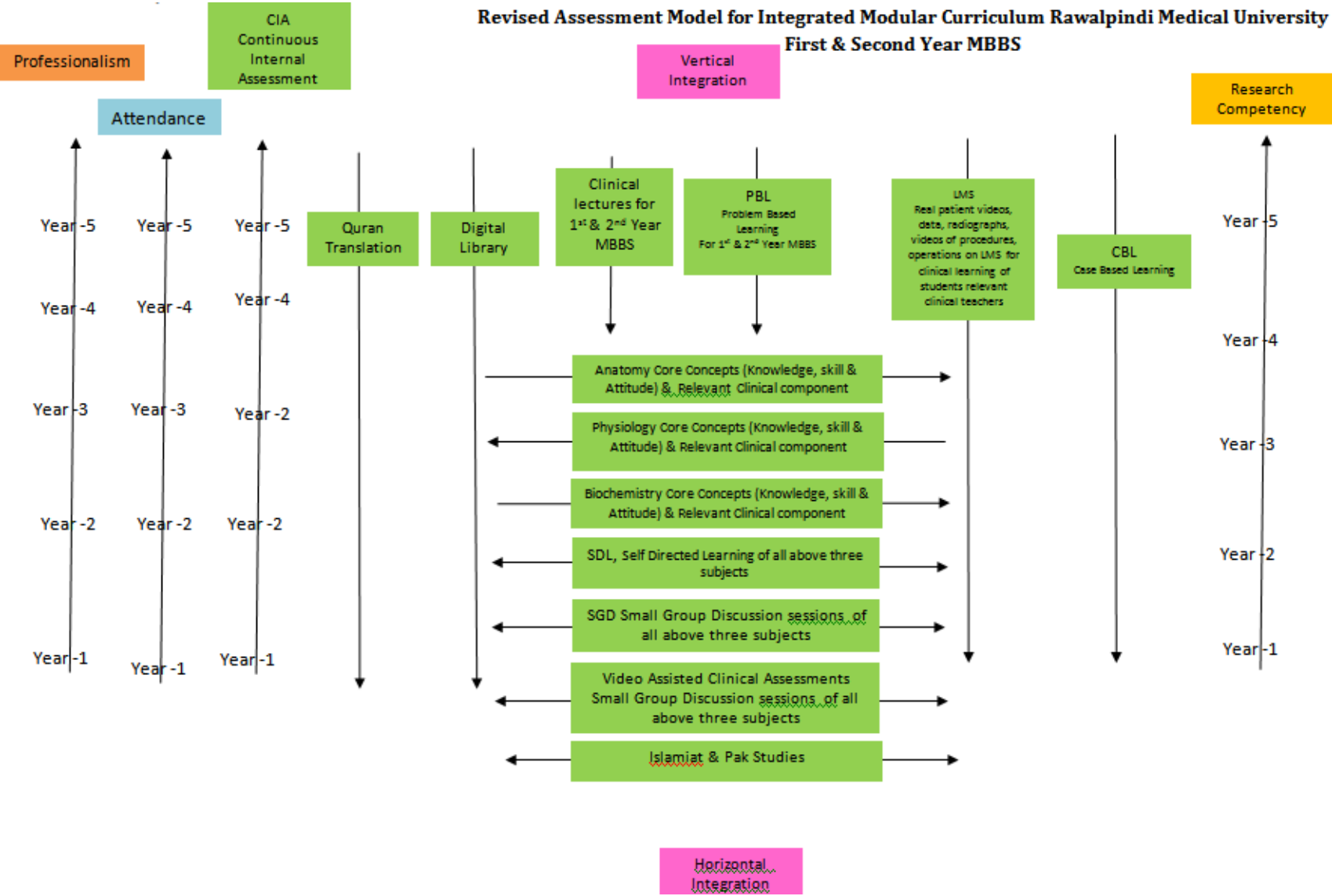
Break up of internal assessment is as follows:

Table 4: Block wise and subject wise distribution of CIA marks = 360Marks (40%)

Subjects	Block-I			Block-II			Block-III			Total CIA (40%)
	On campus assessments (30%)	Online LMS based Summative assessments (10%)	Total (40%)	On campus assessments (30%)	Online LMS based Summative assessments (10%)	Total (40%)	On campus assessments (30%)	Online LMS based Summative assessments (10%)	Total (40%)	
Anatomy	30	10	40	30	10	40	30	10	40	40+40+40=120
Physiology	30	10	40	30	10	40	30	10	40	40+40+40=120
Biochemistry	30	10	40	30	10	40	30	10	40	40+40+40=120
Total Marks of CIA	90	30	120	90	30	120	90	30	120	120+120+120= 360

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 Assessment s	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	Anatomy	50	30	80 marks	240+ 45 = 285 marks
	Physiology	50	30	80 marks	
	Biochemistry	50	30	80 marks	

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

285 Marks	Community Medicine /Research	4 Marks		45 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		
Total		240+ 45 = 285 marks			
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 Total marks (Core subjects + Integrated Subjects) 275 Marks	Anatomy	50	30	80 marks	240+35 = 275 marks
	Physiology	50	30	80 marks	
	Biochemistry	50	30	80 marks	
	Total			240 marks	
	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			
	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	Module -1	Module- 2	Marks	Module -1	Module- 2	Marks	Module -1	Module- 2	Marks	
Anatomy	13	12	25	01	-	5	01	01	10	0.5	0.5	10	50
Physiology	13	12	25	01		5	01	01	10	01		10	50
Biochemistry	13	12	25	01	-	5	01	01	10	01	-	10	50
Vertically & Spirally Integrated Subjects			25	-		-	-		-	-		-	25
Total	100		100	3		15	6		30	3		30	175

Block -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 x2.5 min	3 x 2.5 min	8 x 2.5 min	
	110 mins	60 mins	30 mins	25 mins	22.5 mins	7.5 mins	20 mins	
Total time	110+60+30+25 = 225 mins (4hrs and 25 mins)				22.5+7.5+20 = 50 mins/ round of 20 students			4 hrs
					If the OSPE is conducted simultaneously at 4 venues: In 50 minutes, 20 students can complete the OSPE at each venue, totaling 80 students across all venues. With 5 rounds at 4 venues, the entire class can complete the OSPE within 4 hours.			

Block -V	Theory component (Knowledge)				Practical component (Skill & Attitude)			Total time required for Block – II pre-annual assessment is
	MCQs	SAQs	SEQs	EMQs	Lab OSPE	I OSPE	OSCE	

Total number of questions	110	6	3	3	9	3	8	8 hrs and 25 minutes
Time required for each component	110 x 1 min	6 x 10 min	3 x 10 min	3 x 5 min	9 x2.5 min	3 x 2.5 min	8 x 2.5 min	
	110 mins	60 mins	30 mins	25 mins	22.5 mins	7.5 mins	20 mins	
Total time	110+60+30+25 = 225 mins (4hrs and 25 mins)				22.5+7.5+20 = 50 mins/ round of 20 students 4 hrs			
					If the OSPE is conducted simultaneously at 4 venues: In 50 minutes, 20 students can complete the OSPE at each venue, totaling 80 students across all venues. With 5 rounds at 4 venues, the entire class can complete the OSPE within 4 hours.			

Block -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 x2.5 min	3 x 2.5 min	8 x 2.5 min	
	100 mins	60 mins	30 mins	25 mins	22.5 mins	7.5 mins	20 mins	
Total time	100+60+30+25 = 225 mins (4hrs and 15 mins)				22.5+7.5+20 = 50 mins/ round of 20 students			4 hrs
					If the OSPE is conducted simultaneously at 4 venues: In 50 minutes, 20 students can complete the OSPE at each venue, totaling 80 students across all venues. With 5 rounds at 4 venues, the entire class can complete the OSPE within 4 hours.			

3.2.5 Annual Professional Assessment (APA)

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

Regulations

- Final Annual Assessment shall be open to any student who:
 - Has been enrolled/registered and completed one academic year preceding the concerned Final Annual Assessment in Rawalpindi Medical University.
 - Has his/her name submitted to the Controller of Examinations for assessment purposes by the Principal of the College and meets all prerequisites for the

assessment.

- Has his/her internal assessment marks for all Blocks submitted to the Controller of Examinations by the Principal of the College along with the admission form.
- Produces good character certificate the following certificates duly verified by the Principal:
- Candidates not meeting the above requirements shall not be allowed to appear in the Final Annual Assessment but may sit for the supplementary examination if they fulfill all remaining requirements and stay enrolled as regular students up to the next examination.
- To pass the Final Annual Assessment, students must achieve at least 50% in both the Written and Oral/Practical/Clinical assessments, as well as a 50% aggregate score simultaneously.
- Candidates scoring 85% or above in any paper will be awarded a "distinction" in that Block, provided they achieve at least 80% in the Written component. Candidates must pass all papers in the Final Annual Assessment concurrently to receive any distinctions.
- A candidate who fails one or more papers in the Final Annual Assessment may temporarily join the next professional class until the supplementary examination but will not be promoted permanently without passing all papers.
- Students taking the supplementary examination for the Second time due to an absence in the annual examination, if failing any paper, will be retained in their current class.
- Any student failing to clear the Second or Second Final Annual Assessment MBBS within four attempts will be ineligible to continue or reapply for MBBS or BDS admission.
- Examination applications must be submitted to the Controller of Examination via the College Principal, with the required fee and documentation.
- College must submit question papers, internal assessment marks, and attendance records for each block to the Examinations Department of Rawalpindi Medical University.
- Revised internal assessments are only permissible for detained students. Continuous assessment records must be maintained by college departments.
- Examination fees are to be paid through the Principal, using a bank draft, pay order, or crossed cheque made out to the Treasurer, Rawalpindi Medical University.
- One annual and one supplementary examination for Second and Second Final Annual Assessment MBBS are allowed per academic session. Under exceptional circumstances, such as national emergencies, a special examination may be arranged with the Syndicate and Board of Governors' approval.

Reference: UHS Integrated Curriculum Version 2

Statutes:

- **Scheduling:** The Second Professional MBBS will be held at the end of Second year whereas the Second Professional MBBS shall be held at the end of Second year.
- **Subjects:** Every candidate is required to appear in the following subjects in each Block
 - a. Core subjects-** Integrated Anatomy, Integrated Physiology, Integrated Biochemistry
 - b. Vertically integrated Subjects-** Community Medicine C Public Health, Behavioral Sciences, Pathology, Pharmacology, associated Clinical Subjects
 - c. Spirally Integrated subjects-** General Education Cluster (GEC), ALPHA (Artificial Intelligence, Leadership, Professionalism, Humanities and Arts), Early Clinical Exposure (ECE) and Research.
- **Assessments:** There will be three papers in Second Annual Professional Examination and four papers in the Second Annual professional Examination.

Paper	Second year MBBS	Second year MBBS
Paper-1	Block -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 = G00*

- Block I Assessment Total Marks = 300
- Block II Assessment Total Marks = 300
- Block III Assessment Total Marks = 300

b. Second Professional Examination- 1000 Marks*

- Block I Assessment Total Marks = 300
- Block II Assessment Total Marks = 300
- 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

- 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
	Module 1	200	200	200	600

BlockV 1470 Marks	Module 2	200	200	200	600
	Block Exam	90	90	90	270
	Total	490	490	490	1470
Block VI 1470 Marks	Module 1	200	200	200	600
	Module 2	200	200	200	600
	Block Exam	90	90	90	270
	Total	490	490	490	1470
Total Marks		1470	1470	1470	4410

Note:

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

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

Annual Second Professional Examinations 2025

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

A: Second Professional Examination (70%)

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

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

B: Blockwise Distribution of Marks

Total Annual Professional Marks (70%)	BLOCK 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 					

210 Marks	• Orthopedics	2 Marks			
	• Radiology	2 Marks			
	• Medicine	3 Marks			

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

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

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

F: 2nd Professional Examination 2025 (Batch 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	Community Medicine C Public Health/Research	4	-	3	4	-	-	-	-	-	-	4	14
	Behavioural Sciences	2	-	1	2	-	-	-	-	-	-	2	
	Pathology	2	-	2	2	-	-	-	-	-	-	2	
	Radiology	1		1								1	
	Gynae C Obs	1		1								1	
	Medicine	1		1								1	
	Family Medicine	1		1								1	
	Paediatrics	1		1								1	
	Surgery	1		1								1	
	Pharmacology	3	-	3	3	-	-		-	-	-	3	
Spirally Integrated Subjects	ECE	-	-	-		-	-	1	-	5	5	5	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		Total Marks per subject	
		No of MCQs (1 marks each)	No of SEQs (5 marks each)	Marks	No of Stations of LabOSPE (5 marks each)	No of Stations of iOSPE (5 marks each)	No of Stations of OSCE (5 marks each)	OSVE (15 Marks)	Marks	Total Marks	%
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		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	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	
	Otorhinolaryngolog y	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

RMU – 12 Integrated Modular MBBS Curriculum 2026

Isolation to *Beyond Boundaries*

Reproduction Module - I Time Table

Second Year MBBS

Session 2025 - 2026

Batch- 52

Reproduction Module-I Team

Module Name	:	Reproduction Module-I
Duration of module	:	04 Weeks
Coordinator	:	Dr. Uzma Zafar
Co-coordinator	:	Dr. Romessa Naeem
Reviewed by	:	Module Committee

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

Discipline Wise Details of Modular Contents

Block	Subjects	Embryology	Histology	Gross Anatomy
V	Anatomy	Embryology/Development - Testis - Genital Ducts - Prostate & Accessory Glands - Uterus & Uterine tubes - Ovary & Vagina	Histology - Testis - Genital Ducts - Prostate & Accessory Glands - Uterus & Uterine Tubes - Ovary & Vagina	- Sacrum - Bony Pelvis & Joints of Pelvis - Pelvic Fascia, Pelvic Diaphragm, & Pelvic Peritoneum - Male External Genitalia, Scrotum, & Testis - Prostate Vas Deferens, Seminal Vesicles & Ejaculatory Ducts - Female External Genitalia, Ovaries, Fallopian Tubes - Uterus, Cervix & Vagina - Ischioanal Fossa - Urogenital Diaphragm - Perineum, Superficial Perineal Pouch and its contents - Deep Perineal Pouch and its contents - Blood Supply & Lymphatic Drainage of Pelvis & Perineum - Sacral and Coccygeal Plexus - Radiology, Surface Marking
	Biochemistry	- Digestion of nucleic acid & biosynthesis of purines - Purine catabolism and related disorders - Pyrimidine metabolism - Regulation of gene expression - Male Gonadal Hormones - Female Gonadal Hormones		
	Physiology	- Physiological anatomy of male reproductive system & spermatogenesis - Physiological anatomy female reproductive system - Semen, capacitation & acrosome reaction - Monthly Ovarian Cycle, ovulation - Male sex hormones, Abnormalities of male sexual function and spermatogenesis - Monthly Endometrial Cycle and Menstruation - Response of mother's body to pregnancy and parturition - Female sex hormones (oestrogen and progesterone) - Lactation, Milk composition, breast feeding - Puberty, menarche, menopause, postmenopausal symptoms & anovulatory cycles, Abnormalities of		

		- secretion by ovaries - Growth & functional development of fetus, Adjustments of infant to extrauterine life, Growth & development in child - Fertilization of ovum, transport, implantation, Functions of placenta - Hormonal factors in pregnancy, Special functional - problems in neonate. Prematurity and its problems
	Spiral Courses	
	Community Medicine (CHEPI)	- Introduction to health education and communication - Preventive aspect of STDs - Preventive aspect of AIDS - Personal hygiene (hand, eye, oral) - Prevention of dengue
	Islamiyat	7) Sharing the verses related to the unity of the Ummah and the need for unity 8) Verses related to enjoining what is right and forbidding what is wrong, and the need for enjoining good and forbidding evil along with its principles and methods 9) Qualities of successful people
	Family Medicine	AIDS
	Pak Studies	6) The Ideology of Pakistan and Quaid-e-Azam 8) Islamic democracy 9) The economic system of Islam
	Behavioural Sciences	- Emotion - Intelligence
	Vertical Integration	
	Gynae & Obs	- Normal Menstrual Cycle & Its Abnormalities - Menstrual irregularities - Puerperium & Lactation
	Pharmacology	Hormonal Contraceptives
	Surgery	- Undescended Testes & Scrotal Swellings - Male hypogonadism / Acute Scrotum
	Pathology	- BPH/Prostatitis / Sexually Transmitted Diseases - Polycystic Ovaries
	Early Clinical Exposure (ECE)	

	Gynecology	- Ovarian Tumors - Uterine Tumors - Polycystic Ovaries - Menstrual Irregularities
	Obstetrics	- Important points in History of pregnant lady - Obstetrics Trimesters - Fetal heart sounds
	Surgery	- Testicular Tumors - Hydrocele - Undescended Testis - Hypospadias/ Epispadias

Categorization of Modular Contents

Anatomy

Category A*	Category B**	Category C***			
Special Embryology	Special Histology	Demonstrations / SGD	CBL	Practical's	Self-Directed Learning (SDL)
• Testis • Genital Ducts • Prostate & Accessory Glands • Uterus & Uterine Tubes • Ovary & Vagina	• Testis • Genital Ducts • Prostate & Accessory Glands • Uterus & Uterine Tubes • Ovary & Vagina	• Sacrum • Bony Pelvis & Joints of Pelvis • Pelvic Fascia, Pelvic Diaphragm, & Pelvic Peritoneum • Male External Genitalia, Scrotum, & Testis • Female External Genitalia, Ovaries, Fallopian Tubes • Uterus, Cervix & Vagina • Prostate Vas Deferens, Seminal Vesicles & Ejaculatory Ducts • Ischioanal Fossa • Urogenital Diaphragm • Perineum, superficial Perineal Pouch and its contents • Deep Perineal Pouch and its contents • Blood Supply & Lymphatic Drainage of Pelvis & Perineum • Sacral and Coccygeal Plexus • Radiology, Surface Marking	• Prostate (Benign prostate hyperplasia) • Ovary (ovarian cyst)	• Testis, Epididymis, Ductus Deferens • Seminal Vesicles, Prostate • Ovary, Uterus, Uterine Tubes	• Clinical Significance of pelvimetry / Lithiasis / What is Pedicle screw Fixation • Discuss pelvic fascia, differentiation between superior and inferior layers of urogenital diaphragm • Describe the formation of pudendal canal, perianal abscess • Endometrial Adeno carcinoma, fibroid uterus, describe 4 stages of uterine tumors, hysteroscopy • Benign Prostatic Hypertrophy, Significance of PS1 antigen in prostatic tumors • Discuss Peritoneal Reflexion of Fallopian tubes, tubal pregnancy briefly discuss tubal ligation, hysterosalpingography

Category A*: By Professors

Category B:** By Associate & Assistant Professors

Category C*:** By Senior Demonstrators & Demonstrators

Teaching Staff / Human Resource of Department of Anatomy

Sr. #	Designation Of Teaching Staff / Human Resource	Total number of teaching staff
1.	Professor of Anatomy department	01
2.	Assistant professor of Anatomy department (AP)	01
3.	Demonstrators of Anatomy department	03

Contact Hours (Faculty)

Sr. #	Hours Calculation for Various Type of Teaching Strategies	Total Hours
1.	Large Group Interactive Session (LGIS)	$2 * 05 = 10$ hours
2.	Small Group Discussions (SGD)	$2*12 + 1*2=26$ hours
3.	Practical / Skill Lab	$1.5 * 15 = 22.5$ hours

Contact Hours (Students)

Sr. #	Hours Calculation for Various Type of Teaching Strategies	Total Hours
1.	Large Group Interactive Session (LGIS)	$1 * 5 = 05$ hours
2.	Small Group Discussions (SGD)	$2*12+ 1*2=26$ hours
3.	Practical / Skill Lab	$1.5 * 3 = 4.5$ hours
4.	Self-Directed Learning (SDL)	$1 * 5 = 10$ hours

Physiology

Category A*	Category B**	Category C***				
		PBL	CBL	Practical's	SGD	SDL
Category A* LGIS - Monthly Ovarian Cycle, ovulation (Monthly Endometrial Cycle and Menstruation)	Category B** LGIS - Physiological anatomy of male reproductive system & spermatogenesis - Physiological anatomy female reproductive system - Semen, capacitation & acrosome reaction - Male sex hormones, abnormalities of male sexual function and spermatogenesis - Response of mother's body to pregnancy, Parturition - Female sex hormones (oestrogen and progesterone) - Lactation, milk composition, breast feeding - Puberty, menarche, menopause, postmenopausal symptoms & anovulatory cycles, abnormalities of secretion by ovaries - Fertilization of ovum, transport, implantation, functions of placenta - Hormonal factors in pregnancy, special functional problems in neonate. Prematurity and its problems.		1. Menorrhagia 2. Infertility 3. Neonatal problems of Prematurity	1. Pregnancy test 2. Examination of 7th Cranial nerve 3. Examination of 3rd, 4th, 6th Cranial nerves		1. Fertilization of ovum, transport, implantation, Functions of placenta 2. Growth & functional development of fetus, Adjustments of infant to extrauterine life, Growth & development in child 3. Special functional problems in neonate. Prematurity and its problems

Category A*: By Professors

Category B:** By Associate & Assistant Professors

Category C*:** By Senior Demonstrators & Demonstrators

Teaching Staff / Human Resource of Department of Physiology

Sr. #	Designation Of Teaching Staff / Human Resource	Total Number Of Teaching Staff
1.	Professor of physiology department	01
2.	Associate professor of physiology department	01
3.	Assistant professor of physiology department (AP)	01
4.	Demonstrators of physiology department	10
5.	Residents of physiology department (PGTs)	09

Contact Hours (Faculty) & Contact Hours (Students)

Sr. #	Hours Calculation for Various Type of Teaching Strategies	Total Hours
1.	Large Group Interactive Session (LECTURES)	13 x 2= 26 x 1 hour = 26 hours
2.	Small Group Discussions (SGD)/CBL	15 x 1.5 hour = 22.5 hours
3.	Problem Based Learning (PBL)	---
4.	Practical / Skill Lab	15 x 1.5 hour = 22.5 hours
5.	Self-Directed Learning (SDL)	3 x 1 hour = 3 hours

Biochemistry

Category A*	Category B**	Category C***			
LGIS	LGIS	PBL	CBL	Practical's	SGD
Regulation of gene expression	- Male gonadal hormones - Female gonadal hormones - Introduction to nucleic acid and purine synthesis - Purine catabolism and related disorders - Pyrimidine metabolism and related disorders		Gout	- Estimation of Uric acid by spectrophometer - Estimation of cholesterol by spectrophometer - Analysis of Milk	- Purine synthesis and describe salvage pathway - Synthesis, mechanism of action and functions of male and female sex hormones

Category A*: Assistant Professor (HOD) and APMO (With Postgraduate Qualification)

Category B**: (Senior Demonstrators & APWMO)

Category C***: (By All Demonstrators, Senior Demonstrators and APWMO)

Teaching Staff / Human Resource of Department of Biochemistry

Sr. #	Designation Of Teaching Staff / Human Resource	Total Number Of Teaching Staff
1	Assistant professor of biochemistry department (AP)	01
2	Demonstrators of biochemistry department	05

Contact Hours (Faculty) & Contact Hours (Students)

Sr. #	Hours Calculation for Various Type of Teaching Strategies	Total Hours (Faculty)	Total Hours (student)
1.	Large Group Interactive Session (LECTURES)	$2 * 6 = 12$ hours	06
2.	Small Group Discussions (SGD)	$1.5 * 5 = 22.5$ hours	4.5
3.	Problem Based Learning (PBL)	Zero	zero
4.	Practical / Skill Lab	$1.5 * 5 = 22.5$ hours	4.5
5.	Self-Directed Learning (SDL)	-----	05

Timetable for Reproduction Module-I (First Week)

(12-05-2025 To 17-05-2025)

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)		
12-05-2025 Monday	Primary Infertility & Menstrual Irregularities	Practical & SGD/CBL Topics & venue mentioned at the end. Batches, Teachers & Venue Mentioned in Table No. 1		PHYSIOLOGY (LGIS)		B r e a k	ANATOMY (LGIS)		COMMUNITY MEDICNE (CHEPI)		B r e a k	SGD/DISSECTION	SDL Physiology Physiological anatomy of female reproductive system, Monthly Ovarian Cycle		
				Physiological anatomy of female reproductive system,	Physiological anatomy of male reproductive system & spermatogenesis,		Special Embryology	Special Histology	Introduction to health education and communication			Sacrum, Bony Pelvis & Joints of Pelvis			
				Prof Dr. Samia Sarwar/ Dr Sheena (Even)	Dr Fareed (Odd)		Testis	Testis							
13-05-2025 Tuesday		Practical & SGD/CBL Topics & venue mentioned at the end. Batches, Teachers & Venue Mentioned in Table No. 1		BIOCHEMISTRY (LGIS)			ANATOMY (LGIS)		PHARMACOLOGY (LIGIS)			Hormonal Contraceptives		SGD/DISSECTION	SDL Physiology Physiological anatomy of female reproductive system, Monthly Ovarian Cycle
				Gene Expression	Nucleic Acid & purine synthesis		Special Histology	Special Embryology							
				Dr. Kanwal/ Dr. Faisal (Even)	Dr. Tayba (Odd)		Testis	Testis							
14-05-2025 Wednesday		Practical & SGD/CBL Topics & venue mentioned at the end. Batches, Teachers & Venue Mentioned in Table No. 1		ANATOMY (LGIS)			COMMUNITY MEDICNE (CHEPI)		PHARMACOLOGY (LIGIS)			Preventive aspect of STDs		CBL/DISSECTION	SDL Biochemistry Applied Aspects of Purine synthesis
				Special Histology	Special Embryology		Theory		Practical						
				(Genital Ducts and (Prostate & Seminal vesicles)	(Genital Ducts Prostate & Accessory gland)		Preventive aspect of STDs		Preventive aspect of STDs						
15-05-2025 Thursday		Practical & SGD/CBL Topics & venue mentioned at the end. Batches, Teachers & Venue Mentioned in Table No. 1		PHYSIOLOGY (LGIS)			COMMUNITY MEDICNE (CHEPI)		GYNAE AND OBS (LGIS)			Normal Menstrual Cycle & Its Abnormalities		PBL 1 (SESSION - I)	SDL Biochemistry Applied Knowledge pf Gene Expression
				Physiological anatomy of male reproductive system & spermatogenesis,	Physiological anatomy of female reproductive system		ANATOMY (LGIS)		GYNAE AND OBS (LGIS)						
				Dr Fareed (Even)	Prof. Dr Samia Sarwar/ Dr Sheena (Odd)		Special Embryology	Special Histology	Normal Menstrual Cycle & Its Abnormalities						
				(Genital Ducts Prostate & Accessory gland)	(Genital Ducts and (Prostate & Seminal vesicles)										
				Prof. Dr Ifra (Even)	Assis. Prof. Dr. Maria (Odd)		Dr. Shama Bashir (Even)	Dr. Masooda (Odd)							
Date/Day		8:00 AM – 09:00 AM		09:00AM – 10:00 AM		10:00 AM – 11:00 AM		11:00 AM – 12:00 PM							
		BIOCHEMISTRY (LGIS)		PHYSIOLOGY (LGIS)		ISLAMIYAT		PAK STUDIES							
16-05-2025 Friday		Nucleic Acid & purine synthesis	Gene Expression	Monthly Ovarian Cycle, ovulation Monthly Endometrial Cycle and Menstruation	Semen, Capacitation & acrosome reaction Male sex hormones, Abnormalities of male sexual function and spermatogenesis	7) Sharing the verses related to the unity of the Ummah and the need for unity		6) The Ideology of Pakistan and Quaid-e-Azam		SDL Anatomy Clinical Significance of pelvimetry / Lithiasis / What is Pedicle screw Fixation					
		Dr. Tayba (Even)	Dr. Kanwal/ Dr. Faisal (Odd)	Prof. Dr Samia Sarwar/ Dr Sheena (Even)	Dr. Fareed (Odd)	Mufti Naeem Sherazi		Miss Kinza Fiaz							
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)		
17-05-2025 Saturday		Practical & SGD/CBL Topics & venue mentioned at the end. Batches, Teachers & Venue Mentioned in Table No. 1		PHYSIOLOGY (LGIS)		B r e a k	PBL 1 (SESSION - II)		ANATOMY (LGIS)		B r e a k	SGD/DISSECTION	SDL Anatomy Discuss pelvic fasia, differentiation between superior and inferior layers of urogenital diaphragm		
				Monthly Ovarian Cycle, ovulation Monthly Endometrial Cycle and Menstruation	Semen, Capacitation & acrosome reaction Male sex hormones, Abnormalities of male sexual function and spermatogenesis		PBL Team		Special Histology	Special Embryology		Female Internal Genital Organs (Ovaries, Fallopian Tubes) Uterus & cervix) Batches, Teachers & Venue Mentioned in Table No. 2			
				Prof. Dr Samia Sarwar /Dr. Sheena (Odd)	Dr. Fareed (Even)				Uterus & Uterine Tubes	Uterus & Uterine Tubes					
							Assis. Prof. Dr. Maria (Even)	Prof. Dr. Ifra (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	
Batch	Teacher Name	Batch	Teacher Name	Supervised by HOD		Batch	Teacher Name	Supervised by HOD	Batch	Teacher Name	Batch		Teacher Name			
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. Almas	A	Dr. Aneela	B	Dr. Shazia	E	Dr. Romessa	
2.	B	71-140	Wednesday		E		D		Dr. Uzma	B	Dr. Shazia	C	Dr. Fahd	A	Dr. Sana Latif	
3.	C	141-210	Thursday		B		A		Dr. Sana Latif	D	Dr. Jawad	E	Dr. Fareed	C	Dr. Almas	
4.	D	211-280	Saturday		A		E		Dr. Romessa	C	Dr. Fahd Anwar	D	Dr. Jawad	B	Dr. Rahat	
5.	E	281-onwards														

Topics for SGDs / CBL with Venue														
- Anatomy CBL: Prostate (Benign prostate hyperplasia) - Physiology CBL: Menorrhagia (Venue: Physiology Demo Room (Basement)) - Biochemistry tutorial: Deno synthesis of purine, describe salvage pathway (Purine Metabolism) (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. Romessa (Demonstrator Biochemistry)	6.	C2	(176-210)	New Lecture Hall Complex Lecture Theater # 01	Dr. Nazia (Demonstrator Physiology)
2.	A2	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Dr. Farah Ali Shah (Demonstrator Physiology)	7.	D1	(210-245)	New Lecture Hall Complex Lecture Theater # 04	Dr. Mahnoor (PGT 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. Minahil Haq (Senior Demonstrator Anatomy)
4.	B2	(106-140)	Lecture Hall no.03 (First Floor)	Dr. Tariq Furqan (Senior Demonstrator Anatomy)	9.	E1	(281-315)	Anatomy Museum (First Floor Anatomy)	Dr. Rahat (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 & Biochemistry Small Group Discussion SGDs								
Batches	Roll No	Subgroup	Anatomy Teacher	Venue	Batches	Roll No	Subgroup	Physiology Teacher	Physiology Venue	Biochemistry Teacher	Biochemistry Venue		
A	01- 60	A1: Roll No (1 – 15) A2: Roll No (16 – 30) A3: Roll No (31 – 45) A4: Roll No (46 – 60)	Dr. Tariq Furqan (Senior. Demonstrator)	Anatomy Lecture Hall 04	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	Dr. Uzma Zafar (APWMO)	Basement Lecture Hall No. 2		
B	61-120	B1: Roll No (61 – 75) B2: Roll No (76 – 90) B3: Roll No (91 – 105) B4: Roll No (06 – 120)	Dr. Sana Sameen (PGT Anatomy)	Anatomy Lecture Hall 03	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	Dr. Rahat (APWMO)	Basement Lecture Hall No. 2		
C	121-180	C1: Roll No (121 – 135) C2: Roll No (136 – 150) C3: Roll No (151 – 165) C4: Roll No (166 – 180)	Dr. Sara bano (Assistant Professor)	New Lecture Hall Complex 01	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	Dr. Almas (APWMO)	Basement Lecture Hall No. 2		
D	181- 240	D1: Roll No (181 – 195) D2: Roll No (196 - 210) D3: Roll No (211 – 225) D4: Roll No (226 – 240)	Dr. Sadia Aman (Assistant Professor)	New Lecture Hall Complex 04	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	Dr. Sana Latif (Senior Demonstrator)	Basement Lecture Hall No. 2		
E	241- 300	E1: Roll No (241 – 255) E2: Roll No (256 – 270) E3: Roll No (271 – 285) E4: Roll No (286 – 300)	Dr. Maryam Sohail (PGT Anatomy)	New Lecture Hall Complex 3	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 (Demonstrator)	Physiology Lecture Hall 5	Dr. Romessa (Demonstrator)	Basement Lecture Hall No. 2		
F	301- onwards	F1: Roll No (301 – 315) F2: Roll No 316 – 330) F3: Roll No 331 – 345) F4: Roll No (346 – onwards)	Dr. Minahil Haq (Senior. Demonstrator)	New Lecture Hall Complex 02									
Supervised by Prof. Dr. Ayesha Yousaf					Supervised by Prof. Dr. Samia Sarwar							Supervised by. Dr. Aneela Jamil	

Timetable for Reproduction Module-I (Second Week) **(30-05-2025 To 04-06-2025)**

Date/Day	Theme	8:00 AM – 09:00 AM		09:00AM– 10:00 AM		10:00AM– 11:00 AM		11:00 AM – 12:00 PM		SDL Anatomy Endometrial Adino carcinoma, fibroid uterus, describe 4 stages of uterine tumors, hysteroscopy								
30-05-2025 Friday		SURGERY (LGIS)		PHYSIOLOGY (LGIS)		ANATOMY (LGIS)		PHYSIOLOGY (LGIS)										
		Undescended Testes & Scrotal Swellings		Female sex hormones (oestrogen and progesterone)	Response of mother’s body to pregnancy, Parturition	Special Embryology Uterus & Uterine Tubes	Special Histology Uterus & Uterine Tubes	Response of mother’s body to pregnancy, Parturition	Female sex hormones (oestrogen and progesterone)									
		Dr. Rameez (Even)	Dr. Ali (Odd)	Dr. Shazia (Even)	Dr. Sheena (Odd)	Prof. Dr. Ifra (Even)	Assis. Prof. Dr. Maria (Odd)	Dr. Sheena (Even)		Dr. Shazia (Odd)								
31-05-2025 Saturday		Practical & SGD/CBL Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1		Early Clinical Exposure (ECE)								SDL Anatomy Describe the formation of pudendal canal, perianal abscess						
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 – 1:15pm		1:15pm – 2:00pm	Home Assignments(2 hrs)			
02-06-2025 Monday		Practical & SGD/CBL Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1		PHYSIOLOGY (LGIS)		Break	BIOCHEMISTRY (LGIS)		PATHOLOGY (LGIS)		Break	COMMUNITY MEDICNE (CHEPI)				SDL Physiology Male Reproductive Physiology		
				Lactation, Milk composition, breast feeding	Puberty, menarche, menopause PMS & anovulatory cycles, Abnormalities of secretion by ovaries		Purine catabolism	Male Sex Hormones	BPH/ Prostatitis	Sexually transmitte d diseases		Theory		Practical				
												Personal hygiene (hand, eye, oral)		Personal hygiene (hand, eye, oral)				
		Dr. Sheena (Even)	Dr. Shazia (Odd)	Dr. Tayba (Even)	Dr. Almas (Odd)		Dr Rabbiya Khalid (Even)	Dr Sara (Odd)	Dr. Rizwana (Odd)	Dr. Abdul Qudoos (Even)		Dr. Abdul Qudoos (Odd)	Dr. Rizwana (Even)					
03-06-2025 Tuesday		Practical & SGD/CBL Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1		PHYSIOLOGY (LGIS)			Break	Practical & SGD/CBL of Thursday Batch (29-05-2025) Topics & venue mentioned at the end. Batches, Teachers & Venue Mentioned in Table No. 1		ANATOMY (LGIS)		Break	SGD/DISSECTION				SDL Physiology Female Reproductive Physiology	
				Puberty, menarche, menopausePMS&anovulat orycles, Abnormalities of secretion by ovaries	Lactation, Milk composition, breast feeding					Special Histology Ovary & Vagina			Special Embryology Ovary & Vagina	Ischioanal Fossa Urogenital Diaphragm Batches, Teachers & Venue Mentioned in Table No. 2				
														Dr. Shazia (Even)		Dr. Sheena (Odd)		Assis. Prof. Dr. Maria (Even)
04-06-2025 Wednesday		Practical & SGD/CBL Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1		PHYSIOLOGY (LGIS)				Break	BIOCHEMISTRY (LGIS)				PATHOLOGY (LGIS)		Break	SGD/DISSECTION		
				Fertilization of ovum, transport, implantation, Functions of placenta	Growth & functional development of fetus, Adjustments of infant to extrauterine life, Growth & development in child	Male Sex Hormones			Purine catabolism	Sexually transmitted diseases	BPH/Prostatitis		Perineum, Superficial Perineal Pouch & Contents Deep Perineal Pouch & Contents Batches, Teachers & Venue Mentioned in Table No. 2					
													Dr. Shazia (Even)			Dr. Farah (Odd)		Dr. Almas (Even)

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
Batch	Teacher Name	Batch	Teacher Name	Supervised by HOD		Batch	Teacher Name	Supervised by HOD	Batch	Teacher Name	Batch		Teacher Name		
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. Almas	A	Dr. Aneela	B	Dr. Shazia	E	Dr. Romessa
2.	B	71-140	Wednesday		E		D		Dr. Uzma	B	Dr. Shazia	C	Dr. Fahd	A	Dr. Sana Latif
3.	C	141-210	Thursday		B		A		Dr. Sana Latif	D	Dr. Jawad	E	Dr. Fareed	C	Dr. Almas
4.	D	211-280	Saturday		A		E		Dr. Romessa	C	Dr. Fahd Anwar	D	Dr. Jawad	B	Dr. Rahat
5.	E	281-onwards													
			Topics for SGDs / CBL with Venue												
			• Anatomy CBL: Ovarian Cysts • Physiology CBL: Infertility (Venue: Lecture Hall No 5) • Biochemistry CBL: Gout: (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. Romessa (Demonstrator Biochemistry)	6.	C2	(176-210)	New Lecture Hall Complex Lecture Theater # 01	Dr. Nazia (Demonstrator Physiology)
2.	A2	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Dr. Farah Ali Shah (Demonstrator Physiology)	7.	D1	(210-245)	New Lecture Hall Complex Lecture Theater # 04	Dr. Mahnoor (PGT Physiology)
3.	B1	(71-105)	Anatomy Museum (First FloorAnatomy)	Dr. Almas Aijaz (APWMO Biochemistry)	8.	D2	(246-280)	New Lecture Hall Complex Lecture Theater # 04	Dr. Minahil Haq (Senior Demonstrator Anatomy)
4.	B2	(106-140)	Lecture Hall no.03 (First Floor)	Dr. Tariq Furqan (Senior Demonstrator Anatomy)	9.	E1	(281-315)	Anatomy Museum (First Floor Anatomy)	Dr. Rahat (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 & Biochemistry Small Group Discussion SGDs								
Batches	Roll No	Subgroup	Anatomy Teacher	Venue	Batches	Roll No	Subgroup	Physiology Teacher	Physiology Venue	Biochemistry Teacher	Biochemistry Venue		
A	01- 60	A1: Roll No (1 – 15) A2: Roll No (16 – 30) A3: Roll No (31 – 45) A4: Roll No (46 – 60)	Dr. Tariq Furqan (Senior. Demonstrator)	Anatomy Lecture Hall 04	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	Dr. Uzma Zafar (APWMO)	Basement Lecture Hall No. 2		
B	61-120	B1: Roll No (61 – 75) B2: Roll No (76 – 90) B3: Roll No (91 – 105) B4: Roll No (06 – 120)	Dr. Sana Sameen (PGT Anatomy)	Anatomy Lecture Hall 03	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	Dr. Rahat (APWMO)	Basement Lecture Hall No. 2		
C	121-180	C1: Roll No (121 – 135) C2: Roll No (136 – 150) C3: Roll No (151 – 165) C4: Roll No (166 – 180)	Dr. Sara bano (Assistant Professor)	New Lecture Hall Complex 01	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	Dr. Almas (APWMO)	Basement Lecture Hall No. 2		
D	181- 240	D1: Roll No (181 – 195) D2: Roll No (196 - 210) D3: Roll No (211 – 225) D4: Roll No (226 – 240)	Dr. Sadia Aman (Assistant Professor)	New Lecture Hall Complex 04	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	Dr. Sana Latif (Senior Demonstrator)	Basement Lecture Hall No. 2		
E	241- 300	E1: Roll No (241 – 255) E2: Roll No (256 – 270) E3: Roll No (271 – 285) E4: Roll No (286 – 300)	Dr. Maryam Sohail (PGT Anatomy)	New Lecture Hall Complex 3	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 (Demonstrator)	Physiology Lecture Hall 5	Dr. Romessa (Demonstrator)	Basement Lecture Hall No. 2		
F	301- onwards	F1: Roll No (301 – 315) F2: Roll No 316 – 330) F3: Roll No 331 – 345) F4: Roll No (346 – onwards)	Dr. Minahil Haq (Senior. Demonstrator)	New Lecture Hall Complex 02									
Supervised by Prof. Dr. Ayesha Yousaf					Supervised by Prof. Dr. Samia Sarwar							Supervised by. Dr. Aneela Jamil	

Timetable for Reproduction Module-I (Third Week)
(07-07-2025 To 12-07-2025)

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)		
07-07-2025 Monday	Pregnancy Loss and Disorders of Sexual Development	Practical & SGD/CBL Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1		PHYSIOLOGY (LGIS)		Break	FAMILY MEDICINE(LGIS)		BEHAVIOURAL SCIENCES		Break	SGD/DISSECTION		SDL Physiology Neonatal physiology		
				Growth &functional development of fetus, Adjustments of infant to extrauterine life, Growth & development in child	Fertilization of ovum, transport, implantation, Functions of placenta		AIDS		Emotion			Blood Supply, Venous Drainage & Lymphatic Drainage of Pelvis & Perineum Batches, Teachers & Venue Mentioned in Table No. 2				
				Dr. Farah (Even)	Dr. Shazia (Odd)											
08-07-2025 Tuesday		Practical & SGD/CBL Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1		PHYSIOLOGY (LGIS)			COMMUNITY MEDICNE (CHEPI)		GYNAE AND OBS (LGIS)			SGD/DISSECTION				
				Special functional problems in neonate. Prematurity and its problems	Hormonal factors in pregnancy		Importance of Vaccination		Menstrual irregularities			Sacral & Coccygeal Plexus Dissection &Spotiing Batches, Teachers & Venue Mentioned in Table No. 2				
				Dr Farah (Even)	Dr. Sheena (Odd)											
09-07-2025 Wednesday		Practical & SGD/CBL Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1		PHYSIOLOGY (LGIS)			COMMUNITY MEDICNE (CHEPI)					SGD/DISSECTION		SDL Biochemistry Pyrimidine Metabolism Related Disorder		
				Hormonal factors in pregnancy	Special functional problems in neonate. Prematurity and its problems		Theory		Practical			Disection Batches, Teachers & Venue Mentioned in Table No. 2				
				Dr. Sheena (Even)	Dr. Farah (Odd)											
10-07-2025 Thursday		Practical & SGD/CBL Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1		ANATOMY (LGIS)			MEDICINE		BEHAVIOURAL SCIENCES			JOINT SESSION		SDL Biochemistry Applied aspects of female sex hormones		
				Special Embryology Ovar y& Vagina	Special Histology Ovary & Vagina		Hermaphroditism		Intelligence			Polycystic Ovarian Syndrome (POS)				
				Prof. Dr. Ifra (Even)	Assis. Prof. Dr. Maria (Odd)											
Date/Day			8:00 AM – 09:00 AM		09:00AM – 10:00 AM		10:00 AM – 11:00 aM		11:00 AM – 12:00 PM			SDL Anatomy Benign Prostatic Hypertrophy, Significance of PS1 antigen in prostatic tumors				
11-07-2025 Friday			BIOCHEMISTRY (LGIS)		SURGERY (LGIS)		COMMUNITY MEDICNE (CHEPI)									
			Female Sex hormones	Pyrimidine Metabolism	Male hypogonadism Acute Scrotum		Theory		Practical							
			Dr. Almas (Even)	Dr. Uzma / Dr. Aneela (Odd)	Dr. Faraz (Even)		Dr. Faraz Butt (Odd)	Dr. Farah (Odd)	Dr. Rizwana (Even)	Dr. Farah (Even)		Dr. Rizwana (Odd)				
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)		
12-07-2025 Saturday		Practical & SGD/CBL Topics & venue mentioned at the end Batches, Teachers & Venue Mentioned in Table No. 1		BIOCHEMISTRY (LGIS)		Break	GYNAE AND OBS (LGIS)		PATHOLOGY(LGIS)		Break	SGD/DISSECTION		SDL Anatomy Discuss Peritonial Reflexion of Follopian tubes, tubal pregnancy briefly discusses tubal ligation, hysterosalpingography End module Online Clinical Evaluation		
	Pyrimidine Metabolism			Female Sex hormones	Puerperium & Lactation		Polycystic ovaries		Cross-Sectional Anatomy / Radiology Batches, Teachers & Venue Mentioned in Table No. 2							
	Dr. Uzma/ Dr. Aneela (Even)			Dr. Almas (Odd)								Dr. Amina (Even)	Dr. Saira Ahmed (Odd)		Dr Rabbiya Khalid (Even)	Dr Sara (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 ● Histology of uterus, uterine tube and ovary (Anatomy Histology Practical) Venue-Histology Laboratory (Dr. Sadia Baqir) ● Milk Analysis (Biochemistry Practical) Venue- Biochemistry Laboratory ● Examination of III, IV & VI Cranial Nerves (Physiology Practical) Venue – Physiology Lab	Day	Histology Practical		Biochemistry Practical		Physiology Practical			Physiology SGD		Biochemistry SGD	
					Batch	Teacher Name	Batch	Teacher Name	Supervised by HOD	Batch		Teacher Name	Supervised by HOD	Batch	Teacher Name	Batch	Teacher Name
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. Almas	A		Dr. Aneela	B	Dr. Shazia		E	Dr. Romessa
2.	B	71-140	Wednesday	E		D	Dr. Uzma	B		Dr. Shazia	C	Dr. Fahd		A	Dr. Sana Latif
3.	C	141-210	Thursday	B		A	Dr. Sana Latif	D		Dr. Jawad	E	Dr. Fareed		C	Dr. Almas
4.	D	211-280	Saturday	A		E	Dr. Romessa	C		Dr. Fahd Anwar	D	Dr. Jawad		B	Dr. Rahat
5.	E	281-onwards													

Topics for SGDs / CBL with Venue	
- Physiology SGD: Special Problems of Prematurity (In Neonate) (Venue: Lecture Hall No 5) - Biochemistry SGD: Synthesis mechanism of action and functions of sex hormones: 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. Romessa (Demonstrator Biochemistry)	6.	C2	(176-210)	New Lecture Hall Complex Lecture Theater # 01	Dr. Nazia (Demonstrator Physiology)
2.	A2	(36-70)	Lecture Hall #.04 (1st Floor Anatomy)	Dr. Farah Ali Shah (Demonstrator Physiology)	7.	D1	(210-245)	New Lecture Hall Complex Lecture Theater # 04	Dr. Mahnoor (PGT 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. Minahil Haq (Senior Demonstrator Anatomy)
4.	B2	(106-140)	Lecture Hall no.03 (First Floor)	Dr. Tariq Furqan (Senior Demonstrator Anatomy)	9.	E1	(281-315)	Anatomy Museum (First Floor Anatomy)	Dr. Rahat (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 & Biochemistry Small Group Discussion SGDs								
Batches	Roll No	Subgroup	Anatomy Teacher	Venue	Batches	Roll No	Subgroup	Physiology Teacher	Physiology Venue	Biochemistry Teacher	Biochemistry Venue		
A	01- 60	A1: Roll No (1 – 15) A2: Roll No (16 – 30) A3: Roll No (31 – 45) A4: Roll No (46 – 60)	Dr. Tariq Furqan (Senior. Demonstrator)	Anatomy Lecture Hall 04	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	Dr. Uzma Zafar (APWMO)	Basement Lecture Hall No. 2		
B	61-120	B1: Roll No (61 – 75) B2: Roll No (76 – 90) B3: Roll No (91 – 105) B4: Roll No (06 – 120)	Dr. Sana Sameen (PGT Anatomy)	Anatomy Lecture Hall 03	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	Dr. Rahat (APWMO)	Basement Lecture Hall No. 2		
C	121-180	C1: Roll No (121 – 135) C2: Roll No (136 – 150) C3: Roll No (151 – 165) C4: Roll No (166 – 180)	Dr. Sara bano (Assistant Professor)	New Lecture Hall Complex 01	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	Dr. Almas (APWMO)	Basement Lecture Hall No. 2		
D	181- 240	D1: Roll No (181 – 195) D2: Roll No (196 - 210) D3: Roll No (211 – 225) D4: Roll No (226 – 240)	Dr. Sadia Aman (Assistant Professor)	New Lecture Hall Complex 04	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	Dr. Sana Latif (Senior Demonstrator)	Basement Lecture Hall No. 2		
E	241- 300	E1: Roll No (241 – 255) E2: Roll No (256 – 270) E3: Roll No (271 – 285) E4: Roll No (286 – 300)	Dr. Maryam Sohail (PGT Anatomy)	New Lecture Hall Complex 3	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 (Demonstrator)	Physiology Lecture Hall 5	Dr. Romessa (Demonstrator)	Basement Lecture Hall No. 2		
F	301- onwards	F1: Roll No (301 – 315) F2: Roll No 316 – 330) F3: Roll No 331 – 345) F4: Roll No (346 – onwards)	Dr. Minahil Haq (Senior. Demonstrator)	New Lecture Hall Complex 02									
Supervised by Prof. Dr. Ayesha Yousaf					Supervised by Prof. Dr. Samia Sarwar							Supervised by. Dr. Aneela Jamil	

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

The online assessment for Reproduction 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	Reproduction Module-I	Monday 02 nd June,2025	9:00 pm-9:40pm	Prof. Dr Ayesha Yousaf	Anatomy
		Tuesday 03 rd June,2025	9:00 pm-9:40pm	Prof. Dr Samia Sarwar	Physiology
		Wednesday 04 th June,2025	9:00 pm-9:40pm	Dr Aneela Jamil	Biochemistry
		Monday 07 th July,2025	9:00 pm-9:40pm	Prof. Dr Ayesha Yousaf	Anatomy
		Tuesday 08 th July,2025	9:00 pm-9:40pm	Prof. Dr Samia Sarwar	Physiology
		Wednesday 09 th July,2025	9:00 pm-9:40pm	Dr Aneela Jamil	Biochemistry

Assessment Week
Reproduction Module-I (Fourth Week)
(14-07-2025 To 19-07-2025)

Date/time	9:00am - 12:00pm	12:00-02:00pm
14-07-2025 Monday	Assessment Week	
15-07-2025 Tuesday		
16-07-2025 Wednesday		
17-07-2025 Thursday		
18-07-2025 Friday		
19-07-2025 Saturday		

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

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

Annexure-I

Templates for Thoery Paper

• MCQ, SEQ Paper, & EMQ

Templates for AV OSPE

Templates for Structured Viva

Note: These sample papers aim to facilitate comprehension. However, it's important to note that the content and format of actual assessment papers may differ.

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

Total Marks: 30 (MCQs: 25, EMQ: 5)
Total Time: 30 Minutes
Each MCQ carries 1 mark and EMQ carries 5 marks

Roll No. _____
Name. _____

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

Time allowed: 1 hour & 30 minutes

Each SAQ carries 5 marks

Each SAQ: 5 minutes, SEQ: 10 minutes

Each SEQ carries 9 marks

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 14th Edition page # 101 - Part b: Guyton & Hall 14th Edition Page # 103 - Part c: Guyton & Hall 14th Edition Page # 103	CK	1	6.66%	C2

Rawalpindi Medical University Rawalpindi
Department of Anatomy / Physiology / Biochemistry
Clinically Oriented Audio 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

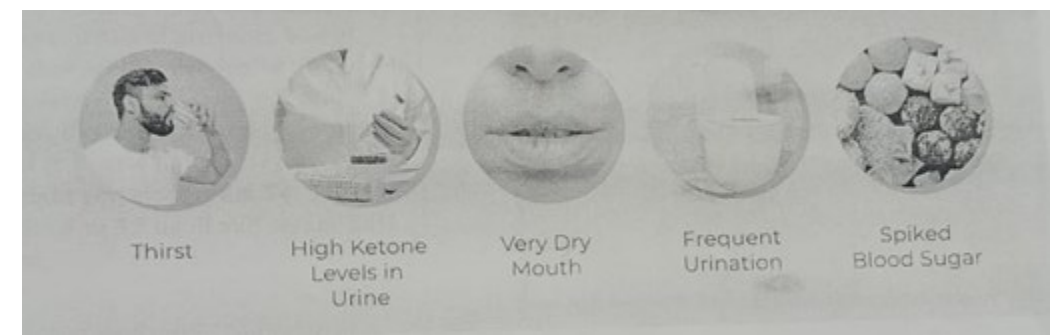
Core Knowledge with Horizontal / Vertical / Spiral Integration

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. |

Department of Anatomy
Reproduction Module - I (Structured Viva)

Date:

Time: 8:00-2:00pm

Roll no: 181 onwards

P: Punctuality, D: Dressing, C: Communication

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

Examiner

Sign

Stamp

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

Department of Physiology
Reproduction Module - I (Structured Viva)

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

[illegible]

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

Department of Biochemistry
Reproduction Module - I (Structured Viva)

Date:

Time:

Teacher's Name

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

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

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

1. A 12-year-old boy was presented to Emergency with severe pain in his right loin. Ultrasound examination revealed a stone lying 6 inches from the pelvi-ureteric junction. The most probable site of ureteric constriction is. - What is the most probable diagnosis? - Give embryological basis of this congenital anomaly? - Which developmental processes is directly disrupted in bladder exstrophy? - Which anatomical structures is most commonly associated with abnormalities in bladder exstrophy? - What other urological anomaly commonly coexists with bladder exstrophy?	Anatomy
2. A 25-year-old male athlete visits a sports medicine clinic to discuss his recent performance improvements and physical changes. Over the past few months, he reports an increase in muscle mass, quicker recovery after workouts, and higher energy levels. Blood tests reveal elevated levels of testosterone. Which of the following physiological changes is most likely associated with his elevated testosterone levels? - Increased protein synthesis leading to enhanced muscle development - Decreased skin thickness making him more prone to bruises - Decreased production of red blood cells causing fatigue - Decreased basal metabolic rate contributing to weight gain - Decreased sodium reabsorption in distal tubules leading to hyponatremia	Physiology
3. A biology student is analyzing the composition of nucleic acids in a lab experiment. She extracts two samples one from the nucleus of a human cell and the other from the cytoplasm. While reviewing the nitrogenous bases present in each sample, she notices that one of the bases is found in RNA but not in DNA. Based on her findings, which nitrogenous base is she most likely referring to that is absent in DNA? Increased plasma colloid pressure - Adenine - Guanine - Uracil - Thymine - Cytosine	Biochemistry

Rawalpindi Medical University
2nd Year MBBS Model EMQ

Theme: Causes and hormonal factors in female infertility

Instructions:

For each clinical scenario below, select the single most appropriate diagnosis or hormonal abnormality from the list. Each option may be used once, more than once, or not at all.

Options:

- A. Polycystic Ovary Syndrome (PCOS)
- B. Hyperprolactinemia
- C. Primary Ovarian Insufficiency
- D. Hypothalamic Amenorrhea
- E. Asherman's Syndrome
- F. Luteal Phase Defect
- G. Tubal Factor Infertility
- H. Endometriosis
- I. Thyroid Dysfunction
- J. Male Factor Infertility

Scenarios:

- A 28-year-old woman presents with irregular periods and infertility. She has hirsutism, acne, and ultrasound shows multiple peripheral ovarian follicles.
- A 32-year-old woman presents with amenorrhea and galactorrhea. Serum prolactin is elevated. MRI reveals a pituitary microadenoma.
- A 37-year-old woman has been trying to conceive for over a year. She has hot flashes and irregular periods. FSH is markedly elevated.
- A 26-year-old ballet dancer with a very low BMI and history of restrictive eating presents with amenorrhea and infertility. FSH and LH are both low.
- A 30-year-old woman reports regular periods but luteal phase biopsies show inadequate endometrial development.
- A 35-year-old woman with a history of multiple D&Cs presents with infertility and scant menstrual flow. Imaging reveals intrauterine adhesions.
- A 29-year-old woman with severe dysmenorrhea and dyspareunia is found to have pelvic adhesions and ovarian endometriomas.
- A 33-year-old woman has normal cycles. Hysterosalpingography reveals bilateral fallopian tube blockage.
- A 31-year-old woman with infertility has normal hormone levels and imaging. Her partner's semen analysis shows oligospermia and low motility.
- A 34-year-old woman presents with infertility and fatigue. Labs reveal high TSH and low free T4.

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

1. A 30-year-old female presents to the gynecology outpatient department with a history of repeated miscarriages. Upon ultrasonography, she is diagnosed with uterus didelphys (double uterus), a congenital uterine anomaly. - What is the embryological basis of uterus didelphys? - Tabulate the adult derivatives and remnants of mesonephric (Wolffian) and paramesonephric (Müllerian) ducts in both males and females. - Explain how a failure in the fusion of the paramesonephric ducts leads to the development of uterus didelphys. - List other congenital uterine anomalies resulting from improper development, fusion, or resorption of the paramesonephric ducts. - Discuss the potential reproductive implications and management options for patients with uterus didelphys.	Anatomy
2. A 35-year-old male athlete, well-known in the sports community, presents for evaluation after self-administering testosterone supplements to enhance his performance and muscle mass. While he reports increased strength and energy, recent lab tests show suppressed levels of LH and FSH. You suspect that exogenous testosterone has impacted his hormonal axis. - Describe the normal physiological process of testosterone secretion in males. - Explain the feedback regulation of the hypothalamic-pituitary-testicular (HPT) axis. - Discuss the effects of exogenous testosterone on the HPT axis and its potential consequences. - List two physiological actions of testosterone on non-reproductive tissues. - What are the potential long-term effects of anabolic steroid abuse in males?	Physiology
3. A 28-year-old woman visits a fertility clinic due to difficulty conceiving. Hormonal studies reveal low estrogen levels, and further evaluation suggests a disruption in ovarian follicular activity. To explain her condition, the physician describes the normal physiology of estrogen synthesis, focusing on the collaborative role of theca and granulosa cells. - Describe the two-cell, two-gonadotropin model involved in estrogen synthesis within the ovary. - Which hormones act on the theca and granulosa cells, and what are their specific roles in estrogen production? - Name the key enzyme responsible for the conversion of androgens to estrogens and identify which cell type expresses it. - What could be the possible causes of low estrogen levels in a woman of reproductive age with normal pituitary function? - How does estrogen influence the hypothalamic-pituitary-ovarian (HPO) axis, particularly during the follicular phase of the menstrual cycle?	Biochemistry

Rawalpindi Medical University
2nd Year MBBS Model AV OSPE

Slide 1 / Video

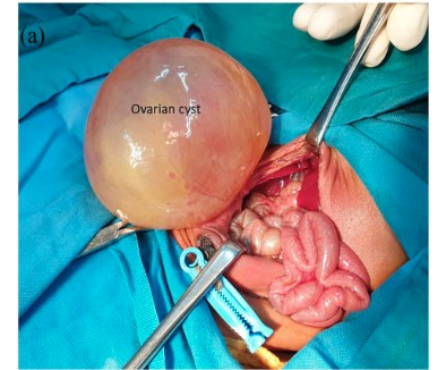
Core Knowledge with Horizontal / Vertical / Spiral Integration

Topic: Congenital Ovarian cysts

Teaching Strategy: LGIS

Requirements: Answer sheet, Pen

Objective: To Assess the Knowledge of Students Regarding Congenital Ovarian cysts



1. Name the clinical condition shown in the video.
2. What is the embryological basis of this condition?
3. What are the key clinical manifestations of this condition in adolescent females?
4. Name at least three commonly associated anomalies in this condition.
5. What are the recommended management or treatment options?

(01)
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(01)
(01)
(01)

Annexure II

Reproduction Module Entrustable Professional Activities (EPAs)

Case I

EPA-1

1. Title of the EPA

Interpret laboratory and imaging findings in a patient presenting with infertility and explain the underlying mechanism using integrated basic science knowledge.

2. Specifications and limitations

This EPA involves the ability of the undergraduate medical student to interpret basic laboratory investigations and imaging findings related to infertility and correlate them with the normal anatomy, physiology, embryology and pathology of the reproductive system.

The activity includes:

- Identification of common laboratory investigations used in infertility evaluation such as hormonal profile and semen analysis
- Recognition of basic imaging modalities used in infertility evaluation such as pelvic ultrasound
- Correlation of laboratory findings with physiological mechanisms of ovulation, fertilization and implantation
- Correlation of imaging findings with reproductive anatomy
- Integration of basic science knowledge with clinical presentation of infertility
- Explanation of findings to the patient in simple and understandable language
- Demonstration of empathy and professionalism while discussing infertility with patients

The EPA may be performed in:

- Small group teaching sessions
- Clinical case discussions
- Obstetrics and gynaecology outpatient department
- Integrated reproductive system teaching sessions
- Early clinical exposure settings

Limitations

This EPA does not include:

- Independently diagnosing infertility causes
- Ordering investigations independently
- Interpreting advanced imaging such as CT, MRI or specialized fertility investigations
- Making independent treatment decisions or counseling regarding treatment options
- Managing infertility without supervision

The student is expected only to recognize basic investigation findings, relate them to basic science concepts, and communicate them appropriately to the supervising clinician.

3. Most relevant domains of competence

Primary domains

- Medical Expert
- Communicator
- Professional

Secondary domains

- Scholar
- Collaborator

4. Required experience, knowledge, skills, attitude, and behaviour

Knowledge

The learner should understand:

- Anatomy of male and female reproductive systems
- Structure and function of ovaries, testes, fallopian tubes and uterus
- Physiology of hypothalamic-pituitary-gonadal axis
- Hormonal regulation of ovulation and spermatogenesis
- Mechanism of fertilization and implantation
- Common causes of infertility

- Basic laboratory tests used in infertility evaluation
- Role of ultrasound in evaluation of reproductive organs

These knowledge components integrate anatomy, physiology and pathology learning objectives with the clinical concept of infertility.

Skills

The learner should be able to:

- Identify common laboratory investigations used in infertility evaluation
- Interpret basic laboratory results such as hormonal profiles or semen analysis
- Recognize major anatomical structures in reproductive ultrasound images
- Correlate investigation findings with clinical symptoms of infertility
- Explain investigation findings in simple language
- Present findings clearly during case discussion

Attitude and behaviour

The learner should demonstrate:

- Empathy towards patients experiencing infertility
- Respectful and patient-centered communication
- Professional conduct and confidentiality
- Sensitivity to the emotional and psychological impact of infertility
- Recognition of personal limitations and willingness to seek guidance from faculty

Experience

The learner should gain experience through:

- Observation of faculty discussing infertility cases
- Participation in integrated reproductive system case discussions
- Small group teaching sessions involving infertility scenarios
- Supervised clinical exposure in obstetrics and gynecology settings
- Interpretation of basic infertility investigations during tutorials

5. Assessment information sources to assess progress and ground a summative entrustment decision

Assessment methods may include:

- Case-based discussion
- OSCE/OSPE station involving interpretation of infertility investigations
- Short answer questions in integrated written examinations
- Structured viva voce examination
- Direct observation during small group discussion
- Portfolio or logbook documentation

Evidence for entrustment may include:

- Correct interpretation of basic infertility investigations
- Ability to relate investigation findings with reproductive physiology and anatomy
- Appropriate explanation of infertility mechanisms during case discussions

6. Entrustment: level of supervision to be reached and stage of training

Expected supervision level

Level 2 – Practice with direct supervision

The student should be able to interpret basic infertility investigations and explain underlying mechanisms under supervision of faculty.

Stage of training

Second-Year MBBS students during:

- Reproductive system module
- Integrated basic sciences teaching
- Early clinical exposure sessions in obstetrics and gynecology

7. Expiration date

Entrustment should be reviewed after one year or earlier if the learner has not been exposed to reproductive system teaching for a prolonged period.

Entrustment statement

The learner can be entrusted to interpret basic laboratory and imaging findings related to infertility and explain the underlying reproductive mechanisms using integrated basic science

EPA-2

1. Title of the EPA

Communicate the diagnosis and underlying mechanism of infertility to the patient in clear, understandable and compassionate language.

2. Specifications and limitations

This EPA involves the ability of the undergraduate medical student to communicate the diagnosis and explanation of infertility to the patient in a clear, simple and patient-centered manner.

The activity includes:

- Explaining the concept of infertility and possible causes in simple language
- Communicating investigation findings in a structured and understandable way
- Relating laboratory or imaging findings to reproductive physiology
- Addressing patient concerns regarding infertility
- Providing reassurance and emotional support during discussion
- Demonstrating empathy and professionalism while interacting with the patient

The EPA may be performed in:

- Obstetrics and gynaecology outpatient department
- Small group teaching sessions
- Clinical case discussions
- Early clinical exposure settings
- Communication skills teaching sessions

Limitations

This EPA does not include:

- Independent counselling regarding fertility treatment options
- Delivering complex prognostic information without supervision
- Making treatment decisions or advising assisted reproductive techniques
- Handling complex psychosocial counselling independently

The student is expected to communicate basic information clearly and report the discussion to the supervising clinician.

3. Most relevant domains of competence

Primary domains

- Communicator
- Professional
- Medical Expert

Secondary domains

- Collaborator
- Health Advocate

4. Required experience, knowledge, skills, attitude, and behaviour

Knowledge

The learner should understand:

- Basic causes and mechanisms of infertility
- Principles of patient-centered communication
- Ethical aspects of discussing sensitive reproductive issues
- Psychological and emotional impact of infertility
- Importance of clear and compassionate communication in medical practice

Skills

The learner should be able to:

- Establish rapport with the patient
- Use simple and non-technical language while explaining medical concepts
- Explain infertility mechanisms clearly
- Address patient questions and concerns respectfully
- Demonstrate active listening
- Summarize information clearly during patient discussion

Attitude and behaviour

The learner should demonstrate:

- Empathy and compassion toward patients experiencing infertility
- Respect for patient dignity and privacy
- Professional behaviour and confidentiality
- Sensitivity to emotional distress
- Awareness of personal limitations and willingness to seek guidance

Experience

The learner should gain experience through:

- Observation of faculty communicating with patients with infertility
- Role-play exercises in communication skills sessions
- Participation in case-based discussions involving infertility
- Supervised patient interaction in clinical settings
- Reflection and feedback after communication encounters

5. Assessment information sources to assess progress and ground a summative entrustment decision

Assessment methods may include:

- Direct observation during patient communication
- OSCE station on patient communication
- Mini-CEX
- Case-based discussion
- Faculty feedback during clinical encounters
- Reflective portfolio entries

Evidence for entrustment may include:

- Ability to explain infertility in simple and understandable language
- Demonstration of empathy and patient-centered communication
- Appropriate handling of patient concerns during discussion

6. Entrustment: level of supervision to be reached and stage of training

Expected supervision level

Level 2 – Practice with direct supervision

The student should be able to communicate basic infertility information to patients under supervision of faculty.

Stage of training

Second-Year MBBS students during:

- Reproductive system module
- Early clinical exposure
- Communication skills teaching sessions

Entrustment statement The learner can be entrusted to communicate basic information regarding infertility and its underlying mechanisms to the patient in a clear and compassionate manner under faculty supervision.

EPA-3

1. Title of the EPA

Demonstrate professionalism, empathy and ethical conduct while managing patient concerns related to infertility.

2. Specifications and limitations

This EPA involves the ability of the undergraduate medical student to demonstrate professionalism, empathy and ethical conduct while interacting with patients experiencing infertility.

The activity includes:

- Demonstrating respectful patient interaction
- Maintaining patient dignity and confidentiality
- Showing empathy toward emotional distress associated with infertility
- Responding appropriately to patient concerns and questions

- Recognizing psychosocial impact of infertility on patients and families
- Maintaining professional behaviour in sensitive clinical situations

The EPA may be performed in:

- Clinical teaching sessions
- Obstetrics and gynaecology outpatient departments
- Small group case discussions
- Professionalism and ethics teaching sessions

Limitations

This EPA does not include:

- Independent psychological counselling
- Managing complex family or social issues related to infertility
- Providing definitive treatment advice independently

The student is expected to demonstrate professional behaviour and communicate concerns to the supervising clinician.

3. Most relevant domains of competence

Primary domains

- Professional
- Communicator

Secondary domains

- Health Advocate
- Collaborator

4. Required experience, knowledge, skills, attitude, and behaviour

Knowledge

The learner should understand:

- Ethical principles in patient care
- Professional responsibilities of a physician

- Psychological impact of infertility on patients
- Importance of confidentiality and patient privacy
- Role of empathy in patient care

Skills

The learner should be able to:

- Demonstrate respectful communication with patients
- Maintain patient confidentiality
- Recognize emotional distress in patients
- Respond appropriately to patient concerns
- Report significant psychosocial concerns to the supervising clinician

Attitude and behaviour

The learner should demonstrate:

- Compassion and empathy
- Professionalism and integrity
- Respect for patient dignity
- Cultural sensitivity in reproductive health issues
- Accountability and responsibility in clinical interactions

Experience

The learner should gain experience through:

- Observation of professional conduct by faculty
- Participation in clinical case discussions
- Reflective learning on ethical issues in infertility
- Supervised interaction with patients during clinical exposure

5. Assessment information sources to assess progress and ground a summative entrustment decision

Assessment methods may include:

- Direct observation by faculty
- Mini-CEX
- Professionalism assessment during clinical encounters
- Reflective writing assignments
- Faculty feedback

Evidence for entrustment may include:

- Demonstration of respectful patient interaction
- Maintenance of patient confidentiality
- Appropriate professional behaviour in clinical settings

6. Entrustment: level of supervision to be reached and stage of training

Expected supervision level

Level 2 – Practice with direct supervision

The student demonstrates professional and empathetic behaviour under supervision of faculty.

Stage of training

Second-Year MBBS students during:

- Reproductive system module
- Early clinical exposure
- Clinical professionalism teaching sessions

Entrustment statement

The learner can be entrusted to demonstrate professionalism, empathy and ethical behaviour while interacting with patients experiencing infertility under faculty supervision. knowledge under faculty supervision.

Case 2

(Patient with pelvic pathology)

EPA-1

1. Title of the EPA

Interpret laboratory and imaging findings in a patient presenting with pelvic pathology and correlate them with integrated basic science knowledge.

2. Specifications and limitations

This EPA involves the ability of the undergraduate medical student to interpret basic laboratory investigations and imaging findings in a patient presenting with pelvic pathology and relate these findings to the anatomy, physiology and pathology of the female reproductive system.

The activity includes:

- Identification of common laboratory investigations used in evaluation of pelvic pathology
- Recognition of basic imaging modalities such as pelvic ultrasound
- Identification of major anatomical structures of the female reproductive organs on imaging
- Correlation of imaging findings with clinical symptoms such as pelvic pain, menstrual irregularities or infertility
- Integration of basic science knowledge with clinical presentation of pelvic disease
- Presentation of findings in a structured manner to the supervising clinician

The EPA may be performed in:

- Obstetrics and gynaecology outpatient departments
- Small group teaching sessions
- Integrated reproductive system teaching sessions
- Clinical case discussions
- Early clinical exposure settings

Limitations

This EPA does not include:

- Independent diagnosis of pelvic pathology
- Interpretation of complex imaging such as CT or MRI independently

- Ordering investigations without supervision
- Making independent treatment decisions

The student is expected to recognize basic findings and report them to the supervising clinician.

3. Most relevant domains of competence

Primary domains

- Medical Expert
- Communicator
- Professional

Secondary domains

- Scholar
- Collaborator

4. Required experience, knowledge, skills, attitude, and behaviour

Knowledge

The learner should understand:

- Anatomy of female reproductive organs including uterus, ovaries and fallopian tubes
- Physiology of menstrual cycle
- Pathophysiology of common pelvic disorders
- Role of imaging in evaluation of pelvic pathology
- Clinical presentation of common gynecological conditions

These knowledge components integrate anatomy, physiology and pathology learning objectives with clinical application.

Skills

The learner should be able to:

- Identify basic laboratory tests used in gynecological evaluation
- Recognize reproductive structures on pelvic imaging
- Correlate imaging findings with clinical symptoms

- Present findings clearly during case discussion
- Explain basic mechanisms of disease using integrated basic science knowledge

Attitude and behaviour

The learner should demonstrate:

- Professional behaviour during patient interaction
- Respect for patient dignity and privacy
- Sensitivity while discussing gynecological conditions
- Awareness of personal limitations and willingness to seek supervision

Experience

The learner should gain experience through:

- Observation of faculty discussing pelvic pathology cases
- Participation in case-based learning sessions
- Supervised clinical exposure in gynecology clinics
- Small group discussions integrating reproductive anatomy and pathology

5. Assessment information sources to assess progress and ground a summative entrustment decision

Assessment methods may include:

- Case-based discussion
- OSCE/OSPE stations involving imaging interpretation
- Direct observation during clinical teaching sessions
- Structured viva examination
- Written integrated assessment

Evidence for entrustment may include:

- Correct identification of basic reproductive structures on imaging
- Ability to relate imaging findings to clinical symptoms
- Logical explanation of pelvic pathology using integrated basic science knowledge

Entrustment: level of supervision to be reached and stage of training**Expected supervision level**

Level 2 – Practice with direct supervision

Stage of training

Second-Year MBBS students during:

- Reproductive system module
- Early clinical exposure
- Integrated basic sciences teaching sessions

7. Expiration date

Entrustment should be reviewed after one year or earlier if the learner has not been exposed to reproductive system teaching for a prolonged period.

Entrustment statement

The learner can be entrusted to interpret basic laboratory and imaging findings related to pelvic pathology and correlate them with reproductive system anatomy and physiology under faculty supervision.

EPA-2**1. Title of the EPA**

Communicate investigation findings and clinical implications of pelvic pathology to the patient in clear and compassionate language.

2. Specifications and limitations

This EPA involves the ability of the undergraduate medical student to explain investigation findings and clinical implications of pelvic pathology to the patient in simple and understandable language.

The activity includes:

- Explaining investigation findings in simple language
- Relating symptoms such as pelvic pain or menstrual disturbances to underlying pathology
- Addressing patient concerns regarding reproductive health
- Demonstrating empathy while discussing sensitive gynecological issues

The EPA may be performed in:

- Clinical teaching sessions
- Obstetrics and gynaecology outpatient departments
- Communication skills sessions
- Case-based discussions

Limitations

This EPA does not include:

- Independent counselling regarding treatment options
- Delivering complex prognostic information independently
- Managing psychological or social issues without supervision

The student should communicate basic information and report to the supervising clinician.

3. Most relevant domains of competence

Primary domains

- Communicator
- Professional

Secondary domains

- Medical Expert
- Health Advocate

4. Required experience, knowledge, skills, attitude, and behaviour

Knowledge

The learner should understand:

- Basic causes of pelvic pathology
- Psychological and emotional aspects of gynecological illness
- Principles of patient-centered communication

Skills

The learner should be able to:

- Establish rapport with the patient
- Communicate findings in simple language
- Address patient concerns respectfully
- Demonstrate active listening
- Present information in a structured manner

Attitude and behaviour

The learner should demonstrate:

- Empathy toward patients
- Respect for privacy and confidentiality
- Cultural sensitivity in reproductive health issues
- Professional communication

Experience

The learner should gain experience through:

- Role-play communication sessions
- Observation of faculty during patient counselling
- Participation in case discussions involving pelvic pathology

5. Assessment information sources to assess progress and ground a summative entrustment decision

Assessment methods may include:

- Direct observation during patient communication
- OSCE station on communication
- Mini-CEX
- Case-based discussion
- Faculty feedback

Evidence for entrustment may include:

- Ability to explain pelvic pathology clearly
- Demonstration of empathetic communication
- Appropriate response to patient concerns

6. Entrustment: level of supervision to be reached and stage of training

Expected supervision level

Level 2 – Practice with direct supervision

Stage of training

Second-Year MBBS students during reproductive system module and early clinical exposure.

7. Expiration date

Entrustment should be reviewed after one year.

Entrustment statement

The learner can be entrusted to communicate basic information regarding pelvic pathology to the patient clearly and compassionately under faculty supervision.

EPA-3

1. Title of the EPA

Demonstrate professionalism, empathy and ethical conduct while managing patient concerns related to pelvic pathology.

2. Specifications and limitations

This EPA involves the ability of the undergraduate medical student to demonstrate professionalism, empathy and ethical conduct when interacting with patients presenting with pelvic pathology.

The activity includes:

- Respectful interaction with patients
- Maintenance of confidentiality and privacy
- Recognition of emotional distress related to gynecological illness
- Professional behaviour in sensitive clinical situations

The EPA may be performed in:

- Clinical teaching sessions
- Gynecology outpatient clinics
- Case-based discussions
- Professionalism teaching sessions

Limitations

This EPA does not include:

- Independent psychological counselling
- Managing complex social or family issues without supervision

3. Most relevant domains of competence

Primary domains

- Professional
- Communicator

Secondary domains

- Health Advocate
- Collaborator

4. Required experience, knowledge, skills, attitude, and behaviour

Knowledge

The learner should understand:

- Ethical principles in patient care
- Psychological impact of gynecological disorders
- Professional responsibilities of a physician

Skills

The learner should be able to:

- Communicate respectfully with patients
- Maintain patient confidentiality

- Recognize emotional distress
- Seek help from supervisors when needed

Attitude and behaviour

The learner should demonstrate:

- Compassion and empathy
- Professionalism and integrity
- Respect for patient dignity
- Cultural sensitivity

Experience

The learner should gain experience through:

- Observation of professional behaviour by faculty
- Participation in ethics discussions
- Supervised patient interaction

5. Assessment information sources to assess progress and ground a summative entrustment decision

Assessment methods may include:

- Direct observation
- Mini-CEX
- Professionalism assessment
- Reflective portfolio

Evidence for entrustment may include:

- Respectful interaction with patients
- Maintenance of confidentiality
- Appropriate professional behaviour

6. Entrustment: level of supervision to be reached and stage of training

Expected supervision level

Level 2 – Practice with direct supervision

Stage of training

Entrustment statement

The learner can be entrusted to demonstrate professional and empathetic behaviour when interacting with patients presenting with pelvic pathology under faculty supervision.

Case 3

(Patient with pregnancy loss)

EPA-1

1. Title of the EPA

Interpret laboratory and ultrasound findings in a patient presenting with pregnancy loss and correlate them with reproductive physiology and pathology.

2. Specifications and limitations

This EPA involves the ability of the undergraduate medical student to interpret basic laboratory investigations and ultrasound findings in a patient presenting with pregnancy loss and relate these findings to the anatomy, physiology, embryology and pathology of pregnancy.

The activity includes:

- Identification of basic laboratory investigations used in evaluation of pregnancy loss
- Recognition of ultrasound imaging used in early pregnancy assessment
- Identification of major anatomical structures such as uterus, gestational sac and embryo on ultrasound
- Correlation of imaging findings with clinical presentation such as bleeding, abdominal pain and loss of pregnancy symptoms
- Integration of embryology and reproductive physiology with the mechanism of pregnancy loss
- Presentation of findings clearly to the supervising clinician

The EPA may be performed in:

- Obstetrics and gynaecology outpatient clinics
- Early pregnancy assessment units
- Small group teaching sessions

- Integrated reproductive system teaching sessions
- Clinical case discussions

Limitations

This EPA does not include:

- Independent diagnosis of miscarriage or pregnancy complications
- Interpretation of complex imaging independently
- Making treatment decisions
- Managing pregnancy loss without supervision

The student is expected only to recognize basic findings and report them to the supervising clinician.

3. Most relevant domains of competence

Primary domains

- Medical Expert
- Communicator
- Professional

Secondary domains

- Scholar
- Collaborator

4. Required experience, knowledge, skills, attitude, and behaviour

Knowledge

The learner should understand:

- Anatomy of female reproductive organs during pregnancy
- Embryological development of the early embryo
- Physiology of implantation and early pregnancy
- Hormonal regulation of pregnancy

- Basic causes of pregnancy loss
- Role of ultrasound in early pregnancy assessment

These knowledge components integrate anatomy, physiology and embryology learning objectives with clinical correlation.

Skills

The learner should be able to:

- Identify common investigations used in evaluation of pregnancy loss
- Recognize reproductive structures on ultrasound images
- Correlate imaging findings with clinical symptoms
- Present findings clearly during case discussion
- Explain basic mechanisms of pregnancy loss using integrated basic science knowledge

Attitude and behaviour

The learner should demonstrate:

- Professional behaviour during patient interaction
- Respect for patient dignity and privacy
- Sensitivity when discussing pregnancy loss
- Awareness of personal limitations and willingness to seek supervision

Experience

The learner should gain experience through:

- Observation of faculty discussing pregnancy loss cases
- Participation in integrated case-based learning sessions
- Supervised clinical exposure in obstetrics clinics
- Small group discussions involving reproductive system disorders

5. Assessment information sources to assess progress and ground a summative entrustment decision

Assessment methods may include:

- Case-based discussion
- OSCE/OSPE stations involving ultrasound interpretation
- Structured viva examination
- Written integrated assessment
- Direct observation during clinical teaching sessions

Evidence for entrustment may include:

- Correct identification of basic reproductive structures on ultrasound
- Ability to relate imaging findings to clinical symptoms
- Logical explanation of pregnancy loss using integrated basic science knowledge

6. Entrustment: level of supervision to be reached and stage of training

Expected supervision level

Level 2 – Practice with direct supervision

Stage of training

Second-Year MBBS students during:

- Reproductive system module
- Early clinical exposure
- Integrated basic science teaching sessions

Entrustment statement

The learner can be entrusted to interpret basic laboratory and ultrasound findings related to pregnancy loss and correlate them with reproductive physiology and embryology under faculty supervision.

EPA-2

1. Title of the EPA

Communicate findings and clinical implications of pregnancy loss to the patient in clear and compassionate language.

2. Specifications and limitations

This EPA involves the ability of the undergraduate medical student to explain the findings and clinical implications of pregnancy loss to the patient in a clear, respectful and empathetic manner.

The activity includes:

- Explaining investigation findings in simple language
- Communicating the concept of pregnancy loss and possible mechanisms
- Responding to patient concerns and emotional distress
- Demonstrating compassionate communication during sensitive discussions

The EPA may be performed in:

- Obstetrics clinics
- Small group teaching sessions
- Communication skills training
- Case-based discussions

Limitations

This EPA does not include:

- Independent counselling regarding management options
- Delivering complex prognostic information independently
- Providing psychological counselling without supervision

The student is expected to communicate basic information and report the discussion to the supervising clinician.

3. Most relevant domains of competence

Primary domains

- Communicator
- Professional

Secondary domains

- Medical Expert
- Health Advocate

4. Required experience, knowledge, skills, attitude, and behaviour

Knowledge

The learner should understand:

- Basic causes of pregnancy loss
- Psychological and emotional impact of miscarriage
- Principles of patient-centered communication

Skills

The learner should be able to:

- Establish rapport with the patient
- Explain findings in simple language
- Demonstrate active listening
- Address patient concerns respectfully
- Communicate information clearly during patient discussion

Attitude and behaviour

The learner should demonstrate:

- Empathy and compassion toward patients
- Respect for privacy and confidentiality
- Cultural sensitivity in reproductive health discussions
- Professional behaviour in emotionally challenging situations

Experience

The learner should gain experience through:

- Observation of faculty communicating with patients experiencing pregnancy loss
- Participation in communication skills sessions
- Case-based discussions involving pregnancy complications

5. Assessment information sources to assess progress and ground a summative entrustment decision

Assessment methods may include:

- Direct observation during patient communication
- OSCE station on communication skills
- Mini-CEX
- Case-based discussion
- Faculty feedback

Evidence for entrustment may include:

- Ability to explain pregnancy loss clearly
- Demonstration of empathetic communication
- Appropriate response to patient concerns

6. Entrustment: level of supervision to be reached and stage of training

Expected supervision level

Level 2 – Practice with direct supervision

Stage of training

Second-Year MBBS students during reproductive system module and early clinical exposure.

Entrustment statement

The learner can be entrusted to communicate basic information regarding pregnancy loss clearly and compassionately under faculty supervision.

EPA-3

1. Title of the EPA

Demonstrate professionalism, empathy and ethical conduct while managing patient concerns related to pregnancy loss.

2. Specifications and limitations

This EPA involves the ability of the undergraduate medical student to demonstrate professionalism, empathy and ethical conduct when interacting with patients experiencing pregnancy loss.

The activity includes:

- Respectful interaction with patients
- Maintenance of confidentiality and patient dignity
- Recognition of emotional distress associated with pregnancy loss
- Appropriate professional behaviour in sensitive clinical situations

The EPA may be performed in:

- Obstetrics clinics
- Clinical teaching sessions
- Professionalism and ethics teaching sessions
- Case-based discussions

Limitations

This EPA does not include:

- Independent psychological counselling
- Management of complex psychosocial issues without supervision

3. Most relevant domains of competence

Primary domains

- Professional
- Communicator

Secondary domains

- Health Advocate
- Collaborator

4. Required experience, knowledge, skills, attitude, and behaviour

Knowledge

The learner should understand:

- Ethical principles in patient care
- Psychological impact of pregnancy loss
- Professional responsibilities of physicians

Skills

The learner should be able to:

- Communicate respectfully with patients
- Maintain confidentiality
- Recognize emotional distress
- Seek help from supervising clinicians when required

Attitude and behaviour

The learner should demonstrate:

- Compassion and empathy
- Professionalism and integrity
- Respect for patient dignity
- Cultural sensitivity

Experience

The learner should gain experience through:

- Observation of professional behaviour by faculty
- Participation in ethics discussions
- Supervised patient interaction

5. Assessment information sources to assess progress and ground a summative entrustment decision

Assessment methods may include:

- Direct observation by faculty
- Mini-CEX

- Professionalism assessment
- Reflective portfolio

Evidence for entrustment may include:

- Respectful patient interaction
- Maintenance of confidentiality
- Appropriate professional conduct

6. Entrustment: level of supervision to be reached and stage of training

Expected supervision level

Level 2 – Practice with direct supervision

Stage of training

Second-Year MBBS students during reproductive system module.

Entrustment statement

The learner can be entrusted to demonstrate professionalism and empathetic behaviour while interacting with patients experiencing pregnancy loss under faculty supervision.