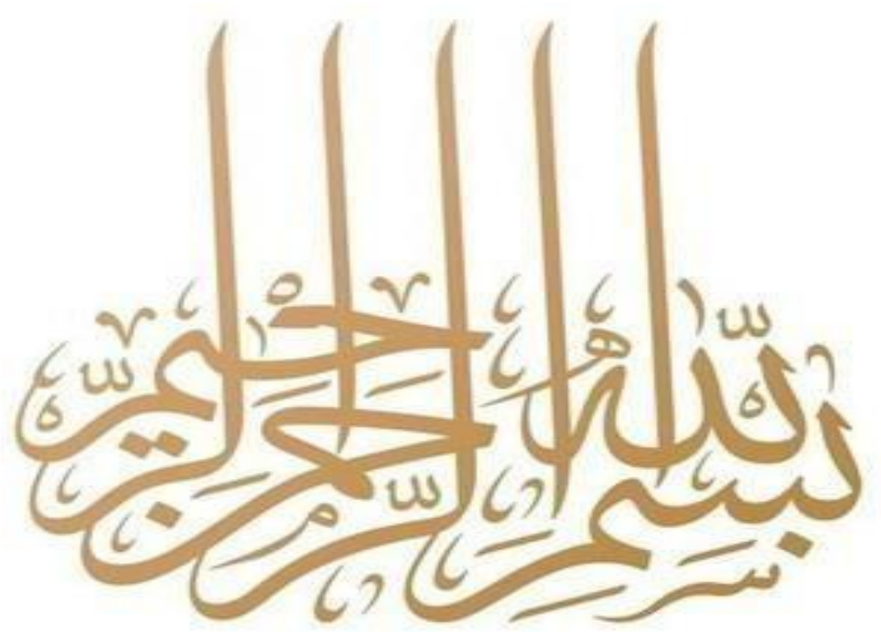
Rawalpindi Medical University
Clinically Oriented Integrated Modular Curriculum 2026 Fourth Year MBBS



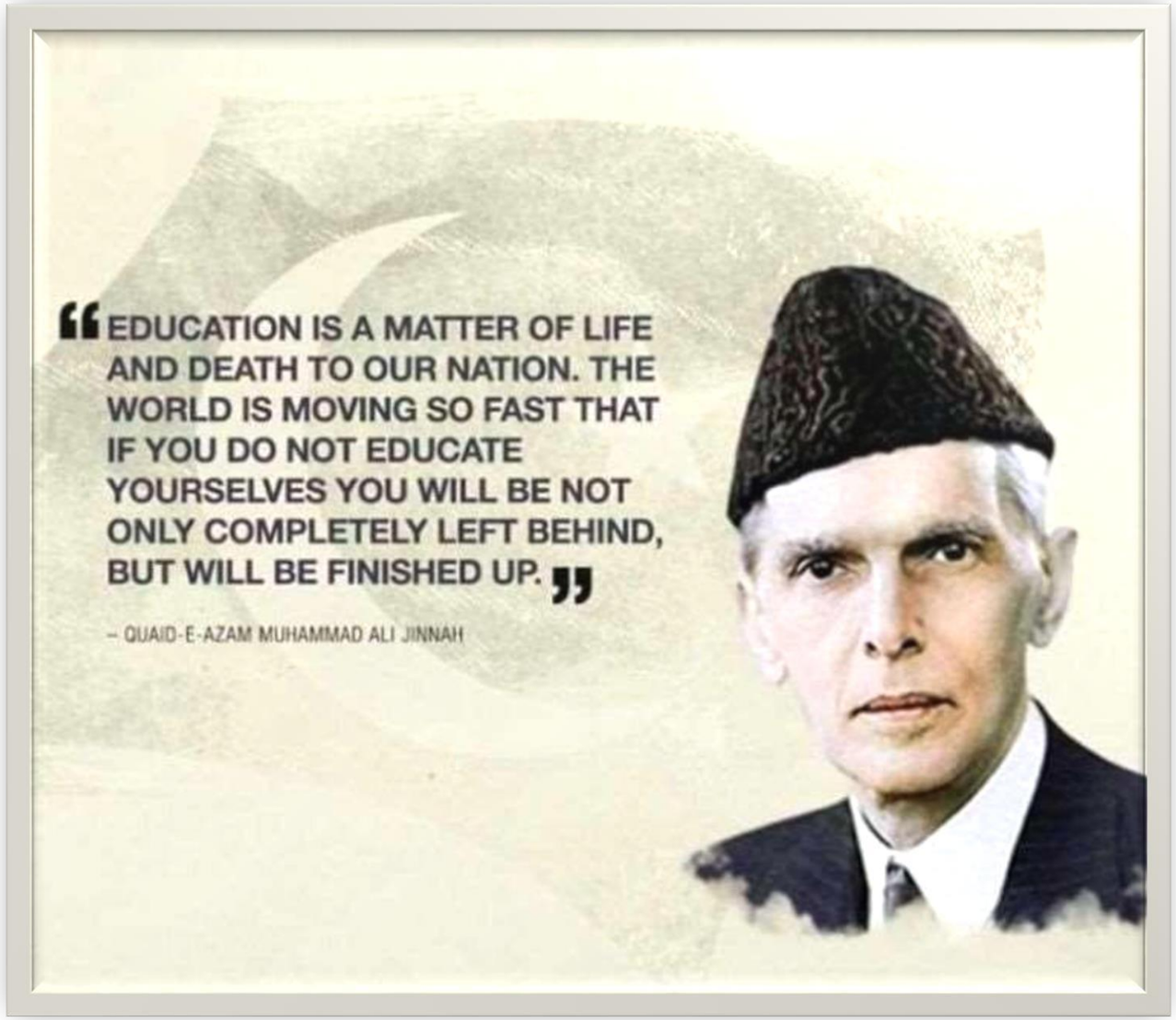
Dedicated to Hazrat Muhammad (S.A.W

Modular Integrated Curriculum 2026

Revised September 2026

Pre & Para Clinical Sciences

Quote by Quaid-e-Azam Muhammad Ali Jinnah

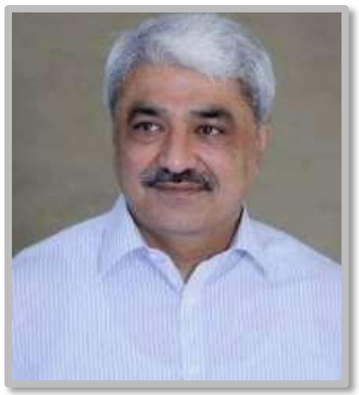


Sardar Saleem Haider Khan
Governor Punjab

It is with great pleasure that I extend my congratulations to Rawalpindi Medical University on the introduction of its Integrated Curriculum. This progressive step reflects the university's commitment to shaping the future of medical education in Pakistan, ensuring that our future healthcare professionals are equipped with the skills and knowledge needed to meet the evolving demands of healthcare, both locally and globally.

The integrated curriculum represents a significant shift in how medical education is delivered, focusing on the interconnection between various disciplines and emphasizing patient-centered care. By blending theoretical knowledge with practical application from the early stages of their education, students are better prepared to understand the complexities of human health and the diverse challenges they will face in their medical careers. This holistic approach is critical in nurturing well-rounded professionals who are not only adept clinicians but also compassionate caregivers.

Rawalpindi Medical University has always been at the forefront of medical education, and this curriculum reflects its visionary leadership in preparing graduates who are ready to confront the future of healthcare with confidence and competence. I am confident that this initiative will greatly contribute to the advancement of healthcare in Punjab and beyond, ensuring that our doctors are not only skilled but also compassionate and ethical leaders in their field.



Mr. Khawaja Salman Rafique

Minister, Specialized Healthcare & Medical Education Department

The Rawalpindi Medial University, Rawalpindi has consistently evolved and adapted to support its learners, uphold academic standards, and maintain its status as a globally recognized institution. The launch of the 'Modular Curriculum 2024 marks a significant step forward in advancing public health and addressing future healthcare needs. By embracing this curriculum, students and professionals alike will gain the toolsto turn knowledge into practical expertise, positioning themselves as leaders in research, public service, sustainable healthcare, and accessible medical care.

A curriculum's success hinges on the dedication of those who implement it. The true impact of this program will be realized through the joint efforts of educators and learners. I am confident that this integrated educational framework will equip our futuredoctors to confront global health challenges, including emerging disease trends, healthcare equity, and solutions for underserved communities.

Prof. Dr. Muhammad Umar
Vice Chancellor RMU

Prof. Muhammad Khurram
Principal RMC

There is no subject which will require more careful consideration in the settlement of the educational details of the University of which RMU is to be the center than that of the choice and arrangement of the curriculum to be required for the degree in medicine. An exceptional opportunity presents itself, you have, within certain limits, a tabula rasa, and it behooves the authorities of the future university to mark it in the manner best calculated to promote the advance of medical science and the efficiency of medical teaching. If, from an experience acquired as a teacher and examiner in various universities during a period of more than a quarter of a century, I can help in the promotion of these objects, by pointing out virtues which may be emulated here, and failings which may be avoided there. I shall at least feel I have done something to assist in the modeling of what will, we all hope, become one of the great centers of learning of Pakistan.

But whilst endeavoring to sketch out what subjects should form part of the medical curriculum of a university, and to appraise their relative order and value, I do not propose to place before you an ideal which is unattainable under the circumstances of place and time, in which you find yourselves, although it would be easier to construct an ideal curriculum than to plan one out within the limits of present-day practicability. I suppose that the integrated modular curricula now being established in our university will more nearly approach the ideal.

The diverse faculty and student body make our programs earn top national and international reputation. I can say with complete confidence that what makes our university exceptional are the faculty & staff who are dedicated to help our aspiring students to become the compassionate, highly skilled health-care providers of tomorrow.

Prof, Dr. Ifra Saeed
Professor of Anatomy Director DME

Prof, Dr. Ayesha Yousaf
Dean Basic Sciences

This is a great prospect for RMU and curriculum committee to formulate the modular curriculum of basic medical sciences. It is a task, well meant for its contribution in medical education. Hopefully it will go a long way in training the medical graduates, as per required national and international standards of medical education. The Modular teaching is likely to give a fresh and varied approach to learning process and at the end optimizing maximum learning outcomes. This entails coordination, patience, commitment and diligence from all those who are on board, either the faculty or the students. All this seems to be encouraging, yet limited resources, inadequate manpower, and difficulty in breaking traditional shackles are tangible obstacles.

The preparation and implementation of modular curriculum provides the faculty an opportunity to design and re orientate and re-conceptualize health –illness process. Transforming academic stakeholders' learning perspectives and then to translate it in students' development as an effective force of society, well versed with modern day problems, is an uphill task. This is a humble effort in this regard. Still there is lot to distill, crystallize and narrate. Hopefully from this marathon, the curiosity will emerge like a fresh breeze, from here the character will arise in the horizon, as all this at the end is meant to serve the ailing humanity and to accomplish the dream of a healthy society.

At the end, it will be great injustice not to acknowledge the unwavering and untiring support of Prof. Dr. Muhammad Umar, Vice Chancellor RMU, who is an ardent supporter and promoter of anything which gives a fresh impetus to medical education and practice. It's all because of his continuous input and persuasion, that the modular curriculum achieved fruition.

Dr. Omaima Asif
Assistant Director DME/ Editor

As we begin this exciting new chapter with the Integrated Modular Curriculum, I want to take a moment to share my enthusiasm for the opportunities it brings to both our students and faculty. This forward-thinking curriculum is crafted to enrich the educational journey while better preparing our future healthcare professionals to tackle the intricacies of patient care.

In today's fast-changing medical environment, it is essential that our educational approach reflects the interconnectedness of healthcare. The Integrated Modular Curriculum dismantles conventional barriers, allowing students to experience a comprehensive view of medicine, where foundational sciences, clinical skills, and patient interactions come together seamlessly.

Our focus on active learning and collaborative approaches will empower students to think critically, adapt to new challenges, and develop the empathy vital in our profession. By emphasizing a patient-centered methodology and incorporating real-world experiences, we aim to foster a profound understanding of the impact of medical practice on individuals and communities.

I am thrilled about the potential this curriculum holds and deeply appreciate the commitment of our faculty and staff in bringing it to fruition. Together, we will cultivate a new generation of medical professionals who are not only well-informed but also compassionate, ready to make a positive impact on their patients' lives.

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Rawalpindi Medical University
Department of Otorhinolaryngology
Integrated Modular Curriculum
4th year MBBS

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			Pharmacology. Research, bioethics and family medicine curriculum incorporated

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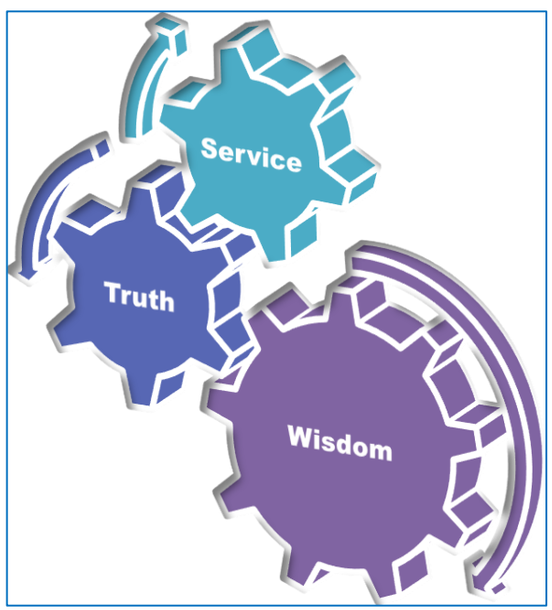
RMU Motto



Curriculum Mission and Vision

Mission Statement

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

Vision and Values

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

Goals of the Undergraduate Integrated Modular Curriculum

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

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

Figure 1- RMU 12 Integrated Modular Curriculum 2026
Isolation to beyond boundaries
Competency Framework

Figure 1

References

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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

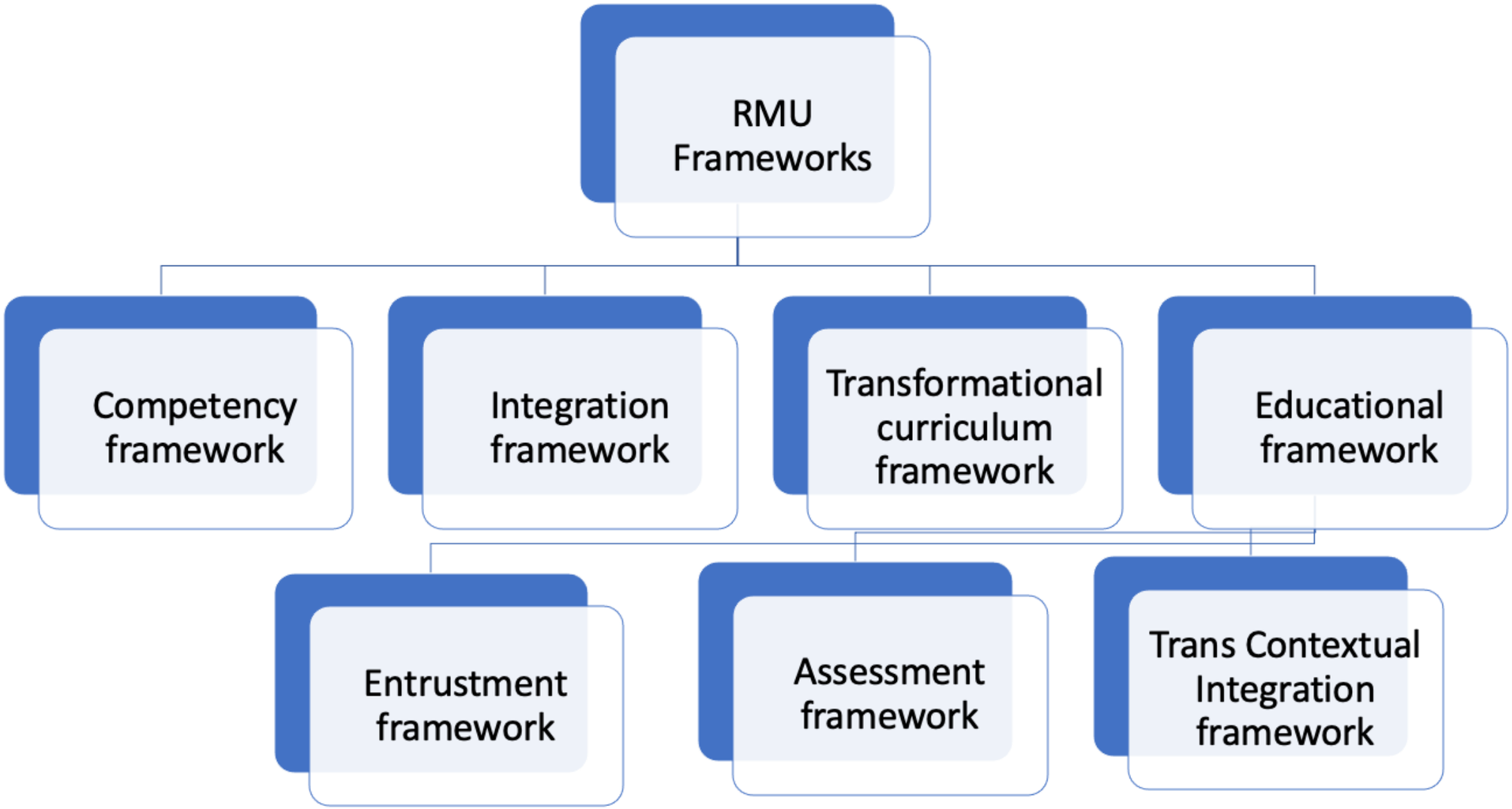
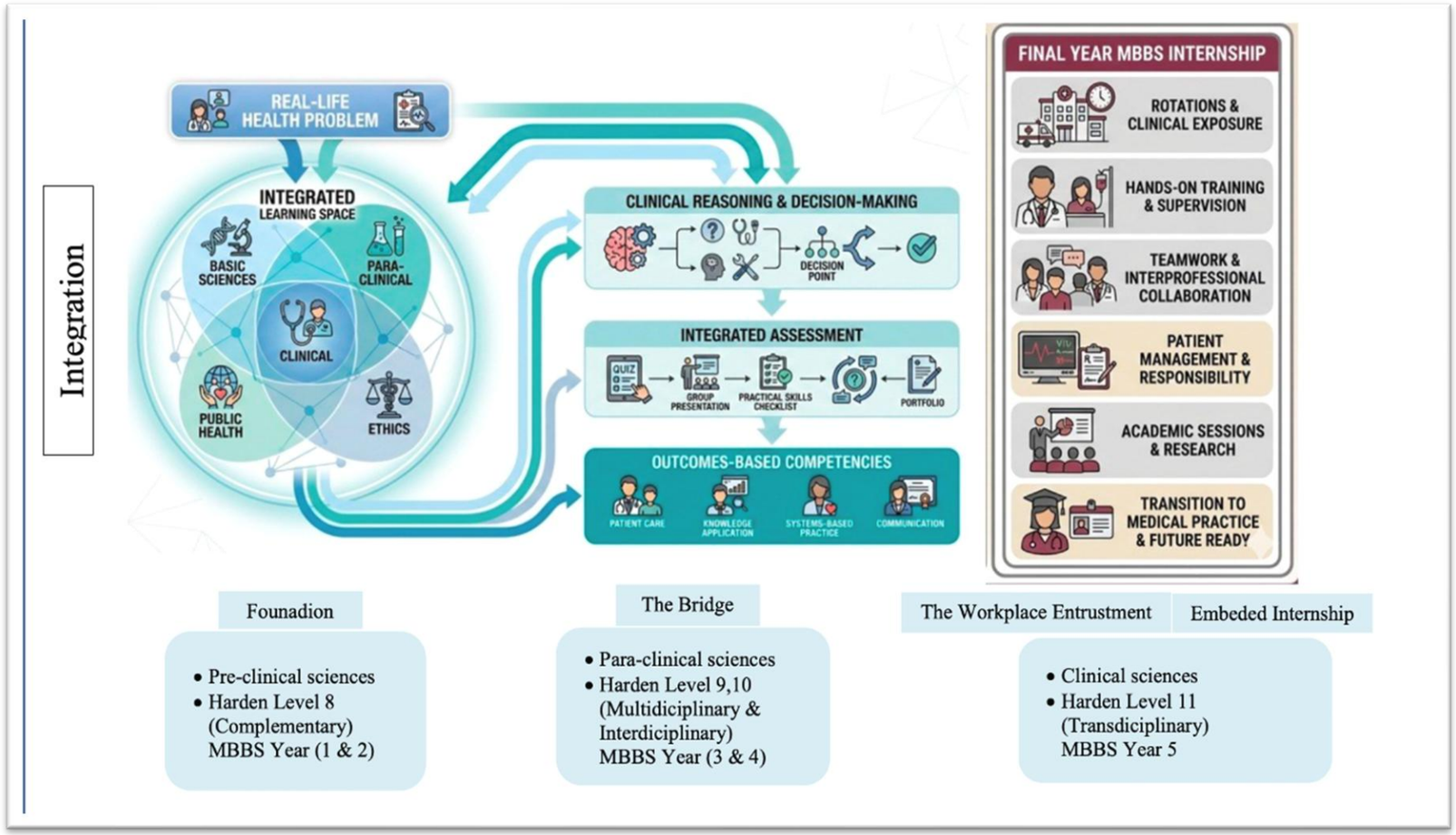
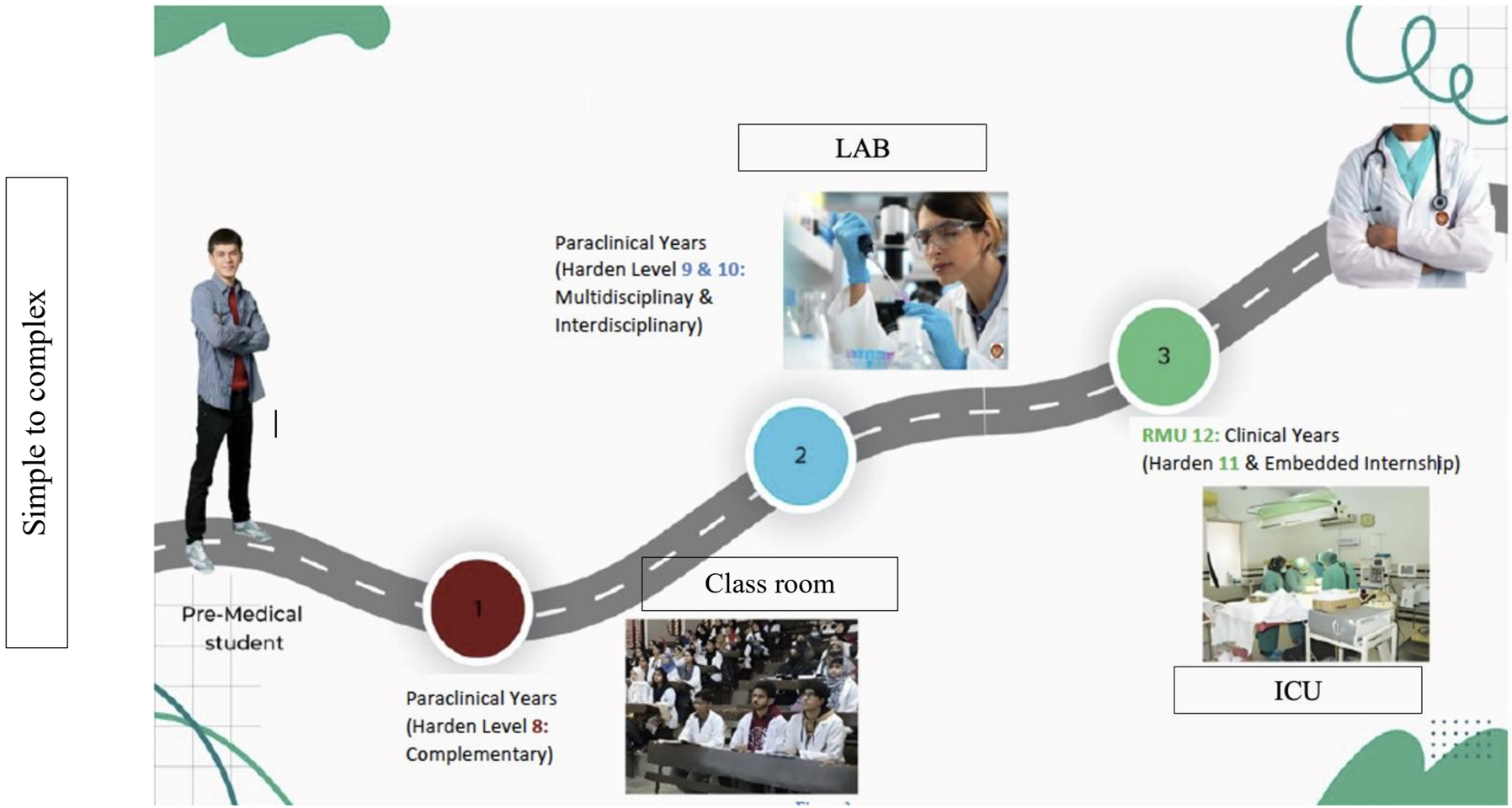

RMU Frameworks
Competency framework
Integration framework
Transformational curriculum framework
Educational framework
Entrustment framework
Assessment framework
Trans Contextual Integration framework

Figure 2 – Structured framework of RMU 12 Integrated Modular Curriculum 2026
Isolation to beyond boundaries



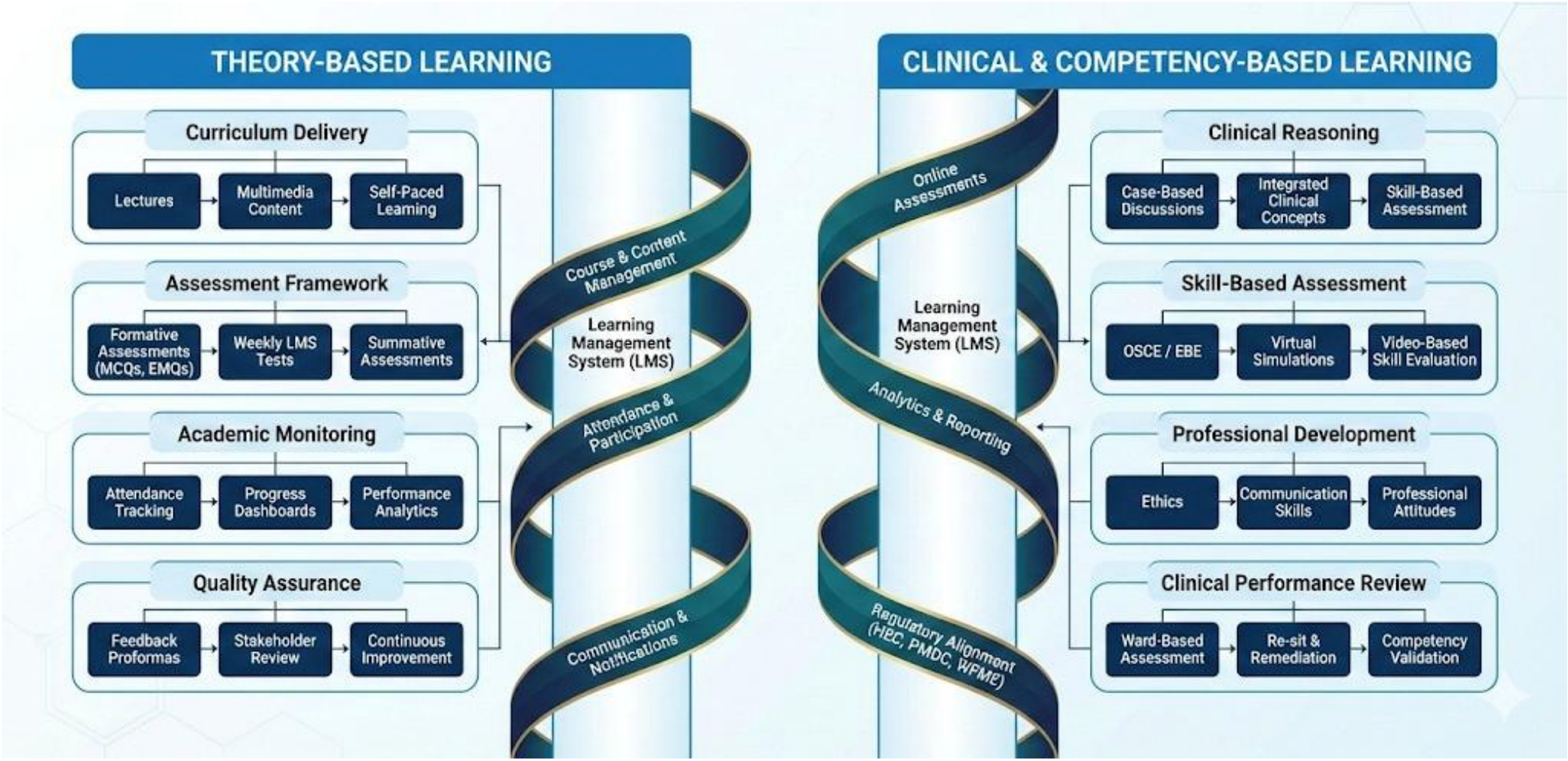
MBBS Undergraduate Curriculum 2026

Figure 3 – Transformational Curriculum Framework of RMU 12 Integrated Modular Curriculum 2026
Isolation to Beyond Boundaries



MBBS Undergraduate Curriculum 2026

Figure 4 – Educational Framework of RMU 12 Integrated Modular Curriculum 2026
Isolation to Beyond Boundaries



MBBS Undergraduate Curriculum 2026

Figure 5 – Entrustment Framework of RMU 12 Integrated Modular Curriculum 2026
Isolation to beyond boundaries

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

Figure 6 – Assessment framework of RMU 12 Integrated Modular Curriculum 2026

MBBS Undergraduate Curriculum 2026

Isolation to beyond boundaries

Assessment

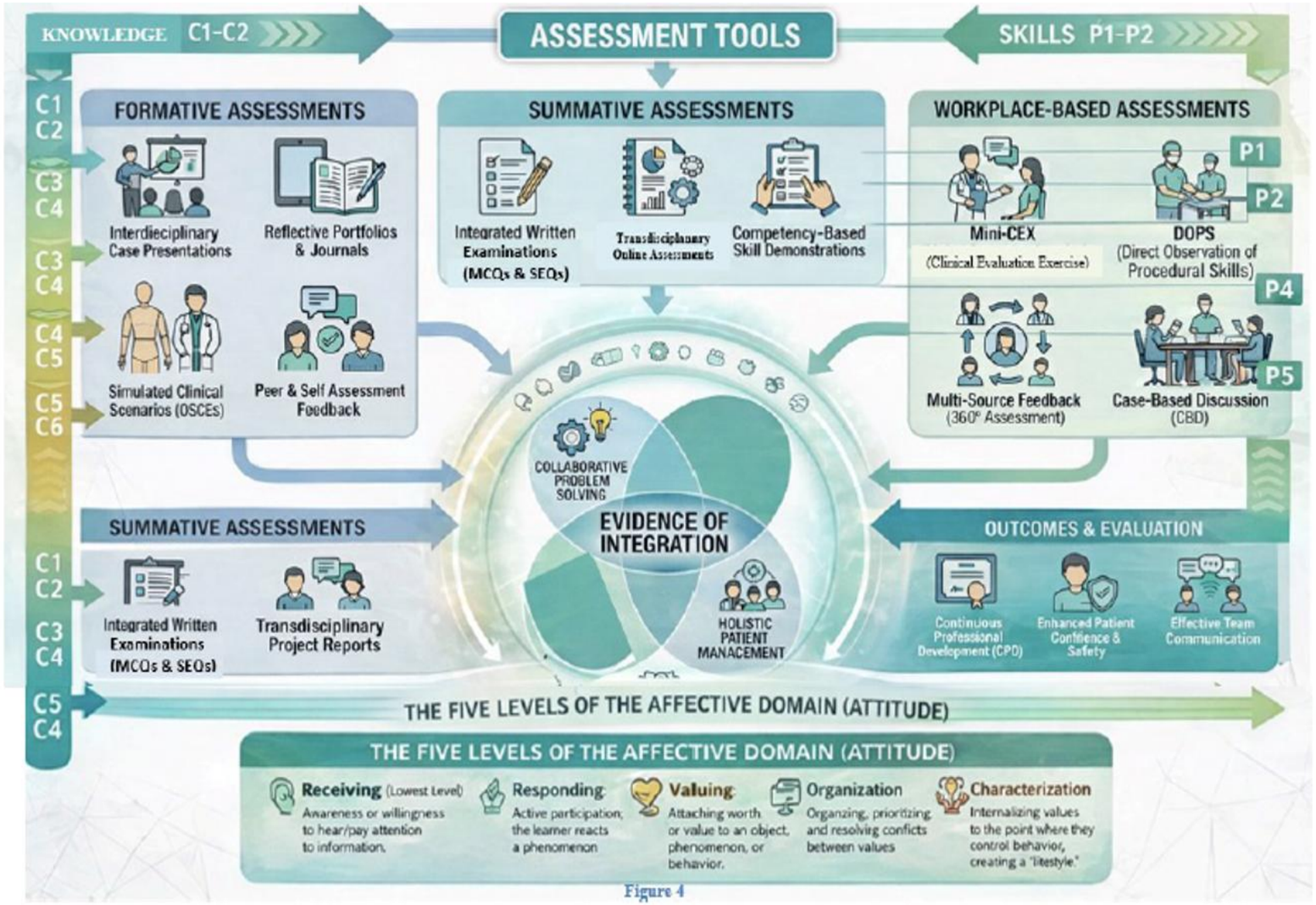
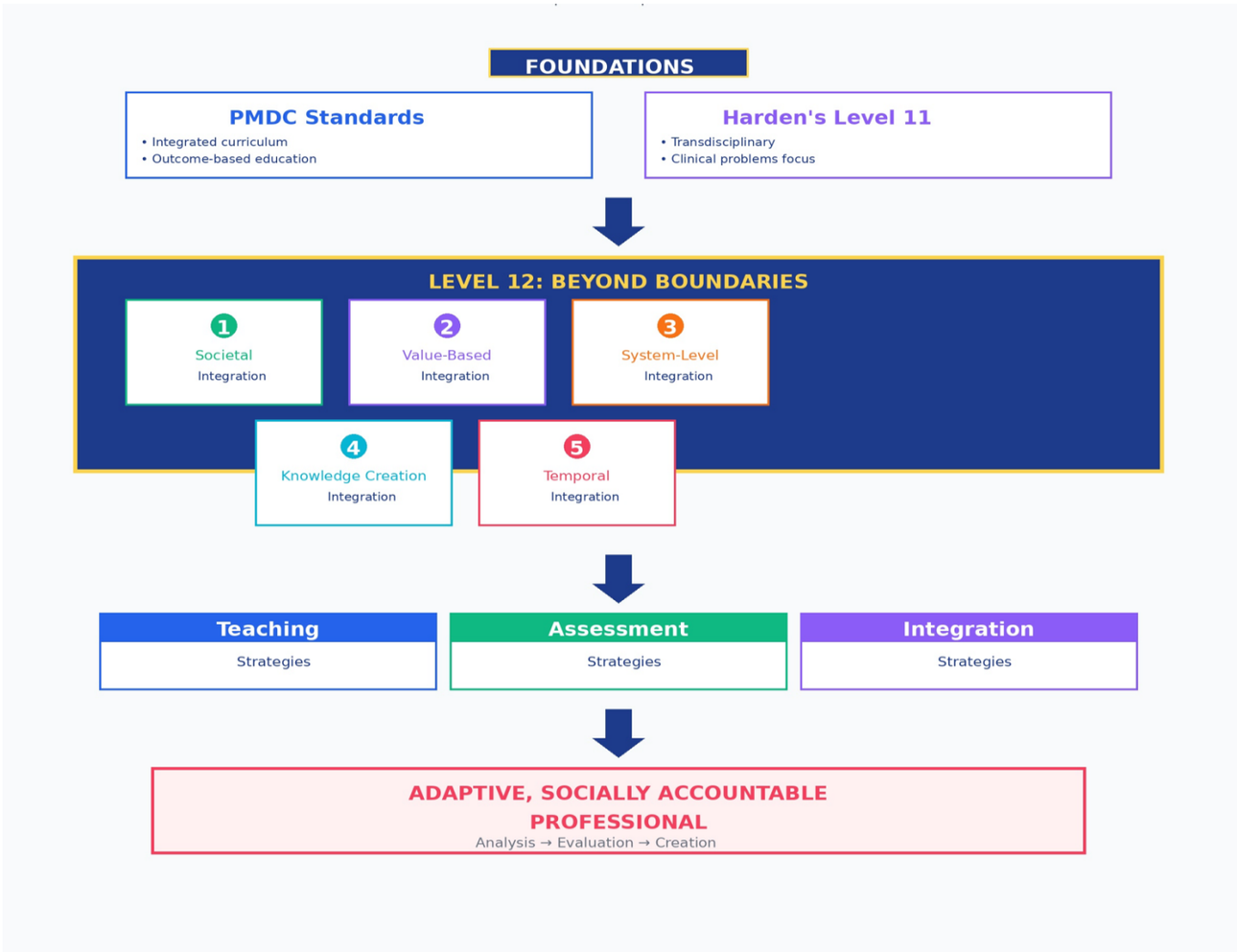


Figure 4

Figure 7 – Competency framework of RMU 12 Integrated Modular Curriculum 2026

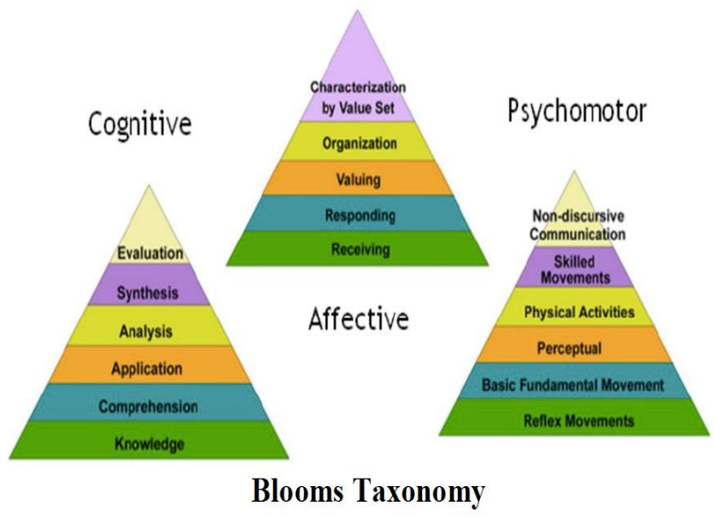
Isolation to beyond boundaries



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 Integration level 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 joint 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.



Blooms Taxonomy

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

Figure 8 – Blooms Taxonomy

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 familiarize students with performance-based expectations. Assessment strategies emphasize 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.

Miller's Pyramid of Clinical Competence

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 centered 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, f exposure in tertiary public sector hospitals and community settings ensure adequate exposure, supe assurance processes focus on the validity and consistency of entrustment decisions and learning experiences.

Figure 9 – 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 emphasizes 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.

RMU 12 Trans Contextual Integration Framework (TCIF)

Introduction

Modern medical education emphasizes integration as a cornerstone for producing competent, reflective, and patient-cantered physicians. Harden's Integration Ladder provides a structured framework to assess the degree of integration within a medical curriculum, ranging from isolated teaching (Level 1) to full transdisciplinary integration (Level 11). Rawalpindi Medical University (RMU), through its MBBS curriculum design, teaching strategies, and assessment framework, demonstrates clear alignment with PMDC's undergraduate medical education standards and fulfills the criteria for Level 11 on Harden's Integration Ladder and even beyond boundaries corresponding to ***RMU 12 Integration***. Furthermore, RMU's curriculum promotes higher-order thinking skills as defined by Bloom's Taxonomy, thereby extending beyond mere integration to the development of competent, reflective, and adaptive physicians.

Rawalpindi Medical University in the Context of Harden's Integration Ladder: Level 11 and Beyond Boundaries

Rawalpindi Medical University (RMU), through its undergraduate MBBS curriculum and evolving educational strategies, demonstrates characteristics that place it at Level 11 of Harden's Ladder and, in several aspects, even beyond that RMU 12(beyond boundaries/internship). This is evident in RMU's holistic curriculum design, clinical immersion, problem-based learning, community-oriented education, and outcome-driven assessment strategies.

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

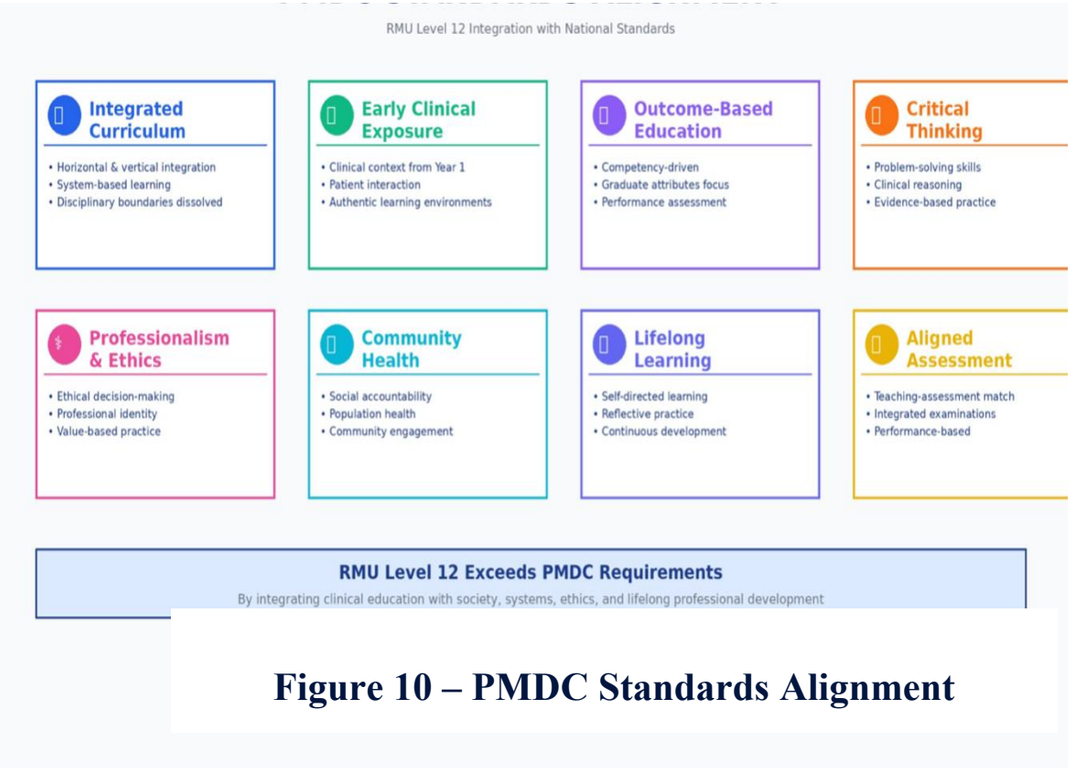


Figure 10 – PMDC Standards Alignment

Harden's Integration Ladder → **RMU** → **RMU 12 Isolation to Beyond Boundaries**

Figure 11 –RMU 12 Isolation to Beyond Boundaries

2. RMU-12 —Beyond

2.1 Conceptual Defin

RMU 12: Beyond Bou...

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

Figure 12 – Five Pillars of RMU 12 Integration

2.3 Five Pillars of Level 12 Integration

A. Societal Integration: Patient-in-Society Problems

Level 11: Patient-centered clinical problems

RMU 12: Patient-in-society problems

RMU Implementation: (Methodology)

- 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 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 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.

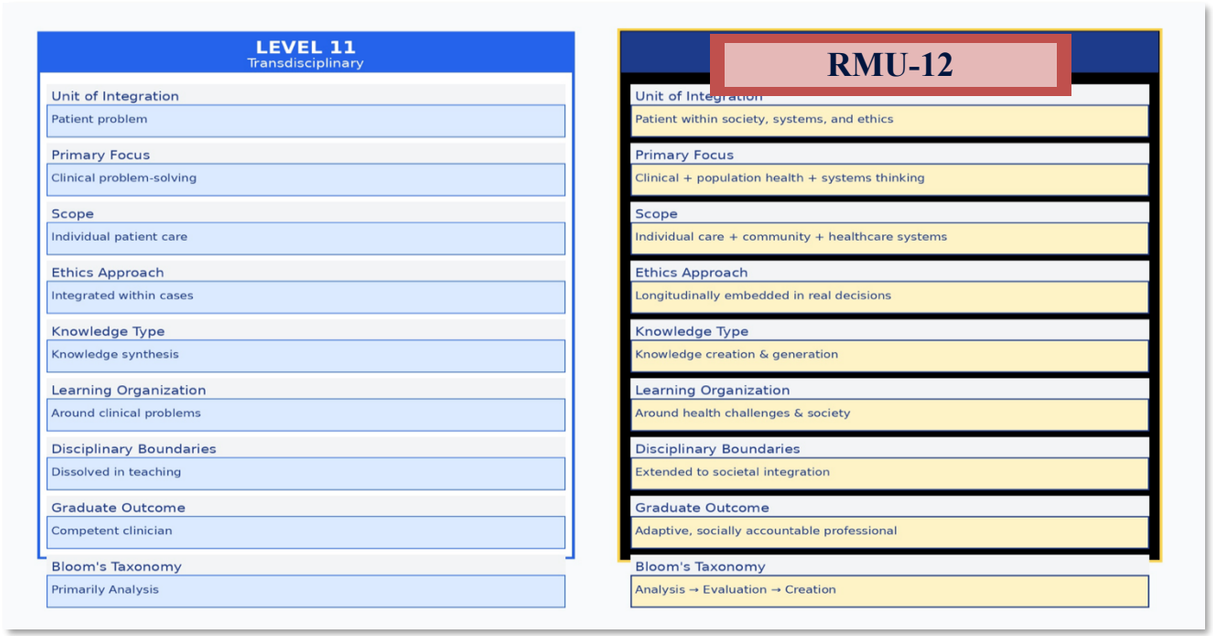


Figure 13 – Level 11 vs RMU 12

D. Knowledge Creation: Beyond Synthesis

Level 11: Knowledge synthesis

RMU 12: Knowledge generation

RMU Implementation:

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

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

E. Temporal Integration: Lifelong Professional Identity

Level 11: Competent graduate

RMU 12: Adaptive professional

RMU Implementation:

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

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

3. Alignment with PMDC Standards

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

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

4. Bloom's Taxonomy & Higher-Order Thinking

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

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

4.1 Learning Activities Mapped to Bloom's Levels

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

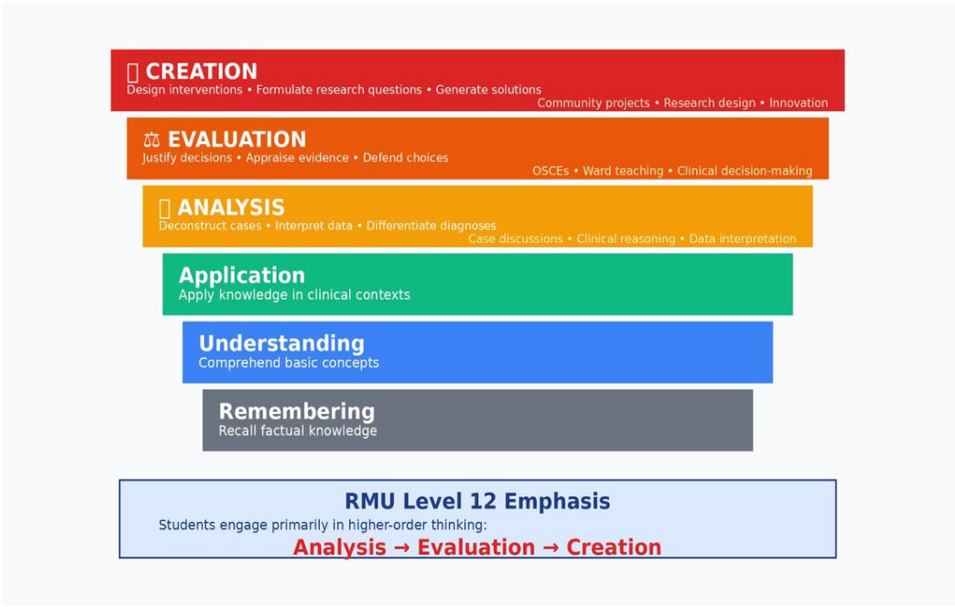


Figure 14 – Bloom's Taxonomy in RMU 12

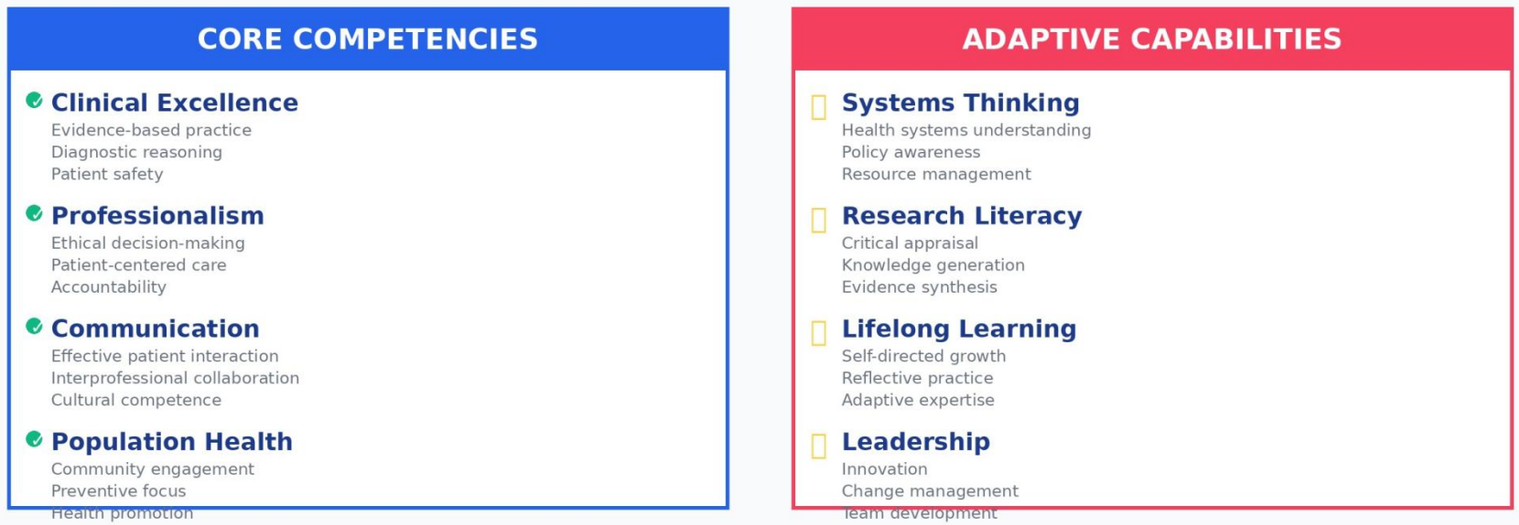


Figure 15 – Graduate Outcomes in RMU 12

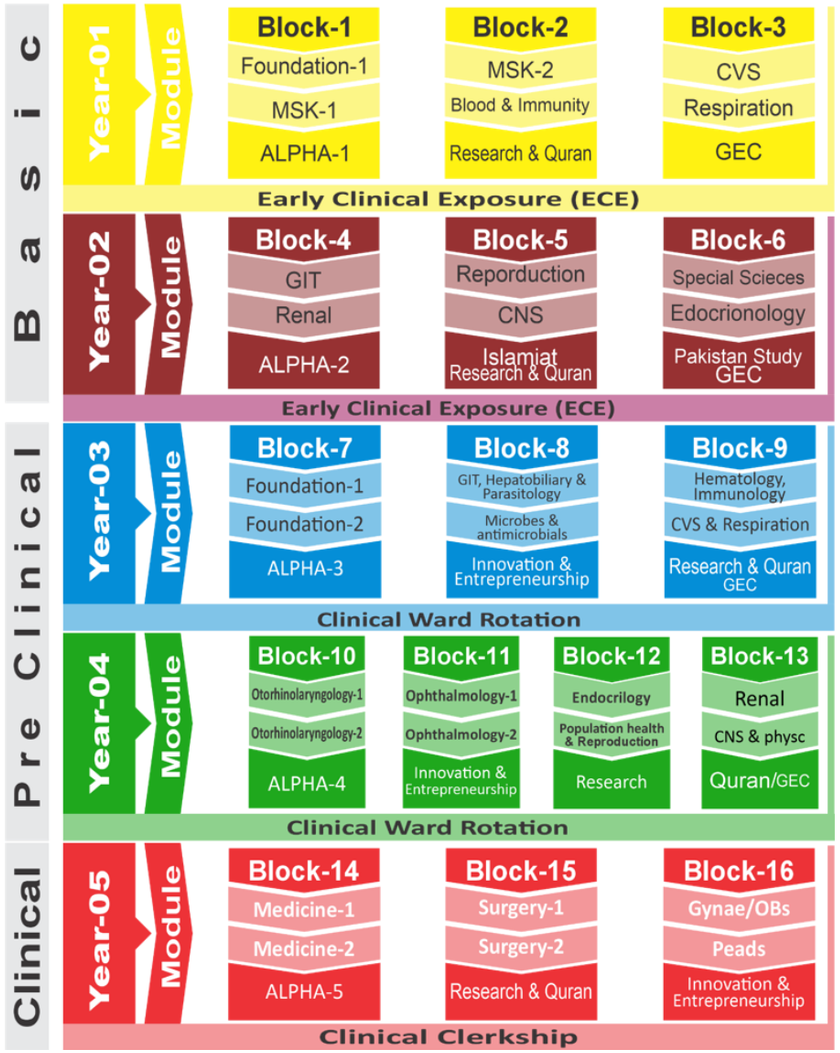


Figure 16 – Modules from basic to Clinical in RMU 12

MBBS Undergraduate Curriculum 2026

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

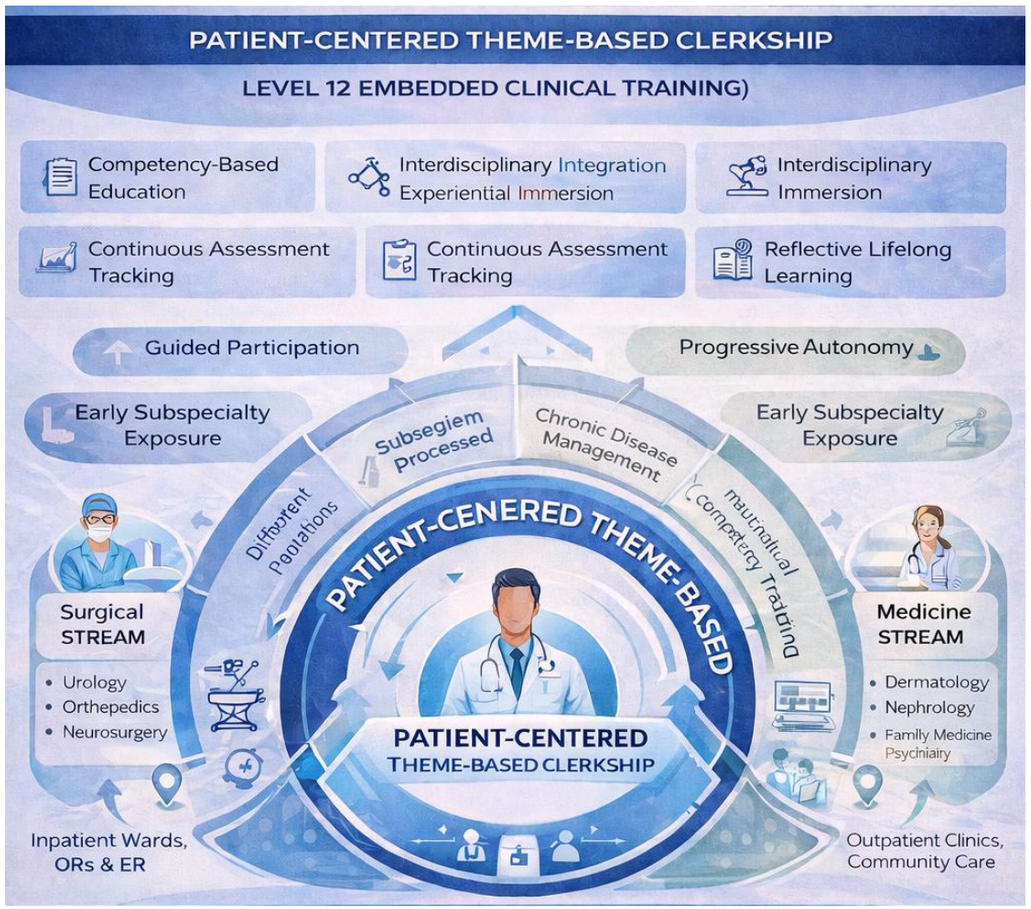


Figure 17 – RMU 12 Symptom Based Integrated Clinical Clerkship

Symptom Based Integrated Clinical Clerkship

Rawalpindi Medical University

Level 12 Clinical Clerkship

(Theme-Based Integrated Clinical Training)

1. Program Overview

The 4th Year MBBS Clinical Clerkship at Rawalpindi Medical University (RMU) is designed as a structured, competency-driven, Level 12 embedded clinical training model.

At this stage, students transition from supervised academic learners to progressively independent clinical participants. The program emphasizes immersive patient care exposure, deliberate practice, interdisciplinary integration, reflective learning, and longitudinal competency tracking.

Unlike traditional block rotations that isolate disciplines, RMU adopts a **theme-based embedded structure**, where allied specialties are integrated within broader clinical streams. This ensures continuity in clinical reasoning, patient care responsibility, and professional identity formation.

The clerkship prioritizes:

- Authentic clinical participation
- Early subspecialty exposure
- Competency-based progression
- Structured formative feedback
- Reflective practice
- Continuous internal assessment
- Longitudinal skill development

Students are expected to function as active members of clinical teams rather than passive observers.

2. Educational Philosophy

The RMU 12 Embedded Clerkship is grounded in:

- Competency-Based Medical Education (CBME)
- Experiential learning through clinical immersion
- Progressive scaffolding of autonomy
- Continuous formative assessment
- Reflective and self-directed learning
- Interdisciplinary integration
- Patient-centered professionalism

Clinical learning is organized around **patient presentations and themes**, not isolated subject boundaries. Students develop clinical reasoning across systems rather than within silos.

3. Theme-Based Integrated Structure

The clerkship is organized into **integrated clinical themes** embedded within two major streams:

3.1 Surgical Stream (Allied Rotations – 2 Weeks Each)

Themes emphasize procedural exposure, surgical reasoning, and perioperative care.

Specialties include:

- Urology
- Orthopedics
- Neurosurgery

Students experience:

- Acute surgical presentations
- Trauma and emergency care

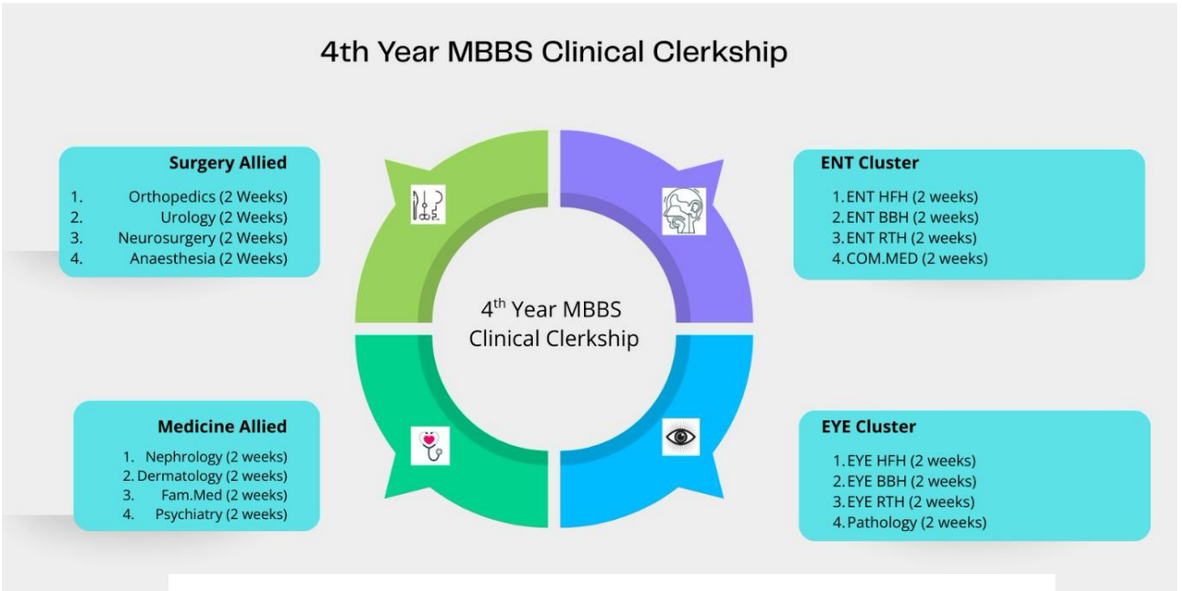


Figure 18 – 4th year MBBS Clinical Clerkship

- Operative indications
- Post-operative monitoring
- Procedural skill development under supervision

3.2 Medicine Stream (Allied Rotations – 1 Week Each)

Themes emphasize chronic disease management, systemic evaluation, and community-based care.

Specialties include:

- Dermatology
- Nephrology
- Family Medicine
- Psychiatry (3 weeks integrated exposure)

Students engage in:

- Outpatient clinics
- Ward rounds
- Multidisciplinary discussions
- Community and psychosocial assessments
- Longitudinal patient follow-up

The theme-based structure ensures exposure to:

- Acute conditions
- Chronic diseases
- Surgical decision-making
- Medical management
- Community care
- Mental health integration

4. Core Learning Outcomes (RMU 12 Competency Expectations)

Upon completion of the 4th Year Clerkship, students will be able to:

1. Conduct focused clinical history and examination across subspecialties
2. Perform selected procedural skills safely under supervision
3. Formulate prioritized differential diagnoses
4. Develop rational investigation plans
5. Participate in multidisciplinary case discussions
6. Communicate effectively with patients and healthcare teams
7. Apply ethical and professional standards consistently
8. Demonstrate reflective clinical learning
9. Show emerging independent clinical judgment

These outcomes align with Level 12 expectations of embedded participation and progressive autonomy.

5. Assessment Model – 40% Continuous Internal Assessment (CIA)

RMU distinguishes itself through a robust Continuous Internal Assessment system.

CIA Structure:

- **30% Theory & Clinical Assessments**
- **10% LMS-based assessments**

CIA evaluates:

- Clinical skills performance
- Case presentations
- Bedside participation
- Procedural competence
- Professionalism

- Logbook completion
- Reflective portfolio entries
- Mini-CEX and DOPS
- Supervisor feedback

Continuous assessment ensures:

- Sustained engagement
- Real-time feedback
- Early identification of learning gaps
- Remediation opportunities
- Skill consolidation over time

Competence is evaluated longitudinally rather than through a single high-stakes examination.

6. Progressive Scaffolding of Autonomy

The Level 12 clerkship follows a structured autonomy model:

Stage 1 — Guided Participation

Students observe and assist in patient care.

Stage 2 — Supervised Performance

Students perform clinical tasks with structured faculty oversight.

Stage 3 — Supported Independence

Students lead patient encounters with supervision available.

Each rotation increases responsibility while maintaining safety and accountability.

This scaffolding:

- Builds confidence
- Reduces cognitive overload
- Encourages reflective learning
- Reinforces mastery through repetition
- Develops clinical judgment

Competence emerges through repeated exposure, structured feedback, and deliberate practice.

7. RMU 12 Embedded Clerkship

The RMU 12 model integrates:

- Vertical curriculum alignment
- Interdisciplinary collaboration
- Competency mapping
- Longitudinal evaluation
- Reflective learning cycles

Students follow patients across services, linking classroom knowledge to real clinical decision-making.

This embedded design:

- Prevents fragmented learning
- Promotes continuity of care understanding
- Encourages systems thinking
- Strengthens teamwork skills
- Supports professional identity formation

Students learn not only clinical content but also how to function within healthcare systems.

8. Development of Self-Directed Lifelong Learners

The clerkship intentionally cultivates:

- Self-assessment skills
- Adaptive expertise
- Curiosity-driven inquiry
- Evidence-based reasoning
- Professional resilience

Students maintain portfolios, set learning goals, and engage in guided reflection.
They learn to:

- Identify personal knowledge gaps
- Seek evidence independently
- Critically appraise information
- Update clinical reasoning continuously

The goal is transformation from exam-focused learners into evolving, self-sustaining professionals.

9. Distinctive Features of the RMU 12

Compared to traditional clerkship systems, RMU stands out by:

- Early subspecialty integration
- Embedded participation within clinical teams
- Strong 40% continuous internal assessment
- Structured scaffolding of independence
- Longitudinal competency tracking
- Emphasis on reflective growth
- Alignment with national and international competency frameworks

The outcome is a graduate who is:

- Clinically competent
- Adaptable
- Ethical
- Reflective
- Team-oriented
- Prepared for increasing responsibility in final year and house job

Preamble

This curriculum is according to the standards set by following organizations.

1. Foundation for Advancement of International Medical Education and Research (FAIMER)
2. Accreditation Council for Graduate Medical Education (ACGME)
3. World Federation for Medical Education (WFME)
4. Undergraduate Education Policy 2023 from Higher Education Commission (HEC)
5. Pakistan Medical and Dental Council (PMDC) guidelines for undergraduate Medical Education Curriculum (MBBS) 2022

It is based on **SPICES** model of educational strategies which is student centered, problem based, integrated, community oriented and systematic. *

Teacher centered	□	Student centered	S
Information oriented	□	Problem based	P
Discipline based	□	Integrated	I

Hospital based	☐	Community based	C
Standardized curriculum	☐	Elective programs	E
Opportunistic	☐	Systematic	S

*Harden, R. M., Sowden, S., & Dunn, W. R. (1984). Educational strategies in curriculum development: The SPICES model. Medical Education, 18, 284-297. http://dx.doi.org/10.1111/j.1365-2923.1984.tb01024.x

Reference Documents

FAIMER™ A Division of Intealth

Foundation for Advancement of International Medical Education and Research

https://search.wdoms.org/?_gl=1*b2ddww*_ga*MTQyNTAwNzIxMi4xNzA2ODEwNjcx*_ga_R5BJZG5EYE*MTcwNjgzNjg3Ni4yLjAuMTcwNjgzNjg3Ni4wLjAuMA..

https://wfme.org/wp-content/uploads/2020/12/WFME-BME-Standards-2020.pdf

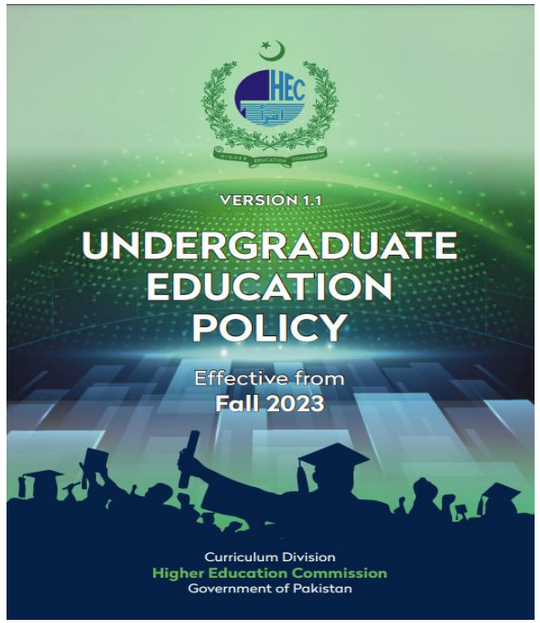
MBBS

ACGME

2022

GUIDELINES
FOR

UNDERGRADUATE
MEDICAL EDUCATION
CURRICULUM (MBBS)



https://pmc.gov.pk/Documents/Examinations/Guidelines%20for%20Undergraduate%20Medical%20Education%20Curriculum%20(MBBS).pdf

https://www.hec.gov.pk/english/services/students/UEP/Documents/UGE-Policy.pdf

According to Pakistan Medical and Dental Council (PMDC) guidelines for undergraduate Medical Education Curriculum (MBBS) 2022

Seven-star doctor

Skilful	Knowledgeable
Community health promoter	Critical thinker
Professional	Scholar
Leader and role model	

Figure 19 – Core competencies of a health professional

1. Skillful (Clinical, Cognitive and Patient Care Skills)

Takes a focused history	Perform physical and psychological examination
Formulates a provisional diagnosis	Orders appropriate investigations
Performs various common procedures	Debates, formulates management plans
Manages time and prioritizes tasks	Ensures patient safety.

Advises and counsels, educates, recognizes and takes in to consideration issues of equality
Describes and debates the reasons for the success or failures of various approaches

2. Knowledgeable (Scientific Knowledge for Good Medical Practice)

Differentiates, relates, applies and ensures knowledge is gained.

3. Community Health Promoter (Knowledge of Population Health and Healthcare Systems)

Understands their role and be able to take appropriate action
Determinants of health impact on the community
Takes appropriate action for infectious non-communicable disease and injury prevention
Evaluates national and global trends in morbidity and mortality
Works as an effective member of health care team

Adopts a multidisciplinary approach for health promotion
Applies the basics of health systems
Makes decisions for health care.

4. Critical thinker (Problem Solving and Reflective Practice)

Use of information Critical data evaluation Dealing effectively with complexity, uncertainty and probability
Regular reflection on their practice Initiating participating in or adopting to change,
flexibility and problem-solving approach Commitment to quality assurance,
Raising concerns about public risks and patient safety.

5. Professional (Behaviour and Professionalism)

Life long, self-directed learner Demonstrates continuous learning
Seeks peer feedback Manages information effectively
Provides evidence of continuing career advancement Functions effectively as a mentor and a trainer,
responds positively to appraisals and feedback Altruistic and empathetic
Ethical, Collaborator, Communicator.

6. Scholar and Researcher

a. Identifies a researchable problem and critically reviews the literature
b. Phrases succinct research questions and formulates hypotheses
c. Identifies the appropriate research design(s) in epidemiology and analytical tests in biostatistics to answer the research question.
d. Collects, analyzes and evaluates data, and presents results.
e. Demonstrates ethics in conducting research and in ownership of intellectual property.

7. Leader and Role Model

Demonstrates exemplary conduct and leadership potential in a. advancing healthcare b. enhancing medical education c. initiating, participating in and adapting to change, using scientific evidence and approaches d. Enhancing the trust of the public in the medical profession by being exceptional role model at work and when away e. accepting leadership roles f. Providing leadership in issues concerning society.

- Appreciate concepts & importance of
    - **Research**
    - **Biomedical ethics**
    - **Family medicine**
    - **Artificial Intelligence**

This module will run in 6 weeks duration. The content will be covered through introduction of topics. 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.

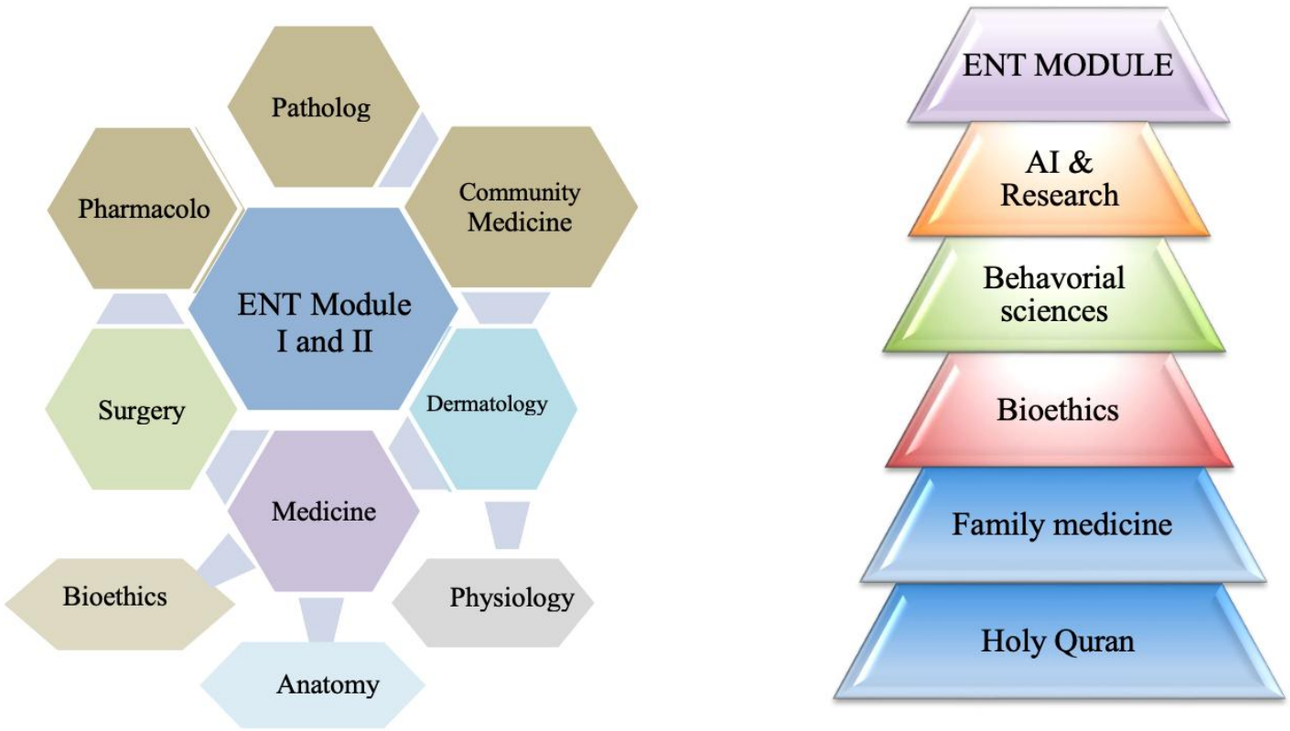


Figure 20 – Integration of Disciplines in ENT Block / Spiral Integrated Disciplines

Study Guide RMU- 4th Year MBBS

Integrated Modular Curriculum 2026

Isolation to Beyond Boundaries

MBBS Undergraduate Curriculum 2026

Study Guide: Terms & Abbreviations

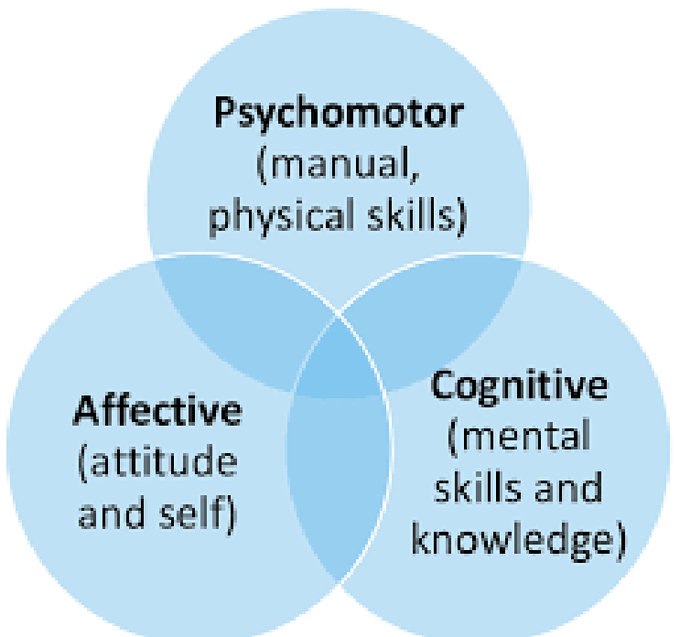
Contents

- Domains of Learning
- Teaching and Learning Methodologies/Strategies
    - Large Group Interactive Session (LGIS)
    - Small Group Discussion (SGD)
    - Self-Directed Learning (SDL)
    - Case Based Learning (CBL)
    - Clinical / practical

Tables & Figures

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

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

Section – II Educational Strategies

Otorhinolaryngology-Block-X

Block Name : Otorhinolaryngology Block-1 (Module I-II)
Duration of module : 03 Weeks each module

Block Committee			Block Task Force Team		
1.	Vice Chancellor RMU	Prof. Dr. Muhammad Umar	1	Coordinator	Dr. Ashar Alamgir
			2	Co-Coordinator	Dr Farhat Jabeen, Dr Namra Asif, Dr Maimoona Shafqat
2.	Director DME	Prof. Dr. Rai Muhammad Asghar	3	DME Focal Person	Dr. Maryum Batool
3.	Convener Curriculum	Prof. Dr. Naeem Akhter	4	Coordinator Community Medicine	Dr Mehwish Riaz
4.	Dean Basic Sciences	Prof. Dr. Ayesha Yousaf			
5.	Additional Director DME	Prof. Dr. Ifra Saeed			
6.	Chairperson Otorhinolaryngology	Prof Dr Sadia Chaudhry			
7.	HOD Community Medicine	Prof Dr Rozina Shahadat	**DME Implementation Team**		
			1.	Director DME	Prof. Dr. Rai Muhammad Asghar
8.	Focal Person Otorhinolaryngology	Dr Huma	2.	Add. Director DME	Prof. Dr. Ifra Saeed
9.	Focal Person Community Medicine	Dr Sana	3.	Deputy Director DME	Dr Shazia Zaib
			4.	Module planner & Implementation Coordinator	Dr. Omaima Asif
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Assistant Professor ENT
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Prof. Sadia Ch.
Professor/Chairperson ENT Department
Rawalpindi Medical University, Rawalpindi

Prof Muhammad Umar
Vice Chancellor
Rawalpindi Medical University

1. Large Group Interactive Session (LGIS)

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

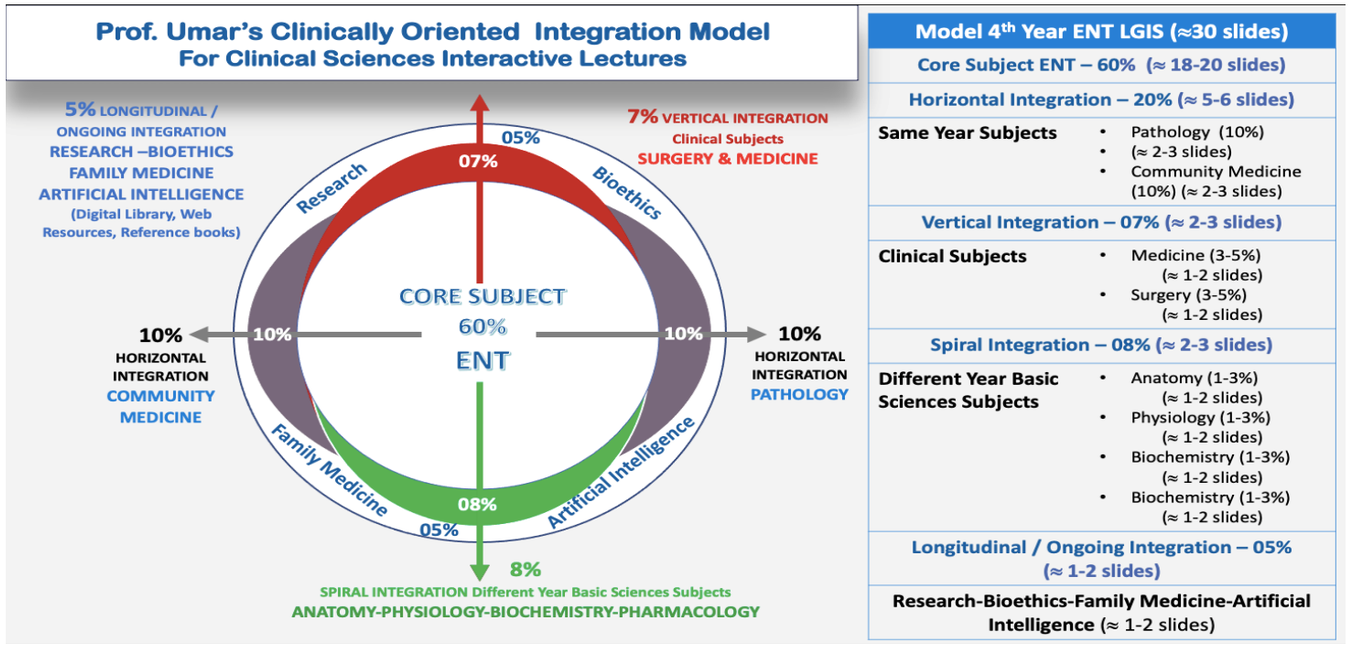


Figure 21 – Prof Umar Model of Integrated Lecture

2. 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 helps to clarify the concepts.

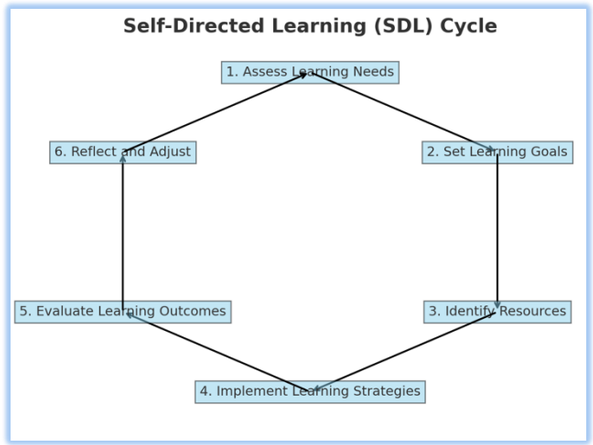
Step 1	Sharing of Learning objectives by using students Study guides	First 5 minutes
Step 2	Asking students pre-planned questions from previous teaching session to develop co-relation (these questions will be standardized)	5minutes
Step 3	Students divided into groups of three and allocation of learning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

Table 2 – Standardization of teaching content in small group discussion

S.No	Topics	Approximate %
1	Title Of SGD	
2	Learning Objectives from Study Guides	
3	Horizontal Integration	5%+5% = 10%
4	Core Concepts of the Topic	70%
5	Vertical Integration	10%
6	Related Advance Research points	3%
7	Biomedical Ethical points	2%
8	Spiral integration	5%

Table 3. Steps of taking Small Group Discussions

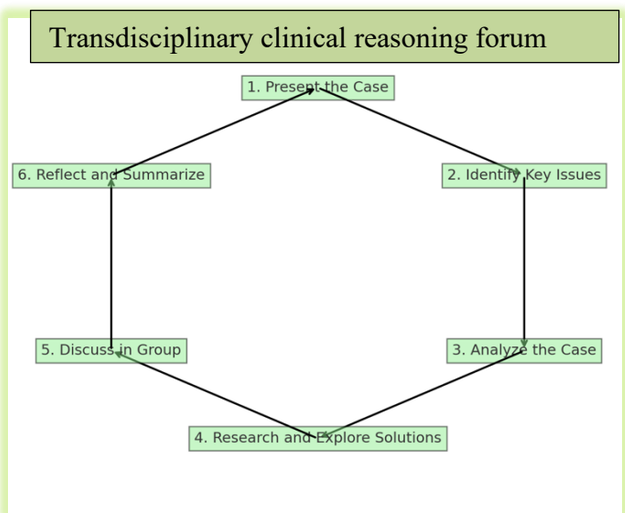
3. Self-Directed Learning (SDL)



- Self- directed learning is a process where students take primary charge of planning, continuing and evaluating their learning experiences.
- Time home assignment
- Learning objectives will be defined
- Learning resources will be given to students = Text book (page no), web site
- Assessment: i. online on LMS (Mid module/ end of Module)

  ii. OSPE station

4. Transdisciplinary Clinical Reasoning Forum (TCRF)



- It's a learner centered model which engages students in discussion of specific scenarios that resemble typically are real world examples.
- Case scenario will be given to the students
- Will engage students in discussion of specific scenarios that resemble or typically are real-world examples.
- Learning objectives will be given to the students and will be based on:

i. To provide students with a relevant opportunity to see theory in practice
ii. Require students to analyze data in order to reach a conclusion.
iii. Develop analytic, communicative and collaborative skills along with content knowledge.

Section – III Themes, Learning Objectives, Teaching Strategies and Tools of Assessment

Themes For ENT

Week	Theme No.	Topics
Week 1	Theme 1	Otalgia, otorrhea, dizziness, Hearing loss
Week 2	Theme 2	Rhinorrhoea, nasal obstruction
Week 3	Theme 3	Sore throat
Week 4	Theme 4	Hoarseness, dysphagia
Week 5	Theme 5	Neck masses
Week 6	Assessment	

Theme 1:
Otalgia, Otorrhea, Dizziness , Hearing loss

Theme	Rationale	General learning objectives (SMART)
Otalgia Otorrhea Dizziness Hearing loss	Diseases of the ear constitute a major proportion of clinical workload in both primary care and specialist practice, making their understanding essential for undergraduate medical students. The ear plays a critical role in hearing and balance, functions that are fundamental to communication, learning, and quality of life. Disorders affecting the ear can lead to significant morbidity, including hearing impairment, speech delay in children, vertigo, chronic infection, intracranial complications, and permanent disability if not diagnosed and managed appropriately. In the clinical years, particularly in the 4th year MBBS, students transition from theoretical learning to patient-centered care. Teaching ear-related disorders at this stage enables students to integrate anatomy, physiology, pathology, microbiology, pharmacology, and clinical medicine into real-world clinical decision-making. Common conditions such as otitis externa, otitis media, hearing loss, tinnitus, vertigo, and tympanic membrane perforations provide excellent models for developing diagnostic reasoning, history-taking, physical examination skills (especially otoscopy), and interpretation of basic investigations such as audiometry. Early recognition of serious and life-threatening complications of ear disease—such as mastoiditis, facial nerve palsy, intracranial abscess, meningitis, and lateral sinus thrombosis—is crucial for future doctors, even those not specializing in ENT. This ensures	By the end of the ENT ear-related disorders module, the 4th-year MBBS student will be able to: ● Describe the applied anatomy and physiology of the external, middle, and inner ear with at least 80% accuracy in written or viva examinations. ● Explain the etiology, pathophysiology, and clinical features of common ear disorders including otitis externa, otitis media, chronic suppurative otitis media, hearing loss, tinnitus, and vertigo during structured assessments and case discussions. ● Elicit a focused history and perform a complete ear examination, including otoscopy, correctly in at least 3 out of 4 observed clinical encounters by the end of the clinical rotation. ● Demonstrate tuning fork tests (Rinne, Weber, and Absolute Bone Conduction) accurately in an OSCE station within the allocated time. ● Interpret basic audiological investigations, including pure tone audiograms, with a minimum of 75% accuracy in formative or summative assessments. ● Identify red-flag signs, symptoms, and complications of ear diseases (e.g., facial nerve palsy, intracranial spread) and initiate appropriate referral decisions in simulated or real clinical scenarios. ● Outline appropriate first-line medical management and indications for surgical referral for common ear conditions according to undergraduate-level guidelines.

	timely referral, appropriate initial management, and prevention of morbidity and mortality. Furthermore, ear disorders are highly prevalent in the community, especially in developing countries, where chronic suppurative otitis media and preventable hearing loss remain major public health concerns. Teaching these conditions fosters awareness of preventive strategies, health education, vaccination, early screening, and community-based interventions. Inclusion of ear-related disorders in the 4th year ENT curriculum therefore equips medical students with essential competencies in: Clinical examination and procedural skills Diagnostic reasoning Emergency recognition and referral Preventive and community health perspectives Multidisciplinary patient management This foundation is vital for producing competent, safe, and socially responsible physicians capable of managing common ENT problems and recognizing serious pathology in both hospital and community settings.	• Apply principles of infection prevention, hearing conservation, and patient education during ward rounds and outpatient encounters. • Demonstrate professional behavior, effective communication, and ethical practice while interacting with patients suffering from ear disorders, as assessed by faculty feedback.

Code	Topic	Learning objectives At the end of the lecture the student should be able to	Learning domain	Teaching strategy	Assessment tool
M1-ENT-001	Endoscopic anatomy of middle ear	• Define middle ear cleft • Elaborate parts of middle ear • Discuss physiology of middle ear	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-002	Anatomy and physiology of ear and vestibular system	• Describe parts of ear and vestibular system • Discuss functions of cochlea and vestibular system • Understand biochemical processes of cochlea and vestibular system	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-003	Acute otitis externa Malignant otitis externa	• Define acute otitis externa and malignant otitis externa • Describe clinical features, diagnosis, investigations • Pen down management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE

M1-ENT-004	Acute otitis media Otitis Media with effusion Eustachian tube catarrh	• Define acute otitis media and otitis media with effusion • Describe Clinical features, diagnosis, investigations • Pen down Management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-005	Chronic otitis media	• Define chronic otitis media • Describe Clinical features, diagnosis, investigations • Pen down Management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-006	Complications of chronic otitis media	• Explain different types of complications of chronic otitis media • Describe Clinical features, diagnosis, investigations • Pen down Management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-007	Facial nerve palsy	• Describe Anatomy of facial nerve, types of facial nerve palsy • Explain Clinical features, diagnosis, investigations • Pen down Management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-008	Otosclerosis	• Define otosclerosis, types, pathophysiology • Describe clinical features, diagnosis, investigations • Pen down Management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-009	Sensorineural hearing loss Noise induced hearing loss Meniere's disease Drug induced hearing loss	• Define sensorineural, noise induced, drug induced hearing loss, Meniere's disease • Describe Clinical features, diagnosis, investigations • Pen down Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-0010	Types of mastoidectomies	• Describe Canal wall up, canal wall down mastoidectomies • Explain Investigations before mastoid exploration • Enlist steps of Post operative care	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-0011	Pure tone audiometry Tympanometry BERA test ASSR test	• Explain Hearing assessment methods and tests • Interpret Types of graphs • Explain Clinical implications and diagnoses	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-0012	Hearing aids Cochlear implant	• Enlist Types of hearing aids • Enumerate Parts of cochlear implant • Explain Indication of hearing aids and cochlear implant	C1 C2 C3	LGIS	SAQ MCQ OSCE

Community Medicine:
Theme-1

Code	Topic	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives After the Session Students Will Be Able To:	Learning domain	Teaching strategy	Assessment tool
M1-CM-0001	**Introductory lecture**	• Intro to the subject of community medicine & public Health. • Intro to IUGRC Scheme of learning	• Comprehend the definitions explaining the subjects. • Identify applications of practices of Public Health. • Follow the scheme of learning & assessment CM over the year. • Follow scheme of learning IUGRC.	C1 C2 C2 C2	LGIS	MCQs, SEQs, OSPE Viva
M1-CM-0002	**Fundamental concepts of Preventive medicine- I**	• Health & Disease • Wellbeing & Positive Health • Dimensions of health	• Describe public health aspects of Health & disease. • Explain health wellbeing and positive Health with examples • Explain dimensions of health	C1 C2 C1	LGIS	MCQs, SEQs, OSPE Viva
M1-CM-0003	**Fundamental concepts of Preventive medicine- II**	• Health Assessment (Indicators) • Quality of life indicators • Health indicators • Approaches to disease prevention & control	• Explains attributes of good statistical indicators of health & disease • Describe health indicators • Comprehend & calculate health indicators & Indexes • Explains public health approaches to diseases prevention	C2 C1 C3 C2	LGIS	MCQs, SEQs, OSPE Viva
M1-CM-0004	**Levels of disease prevention Intervention**	• Natural History of disease • Models of Disease causation • Levels of prevention	• Explains natural history disease concepts in context of prevention. • Explains models of disease causation with examples. • Apply levels of prevention and modes of intervention	C2 C2 C3	LGIS	MCQs, SEQs, OSPE Viva

M1-CM-0005	**Hearing loss due to noise pollution**	• Properties of noise • Effect of noise exposure	• Define noise and explain its sources • Describe properties of noise • Apprehend auditory & non auditory effects of noise exposure • Recommend approaches of noise control	C1 C2 C3 C3	LGIS	MCQs, SEQs, OSPE, Viva

Peer assisted learning (PAL)* IUGRC Contact Session

Indictors of accomplishment Prior readings / assigned work	Learning objectives/ competencies	Learning outcomes	Assessment strategy
SESSION 1* Understand importance of Health Research for medical students	Review to Health Research Methodology	Students will be able to 2. Define 'health research' 3. Prioritize and select a research topic 4. Understand FINER Criteria for research question 5. Describe steps of conducting health research 6. Outline summary of a health research proposal 7. Describe the main components of a research report	1. MCQ in end of block exam 2.Viva exam at the end of the session

Thematic Integrated Large Group Session (TILGS) -Aligned to ENT

Theme 1

Community Medicine	Alignment with ENT Theme 1	Type of Integration	Integrated Learning Objective (Students will be able to…)
Introduction to Public Health	Indirect alignment	Conceptual background	Explain the public health significance of hearing disorders and ear infections in the community.
Preventive medicine (health & disease)	Aligns with otitis prevention	Primary prevention	Identify primary preventive measures to reduce incidence of otitis media in children.
Health indicators	Indirect	Population burden of hearing loss	Interpret basic health indicators related to hearing impairment and discuss their implications for service planning.
Concept of prevention & mode of intervention	Strong alignment with otitis media and noise-induced hearing loss	Primary + Secondary prevention	Differentiate levels of prevention (primary, secondary, tertiary) in the context of ear infections and hearing loss.
Hearing loss due to noise pollution	**Direct alignment with SNHL topic**	Strong horizontal integration	Correlate occupational and environmental noise exposure with sensorineural hearing loss and propose community-level preventive strategies.

Pharmacology	Alignment with ENT Theme 1	Type of Integration	Integrated Learning Objective (Students will be able to…)
Antihistamines in ENT	Aligns with allergic rhinitis, Eustachian catarrh, OME	Symptom control / Adjunct therapy	Explain the role of antihistamines in Eustachian tube dysfunction and otitis media with effusion.
Effect of histamine & antihistamine (experimental basis)	Indirect mechanistic understanding of inflammation	Mechanistic integration	Describe the pharmacodynamic action of histamine and antihistamines in inflammatory conditions affecting the ear.

Antibiotic therapy in otitis media/externa (implicit within ENT discussions)	Direct alignment with acute otitis media, malignant otitis externa	Therapeutic integration	Select appropriate first-line antibiotics for acute otitis media and justify duration of therapy.
Ototoxic drugs (drug-induced hearing loss)	Direct alignment with SNHL topic	Risk-awareness integration	Identify commonly used ototoxic drugs and correlate their mechanism of action with sensorineural hearing loss.
Analgesics & anti-inflammatory drugs	Aligns with otalgia management	Symptom-based integration	Outline rational use of analgesics in management of acute ear pain.
Vestibular suppressants (e.g., antihistaminics, betahistine)	Aligns with vertigo management	Therapeutic integration	Explain pharmacologic principles in symptomatic management of vertigo.

Transdisciplinary Clinical Reasoning Forums (TCRF)
Theme 1

Theme	Week	Topics	Clinical Case Scenario
Theme 1	Week 1	Otalgia, otorrhea, dizziness, Hearing loss	A female diabetic with otalgia, ear discharge

"Managing a Severe Ear Infection in a Patient with Uncontrolled Diabetes

Clinical Scenario:

A 28-year-old woman presents with severe, persistent left-sided ear pain for three weeks. The pain is deep, worse at night, and not relieved by routine analgesics. She reports foul-smelling discharge from the same ear.
She has longstanding diabetes mellitus and admits irregular medication use. Her recent laboratory results show poor glycemic control.
On examination, she appears distressed. The ear canal is swollen and tender with unhealthy granulation tissue. Facial movement on the left appears slightly weak.
Inflammatory markers are elevated. Imaging demonstrates bony involvement of the external ear canal extending toward the skull base. Microbiological analysis identifies a bacterial pathogen.
She requires hospital admission for intensive medical management.

Student Task (Problem-Based Trigger)

Students are asked to:

1. Identify the key clinical concerns in this patient.
2. Explain why this infection has become severe.
3. Interpret the imaging findings in relation to symptoms.
4. Develop a comprehensive management plan.
5. Anticipate potential complications.
6. Counsel the patient regarding long-term disease control.
7. Suggest preventive strategies at community level.

What Makes This RMU-12

- No subject headings.
- Knowledge domains are embedded within clinical reasoning.
- The organizing principle is the **patient problem**, not disciplines.
- Learning mimics authentic clinical decision-making.

Students integrate:

- Anatomy (implicitly)
- Pathophysiology (implicitly)
- Pharmacotherapy (within management)
- Radiological Imaging interpretation (within reasoning)
- Internal Medicine (within management)
- Public health (within prevention)

But none are taught separately.

Teaching Format

- Small group facilitated learning
- Faculty from different backgrounds present but not teaching in silos
- Students build the care pathway themselves
- Assessment based on competence and clinical reasoning

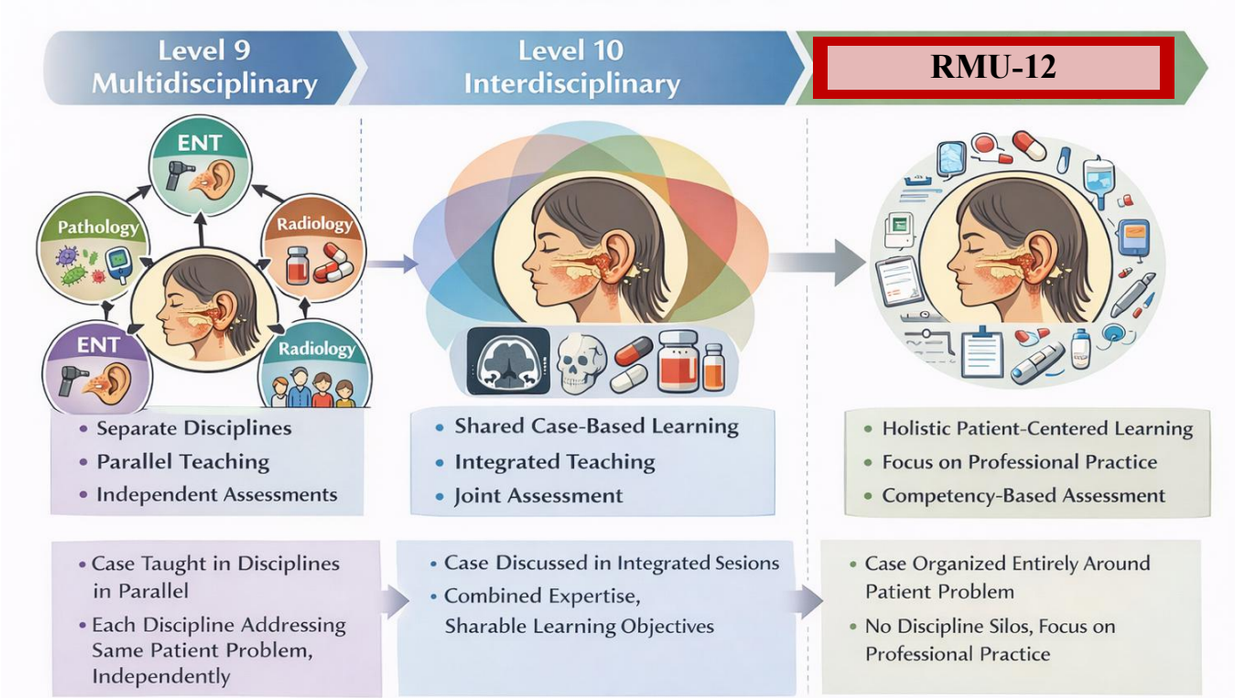


Figure 22 – Progression in Integration Approaches in Medical Education

Academic Justification Statement

"The case has been designed to reflect RMU-12, where learning is structured around authentic patient problems rather than disciplinary categories. Knowledge from biomedical, clinical, and public health domains is integrated seamlessly within professional practice."

Subject Contribution In TCRF Session -1

Subject / Discipline	Nature of Contribution	Approximate Integration Weight (%)	Rationale for Weight
Otorhinolaryngology (ENT)	Core diagnostic reasoning, examination, management pathway	**30%**	Organizing clinical discipline; primary decision-making domain
Medicine (Diabetes)	Glycemic control, systemic risk factor modulation	**20%**	Infection severity strongly linked to metabolic status
Pathophysiology	Mechanism of invasive infection & osteomyelitis	**10%**	Explains disease progression in diabetic milieu
Microbiology	Pathogen identification & antimicrobial targeting	**10%**	Directly influences therapeutic decisions
Pharmacology	Antibiotic selection, IV therapy principles	**10%**	Essential for management planning
Radiology	Imaging interpretation & skull base involvement	**8%**	Guides severity assessment & monitoring
Anatomy (Applied)	Spread to skull base, facial nerve involvement	**7%**	Supports clinical interpretation of symptoms
Public Health / Preventive Medicine	Community diabetes control strategies	**5%**	Preventive extension beyond acute care

Subject-Wise Specific Learning Objectives-1

Subject	Domain	Specific Learning Objectives (Students will be able to…)	Bloom's Level	Integration Role
Otorhinolaryngology (ENT)	Clinical Skills & Reasoning	Recognize clinical features suggestive of malignant otitis externa	Analyze	Core organizing discipline
		Differentiate simple otitis externa from invasive infection	Analyze	
		Perform otoscopic examination and describe abnormal findings	Apply	
		Formulate comprehensive ENT management plan	Evaluate	

		Identify indications for hospital admission	Evaluate	
Medicine (Diabetes)	Clinical Integration	Explain how uncontrolled diabetes predisposes to severe infection	Understand	Systemic driver
		Interpret laboratory indicators of poor glycemic control	Analyze	
		Outline inpatient glycemic optimization strategies	Apply	
Pathophysiology	Mechanistic Understanding	Describe mechanisms of impaired immunity in diabetes	Understand	Explains severity
		Explain progression from soft tissue infection to osteomyelitis	Analyze	
Microbiology	Diagnostic Reasoning	Identify common pathogens in malignant otitis externa	Remember/Understand	Guides therapy
		Interpret culture and sensitivity report	Analyze	
		Justify choice of targeted antimicrobial therapy	Evaluate	
Pharmacology	Therapeutics	Outline appropriate IV antibiotic regimen	Apply	Management planning
		Explain rationale for prolonged antibiotic duration	Analyze	
		Identify potential drug interactions in diabetic patients	Analyze	
Radiology	Investigation Interpretation	Interpret CT findings showing bony erosion	Analyze	Confirms severity
		Correlate imaging findings with clinical symptoms	Analyze	
Anatomy (Applied)	Structural Correlation	Describe anatomical spread of infection to skull base	Understand	Supports reasoning
		Explain facial nerve course relevant to this case	Understand	
Public Health	Prevention	Propose preventive strategies for diabetic patients	Apply	Community extension
		Suggest community-level interventions for glycemic control	Create	

Theme 2:
Rhinorrhoea, Nasal Obstruction

Theme	Rationale	General learning objectives (SMART)
Rhinorrhea Nasal obstruction	Nose-related disorders are among the most common conditions encountered in clinical practice, particularly in outpatient and emergency settings. Diseases such as rhinitis, sinusitis, epistaxis, nasal trauma, deviated nasal septum, nasal polyps, and sinonasal tumors significantly affect patient comfort, respiratory function, olfaction, and overall quality of life. In developing countries, allergic rhinitis, infective sinus disease, and epistaxis remain highly prevalent and contribute substantially to morbidity. The nose plays a critical role in respiration, olfaction, phonation, and defense of the lower airway. Its close anatomical relationship with the orbit, cranial cavity, and paranasal sinuses makes nasal diseases potentially life-threatening if complications such as orbital cellulitis, cavernous sinus thrombosis, or intracranial spread are not recognized early. Inclusion of nose-related disorders in the ENT theme curriculum enables 4th-year MBBS students to acquire essential knowledge and clinical skills required for accurate diagnosis, initial management, and timely referral. Emphasis is placed on developing competencies in nasal examination, management of epistaxis, interpretation of radiological investigations, and	By the end of the ENT nose-related disorders module, the 4th-year MBBS student will be able to: ● Describe the applied anatomy and physiology of the nose and paranasal sinuses with at least 80% accuracy in written or viva examinations. ● Explain the etiology, pathophysiology, and clinical features of common nasal disorders including rhinitis, sinusitis, epistaxis, deviated nasal septum, nasal polyps, and nasal trauma during structured case-based discussions. ● Elicit a focused nasal history and perform a complete nasal examination, including anterior rhinoscopy, correctly in at least 3 out of 4 supervised clinical encounters by the end of the rotation. ● Demonstrate initial management of epistaxis, including first-aid measures and nasal packing principles, accurately in an OSCE or simulated clinical station. ● Interpret basic radiological investigations relevant to nasal and sinus diseases (e.g., X-ray PNS, CT scan of paranasal sinuses) with a minimum of 75% accuracy in assessments. ● Identify red-flag symptoms and signs suggestive of complications or malignancy (e.g., unilateral nasal obstruction, recurrent epistaxis, orbital symptoms) and initiate timely referral in clinical scenarios. ● Outline principles of medical management and indications for surgical intervention for common nose-related disorders at the undergraduate competency level. ● Apply preventive strategies and patient education related to allergic rhinitis, sinusitis, and nasal hygiene during outpatient and ward-based interactions. ● Demonstrate professional behavior, effective communication, and ethical practice while managing patients with nasal complaints, as assessed through faculty feedback.

	recognition of red-flag symptoms. This training prepares future medical graduates to manage common nasal conditions safely, contribute to preventive care, and reduce complications associated with delayed or inappropriate treatment.	

Code	Topic	Learning Objectives At the end of one hour lecture students should be able to	Learning domain	Teaching strategy	Assessment tool
M1-ENT-0013	Anatomy and physiology of nose and paranasal sinuses	• Anatomy of nasal septum, nasal cavity, paranasal sinuses • Physiology of nasal septum, nasal cavity, paranasal sinuses • Clinical aspects of anatomical variations	C1 C2 C3	LG IS	SAQ MCQ OSCE
M1-ENT-0014	Snoring and sleep apnoea	• Definition of snoring and sleep apnoea • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LG IS	SAQ MCQ OSCE
M1-ENT-0015	Nasopharyngeal angiofibroma	• Origin of nasopharyngeal angiofibroma • Clinical features, diagnosis, investigations • Management plan	C1 C2 C3	LG IS	SAQ MCQ OSCE
M1-ENT-0016	FESS	• Definition of FESS • Steps of FESS • Complications of FESS	C1 C2 C3	LG IS	SAQ MCQ OSCE
M1-ENT-0017	Deviated Nasal Septum Rhinoplasty	• Definition of deviated nasal septum, rhinoplasty • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LG IS	SAQ MCQ OSCE
M1-ENT-0018	Acute and chronic rhinosinusitis	• Definition of acute and chronic sinusitis • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGI S	SAQ MCQ OSCE
M1-ENT-0019	Nasal polyps Allergic Infective	• Types and pathophysiology of nasal polyps • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGI S	SAQ MCQ OSCE

M1-ENT-0020	Complications of rhinosinusitis	• Enumerate complications of rhinosinusitis • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGI S	SAQ MCQ OSCE
M1-ENT-0021	Allergic rhinitis	• Definition of Allergic Rhinitis • Pathophysiology • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGI S	SAQ MCQ OSCE
M1-ENT-0022	Radiology of nose and PNS	• Important investigations done for nose and PNS • Indications and findings • Recent advances	C1 C2 C3	LGI S	SAQ MCQ OSCE
M1-ENT-0023	Septal hematoma Septal abscess	• What is Septal hematoma, septal abscess • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGI S	SAQ MCQ OSCE
M1-ENT-0024	Basal cell carcinoma Squamous cell carcinoma	• What is BCC, SCC nose • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGI S	SAQ MCQ OSCE

Community Medicine
Theme 2:

CODE	TOPIC	Contents Outlines (Sub-Topics)	Learning objectives After the Session Students Will Be Able to:	Learning domain	Teaching strategy	Assessment tool
M1-CM-0006	**Fundamental Concepts & Uses of Epidemiology**	• Definition of epidemiology • Explanation of concepts of Time- place-Person • Epidemiologic approach to health	• Explains epidemiology as a fundamental science of public health. • Explain major concepts embodied in definition. • Comprehend & explains epidemiologic approach to health problems • Enumerate uses of epidemiology	C2 C2 C2 C1	LGIS	MCQs, SEQs, OSPE Viva
M1-CM-0007	**Introduction to Epidemiologic Methods descriptive studies**	• Epidemiologic Methods / studies • Descriptive epidemiology- types & steps of descriptive studies • Steps	• Classify epidemiological study designs • Explain two methods of undertaking descriptive studies. • Explain steps of undertaking a descriptive study • Construct 2x2 contingency table for cross-sectional comparative studies • Perform cross-tabulation • Interpret the findings of 2x2 table • Construct etiological hypothesis	C2 C2 C2 C3 C3 C3 C1	LGIS	MCQs, SEQs, OSPE Viva
M1-CM-0008	**Droplet infections- I**	• Smallpox • Chicken Pox • measles	● Understand important concepts & definitions of droplet infections ● Explain the strategy adopted for eradication of smallpox. ● Describe the WHO response in case of any bioterrorism. ● Describe the epidemiology determinants of chicken pox & measles. ● Explain modes of transmission and incubation period of chicken pox & measles. ● Recommend prevention and control measures of chicken pox & measles in community & institutional outbreaks ● Appraise the steps of WHO Measles Elimination Strategy in the community.	C2 C3 C2 C2 C2 C3 C3	LGIS	MCQs, SEQs, Viva Voce and OSPE

M1-CM-0009	**Droplet infections- II**	• Rubella • Pertussis • Mumps	• Describe epidemiology determinants of mumps, rubella, and pertussis. • Explain the modes of transmission and incubation period of mumps, rubella, and pertussis. • Identify the high-risk individuals to get rubella, pertussis, mumps. • Diagnose the cases based on signs/ symptoms & complications • Apply prevention and control measures of mumps, rubella, and pertussis in community. • Explain Congenital Rubella Syndrome (CRS) as public health issue.	C2 C1 C2 C3 C3 C3	LGIS	MCQs, SEQs, OSPE and Viva Voce
M1-CM-0010	**Droplet infections- III**	• Tuberculosis	• Describe the public health importance of Tuberculosis in global and local context. • Describe the epidemiological determinants of Tuberculosis. • Identify the risk factors and high-risk population of the disease. • Explain significance, procedure & incubation period of Monteux test • Recommend prevention and control of Tuberculosis in community. • Appraise components of End TB Strategy. Including TB-DOTs strategy. • Differentiate primary, secondary drug resistance and MDR-TB and XDR-TB.	C2 C2 C2 C2 C3 C3 C2	LGIS	MCQs, SEQs, OSPE and Viva Voce

Peer assisted learning (PAL)* IUGRC Contact Session

Indictors of accomplishment Prior readings / assigned work	Learning objectives/ competencies	Learning outcomes	Assessment strategy
SESSION II* 1. Able to reflect on Elements of proposal writings. 2. Reflect on relevant literature search and on some articles close to topic of interest. 3. Reflect on point to research topic selection.	Interactive discussion on how to; 1. How to and what literature / sources reviewed for topic selection. 2. To perform advanced search option to modify, refine the topic & search for new ideas/perspectives 3. organize research idea or general thought into a topic that can be configured into research problem / formulating research question 4. brief outline of study proposal in chronological order 5. develop data collection tool 6. do reflective learning	Each student be able to; 1. Develop the list of useful keywords for relevant literature search 2. Perform review of relevant Literature to refine how to approach selected topic and finding a way to analyze it. 3. review community health profile data bases, EMBASE,MEDLINE, PubMed, Google scholar Ovid, ProQuest Psych INFO, Cochrane Database, Scopus) etc. 4. identify knowledge gaps 5. formulate appropriate research questioning the form of a study proposal 6. Attempt “reflective writing.	2. MCQ in end of block block exam 3. Viva exam at the end of the session

***Session II will be taken by All Faculty**

Thematic Integrated Large Group Session (TILGS) -Aligned to ENT

Theme 2

Community Medicine	Alignment with ENT Theme 2	Type of Integration	Integrated Learning Objective (Students will be able to…)
Fundamental Concepts & Uses of Epidemiology	Indirect but relevant to disease burden of sinusitis & nasal infections	Conceptual / Population health	Explain the epidemiological patterns of upper respiratory tract infections and their relevance to ENT practice.
Introduction to Epidemiologic Methods (Descriptive studies)	Supports understanding of prevalence of allergic rhinitis & sinusitis	Analytical integration	Interpret descriptive epidemiologic data related to nasal and sinus diseases.
Droplet Infections I (Measles, Chickenpox, Smallpox)	Moderate alignment via infectious nasal symptoms	Infectious disease linkage	Correlate droplet transmission mechanisms with acute nasal and upper respiratory infections.
Droplet Infection II (Rubella, Pertussis, Mumps)	Moderate alignment (URTI presentations affecting nose & nasopharynx)	Infectious disease linkage	Identify droplet-borne diseases presenting with nasal symptoms and outline preventive strategies.
Droplet Infection III (Tuberculosis)	Strong alignment (nasopharyngeal TB, chronic sinus involvement)	Strong horizontal integration	Recognize tuberculosis as a differential diagnosis in chronic nasal obstruction or nasopharyngeal masses.
Concept of Prevention & Mode of Intervention	Strong alignment with allergic rhinitis, sinusitis prevention	Primary + Secondary prevention	Differentiate primary, secondary, and tertiary prevention in context of rhinosinusitis and allergic rhinitis.
Noise pollution (indirect this week)	Minimal alignment	Weak	—

Pathology	Alignment with ENT Theme 2	Type of Integration	Integrated Learning Objective (Students will be able to…)
Neoplastic lesions of oral cavity & tonsils	Aligns with nasopharyngeal mass differentials	Mechanistic vertical integration	Differentiate benign from malignant nasopharyngeal masses based on pathological features.
Inflammatory lesions	Aligns with rhinosinusitis & nasal polyps	Inflammatory mechanism linkage	Explain the pathological basis of chronic rhinosinusitis and nasal polyp formation.
Pathologies of tonsils	Aligns with nasopharyngeal region	Structural-disease correlation	Correlate pathological changes with clinical nasal obstruction symptoms.

Tumor Biology (Implicit in JNA discussion)	Strong alignment with Nasopharyngeal Angiofibroma	Neoplastic mechanism integration	Describe vascular tumor characteristics and correlate with recurrent epistaxis.
Chronic Inflammation	Aligns with chronic sinusitis	Mechanistic understanding	Explain tissue remodeling and mucosal changes in chronic rhinosinusitis.

Family Medicine	Alignment with ENT Theme 2	Type of Integration	Integrated Learning Objective (Students will be able to…)
ENT Problems in Primary Care	Direct alignment with allergic rhinitis, sinusitis, epistaxis	Primary care integration	Identify common nasal complaints that can be managed at primary care level and initiate first-line treatment appropriately.
Early Recognition & Referral	Aligns with JNA, unilateral obstruction, recurrent epistaxis	Gatekeeping role	Recognize red-flag features (e.g., unilateral obstruction, recurrent severe epistaxis) requiring urgent ENT referral.
Follow-up of Chronic Nasal Conditions	Aligns with chronic rhinosinusitis	Continuity of care	Plan follow-up strategy for chronic rhinosinusitis and determine failure of medical management.
Community-Level Management of Allergic Rhinitis	Direct alignment	Preventive + Therapeutic	Develop a primary care management plan for allergic rhinitis including pharmacologic and lifestyle advice.
Initial Management of Epistaxis	Direct alignment	Emergency triage integration	Outline initial stabilization measures for epistaxis in a primary care setting before referral.

Transdisciplinary Clinical Reasoning Forums (TCRF)
Theme 2

Theme	Week	Topics	Clinical Case Scenario
Theme 2	**Week 2**	**Rhinorrhea, nasal obstruction**	**A young male patient with profuse nose bleed**

"Managing a Young Patient with Profuse Epistaxis and Progressive Nasal Obstruction"

Clinical Scenario

A 16-year-old male presents to the emergency department with sudden onset, profuse right-sided epistaxis for the past 2 hours. The bleeding is bright red, continuous, and not controlled by initial nasal compression and anterior packing at a local clinic.
He reports recurrent spontaneous nosebleeds over the past 6 months, increasing in frequency and severity. He also describes progressive right-sided nasal obstruction, mouth breathing, and occasional hyponasal speech.
On examination, he appears pale and anxious with tachycardia and borderline hypotension. Anterior rhinoscopy reveals blood filling the nasal cavity without a clear anterior bleeding point. Once stabilized, nasal endoscopy shows a smooth, lobulated reddish mass in the nasopharynx extending into the posterior nasal cavity that bleeds on minimal contact.
Imaging reveals a highly vascular mass arising from the posterolateral wall of the nasopharynx with anterior bowing of the posterior maxillary wall. Laboratory findings show anemia.
He is planned for pre-operative embolization followed by surgical excision.

Student Task (Problem-Based Trigger)

Students are asked to:

1. Identify immediate life-threatening concerns.
2. Differentiate simple epistaxis from a structural vascular cause.
3. Interpret imaging findings in relation to symptoms.
4. Develop a comprehensive stabilization and management plan.

5. Anticipate complications (shock, recurrence, intracranial extension).
6. Counsel patient and family regarding prognosis and follow-up.
7. Suggest preventive and early-recognition strategies at community level.

What Makes This RMU-12

- No subject headings
- Knowledge embedded within clinical reasoning
- Patient problem is organizing principle
- Learning mirrors authentic emergency decision-making

Students Integrate (Implicitly)

- Anatomy (nasal cavity, nasopharynx, vascular supply)
- Pathophysiology (vascular tumour behaviour)
- Imaging interpretation (CT/MRI findings)
- Pharmacologic principles (resuscitation, embolization rationale)
- Surgical planning (timing and safety)
- Public health (early referral, awareness of red flags)

None are taught in isolation.

Teaching Format

- Small group facilitated learning
- Emergency stabilization simulation
- Imaging interpretation in clinical context
- Students construct care pathway
- Competency-based assessment (clinical reasoning + decision making)

Figure 23 – Progression in Integration Approaches in Medical Education

Academic Justification Statement

"**This case reflects RMU-12, where learning is structured around an authentic patient emergency rather than disciplinary categories. Biomedical, radiological, surgical, and public health knowledge is integrated seamlessly within professional clinical practice.**

Subject Contribution In TCRF Session -2

Subject / Discipline	Nature of Contribution	Approx. Integration Weight (%)	Rationale
Otorhinolaryngology (ENT)	Core diagnosis, emergency control, surgical planning	**30%**	Organizing discipline; primary clinical reasoning
Radiology	CT/MRI interpretation, vascular mass identification	**15%**	Confirms diagnosis & surgical planning
Anatomy (Applied)	Nasopharynx, pterygopalatine fossa, vascular supply	**10%**	Explains spread & imaging signs
Pathophysiology	Behavior of vascular tumors	**10%**	Explains bleeding tendency
Hematology	Anemia, blood loss assessment	**9%**	Guides transfusion decisions
Pharmacology	Resuscitation drugs, embolization rationale	**8%**	Therapeutic reasoning
Otorhinolaryngology (ENT)	Timing, embolization strategy, operative planning	**10%**	Procedural planning
Public Health	Early referral & awareness of red flags	**8%**	Preventive aspect

Subject-Wise Specific Learning Objectives-2

Subject	Domain	Specific Learning Objectives (Students will be able to…)	Bloom's Level	Integration Role
Otorhinolaryngology (ENT)	Clinical Reasoning	Differentiate anterior epistaxis from posterior/structural causes	Analyze	Core discipline
		Recognize clinical features of juvenile nasopharyngeal angiofibroma	Analyze	
		Formulate stepwise management plan for profuse epistaxis	Evaluate	
		Identify indications for embolization and surgery	Evaluate	
Radiology	Imaging Interpretation	Interpret CT findings of highly vascular nasopharyngeal mass	Analyze	Diagnostic confirmation
		Correlate anterior bowing of posterior maxillary wall with tumor origin	Analyze	
Anatomy (Applied)	Structural Correlation	Describe vascular supply of nasopharynx	Understand	Explains bleeding
		Explain anatomical basis of tumor extension pathways	Analyze	
Pathophysiology	Mechanistic Understanding	Explain why vascular tumors bleed profusely	Understand	Explains severity
		Describe biological behavior of angiofibroma	Understand	
Hematology	Clinical Integration	Interpret laboratory indicators of anemia	Analyze	Guides transfusion
		Outline indications for blood transfusion	Apply	
Pharmacology	Therapeutics	Explain rationale of vasoconstrictors in epistaxis	Understand	Acute control
		Describe principle of pre-operative embolization	Analyze	
Otorhinolaryngology (ENT)	Procedural Planning	Outline surgical principles in vascular tumor excision	Apply	Definitive care
		Identify intraoperative risks	Analyze	
Public Health	Prevention	Identify red flags requiring early ENT referral	Apply	Community awareness
		Propose awareness strategies for recurrent epistaxis	Create	

Theme 3:
Sore throat

Theme	Rationale	General learning objectives (SMART)
Sore throat	Throat-related disorders constitute a major proportion of complaints encountered in primary care, emergency departments, and otolaryngology practice. Conditions such as acute and chronic pharyngitis, tonsillitis, peritonsillar abscess, laryngitis, dysphagia, hoarseness of voice, upper airway obstruction, and malignancies of the pharynx and larynx are common and potentially life-threatening if not promptly recognized and managed. The throat plays a vital role in swallowing, phonation, respiration, and airway protection. Its close anatomical relationship with the larynx, esophagus, cervical spine, and major neurovascular structures makes throat pathology clinically significant. Delay in diagnosis may lead to serious complications such as airway compromise, deep neck space infections, aspiration, and advanced head and neck cancers. Inclusion of throat-related disorders in the ENT theme curriculum ensures that 4th-year MBBS students acquire essential knowledge, clinical examination skills, and professional competencies required for early diagnosis, initial management, and appropriate referral. Emphasis is placed on recognizing red-flag symptoms such as stridor, dysphagia, hoarseness, neck swelling, and constitutional symptoms, enabling future physicians to act decisively in emergency and routine clinical settings.	By the end of the ENT throat-related disorders module, the 4th-year MBBS student will be able to: ● Describe the applied anatomy and physiology of the pharynx and larynx with at least 80% accuracy in written or viva examinations. ● Explain the etiology, pathophysiology, and clinical features of common throat disorders including acute and chronic pharyngitis, tonsillitis, peritonsillar abscess, laryngitis, dysphagia, and hoarseness of voice during structured case-based discussions. ● Elicit a focused history and perform a systematic examination of the throat, including oral cavity and neck examination, correctly in at least 3 out of 4 observed clinical encounters by the end of the clinical rotation. ● Identify signs of upper airway obstruction and initiate appropriate first-line management and urgent referral accurately in OSCE or simulated emergency scenarios. ● Differentiate between benign and malignant causes of dysphagia and hoarseness with a minimum of 75% accuracy in formative or summative assessments. ● Interpret basic investigations relevant to throat disorders, including indirect laryngoscopy findings and imaging studies, at an undergraduate competency level. ● Outline principles of medical and surgical management of common throat conditions, including indications for tonsillectomy and referral for suspected malignancy. ● Recognize red-flag symptoms suggestive of head and neck malignancies (e.g., persistent hoarseness, progressive dysphagia, neck mass, weight loss) and ensure timely referral in clinical scenarios. ● Demonstrate effective communication, professional conduct, and ethical practice while managing patients with throat complaints, as assessed through faculty observation and feedback.

Code	Topic	Learning Objectives At the end of one hour lecture students should be able to	Learning domain	Teaching strategy	Assessment tool
M1-ENT-0025	Acute Chronic tonsillitis Peritonsillar abscess Retropharyngeal abscess Parapharyngeal abscess	• Anatomy of tonsils, retropharyngeal, parapharyngeal spaces • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-0026	Chronic tonsillitis	• Anatomy of tonsils, retropharyngeal, parapharyngeal spaces • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	
M1-ENT-0027	Retropharyngeal abscess Parapharyngeal abscess	• Anatomy of tonsils, retropharyngeal, parapharyngeal spaces • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	
M1-ENT-0028	Adenoiditis	• What is adenoiditis • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-0029	Diseases of salivary glands	• Anatomy and physiology of salivary glands • Diseases of salivary glands • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-0030	Vocal nodules Vocal polyps Reinke's edema	• What is vocal nodule, vocal polyp, Reinke's edema • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-0031	Ludwigs angina	• What is Ludwigs angina • Causative organism • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE

Community Medicine
Theme 3:

CODE	TOPIC	Contents Outlines (Sub- Topics)	Learning objectives ● After the Session Students Will Be Able to:	Learning domain	Teaching strategy	Assessment tool
M1-CM-0011	**Droplet infections- IV**	• Meningitis • Diphtheria	• Describe public health importance of Meningitis, diphtheria in global and local context. • Describe the epidemiological determinants of Meningitis, diphtheria. • Enlist the modes of transmission and incubation period of Meningitis, diphtheria. • Identify the high-risk individuals to get these diseases. • Diagnose the cases based on signs/symptoms. • Enlist the complications of Meningitis, diphtheria • Recommend prevention and control measures of Meningitis, diphtheria in community.	C2 C2 C1 C2 C3 C2 C3	LGIS	MCQs, SEQs, OSPE and Viva Voce

Small Group Discussions (SGDs)

Demonstration	Contents Outlines (Major Topics & Sub-Topics)	Learning objectives	Learning domain	Teaching strategy	Assessment tool

An exercise of tools of measurement in epidemiology- Measurement of Morbidity	• **Concepts & formulae of Epidemiologic tools used for measurements of diseases in the community.** • **Various types of morbidity rates** • **Incidence Rate Prevalence Rate** • **Relation b/w Incidence and Prevalence**	• **Comprehend statistical tools used for measurement of disease in the population.** • **Calculate incidence rate and prevalence rates in various scenarios** • **Derive relationship in incidence rates and prevalence Rates.** • **Interpret relationship in incidence rates and prevalence Rates.** • **Identify uses of morbidity data**	**C2** **C3** **C3** **C3** **C2**	**SGD**	**MCQs, SEQs, OSPE and Viva Voce**

Thematic Integrated Large Group Session (TILGS) -Aligned to ENT

Theme 3

Community Medicine	Alignment with ENT Theme 3	Type of Integration	Integrated Learning Objective (Students will be able to…)
Measures of Morbidity	Direct alignment with recurrent tonsillitis & pharyngitis burden	Epidemiological integration	Define and calculate morbidity indicators (incidence, prevalence) for recurrent sore throat in school-aged children.
Measures of Morbidity in Chronic Conditions	Aligns with chronic tonsillitis & adenoid hypertrophy	Population health correlation	Interpret morbidity data to assess disease burden of chronic tonsillar disease.
Morbidity & Health Service Utilization	Aligns with school absenteeism due to sore throat	Health systems integration	Analyze impact of recurrent sore throat on school attendance and healthcare utilization.
Epidemiologic Assessment of Infectious Diseases	Aligns with streptococcal tonsillitis	Infectious disease surveillance	Explain epidemiologic patterns of Group A Streptococcal infections in pediatric populations.
Community-Level Disease Burden	Aligns with adenoid hypertrophy and pharyngitis prevalence	Preventive integration	Propose community-level preventive strategies to reduce recurrent throat infections.
Monitoring of Communicable Diseases	Aligns with droplet spread of pharyngitis	Public health control	Describe surveillance and reporting mechanisms for communicable throat infections.

Transdisciplinary Clinical Reasoning Forums (TCRF)
Theme 3

Theme	Week	Topic	Clinical Case Scenario
Theme 3	**Week 3**	**Sore throat**	**A child with recurrent sore throat and fever**

“Managing a Child with Recurrent Sore Throat and Fever”

Clinical Scenario

A 9-year-old child is brought to the ENT outpatient clinic by his parents with a history of recurrent episodes of sore throat and fever over the past 2 years. The parents report 5–6 episodes per year, each associated with throat pain, high-grade fever, painful swallowing, and malaise. Most episodes required oral antibiotics and resulted in school absenteeism.
Between acute episodes, the child complains of persistent throat discomfort, halitosis, and occasional difficulty swallowing. There is no history of voice change, breathing difficulty, or weight loss.
On examination, the child is afebrile. Bilateral tonsils are enlarged (Grade III), with irregular surfaces and deep crypts containing cheesy debris. Anterior pillars are congested. Jugulodigastric lymph nodes are palpable, firm, and mildly tender.
Previous throat swabs during acute episodes grew Group A β-hemolytic Streptococcus. Laboratory investigations are largely unremarkable except for mildly raised inflammatory markers.
The child and parents are counseled regarding continued conservative management versus tonsillectomy based on frequency and severity of episodes.

Student Task (Problem-Based Trigger)

Students are asked to:

1. Identify key clinical concerns and impact on quality of life.
2. Differentiate recurrent acute tonsillitis from chronic tonsillitis.
3. Interpret examination findings in relation to symptoms.

4. Develop a comprehensive management plan.
5. Determine indications for surgical intervention.
6. Counsel parents regarding risks, benefits, and prognosis.
7. Suggest preventive strategies at community and school level.

What Makes This RMU-12

- No subject headings
- Knowledge embedded within clinical reasoning
- Organizing principle is the patient problem
- Learning mirrors authentic outpatient decision-making
- Emphasis on competence rather than disciplines

Students Integrate (Implicitly)

- Pharyngeal anatomy (within examination reasoning)
- Microbiological understanding (streptococcal infection)
- Pharmacologic principles (antibiotics, analgesics)
- Surgical decision-making (tonsillectomy criteria)
- Public health (school attendance, infection control)

None are taught separately.

Teaching Format

- Small group facilitated learning
- Case discussion with shared decision-making simulation
- Parent-counselling role play
- Competency-based assessment (clinical reasoning + communication + referral decisions)

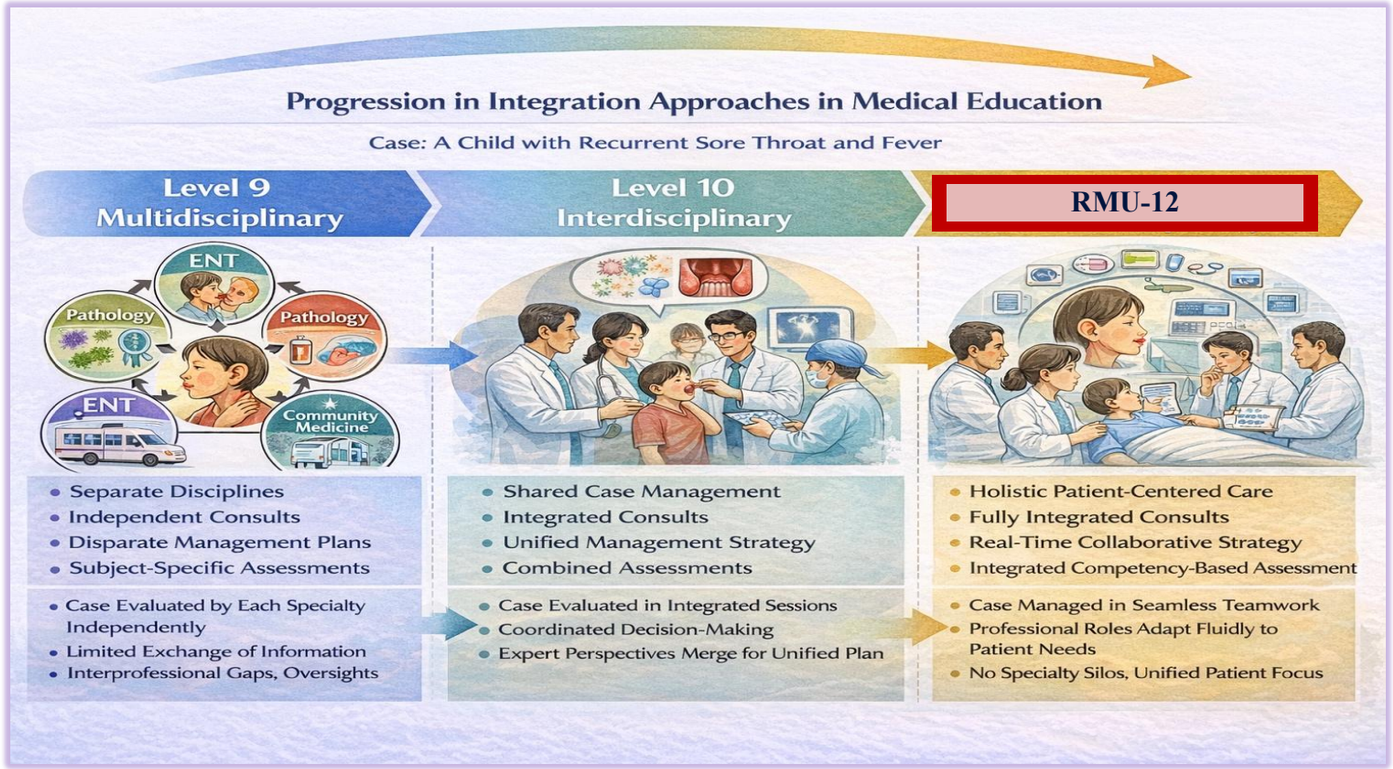


Figure 24 – Progression in Integration Approaches in Medical Education

Academic Justification Statement

"This case reflects RMU-12, where learning is structured around an authentic paediatric outpatient problem rather than disciplinary silos. Biomedical, clinical, surgical, and public health knowledge is integrated seamlessly within professional decision-making."

Subject Contribution In TCRF Session -3

Subject / Discipline	Nature of Contribution	Approx. Integration Weight (%)	Rationale
Otorhinolaryngology (ENT)	Diagnosis, differentiation, surgical decision-making	**40%**	Core organizing clinical discipline
Microbiology	Group A Streptococcus, infection patterns	**12%**	Etiological understanding
Pathophysiology	Recurrent infection mechanisms, lymphoid tissue response	**10%**	Explains chronicity
Pharmacology	Antibiotic selection, resistance considerations	**10%**	Rational therapy
Otorhinolaryngology (ENT)	Indications, risks, post-op care	**8%**	Decision threshold
Public Health	School absenteeism, infection control	**10%**	Community dimension
Anatomy (Applied)	Tonsillar anatomy, lymphatic drainage	**10%**	Supports examination reasoning

Subject-Wise Specific Learning Objectives-3

Subject	Domain	Specific Learning Objectives (Students will be able to…)	Bloom's Level	Integration Role
Otorhinolaryngology (ENT)	Clinical Reasoning	Differentiate recurrent acute tonsillitis from chronic tonsillitis	Analyze	Core discipline
		Identify clinical features suggesting surgical need	Evaluate	
		Grade tonsillar enlargement accurately	Apply	
		Develop comprehensive management plan	Evaluate	
Microbiology	Diagnostic Reasoning	Identify characteristics of Group A β-hemolytic Streptococcus	Understand	Guides therapy
		Interpret throat swab results	Analyze	
		Explain risk of rheumatic fever	Understand	
Immunology / Pathophysiology	Mechanistic Understanding	Explain immune response in recurrent tonsillar infection	Understand	Explains recurrence
		Describe lymphoid hyperplasia mechanism	Understand	
Pharmacology	Therapeutics	Outline appropriate antibiotic regimens	Apply	Management
		Discuss risks of repeated antibiotic exposure	Analyze	
Otorhinolaryngology (ENT)	Procedural Planning	State evidence-based indications for tonsillectomy	Apply	Surgical threshold
		Identify risks and complications of tonsillectomy	Analyze	
Public Health	Community Health	Assess impact on school attendance and social functioning	Analyze	Community relevance
		Suggest infection prevention strategies in school setting	Create	
Anatomy (Applied)	Structural Correlation	Describe tonsillar anatomy relevant to examination	Understand	Supports reasoning
		Explain jugulodigastric lymph node involvement	Understand	

Theme 4:
Hoarseness, dysphagia

Theme	Rationale	General learning objectives (SMART)
Hoarseness Dysphagia	Hoarseness of voice and dysphagia are common yet clinically significant presenting complaints encountered in outpatient clinics, emergency departments, and inpatient settings. These symptoms may arise from a wide spectrum of conditions ranging from benign inflammatory disorders to life-threatening pathologies such as laryngeal carcinoma, hypopharyngeal tumors, neuromuscular diseases, and upper aerodigestive tract obstruction. The larynx and pharynx play a critical role in phonation, swallowing, and airway protection. Disorders affecting these structures can lead to serious complications including aspiration, airway compromise, malnutrition, and delayed diagnosis of malignancy. Persistent hoarseness and progressive dysphagia are key red-flag symptoms that require early recognition and prompt referral. Inclusion of hoarseness and dysphagia-related disorders in the ENT theme curriculum equips 4th-year MBBS students with essential knowledge and clinical skills to evaluate these symptoms systematically, initiate appropriate initial management, and identify cases requiring urgent specialist care. This training enhances patient safety, promotes early cancer detection, and prepares future physicians to manage common yet potentially serious throat-related presentations effectively.	By the end of the ENT hoarseness and dysphagia module, the 4th-year MBBS student will be able to: 1. Describe the applied anatomy and physiology of the larynx, pharynx, and upper esophagus relevant to voice and swallowing with at least 80% accuracy in written or viva examinations. 2. Explain the etiology, pathophysiology, and clinical features of common causes of hoarseness and dysphagia, including inflammatory, neurological, structural, and neoplastic conditions, during structured case-based discussions. 3. Elicit a focused history for hoarseness and dysphagia and perform a relevant clinical examination of the oral cavity, neck, and larynx correctly in at least 3 out of 4 observed clinical encounters by the end of the rotation. 4. Differentiate between benign and malignant causes of persistent hoarseness and dysphagia with a minimum of 75% accuracy in formative or summative assessments. 5. Identify red-flag features such as hoarseness lasting more than three weeks, progressive dysphagia, aspiration, weight loss, or neck mass and initiate timely referral in clinical scenarios. 6. Interpret basic investigations related to hoarseness and dysphagia, including indirect laryngoscopy findings and relevant imaging studies, at an undergraduate competency level. 7. Outline principles of initial medical management and indications for surgical or oncological referral in patients presenting with hoarseness or dysphagia. 8. Recognize airway compromise and demonstrate appropriate first-line emergency measures in simulated or OSCE-based scenarios. 9. Demonstrate effective communication, professional behavior, and ethical practice while counseling patients with voice and swallowing disorders, as assessed through faculty observation and feedback.

Code	Topic	Learning Objectives At the end of one hour lecture students should be able to	Learning domain	Teaching strategy	Assessment tool
M1-ENT-0032	Anatomy and physiology of oral cavity and pharynx	• Anatomy of oral cavity, pharynx • Blood supply of oral cavity, pharynx • Physiology of oral cavity and pharynx • Clinical implications	C1 C2 C3	LGIS	SAQ MCQ OSCE
		•			
M1-ENT-0033	Anatomy and physiology of Larynx, Trachea, bronchi	• Anatomy of larynx, trachea, bronchi • Physiology of larynx, trachea, bronchi • Nerve supply of larynx • Clinical implications	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-0034	Acute epiglottitis	• What is acute epiglottitis • Causative organism • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-0035	Acute laryngo tracheo bronchitis	• What is laryngotracheobronchitis • Causative organism • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-0036	Carcinoma larynx	• Types of carcinoma of larynx • Etiological factors • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE

Community Medicine
Theme 4:

CODE	TOPIC	Contents Outlines (Major Topics & Sub-Topics)	Learning objectives After the Session Students Will Be Able To:	Learning domain	Teaching strategy	Assessment tool
M2-CM-0012	**Analytical studies (case-control studies)**	• Fundamental concept of case- control study designs • Steps of case control studies • Bias & Matching • Odds ratio dies	• Define Case-Control study designs • Describe & apply steps for undertaking a Case-Control study • Comprehend Bias/confounding & matching • Calculate the analytical outcome of case control study & interpret Odds Ratio • Explain uses & limitations of Case-Control studies	C2 C2 C3 C3 C2	LGIS	MCQs, SEQs, OSPE, Viva
M2-CM-0013	**Analytical studies (cohort studies)**	• Fundamental concept of cohort study designs • Steps of cohort studies • Relative risk ratio	• Comprehend cohort study & its types. • Explain steps of cohort studies • Derive & interpret analytical outcomes of cohort studies (Relative risk, Attribute-able risk, Population attribute-able Risk) • Describe differences b/w case-control and cohort studies	C2 C2 C3 C2	LGIS	MCQs, SEQs, OSPE, Viva
M2-CM-0014	**Experimental Epidemiologic study designs**	• Fundamental concept of Experimental Epidemiologic designs • Steps of undertaking a Randomized Controlled Trial (RCT) • Randomization & Blinding	● Define & classify experimental study designs ● Apply general Steps of undertaking a Randomized Controlled Trial (RCT) ● Apply Randomization & Blinding in required situation • Explain Types of randomized control study	C2 C3 C3 C2	LGIS	MCQs, SEQs, OSPE and Viva Voce

		• Types Experimental Epidemiologic study designs				
M2-CM-0015	**Association & Causation**	• Statistical significance & clinical significance • Hill's criterion for judging causality of association	● Describes Types of association ● Explains requirements for disease causation ● Explain difference b/w statistical significance and clinical significance • Apply Hill's criterion for judging causality of association.	C1 C2 C2 C3	LGIS	MCQs, SEQs, Viva Voce and OSPE
M2-CM-0016	**Air & Ventilation**	• Thermal comfort & Air Pollution	• Enlist indices of thermal comfort • Describe the factors responsible for ventilation of air • Define air pollution • Identify sources of air pollution and air pollutants • Demonstrate selection of air sample for analysis • Enumerate the methods to prevent & control of air pollution • Describe standards and types of ventilation	C1 C1 C1 C2 C2 C2 C2	LGIS	MCQs, SEQs, OSPE and Viva Voce

Peer assisted learning (PAL)* IUGRC Contact Session

Topic	- Contents Outlines (Major Topics & Sub- Topics)	Learning objectives At end of session Students will be able to …	Assessment tool LMS
SESSION 3 Finalization of questionnaire and layout of work plan (Gantt chart) Development & finalizing of; ● Study variables ● data analysis plan ● use of relevant statistical measures ● data collection tool development ● addressing ethical aspects of SGRP and preparing Gantt chart	● Identify relevant and statistically appropriate study variables. ● Develop appropriate data analysis plan, ● Decide use of relevant statistical tests ● Decide sampling method & calculate sample size ● Develop data collection tool & decide data collection technique ● Apply principles of research ethics in SGRP specifically informed consent, confidentiality of information e	● Finalize study variables, data analysis plan, application of relevant statistical tests ● Appreciate relevant sampling and data collection technique ● Finalize data collection tool / questionnaire according to study objectives and variables and in accordance to information required from target respondents ● Develop Gantt chart for study timeline ● Develop informed consent form for the SGRP study	1. MCQ in each block exam 2. Viva exam at the end of the session

Thematic Integrated Large Group Session (TILGS) -Aligned to ENT

Theme 4

Community Medicine	Alignment with ENT Theme 4	Type of Integration	Integrated Learning Objective (Students will be able to…)
Measures of Morbidity (Incidence & Prevalence)	Acute & chronic tonsillitis burden	Epidemiological integration	Calculate and interpret incidence and prevalence of tonsillitis and pharyngitis in community populations.
Morbidity in Communicable Diseases	Streptococcal pharyngitis & abscess formation	Infectious disease surveillance	Analyze trends in communicable throat infections and their complications.
Morbidity Indicators in Chronic Conditions	Chronic tonsillitis & oral premalignant lesions	Population disease burden	Assess population burden of chronic throat and oral cavity disorders.
Disease Burden & Health Service Utilization	Recurrent sore throat & abscess requiring admission	Health systems integration	Evaluate impact of recurrent pharyngeal infections on healthcare utilization.
Morbidity in Neoplastic Conditions	Oral cavity tumors	Cancer epidemiology linkage	Interpret basic morbidity patterns of oral cancers in high-risk populations.
Prevention Strategies	Prevention of communicable throat infections & tobacco-related oral cancer	Primary & secondary prevention	Propose preventive strategies to reduce incidence of throat infections and oral malignancy at community level.

Transdisciplinary Clinical Reasoning Forums (TCRF)
Theme 4

Theme	Week	Topics	Clinical Case Scenario
Theme 4	**Week 4**	**Hoarseness, dysphagia**	**An old age man with hoarseness of voice and difficulty in breathing**

"Managing an Elderly Patient with Progressive Hoarseness and Airway Compromise"

Clinical Scenario

A 55-year-old man presents to the ENT outpatient clinic with progressive hoarseness of voice for 4 months. Initially intermittent, the hoarseness has become persistent. Over the last 6 weeks, he has developed difficulty swallowing, initially solids and later liquids, associated with painful swallowing.
He has a 30-year history of cigarette smoking and regular alcohol consumption. He reports unintentional weight loss, reduced appetite, and occasional referred ear pain.
On examination, he appears cachectic. A firm, non-tender lymph node is palpable in the left upper deep cervical region. Indirect laryngoscopy reveals an irregular growth involving the left vocal cord with restricted mobility and narrowing of the glottic airway. Imaging confirms a laryngeal mass with ipsilateral cervical lymphadenopathy. Biopsy establishes squamous cell carcinoma of the larynx.
He is referred to a multidisciplinary tumor board for definitive management.

Student Task (Problem-Based Trigger)

Students are asked to:

1. Identify red-flag features in hoarseness.
2. Correlate symptoms with anatomical involvement.
3. Interpret imaging findings in clinical context.
4. Develop a comprehensive management plan.
5. Discuss airway safety and urgency of referral.
6. Counsel patient regarding prognosis and lifestyle modification.
7. Suggest preventive strategies at community level (tobacco cessation).

What Makes This RMU-12

- No disciplinary headings

- Knowledge embedded within clinical reasoning
- Organizing principle is the patient problem
- Emphasis on professional decision-making
- Competency-based focus

Students Integrate (Implicitly)

- Laryngeal anatomy and nerve supply
- Pathophysiology of malignancy
- Imaging interpretation (CT findings)
- Pharmacologic aspects (chemotherapy/radiotherapy)
- Surgical considerations
- Communication and breaking bad news
- Public health (tobacco control, early screening)

None are taught separately.

Teaching Format

- Small-group facilitated discussion
- Airway emergency scenario
- Counselling role-play
- Competency-based assessment (clinical reasoning + communication + referral decisions)

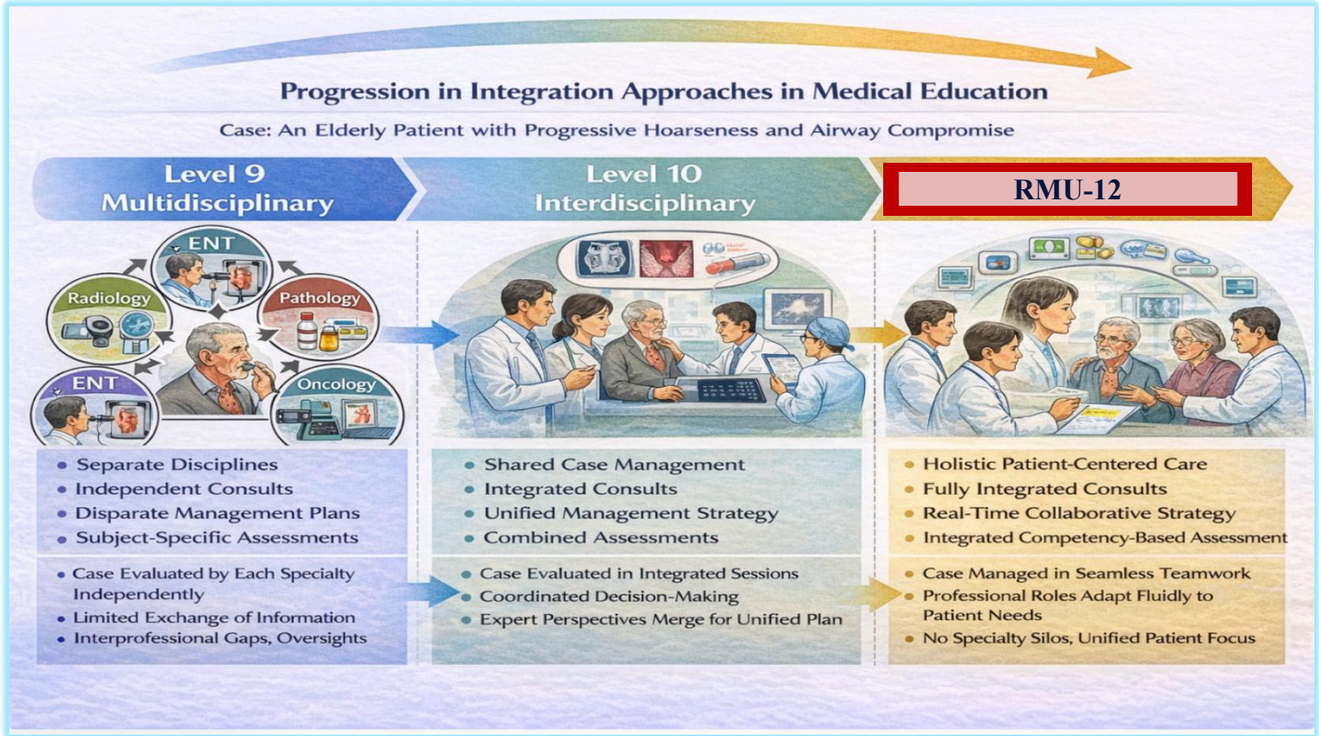


Figure 25 – Progression in Integration Approaches in Medical Education

Academic Justification Statement

"This case reflects RMU-12, where learning is structured around an authentic oncologic patient problem rather than disciplinary silos. Biomedical, radiologic, surgical, pharmacologic, and public health knowledge is integrated seamlessly within professional clinical practice."

Subject Contribution In TCRF Session -4

Subject / Discipline	Nature of Contribution	Approx. Integration Weight (%)	Rationale
Otorhinolaryngology (ENT)	Primary diagnosis, airway evaluation, management pathway	**40%**	Core organizing discipline
Radiology	CT interpretation, tumor extent evaluation	**12%**	Staging and surgical planning
Anatomy (Applied)	Vocal cord anatomy, nerve supply, lymphatic drainage	**10%**	Symptom correlation
Pathophysiology (Malignancy)	Tumor growth, metastasis mechanisms	**8%**	Explains progression
Otorhinolaryngology (ENT)	Airway management, laryngectomy considerations	**15%**	Definitive management
Pharmacology (Oncology)	Chemotherapy, radiotherapy principles	**6%**	Adjunct treatment reasoning
Otorhinolaryngology (ENT)	Airway compromise assessment	**6%**	Urgent safety dimension
Public Health	Tobacco cessation, cancer prevention	**3%**	Preventive strategy

Subject-Wise Specific Learning Objectives-4

Subject	Domain	Specific Learning Objectives (Students will be able to…)	Bloom's Level	Integration Role
Otorhinolaryngology (ENT)	Clinical Reasoning	Identify red-flag features in hoarseness lasting >2 weeks	Analyze	Core discipline
		Correlate referred otalgia with laryngeal pathology	Analyze	
		Perform focused neck examination for cervical nodes	Apply	
		Develop stepwise management plan	Evaluate	
		Recognize airway compromise requiring urgent intervention	Evaluate	
		Explain tumor board decision-making	Understand	
Radiology	Imaging Interpretation	Interpret CT findings of laryngeal mass	Analyze	Staging confirmation
		Correlate imaging with vocal cord mobility restriction	Analyze	
Anatomy (Applied)	Structural Correlation	Describe vocal cord anatomy and nerve supply	Understand	Explains symptoms
		Explain lymphatic drainage pathways of larynx	Understand	
Pathophysiology (Malignancy)	Mechanistic Understanding	Explain progression from dysplasia to carcinoma	Understand	Explains risk
		Describe mechanisms of metastasis to cervical nodes	Understand	
Otorhinolaryngology (ENT)	Procedural Planning	Outline principles of partial vs total laryngectomy	Apply	Definitive care
		Identify surgical risks and airway considerations	Analyze	
Pharmacology (Oncology)	Therapeutics	Explain principles of chemoradiotherapy	Understand	Adjunct therapy
		Discuss side effects of radiotherapy	Analyze	
Otorhinolaryngology (ENT)	Acute Safety	Identify signs of impending airway obstruction	Apply	Urgent care
		Outline initial airway stabilization steps	Apply	
Public Health	Prevention	Explain relationship between tobacco and laryngeal cancer	Understand	Community awareness
		Propose tobacco cessation strategies	Create	

Theme 5:
Neck masses

Theme	Rationale	General learning objectives (SMART)
Neck Masses	Neck masses, cysts, and swellings are common clinical presentations encountered in outpatient clinics, emergency departments, and inpatient settings. These conditions may represent a wide spectrum of pathologies ranging from benign congenital lesions and inflammatory swellings to serious malignant diseases of the head and neck region. Early and accurate evaluation of neck swellings is crucial, as delayed diagnosis may lead to advanced-stage malignancy, airway compromise, or spread of infection to deep neck spaces. The neck contains vital anatomical structures including major blood vessels, cranial nerves, lymphatic chains, thyroid and salivary glands, and the aerodigestive tract. Disorders affecting these structures require a systematic and anatomical approach to diagnosis. In adults, a neck mass should be considered malignant until proven otherwise, making early recognition and referral a critical responsibility of the primary care physician. Inclusion of neck mass–related disorders in the ENT theme curriculum enables 4th-year MBBS students to develop competencies in anatomical localization, clinical examination, differential diagnosis, and initial management. This training prepares future medical graduates to recognize red-flag features, initiate appropriate investigations, and ensure timely referral, thereby improving patient outcomes and safety.	By the end of the ENT neck masses, cysts, and swellings module, the 4th-year MBBS student will be able to: 1. Describe the applied anatomy of the neck, including lymph node levels and major structures, with at least 80% accuracy in written or viva examinations. 2. Classify neck masses based on age, anatomical location, and etiology (congenital, inflammatory, neoplastic) during structured assessments and case discussions. 3. Explain the etiology, pathophysiology, and clinical features of common neck swellings, including lymphadenitis, thyroid swellings, salivary gland swellings, branchial cysts, thyroglossal cysts, and metastatic lymph nodes. 4. Elicit a focused history and perform a systematic examination of the neck, including lymph node examination, correctly in at least 3 out of 4 observed clinical encounters by the end of the clinical rotation. 5. Differentiate between benign and malignant neck masses with a minimum of 75% accuracy in formative or summative assessments. 6. Identify red-flag features such as rapidly enlarging mass, hard or fixed nodes, associated weight loss, hoarseness, or dysphagia and initiate timely referral in clinical scenarios. 7. Interpret basic investigations relevant to neck swellings, including ultrasound neck, FNAC reports, and basic imaging findings, at an undergraduate competency level. 8. Outline principles of initial medical management and indications for surgical or oncological referral for patients with neck masses and cysts. 9. Demonstrate effective communication, professional conduct, and ethical practice while counseling patients with neck swellings, as assessed through faculty observation and feedback.

Code	Topic	Learning objectives At the end of one hour lecture students should be able to	Learning domain	Teaching strategy	Assessment tool
M1-ENT-0037	Anatomy and physiology of neck and thyroid gland Level of neck lymph nodes	• Anatomy of neck, thyroid gland • Blood supply of neck, thyroid gland • Physiology of thyroid gland • Clinical implications	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-0038	Branchial cyst	• Anatomy of branchial cyst • Clinical implications • Investigations • Treatment	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-0039	Branchial fistula	• Anatomy of branchial cyst • Clinical implications • Investigations • Treatment	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-ENT-0040	Cervical lymphadenopathy	• Levels of neck nodes • Differential diagnosis • Investigations • Treatment	C1 C2 C3	LGIS	SAQ MCQ OSCE

Community Medicine
Theme 5:

CODE	TOPIC	Contents Outlines (Sub- Topics)	Learning objectives ● After the Session Students Will Be Able to:	Learning domain	Teaching strategy	Assessment tool
M2-CM-0017	Sampling-I	Non probability sampling	● Define and comprehend the definition & rationale of sampling. ● Understand the Concept of non-probability sampling technique ● Enlist the types of non-probability sampling ● Appraise different scenarios to apply different non -probability technique	C2 C3 C1 C3	LGIS	MCQs, SEQs, Viva Voce and OSPE
M2-CM-0018	Sampling-II	Probability sampling	● Discuss significance of sampling frame ● Enlist the types of probability sampling. ● Appraise different real life scenarios to apply different probability technique ● Consider ethical issues in sampling for health research	C2 C1 C3 C3	LGIS	MCQs, SEQs, Viva Voce and OSPE
M2-CM-0019	Environment and health (Air Purification Global Warming)	• Methods of air purification • Global Warming	• Enlist natural and Artificial methods of air purification • Describe Greenhouse effect and greenhouse gases • Identify greenhouse gases source • Define ozone hole and its importance • Explain link between global warming and climate change	C1 C1 C1 C2 C3	LGIS	MCQs, SEQs, OSPE and Viva Voce

Thematic Integrated Large Group Session (TILGS) -Aligned to ENT

Theme 5

Community Medicine	Alignment with ENT Theme 5	Type of Integration	Integrated Learning Objective (Students will be able to…)
Probability & Non-Probability Sampling	Aligns with epidemiologic study of neck masses & malignancy patterns	Research-methodology integration	Differentiate probability and non-probability sampling methods in studies assessing prevalence of cervical lymphadenopathy or head & neck cancers.
Association & Causation	Strong alignment with risk factors for neck masses (TB, malignancy, smoking)	Analytical epidemiology	Explain criteria for causation and apply them to risk factors associated with cervical lymphadenopathy and head & neck tumors.
Air and Ventilation	Aligns with airway compromise in Ludwig's angina & neck space infections	Environmental health integration	Describe the impact of ventilation and air quality on transmission of upper respiratory and neck infections.
Measurement of Mortality	Aligns with mortality risk in deep neck space infections & malignancy	Outcome measurement integration	Interpret mortality indicators (e.g., case fatality rate) in severe neck infections and head & neck cancers.
Mortality in Communicable Diseases	Aligns with pediatric infectious neck swelling (e.g., diphtheria-like cases)	Public health surveillance	Analyze mortality trends in communicable infections affecting the upper airway.
Epidemiologic Study Design (Implicit via sampling & causation)	Aligns with risk factor analysis of thyroid swelling & malignancy	Research application	Apply basic epidemiologic principles to design a study investigating risk factors for neck masses.

Transdisciplinary Clinical Reasoning Forums (TCRF)
Theme 5

Theme	Week	Topic	Clinical Case Scenario
Theme 5	Week 5	Neck masses	A child with fever, neck swelling, difficulty in breathing

"Managing a Child with Fever, Neck Swelling, and Impending Airway Obstruction"

Clinical Scenario

A 6-year-old child is brought to the emergency department with fever, sore throat, and progressive difficulty in swallowing for 3 days. Parents report lethargy, reduced oral intake, and increasing neck swelling. The child is partially immunized, having missed booster doses.
On examination, the child appears toxic and ill. Vital signs show low-grade fever and mild tachycardia. Oropharyngeal examination reveals a thick, grayish-white adherent membrane over the tonsils and posterior pharyngeal wall. Attempts to remove it cause bleeding. The neck appears swollen with bilateral cervical lymphadenopathy and soft tissue edema, producing a "bull neck" appearance. Hoarseness and mild stridor are present, suggesting laryngeal involvement.
Laboratory investigations reveal leukocytosis. Culture confirms Corynebacterium diphtheriae. Early ECG changes suggest possible myocardial involvement.
The child is immediately started on diphtheria antitoxin, intravenous antibiotics, strict airway monitoring, and isolation precautions.

Student Task (Problem-Based Trigger)

Students are asked to:

1. Identify life-threatening features and prioritize airway safety.
2. Differentiate infectious neck swelling from other causes.

3. Correlate systemic complications with toxin-mediated disease.
4. Develop an emergency management plan.
5. Anticipate complications (myocarditis, neuropathy, airway obstruction).
6. Counsel parents regarding immunization and prognosis.
7. Propose community-level prevention strategies.

What Makes This RMU-12?

- No subject silos
- Knowledge embedded within emergency reasoning
- Organizing principle is the patient problem
- Learning mirrors authentic paediatric emergency care
- Competency-driven focus

Students Integrate (Implicitly)

- Pharyngeal and airway anatomy
- Microbial pathogenesis and toxin effects
- Pharmacologic principles (antitoxin, antibiotics)
- Airway management strategy
- Cardiology
- Communication and parental counseling
- Public health (immunization programs, outbreak control)

None are taught separately.

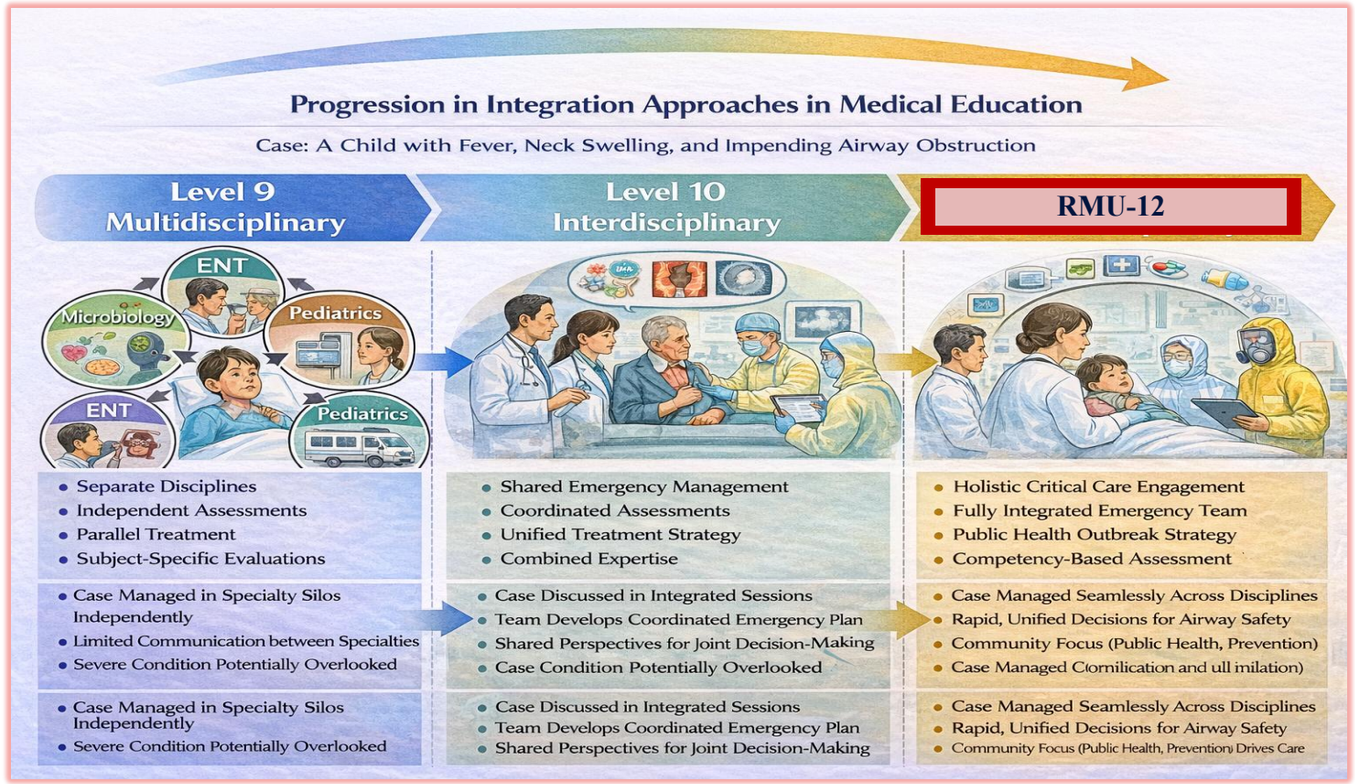


Figure 26 – Progression in Integration Approaches in Medical Education

Teaching Format

- Small-group emergency simulation
- Airway management drill
- Isolation protocol discussion
- Public health outbreak planning exercise
- Competency-based assessment (clinical reasoning + emergency prioritization + counselling)

Academic Justification Statement

"This case reflects RMU-12 where learning is structured around an authentic pediatric infectious emergency rather than disciplinary categories. Clinical, microbiological, pharmacologic, and public health knowledge is integrated seamlessly within professional decision-making."

Subject Contribution In Transdisciplinary Clinical Reasoning Forums (TCRF)

Subject / Discipline	Nature of Contribution	Approx. Integration Weight (%)	Rationale
Otorhinolaryngology (ENT)	Airway assessment, neck examination, emergency planning	**40%**	Core clinical stabilizing discipline
Microbiology	Corynebacterium diphtheriae, toxin production	**14%**	Etiological driver
Pathophysiology	Toxin-mediated systemic effects	**12%**	Explains complications
Pharmacology	Antitoxin rationale, antibiotic therapy	**15%**	Definitive treatment
Cardiology	Myocarditis monitoring & ECG interpretation	**10%**	Systemic complication
Public Health	Immunization programs, outbreak control	**7%**	Prevention dimension
Anatomy (Applied)	Pharyngeal & laryngeal anatomy	**2%**	Supports reasoning

Subject-Wise Specific Learning Objectives-5

Subject	Domain	Specific Learning Objectives (Students will be able to…)	Bloom's Level	Integration Role
Otorhinolaryngology (ENT)	Clinical Reasoning	Identify "bull neck" appearance and airway compromise signs	Analyze	Core stabilizing role
		Perform focused neck and oropharyngeal examination safely	Apply	
		Develop airway monitoring strategy	Evaluate	
Microbiology	Etiology	Describe characteristics of Corynebacterium diphtheriae	Understand	Disease causation
		Explain toxin production mechanism	Understand	
		Interpret culture confirmation	Analyze	
Pathophysiology	Mechanistic Understanding	Explain mechanism of pseudomembrane formation	Understand	Explains airway risk
		Correlate toxin spread with myocarditis & neuropathy	Analyze	
Pharmacology	Therapeutics	Explain mechanism of diphtheria antitoxin	Understand	Definitive therapy
		Outline antibiotic regimen and duration	Apply	
		Discuss importance of early antitoxin administration	Analyze	
Cardiology	Systemic Monitoring	Identify ECG changes suggestive of myocarditis	Analyze	Complication detection
		Outline monitoring protocol	Apply	
Public Health	Prevention	Explain role of immunization in diphtheria prevention	Understand	Community relevance
		Propose outbreak control measures	Create	
		Counsel regarding booster schedules	Apply	

Self-Directed Learning (SDL) Otorhinolaryngology Module 1

WEEK	THEME	Topics Of SDL	Learning Objectives	Learning resources
WEEK 1	Otalgia, Otorrhoea, Dizziness, Hearing loss	Anatomy / Radiology of Temporal bone and Mastoid,Xray Mastoid,CT Scan Temporal bone,MRI Temporal bone	• Radiological investigations done for ear and mastoid • X ray mastoid oblique view, CT scan temporal bone (axial, coronal views) • Indications of radiological investigations • Findings on radiological investigations	• Diseases of Ear, Nose and Throat & Head and Neck Surgery, 8th edition PL Dhingra
WEEK 2	Rhinorrhoea, Nasal obstruction	Anatomy and Physiology of nose and PNS	• Discuss basic anatomy and Physiology • Development of PNS • Functions of nose & PNS	• Diseases of Ear, Nose and Throat & Head and Neck Surgery, 8th edition PL Dhingra
WEEK 3	Sore throat	Adenoiditis Salivary gland diseases	• Definition • Etiology • Investigations • Treatment options • Surgical options	• Diseases of Ear, Nose and Throat & Head and Neck Surgery, 8th edition PL Dhingra

Self-Directed Learning (SDL) Otorhinolaryngology Module 2

WEEK	THEME	Topics Of SDL	Learning Objectives	Learning resources
WEEK4.	Hoarseness, Dysphagia	Dysphagia Vocal cord paralysis Vocal nodules Radiology of neck and aerodigestive tract	• Discuss Clinical features • Describe Investigations • Discuss Management options	• Ear, Nose and Throat, Self-Assessment and Self Evaluation Manual, 8th Edition, PL Dhingra
WEEK 5.	Neck masses	Anatomy & Physiology of Neck Cystic Hygroma Carotid body tumor	• Discuss Anatomy of Neck • Discuss Clinical features • Describe Investigations • Discuss Management options	• Diseases of Ear, Nose and Throat & Head and Neck Surgery, 8th edition PL Dhingra

Community Medicine Self Directed Learning (SDL)

SDL Theme 1:

Topic	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives At end of session Students will be able to …	Assessment tool LMS	Learning resource
Basic Concepts of Infectious Disease Epidemiology	• Basic definitions of epidemiological significance	● Definition of epidemiology ● Define important terms related to infectious disease epidemiology. ● Understand Dynamics of disease transmission (chain of infection) ● Appraise different Modes of transmission ● Differentiate between epidemic, endemic and pandemic ● Explain the concept of incubation period and its importance.	MCQS	K Park Ed. 27th

SDL
Theme 2:

Topic	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives	Assessment tool LMS	Learning resource
Droplet infections	• COVID 19	• Describe public health importance of COVID in global and local context. • Describe the epidemiology of COVID • Enlist the modes of transmission and incubation period of COVID • Identify the high-risk individuals • Diagnose the cases based on signs and symptoms. • Enlist the complications of COVID • Recommend prevention and control measures of COVID in community.	MCQS	K. Park Ed. 27th page177

SDL
Theme 3:

Topic	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives	Assessment tool LMS	Learning resource
Droplet infections	• Influenza	• Describe public health importance of influenza in global and local context. • Describe the epidemiology of influenza • Enlist the modes of transmission and incubation period of influenza • Identify the high-risk individuals • Diagnose the cases based on signs and symptoms. • Enlist the complications of influenza • Recommend prevention and control measures of influenza in community. • Differentiate between antigenic drift and antigenic shift with reference to Influenza	MCQs	K. Park Ed. 27th Page 163

SDL
Theme 4:

Topic	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives At end of session Students will be able to …	Assessment tool LMS	Learning resource
Epidemiologic Investigation	• Disease outbreak & epidemic – review (epidemic, endemic & pandemic) • Types of epidemics • Steps of an epidemiologic investigation	• Describes public approach to deal with disease outbreaks & epidemics. • Classify types and levels disease epidemics or outbreaks. • Explain steps of investigating a disease outbreak situation.	MCQs	K. Park Ed. 27th Page no. 146

SDL
Theme 5:

Topic	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives At end of session Students will be able to …	Assessment tool LMS	Learning resource
Exercise on Epidemiologic Investigation	• Covid-19 a case study	• Delineates epidemiologic investigation levels involved in Covid-19	MCQs	K. Park Ed. 27th Page no. 146

Section – IV Symptom Based Integrated Clinical Clerkship

Introduction

RMU-12 Integrated Modular Curriculum 2026 – Isolation to Beyond Boundaries

The **Otorhinolaryngology (ENT) clerkship** provides an integrated clinical learning experience designed to bridge foundational biomedical sciences with real-world clinical practice. The clerkship focuses on developing students' competencies in recognizing, evaluating, and managing common disorders of the ear, nose, throat, and head & neck region**.** Through supervised clinical exposure and structured learning activities, students develop clinical reasoning, diagnostic skills, communication abilities, and patient-centered management approaches.

The clerkship spans six weeks of mandatory clinical rotation across the three affiliated teaching hospitals of Rawalpindi Medical University: Holy Family Hospital (HFH), Benazir Bhutto Hospital (BBH), and Rawalpindi Teaching Hospital (RTH)**.** Clinical exposure includes a minimum **of** 84 hours of supervised training, where students attend ENT outpatient departments, wards, and procedure areas for approximately three and a half hours daily, four days per week**.**

To ensure progressive learning and exposure to the spectrum of ENT conditions, the clerkship is organized into six weekly clinical themes**:**

Week 1 – Ear Disorders (HFH)
Students learn the clinical evaluation and management of common ear conditions such **as** hearing loss, otitis media, chronic suppurative otitis media, vertigo, tinnitus, and impacted cerumen**.** Emphasis is placed on ear examination techniques, interpretation of audiological investigations, and preventive care.

Week 2 – Nose and Paranasal Sinus Disorders (HFH)
This week focuses on conditions causing nasal obstruction, epistaxis, allergic rhinitis, and sinusitis**.** Students learn anterior rhinoscopy, recognition of nasal pathologies, and principles of medical and surgical management.

Week 3 – Throat Disorders (BBH)
Students explore diseases of the pharynx and tonsils, including tonsillitis, adenoid hypertrophy, pharyngitis, and infections of the upper aerodigestive tract**,** emphasizing clinical examination and appropriate management strategies.

Week 4 – Hoarseness and Dysphagia (BBH)
This theme focuses on disorders affecting voice and swallowing, including laryngeal diseases, vocal cord pathology, reflux-related disorders, and neurological causes of dysphagia. Students learn clinical assessment of the larynx and recognition of red-flag symptoms requiring urgent referral.

Week 5 – Neck Masses (RTH)
Students are introduced to the systematic evaluation of neck swellings, including lymphadenopathy, thyroid disorders, congenital neck masses, and head & neck tumors**.** Emphasis is placed on clinical examination, differential diagnosis, and appropriate investigation pathways.

Week 6 – Surgical Aspects of ENT (RTH)
The final week focuses on surgical principles and operative procedures in ENT, including observation of common surgeries such as tonsillectomy, septoplasty, mastoid surgery, and endoscopic sinus surgery**.** Students gain insight into preoperative assessment, intraoperative techniques, and postoperative care**.**

The clerkship employs active and experiential learning strategies, including bedside teaching, supervised clinical examination, outpatient clinic participation, ward rounds, observation of diagnostic procedures (endoscopy and audiology), and exposure to ENT surgical procedures**.** Learning is further reinforced through small-group discussions, case-based learning, guided pre-reading, simulated patient communication exercises, and structured clinical demonstrations**.**

Assessment within the clerkship integrates formative and summative approaches to ensure continuous learning and competency development. These include ward-based assessments, logbook documentation of clinical exposure and procedural skills, MCQs and SAQs to assess conceptual understanding, OSCE stations to evaluate examination and communication skills, faculty feedback sessions, structured case presentations, and reflective portfolio assessments**.**

Through this structured thematic approach and multi-hospital clinical exposure, the ENT clerkship supports the RMU-12 vision of integrated, competency-based medical education**,** preparing students to competently identify and manage common ENT conditions while fostering professionalism, teamwork, and lifelong learning**.**

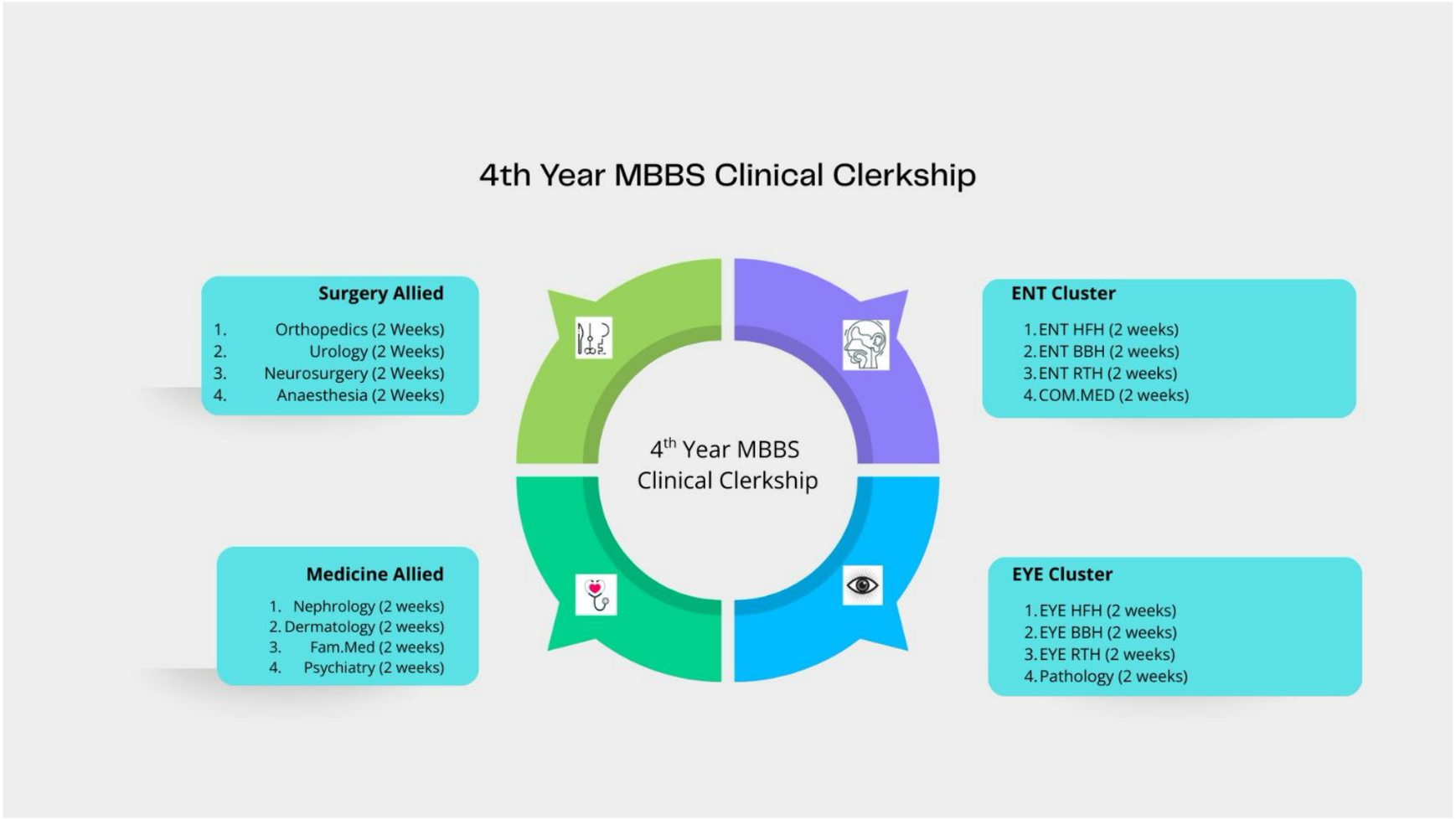


Figure 25 – Clinical Symptom Based Integrated Clinical Clerkship (CSB-ICC) ENT

Transdisciplinary Clinical Connect Session (TCCS)

Rationale Of The ENT Clinical Clerkship Program	General Learning Objectives

The 4th Year MBBS ENT Clinical Clerkship is structured around five high-frequency presenting complaints Otalgia/Otorrhea/Hearing loss/Dizziness, Rhinorrhoea/Nasal obstruction, Sore throat, Hoarseness/Dysphagia, and Neck masses, rather than traditional anatomical subdivisions. This thematic, symptom-oriented design reflects authentic clinical practice, where patients present with complaints rather than organ-based categories. This model promotes development of clinical reasoning by encouraging students to construct illness scripts based on presenting symptoms, differentiate common from serious conditions, and identify red-flag features requiring urgent referral. The structure supports hypothesis-driven diagnostic thinking rather than rote memorization. The clerkship operates within a workplace-based, competency-driven framework. Students progressively advance from foundational examination skills to integrated clinical decision-making across three hospital settings. The spiral progression ensures increasing complexity, contextual exposure, and refinement of skills in real patient environments.
 	
Educationally, the program aligns with:
 	
• **Harden's Integration Ladder (Levels 9–11)** by integrating basic sciences with clinical disciplines and encouraging interdisciplinary reasoning.
• **Miller's Pyramid**, progressing from "Knows How" to "Shows How" and approaching "Does" under supervision.
• **Competency-Based Medical Education (CBME)** through observable, measurable clinical competencies.
	ENT Integrated Clinical Clerkship (4th Year MBBS)
	
	By the end of the 6-week clerkship, students will be able to:
	
	Clinical Assessment Competencies
	
	1. Take a focused, symptom-oriented ENT history for patients presenting with:
	  ○ Ear pain, discharge, hearing loss, vertigo
	  ○ Nasal obstruction and rhinorrhoea
	  ○ Sore throat
	  ○ Hoarseness and dysphagia
	  ○ Neck swelling
	2. Perform systematic ENT examination including:
	  ○ Otoscopic examination
	  ○ Tuning fork tests
	  ○ Anterior rhinoscopy
	  ○ Throat examination
	  ○ Indirect laryngoscopy observation
	  ○ Cervical lymph node examination
	  ○ Thyroid and parotid assessment
	
	Clinical Reasoning Competencies
	
	3. Generate appropriate differential diagnoses based on presenting complaints.
	4. Differentiate common benign conditions from red-flag or malignant presentations.
	5. Recognize emergencies including:
	  ○ Sudden sensorineural hearing loss
	  ○ Peritonsillar abscess

• **Patient-centered care principles**, emphasizing communication, professionalism, and ethical responsibility. Furthermore, the selected themes reflect local disease burden and public health relevance, including tuberculosis-related lymphadenopathy, allergic rhinitis prevalence, diabetic complications such as malignant otitis externa, and tobacco-related head and neck malignancies. The clerkship therefore ensures contextual relevance, integration, progressive skill acquisition, and safe clinical practice readiness.	○ Airway compromise ○ Epistaxis requiring urgent management 6. Plan initial investigations and interpret basic findings (audiogram, X-ray PNS, FNAC basics). **Management & Safety Competencies** 7. Outline initial management strategies for common ENT conditions. 8. Identify cases requiring urgent referral to higher-level care. 9. Demonstrate understanding of antibiotic stewardship and rational prescribing. 10. Participate in ward rounds and observe minor procedures safely. **Communication & Professionalism** 11. Counsel patients regarding: • Disease condition and prognosis • Treatment compliance • Warning signs • Preventive strategies 12. Communicate sensitively in cases of suspected malignancy. 13. Maintain patient confidentiality and professional conduct in clinical settings. **Integration & Systems-Based Competencies** 14. Integrate basic sciences (anatomy, physiology, pathology, microbiology, pharmacology) with clinical findings. 15. Collaborate effectively within multidisciplinary teams including radiology, pathology, oncology, pediatrics, medicine, and anesthesia.

Transdisciplinary Clinical Connect Session (TCCS)

Theme	Core Competency Emphasis
Theme 1 – Otalgia, Otorrhea, Dizziness, Hearing Loss	Examination skills + red flags
Theme 2 – Rhinorrhoea, Nasal obstruction	Differential diagnosis + emergency management
Theme 3 – Sore throat	Infection vs surgical decision-making
Theme 4 – Hoarseness, dysphagia	Malignancy suspicion + airway awareness
Theme 5 – Neck mass	Diagnostic reasoning + systemic disease integration
Theme 6 – Surgical aspects of ENT	Ear suction cleaning Myringotomy Mastoidectomy Septoplasty Tonsillectomy Adenoidectomy Direct Laryngoscopy Rigid Bronchoscopy Rigid Esophagoscopy

Duration:	6 Weeks (24 Days)

	• 21 Clinical Days • 3 Assessment Days **Model:** Symptom-Based Integrated Clinical Clerkship **Integration Level:** Harden Level 9–11

Theme - 1

Otalgia, Otorrhea, Hearing Loss, Dizziness

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
Day 1	25-year-old swimmer with severe otalgia & discharge	Acute otitis externa, AOM with perforation, malignant otitis externa, external vs middle ear differentiation, red flags	Steps 1–4: Applied anatomy & microbiology; Steps 7–9: Clinical correlation; Step 10: Integrated otoscopy	ENT, Pathology,	History, Otoscopy	Hygiene counselling, danger sign awareness
Day 2	Elderly patient with gradual hearing loss	Conductive vs SNHL, presbycusis, sudden SNHL emergency	Level 9–10 (Clinical integration & reasoning)	ENT, Audiology	Tuning fork tests, PTA interpretation	Empathy in elderly care
Day 3	Patient with vertigo	BPPV, Meniere's disease, peripheral vs central differentiation	Level 9–11 (ENT + Neurology integration)	ENT, Medicine	Dix-Hallpike, focused neuro exam	Reassurance, fall prevention
Day 4	Integrated ear cases	Differential formulation, investigation selection	Level 10–11 (Interdisciplinary reasoning)	ENT + Radiology	Case presentation	Professional communication

Specialty	Skill-Based Clerkship Learning Outcomes (LOs)
ENT (Primary Discipline)	• Perform focused ENT history for ear pain, discharge, hearing loss and dizziness • Conduct safe, systematic otoscopy identifying normal landmarks and pathology • Perform and interpret Rinne and Weber tests • Perform Dix–Hallpike manoeuvre correctly • Conduct focused cranial nerve exam in vertigo cases • Present structured ear case with differential diagnosis • Identify and escalate red flag findings appropriately • Counsel patients on ear hygiene and hearing protection
Audiology	• Interpret basic PTA results and correlate with bedside findings • Differentiate conductive vs sensorineural hearing loss using audiogram patterns • Correlate tuning fork findings with audiological results • • Explain vestibular physiology during clinical discussion
Medicine	• Perform focused neurological examination in dizzy patient • Differentiate peripheral vs central vertigo using bedside findings • Identify cerebellar and central red flag signs • • Integrate neurological findings with ENT assessment during case discussion
Pathology	• Select appropriate ear swab sample under supervision • Correlate clinical presentation with likely pathogens • Interpret culture & sensitivity reports • Justify empirical antibiotic selection during ward discussion
Radiology	• Identify indications for CT temporal bone and MRI brain • Correlate imaging findings with clinical suspicion • Justify investigation selection during case-based discussion

Theme - 2

Rhinorrhoea & Nasal Obstruction

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary	Skills	Attitude
Day 5	Young adult with nasal obstruction	DNS, allergic rhinitis, turbinate hypertrophy	Level 9	ENT	Anterior rhinoscopy	Allergen avoidance education
Day 6	Child with recurrent rhinorrhoea	Infective vs allergic rhinitis, sinusitis	Level 9–10	ENT, Pathology	Sinus exam, X-ray PNS	Rational antibiotic use
Day 7	Elderly with epistaxis	Little's area, systemic causes, emergency management	Level 10–11	ENT, Medicine	Nasal packing demo	Emergency composure
Day 8	Assessment of Theme 1 + 2					

Specialty	Skill-Based Clerkship Learning Outcomes (LOs)
ENT (Primary Discipline)	• Perform focused history in nasal obstruction and rhinorrhoea • Perform anterior rhinoscopy systematically and identify DNS, turbinate hypertrophy, discharge type • Perform sinus tenderness examination • Demonstrate safe initial steps in epistaxis management • Assist in anterior nasal packing (demonstration level) • Present structured nasal case with differential diagnosis • Identify red flag nasal symptoms requiring urgent referral
ENT (Allergic Rhinitis Focus)	• Differentiate allergic vs infective rhinitis clinically • Identify trigger history suggestive of allergy • Counsel patients on allergen avoidance strategies • Correlate clinical findings with immunological mechanisms during discussion
Pathology	• Correlate nasal discharge characteristics with likely pathogens • Interpret basic lab findings in sinus infection • Justify empirical antibiotic choice during ward discussion • Apply principles of antibiotic stewardship
Medicine	• Evaluate systemic causes of epistaxis (HTN, bleeding disorders) • Assess comorbidities contributing to nasal symptoms • Identify high-risk patients requiring admission • • Integrate systemic and ENT findings in case presentation
Radiology	• Identify indications for X-ray PNS and CT PNS • Correlate imaging findings with sinusitis and structural pathology • • Justify investigation selection in integrated case discussion

Theme - 3

Sore Throat

Day	Clinical Case	Core Teaching Points	Harden Level	Multidisciplinary	Skills	Attitude
Day 9	Acute tonsillitis	Viral vs bacterial differentiation, antibiotic stewardship	Level 9	ENT, Pathology	Throat examination	Judicious prescribing
Day 10	Peritonsillar abscess	Quinsy features, airway risk	Level 10	ENT	Red flag recognition	Urgency awareness
Day 11	Paediatric Adeno tonsillar hypertrophy	OSA, indications for tonsillectomy	Level 10	ENT, Medicine	Paediatric exam	Child-friendly communication
Day 12	Recurrent sore throat	Surgical decision making	Level 11	ENT	Case presentation	Ethical surgical counselling

Specialty	Skill-Based Clerkship Learning Outcomes (LOs)
ENT (Primary Discipline)	• Perform focused throat history in acute and recurrent sore throat • Conduct systematic oropharyngeal examination • Identify signs of acute tonsillitis and peritonsillar abscess • Recognize airway compromise features • Present structured sore throat case with differential diagnosis • Identify indications for tonsillectomy • Counsel patients regarding recurrence and surgical options
Pathology	• Interpret throat swab and culture reports • Justify antibiotic selection based on likely pathogens • Apply principles of antibiotic stewardship during ward discussion

ENT (Primary Discipline)	• Recognize red flag signs of quinsy • Assess airway risk in peritonsillar abscess • Demonstrate calm communication during emergency scenario simulation
Medicine (Systemic Context)	• Identify systemic complications (e.g., rheumatic fever suspicion) • Recognize immunocompromised patients requiring modified management • Integrate systemic assessment in recurrent sore throat cases

Theme - 4

Hoarseness & Dysphagia

Day	Clinical Case	Core Teaching Points	Harden Level	Multidisciplinary	Skills	Attitude
Day 13	Smoker with hoarseness	Laryngeal carcinoma suspicion, red flags	Level 10–11	ENT	Indirect laryngoscopy observation	Cancer sensitivity
Day 14	Progressive dysphagia	Mechanical vs neurological causes	Level 11	ENT, Medicine, GI	Focused dysphagia history	Empathetic counselling
Day 15	Tracheostomy patient	Airway management principles	Level 11	ENT	Tracheostomy care observation	Professional conduct
Day 16	Assessment of Theme 3 + 4					

Specialty	Skill-Based Clerkship Learning Outcomes (LOs)
ENT (Primary Discipline)	• Take focused history in hoarseness and dysphagia • Identify red flag symptoms suggestive of laryngeal malignancy • Observe and interpret indirect laryngoscopy findings • Differentiate inflammatory vs neoplastic causes clinically • Present integrated laryngeal case with differential diagnosis • Recognize airway compromise risk
ENT (Oncology)	• Identify high-risk features for head & neck cancer • Explain need for biopsy in suspected malignancy • Demonstrate sensitivity when discussing cancer suspicion • Understand basics of multidisciplinary tumor board discussion
Medicine	• Differentiate mechanical vs neurological dysphagia clinically • Identify systemic causes contributing to hoarseness/dysphagia • Recognize aspiration risk • Integrate medical comorbidities in management discussion
Gastroenterology (GI)	• Identify indications for Jejunostomy • Correlate symptoms with possible reflux-related laryngeal disease
Radiology	• Identify indications for CT neck in suspected malignancy • Correlate imaging findings with clinical suspicion • Justify imaging selection in integrated case discussion
Pathology	• Understand basics of biopsy interpretation (benign vs malignant features – overview level) • Correlate histopathology report with clinical case discussion

Theme - 5
Neck Masses

Day	Clinical Case	Core Teaching Points	Harden Level	Multidisciplinary	Skills	Attitude
Day 17	Young adult with neck swelling	TB vs reactive vs lymphoma	Level 10	ENT, Pathology, Medicine	Lymph node examination	TB stigma sensitivity
Day 18	Benign Neck swellings	Solitary nodule vs MNG	Level 11	ENT	Neck examination	Approach to patient
Day 19	Parotid swelling	Facial nerve	Level 11	ENT	Facial nerve exam	Respectful communication
Day 20	Integrated head & neck case	Diagnostic pathway planning	Level 11	ENT + Radiology + Pathology	Clinical reasoning	Professional presentation

Specialty	Skill-Based Clerkship Learning Outcomes (LOs)
ENT (Primary Discipline)	• Take focused history in patients with neck swelling • Perform systematic lymph node examination • Perform thyroid examination correctly • Assess facial nerve function in parotid swelling • Identify red flag features suggestive of malignancy • Present structured head & neck case with prioritized differential diagnosis
Pathology	• Interpret FNAC reports at basic level • Correlate clinical findings with cytology results • Recognize when biopsy is indicated • Participate in clinicopathological case discussion
Medicine	• Identify systemic features suggestive of TB, lymphoma, or systemic disease • Evaluate constitutional symptoms (fever, weight loss, night sweats) • Integrate systemic assessment into diagnostic reasoning

Radiology	• Identify indications for ultrasound neck • Interpret basic imaging findings in thyroid and lymph node enlargement • Justify further imaging (CT/MRI) when malignancy is suspected

Theme - 6
Surgical aspects of ENT

Day	Clinical Case	Core Teaching Points	Harden Level	Multidisciplinary	Skills	Attitude
Day 21	Ear blockage, ear discharge, foreign body ear, decreased hearing	Indication, steps, complications of surgeries	Level 11	ENT	Perform suction of ear in OT	Ethical considerations
Day 22	Nasal obstruction, post nasal drip, decreased olfaction	Indication, steps, complications of surgeries	Level 11	ENT	Performing anterior rhinoscopy	Ethical considerations
Day 23	Recurrent sore throat, foreign body ingestion	Indication, steps, complications of surgeries	Level 11	ENT	Assist procedure in OT	Ethical considerations
Day 24	Assessment of Theme 5 + 6					

Specialty	Skill-Based Clerkship Learning Outcomes (LOs)
ENT (Primary Discipline)	• Perform suction of ear • Perform nasal patency test • Perform anterior rhinoscopy • Perform anterior nasal packing • Observe tonsillectomy, adenoidectomy in OT • Observe rigid bronchoscopy, rigid esophagoscopy

Community Oriented Clerkship Module
4th Year MBBS (Rev-2026)
Department Of Community Medicine & Public Health RMU

Theme (aim):

The primary purpose of this module is to educate students in those areas of the subject of CM&PH which are learnt better by onsite presence of the students at certain sites, processes, agencies which have public health relevance and in general community setting. Moreover some, areas of the subject which demands close interactive teachings in small group like HHS data analysis & report writing skills, contraceptive use skills, vaccination skills, etc are also covered during this rotation. All opportunities available within and outside the institution within affordable logistics, time, are focused for this purpose. A short time of this batch rotation is dedicated for health education communication practices as Health awareness work and other social work.

Learning outcomes (LOs):

at the end of this learning module students are expected to achieve following Public health Competencies as will be able to:

1. *Undertake a population based health survey (HHS)*
2. *Appreciate working of First level Care Facility (Public Sector)*
3. *Perform Community Immunization / EPI vaccinations.*
4. *Develop Hospital waste management plans.*
5. *Develop Community based health awareness message.*
6. *Communicate for Health awareness in community settings.*
7. *Commemorate International public health days.*
8. *Develop Hospital administration Plans.*
9. *Undertake Preventive healthcare inquiries and NCDs Risk Factors Surveillance*
10. *Counsel for the contraceptive devices to the community*

Module outline:

- *A batch comprising 20-22 students is posted in the department of CM & PH for a period of 2weeks* ***(Monday to Thursday-04 hrs. /day & for 32hrs in total)****. This schedule is run over the whole academic year, till all students of 4th year MBBS class passes through this rotation.*
- *Batch formation and schedules of rotation for whole class as notified by the DME / Student's section will be followed accordingly.*
- *At commencement of the academic year overall batch learning module coordinator, nomination of batch in-charges, senior faculty in charges and calendar schedule of batch rotation for all batches over the whole academic year will be notified by the Department of CM & PH.*

Day	Activity -I 10.30 – 11.00	Activity – II 11.00- 11.30am	Activity -III 11.30- 01.00pm	Act-V 01.00 – 2.00pm	Sites of teaching-learning	Assessment	Session outcome (level of learning)
	Session topic	Session topic	Session topic	Session topic			
1st day	instructing / demonstration on Practical Manual based Assignments	• Visit to CHC • SGIS on Health days commemoration work, Display material, PPT.	• SGIS on HM-DTD practicum. Topic finalization, CHC-Message draft outlines finalization.	• PPT based Demo on How to conduct & report HHS. • Guidelines on PHI work to be done during clinical rotations / ward duties	• Demonstration / lec -Hall 3 • CHC - Dept CM NTBRMU.	• 1-2 OSPE in end of clerkship exam (credit will part of IA) • Assessment of HHS -Report (Max marks:5 part practical /viva exam 4th Prof MBBS)	• Construct a health message. (C6) • Prepare Health days commemoration stuff, Display material, PPT, (P) • Undertake a health survey. (HHS) (C3)
2nd day	Follow up session on. - HM-DTD work - HHS work - health days commemoration work	SGIS/ Briefing / PPT based guidelines on field visit of the day (EPI services center HFH)	FV to the EPI center HFH	Health awareness work (HAW)	• Demo Room, • EPI Center HFH • OPD, hosp	• 1-2 OSPE in end of clerkship exam (credit will part of IA) • Grade of performance in EPI visit reporting. • Credit of HAW	• Explain cold chain component at EPI center • Vaccinate (EPI) vaccines to the clients . • Comprehend EPI system

					ital shelters sites for health awareness work (HAW)		
3rd day	Follow up session on HM-DTD work & HHS	SGIS / Briefing / PPT based guidelines on FV to MCH & FP Services Center HFH	FV to the MCH services & FP center HFH	Health awareness work (HAW)	• FP Center HFH • OPD, hospital shelters sites for HAW	• 1-2 OSPE in end of clerkship exam (credit will part of IA) • Grade of performance in EPI visit reporting. • Credit of HAW	• Identify CP devices available at MHC FP center • Counsel clients for use of a contraception method • Place CP devices to client (P)
4th day	Follow up session on HM-DTD work & HHS	Briefing / guidelines on FV Hospital waste disposal system in hospitals	• FV to the hospital waste dispo	Health awareness work (HAW)	• FP Center HFH OPD, hospital	• End of module OSPE • Grade of performance in visits to sites	• Explain hospital waste disposal system • Develop a hospital waste management plan • Explains various domains of hospital management (C2)

			sal syste m & releva nt sites / Incin erator		shelters sites for HAW		
5th day (week 2)	SGIS / PPT based briefing on Hospital management & administration	Visit to Hospital management & administration (HFH) office		Health awareness work (HAW	HHF	• End of module OSPE • Grade of performance in visits to sites	
6th day	SGIS / PPT based briefing on visit to First level of health care facility (FLCF) BHU/RHC	Field visit to RHC Khyaban Sir-Syed (RHC) or BHU		• Demo room / lec Hall 3 NTB / CPC-Hall . • RHC / BHU	Health awareness work (HAW at site visited	• End of module OSPE • Report credit in PJ	• Explain working of FLCF • Appreciate PHC elements at FLCF. (C2)
7th day	Health days commemoration (walk/ seminar/ presentation/ CHC-message dissemination work (10.30 – 12.00pm)	12.00 – 2.00pm • Completion & assessment of relevant Practical Journal work, • HHS-report book, • Logbook etc. • Feedback discussion on PHI				• Communication skills • Comprehend frequency Preventable RFs of NCDs in the real population (RF surveillance) • Undertake a preventive Healthcare inquiry	
8th day	Museum learning module (MLM) / visit to departmental Museum 10.30- 12.30	• Endo of module OSPE (12.30 – 2.00pm) • OPSE conduction (10 stations video assisted OPSE / OSPE) for 40 total marks .	Plus Completion of any remaining work journal assessment HHS report assessment Students feedback etc				

Community based / Field Visits Each batch will be perform at least 02 filed visits of sites of Public health importance outside the institutions under available opportunities and logistics. Following sites may be considered for the purpose.		
	I. RHC Khiaban-e-Sir-Syed Rawalpindi / DHO II. Sewerage Treatment Plant I-8 Islamabad III. Water purification plant Rawal Dame Islamabad IV. Child protection Bureau Rawalpindi V. Community Livings / urban slums - US-15 Rawalpindi VI. National Vaccination production unit– Chuk Shahzad Islamabad VII. Vaccines & Venom Production Unit, NIH, Islamabad VIII. Clinical Trail Unit, NIH- Islamabad IX. Diseases Surveillance & control / SAAL office. NIH Islamabad X. WHO-Office, Chuk Shahzad, Islamabad XI. National Command & Operation Control Office (NCOC) / System. Disaster Control & Management office Islamabad XII. Office of Punjab Food Control Authority – Rawalpindi XIII. Drug intoxication & Rehabilitation center Dept of Psychiatry BBH Rawalpindi XIV. Any site appropriate & feasible for the purpose.	**LOs:** Students will better comprehend the System, Mechanism, or Processes (visited) of community health or public health relevance in regional practices context. (**Practice based Learning)** **Feasibility, opportunity, and logistics:** every visit will be planned subject to: 1. Approval of competent authority (RMU) in given conditions. 2. Time space available (total 8 days rotation & with max 04 hrs. a day) 3. Availability of Transport 4. Consent / approval of f remote sites 5. Another justified pre-visit approval/favor or fulfillment of need.

Domains of learning: *learning will occur in all the three domains C, A & P*

SOPs of Learning & Assessments:

- *Active participation will be graded by the batch in charge **(under a check list)** during the activity / session and grades/marks will be entered in the practical manual as out of 05 (Max marks 05) by the batch in charge. O5 Max Marks are reserved for CHC (HMDTD and Health awareness work.*
- *Assessment will be done by **OSPE / MCQs Exam / Viva voce** at the end of each module and credit will be objectively recorded for the purpose of internal assessment. (Max mark 10)*
- *General assessment of the subject learning will be through MCQs, SEQs & OSPE on the relevant subjects in the relevant end of modules, block exams and Send up Exams.*

- ***Students are required to report / write the relevant work in Practical Journal, House Hold Survey Report Book and log all the clerkship activities in the Logbook on daily basis.***

Core Planner of Community Oriented Clerkship (2 weeks batch rotation)
[Calendar schedule as notified by DME will be followed accordingly]

Note:

1. Calendar schedule of each batch will be noticed by the Department of community Medicine prior to the commencement of the batch rotation.
2. Students will have to record all activities of the clerkship in the relevant Logbook accordingly. Students will keep logbook updated and duly signed by faculties & departments.

16.Research

Cultivating the culture of Research has always been envisioned as one of the main pillars of Rawalpindi Medical University, as a means to develop healthcare professionals capable of contributing to the development of their country and the world. For the purpose thereof, right from the inception of Rawalpindi Medical University, efforts were concentrated to establish a comprehensive framework for research in Rawalpindi Medical University, as a matter of prime importance. With team efforts of specialists in the field of research, framework was made during the first year of the RMU, for the development and promotion of Research activities in RMU, called the Research Model of RMU, giving clear scheme and plan for establishment of required components for not only promoting, facilitating and monitoring the research activities but also to promote entrepreneurship through research for future development of RMU itself.

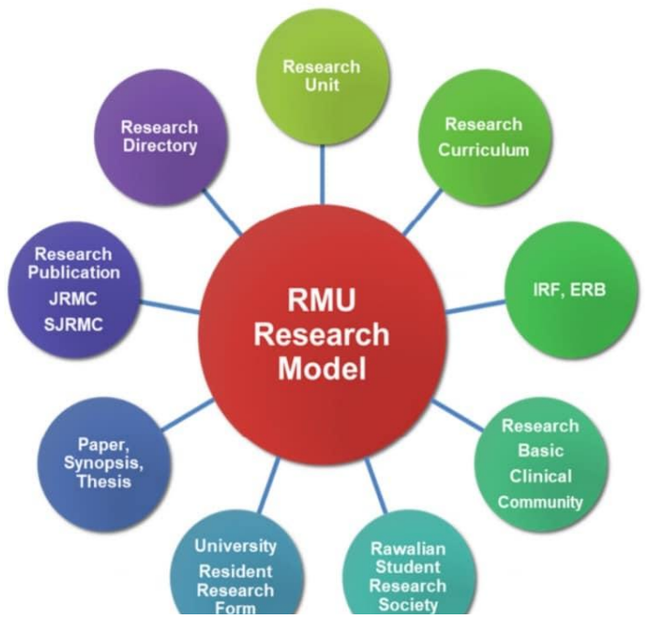


Figure 30 – RMU Research Model

17. Biomedical Ethics

Ethical choices, both minor and major, confront us everyday in the provision of health care for persons with diverse values living in a pluralistic and multicultural society.

Four commonly accepted principles of health care ethics, excerpted from Beauchamp and Childress (2008), include the:

1. Principle of respect for autonomy,
2. Principle of nonmaleficence,
3. Principle of beneficence, and
4. Principle of justice.

18. Family Medicine

Family Medicine is the primary care medical specialty concerned with provision of comprehensive health care to the individual and the family regardless of sex, age or type of problem. It is the specialty of breadth that integrates the biological, clinical and behavioural sciences. Family physicians can themselves provide care for the majority of conditions encountered in the ambulatory setting and integrate all necessary health care services.

19.Artificial Intelligence

Artificial intelligence in medicine is the use of machine learning models to search medical data and uncover insights to help improve health outcomes and patient experiences. Artificial intelligence (AI) is quickly becoming an integral part of modern healthcare. AI algorithms and other applications powered by AI are being used to support medical professionals in clinical settings and in ongoing research. Currently, the most common roles for AI in medical settings are clinical decision support and imaging analysis.

Section – V Learning Management System (LMS)

Theme Based LMS Assessment
4th year MBBS 2026
ENT Block-X Module-1

Vision

To enhance competency-based learning and clinical reasoning skills among Fourth-year medical students by leveraging a robust Learning Management System (LMS) to implement weekly, clinically-oriented assessments in Medicine and Allied specialties.

Introduction:

A Learning Management System (LMS) is a software application or platform used to deliver, manage, and track educational content and training programs. It helps organizations, institutions, or businesses deliver learning experiences to learners in an organized, scalable, and accessible way.

1.Course Creation & Management:
•Allows instructors or administrators to create and organize courses, modules, lessons, and assessments.
•Supports multimedia content such as videos, quizzes, PDFs, and presentations.

2.User Management:

Facilitates the creation of user profiles for learners, instructors, and administrators. Allows tracking of individual progress, achievements, and performance.

3.Assessment & Testing:
Includes features for creating and administering quizzes, assignments, and exams. Provides automated grading and feedback to learners.

4.Reporting & Analytics:
•Tracks learner performance, course completion rates, and engagement levels.
•Provides insights to instructors and administrators for informed decision-making.

5.Communication Tools:

•Integrates discussion boards, chat features, and email to facilitate communication between learners and instructors.
•Supports notifications and announcements.

6.Scalability & Flexibility:

•Can accommodate a growing number of learners or users.
•Supports a variety of learning styles, including synchronous (live) and asynchronous (self-paced) learning.

7.Mobile Access:

Many LMS platforms are mobile-friendly or offer mobile apps to support learning on the go.

An effective Learning Management System (LMS) assessment framework for undergraduate medical students should be structured to evaluate knowledge, skills, and attitudes systematically. It should also align with educational objectives, regulatory standards, and the specific needs of medical education. Below is a comprehensive framework:

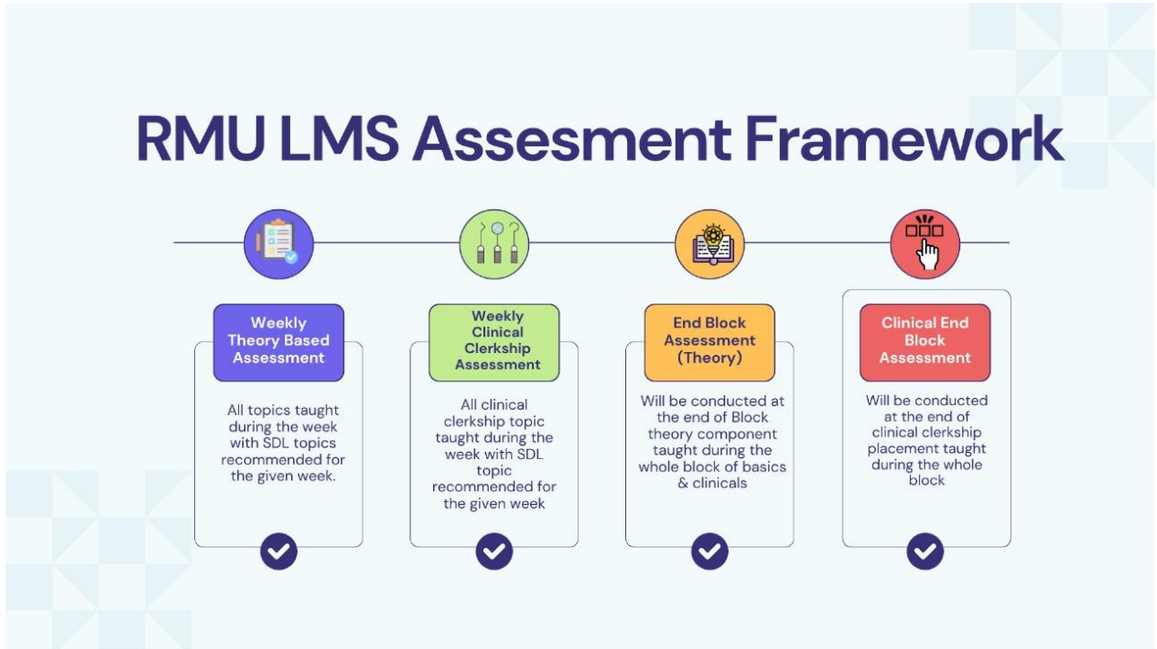


Figure 27: Framework for LMS Assessment for Undergraduate Medical Students

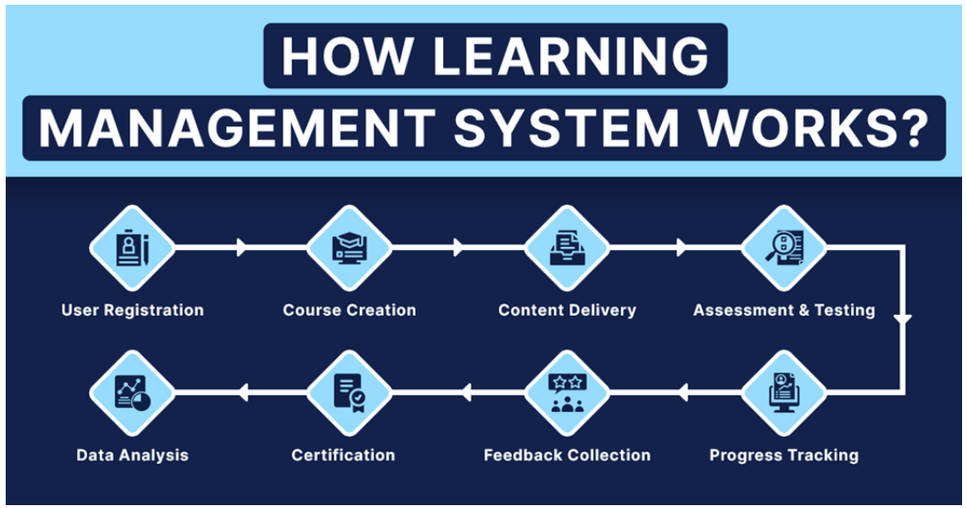


Figure 28: How learning management system works

Implementation of LMS

Table of Specification of weekly LMS of 3rd, 4th & Final Year MBBS

Table 1: Frequency of Assessments & Distribution of MCQs in LMS

For 4th year:

Sr. #.	Nomenclature of Exam			Time	Type of Assessment	No of MCQs
1.	During module (Weekly)	LMS Test	Every Tuesday evening	8:00 to 10:00 pm	Summative	100

Table 2: Distribution of Questions According to Level of Cognition:

Sr.#	Level of Cognition	%age Distribution of Questions	Type of Integration
1.	C1(Recall)	20%	Horizontal
2.	C2(Interpretation)	60%	Core Concept & Vertical
3.	C3(Problem Solving)	20%	Vertical(Purely Clinical Concepts)

Table 3: Implementation of Calgary Model of Categorization of Questions for LMS assessments:

Sr. No	Type of Assessment	Calgary Model		
		Must Know (A)	Should know (B)	Nice to know (C) (C)
1.	Summative	50%		50%
2.	Summative	100%		----------

Implementation of LMS:

To ensure the effective implementation of the Learning Management System (LMS), the following steps will be undertaken:

1.Infrastructure Setup:

The LMS will be hosted on a well-equipped platform capable of handling multiple users simultaneously, ensuring reliability and performance during peak usage times.

2.IT Department Support:

A dedicated IT department will be responsible for managing the system, providing technical support, and ensuring smooth operation.

3.User Credentials:

Unique IDs and passwords will be issued to each student by the IT department, granting secure access to the LMS. Students will be guided on how to use the platform effectively.

4.Exam Scheduling:

Dates and times for exams will be pre-set within the LMS, allowing students to prepare accordingly. The scheduling system will ensure timely availability of test materials and instructions.

5.Automated Notifications:

Automated messages will be sent to students to inform them of upcoming exams, deadlines, or important updates. These notifications will ensure students remain informed and prepared.

6.Test Notices:

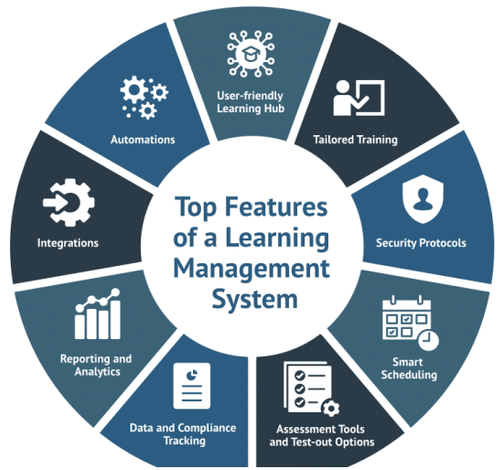
Detailed test notices, including exam guidelines, formats, and schedules, will be shared with students through the LMS to ensure clarity and readiness.

This structured implementation plan will enable the LMS to function effectively, fostering a productive and organized learning environment for both students and faculty.

LEARNING MANAGEMENT SYSTEM RMU

- A campus management system is being utilized as a learning resource.
- Faculty members from all disciplines, both basic and clinical, have been actively involved and trained in using these systems to deliver lectures effectively.
- The faculty is responsible for uploading lectures, assignments, and weekly assessments.

- Each student has been provided with a unique login to access the lectures and resources on the LMS.
- Attendance for each academic activity—lectures, interactive sessions, quizzes, and assignments—is recorded separately.
- Faculty members are required to mark attendance immediately after each lecture



Objectives of a Learning Management System (LMS) for Undergraduate Medical Students

The primary objective of a Learning Management System (LMS) for undergraduate medical students is to enhance the quality of medical education by providing a comprehensive, interactive, and accessible digital platform that facilitates:

- **Efficient Delivery of Educational Content:**

To enable faculty to upload and organize lectures, assignments, assessments, and other learning resources systematically.

- **Student-Centered Learning:**

To promote self-paced, flexible learning by granting students 24/7 access to educational materials tailored to their curriculum.

- **Interactive and Engaging Learning:**

To foster active engagement through features like discussion forums, quizzes, and virtual interactive sessions.

- **Streamlined Academic Monitoring:**

To track student attendance, performance, and progress through automated attendance marking, assessments, and progress dashboards.

- **Standardization and Quality Assurance:**

To ensure uniformity in educational delivery across various disciplines and compliance with institutional and accreditation standards.

- **Feedback and Continuous Improvement:**

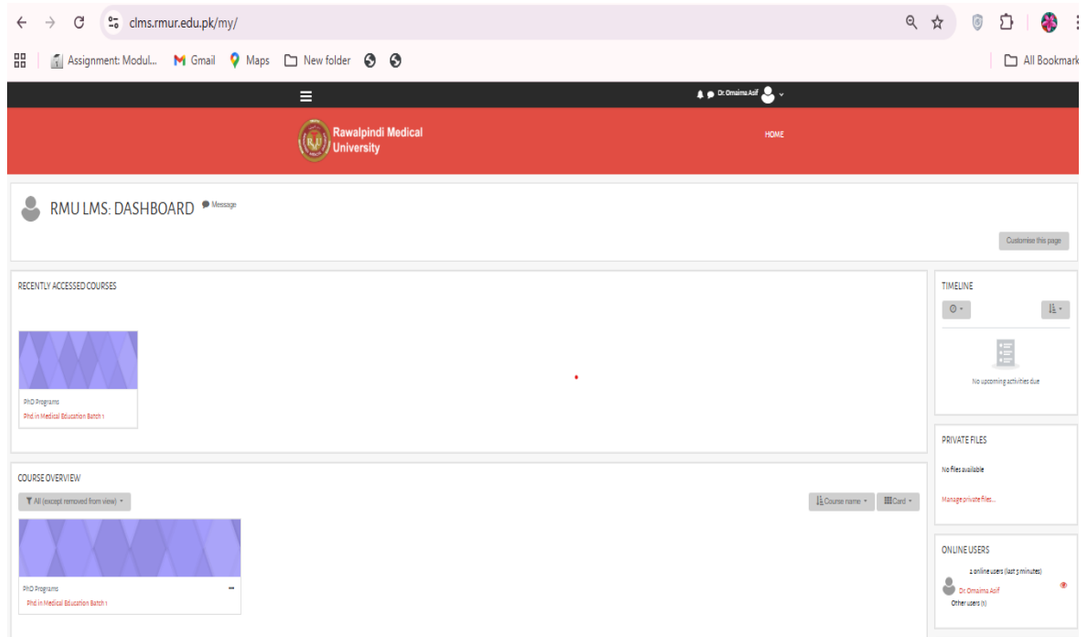
To integrate feedback mechanisms that involve students, faculty, and other stakeholders, driving continuous quality improvement.

- **Integration of Technology in Medical Education:**

To familiarize students with digital tools and resources essential for modern medical practice and research.

By achieving these objectives, the LMS supports the holistic development of medical students, ensuring they are well-prepared for clinical practice and lifelong learning.

RMU LMS Website



Weblink: https://clms.rmur.edu.pk/

1. Goals and Objectives of Assessment

- **Knowledge:** Evaluate understanding of basic and clinical sciences.
- **Skills:** Assess critical thinking, clinical reasoning, and procedural skills.
- **Attitudes:** Foster professionalism, ethical decision-making, and communication skills.
- **Feedback:** Provide timely, constructive feedback to support learning and growth.

2. Components of LMS-Based Assessment

a. Formative Assessments

- **Purpose:** Monitor ongoing learning and identify areas needing improvement. It includes
    - Online quizzes (MCQs, EMQs)
    - Short assignments or reflections
    - Case-based discussions
    - Interactive polls during live sessions
- **Schedule :** Weekly or module-specific

b. Practical/Skill-Based Assessments

- **Purpose:** Assess clinical skills, diagnostic reasoning, and procedural competence. Practical/skill based assessments can be taught through
    - Virtual simulations (e.g., diagnostic procedures, patient management)
    - Video submissions demonstrating skills (e.g., history-taking, physical examination)
    - Peer assessment of clinical skills via uploaded videos

c. Attendance and Participation.

Its purpose is to encourage consistent engagement in academic activities. Student's attendance is actively monitored through LMS via

- Attendance tracking for lectures, discussions, and interactive sessions.
- Participation metrics (e.g., activity in discussion forums, live Q&A sessions).

d. Feedback Mechanisms: Its purpose is to enhance learning and improve course delivery. Feedback monitoring can be done by following mechanisms:

- Embedded feedback forms after each session or activity.
- Peer and faculty reviews of assignments and projects.
- Self-assessment tools for reflection on progress.

3. Assessment Tools and Formats

- **MCQs/EMQs:** Test foundational knowledge and application.
- **OSCE Simulations:** Evaluate clinical reasoning and procedural skills.
- **Interactive Tools:** Use polls, chat, and breakout rooms for real-time engagement.
- **Assignments:** Assess understanding through essays, case reports, or reflections.
- **Group Projects:** Foster teamwork and problem-solving skills.

4. Implementation Strategies

- **Faculty Training:** Equip faculty with skills to design and deliver online assessments.
- **Student Orientation:** Familiarize students with LMS tools and expectations.
- **Tech Infrastructure:** Ensure robust LMS functionality and technical support.
- **Accessibility:** Provide accommodations for students with disabilities or limited resources

5. Quality Assurance and Continuous Improvement

- **Evaluation Proformas:** Gather periodic feedback from students and faculty.
- **Data Analytics:** Use LMS analytics to track student performance and participation.
- **Audit Mechanisms:** Regularly review and update the assessment framework.
- **Stakeholder Input:** Incorporate suggestions from students, faculty, and external reviewers.

6. Compliance with Regulatory Standards

Launching of LMS in RMU is in alignment with regulatory bodies . Digital learning at RMU aims at

- Alignment assessments with accreditation and medical council guidelines (e.g., HEC, WFME).
- Ensure assessments address core competencies, including knowledge, skills, and professionalism.

This LMS assessment framework integrates diverse evaluation methods to ensure holistic learning and competency development in undergraduate medical students. It fosters an interactive, adaptive, and equitable learning environment, preparing students for the demands of modern medical practice.

Importance of LMS

A Central Pillar of Continuous Internal Assessment (CIA)

In today's rapidly evolving educational landscape, digital learning isn't just an add-on it's the new backbone of academic progress. Our Learning Management System (LMS) stands at the heart of this transformation, bringing structure, consistency, and accessibility to the way students learn and the way faculty deliver content.

By integrating LMS into the Continuous Internal Assessment (CIA) framework, our institution takes a major step forward in aligning with global best practices. LMS-based assessments now officially hold **10% weightage** in the overall evaluation, making regular participation not just beneficial but essential for every student.

Why LMS Matters

1. Streamlined Access to Learning

The LMS gives students a single, organized digital space where lectures, notes, assignments, quizzes, and announcements are available anytime, anywhere. No missed updates, no lost handouts everything stays just a click away.

2. Consistent, Transparent Assessment

With weekly formative and summative assessments conducted through LMS, students get a clear picture of their academic standing. The system ensures fairness, automated scoring where appropriate, and immediate feedback so learners can identify strengths and areas needing improvement.

3. Builds Stronger Learning Habits

Regular LMS assessments encourage students to stay engaged throughout the semester instead of relying on last-minute preparation. This continuous learning approach improves retention, confidence, and performance in final exams.

4. Enhances Interaction and Engagement

Through discussion forums, digital assignments, and interactive features, the LMS promotes active learning. Students participate more, collaborate more, and take greater responsibility for their progress.

5. Professional Readiness

Modern healthcare requires tech-savvy professionals who can adapt to digital tools. Using LMS throughout their training prepares students for the technologically advanced clinical and administrative environments they will soon enter.

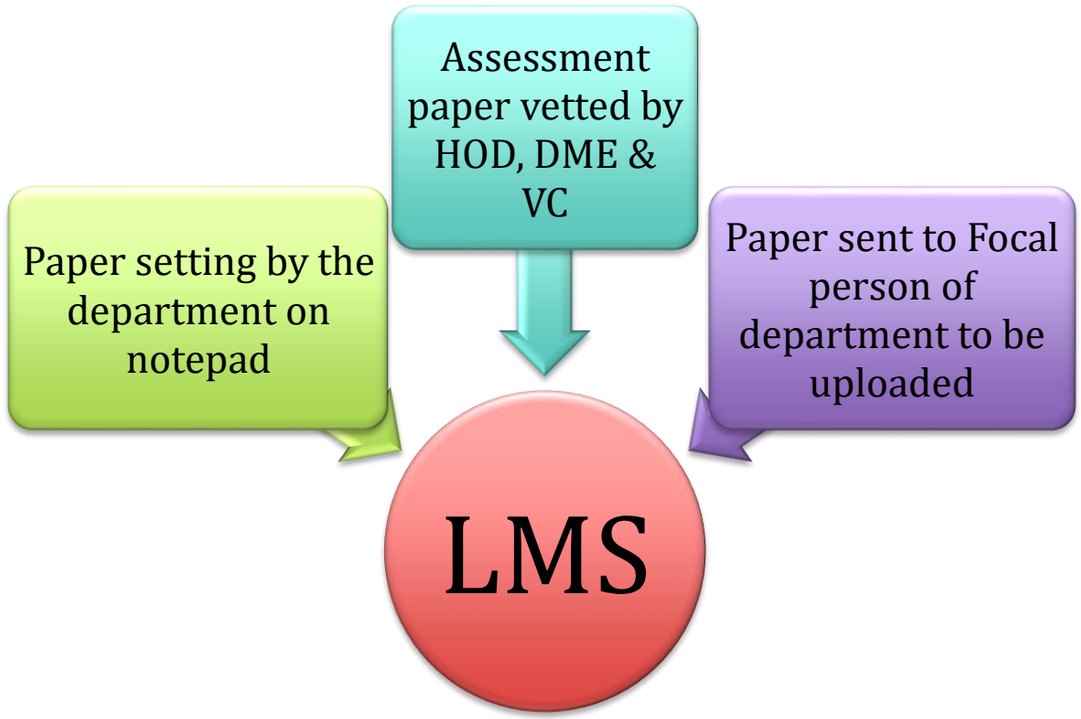
LMS as Part of CIA: What It Means for Students

With LMS contributing **10% to the CIA**, students are encouraged to take weekly assessments seriously. Consistent participation directly boosts overall grades while also strengthening core concepts. This system rewards discipline, regular study habits, and active involvement qualities that are essential in medical education.

A Collective Step Toward Better Learning

The adoption of LMS-based CIA reflects our institution’s commitment to innovation and excellence. We’re not just keeping up with global standards; we’re moving ahead of the curve by ensuring that every student gets a modern, interactive, and meaningful learning experience.

LMS Assessment Papers



Hierarchy of conducting LMS

Figure 29: LMS Assessment paper setting, vetting, uploading

Sample paper

Papers attached as Annexure

PATHOLOGY

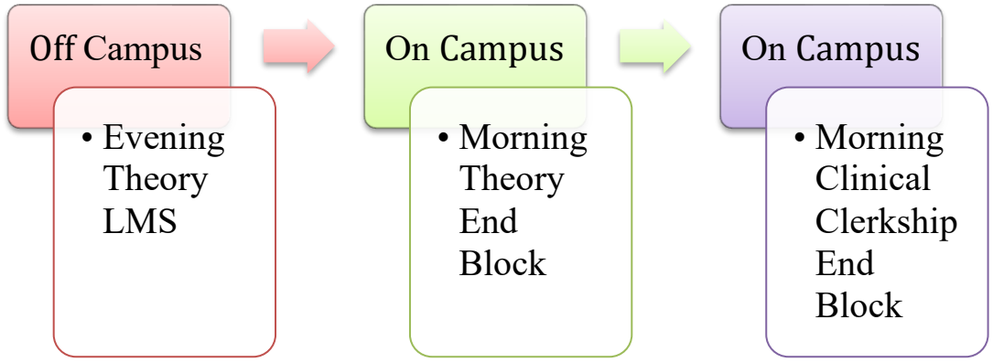
Q: A 7-year-old child develops fever and a vesicular rash that starts on the trunk and spreads to the face and limbs. What is the most likely causative agent?
A. Herpes Simplex Virus-1
B. Epstein-Barr Virus
C. Cytomegalovirus
D. Varicella-Zoster Virus
E. Parvovirus B19
ANSWER: D

Q: In immunocompromised patients, CMV most commonly causes which of the following complications?
A. Hemorrhagic cystitis
B. Retinitis and colitis
C. Meningitis
D. Skin rash and arthralgia
E. Hepatic abscess
ANSWER: B

Q: What is the characteristic histologic finding in tissues infected by cytomegalovirus?
A. Multinucleated giant cells with Cowdry type A inclusions
B. Intracytoplasmic eosinophilic inclusions
C. Owl's eye intranuclear inclusions
D. Councilman bodies
E. Granulomas with caseation
ANSWER: C

Q: A 68-year-old man presents with a painful vesicular rash in a dermatomal distribution. What is the most likely diagnosis?
A. Primary varicella infection
B. Herpes labialis
C. Cytomegalovirus infection
D. Herpes zoster (shingles)
E. Kaposi's sarcoma
ANSWER: D

Assessment Results of LMS MBBS



3rd Year MBBS (Off Campus Evening) LMS Assessment Results (Theory Based)

	Roll No.	Name	FM-II 1 (90)	% age	FM-II-2 (90)	%age	FM-II-3 (90)	% age	FM -II 1 (90)	% age	FM -II wk 2	% age	FM-II Wk 3	% age	GIT wk 1	% age	GIT week 2	% age	GIT wk 3	% age	GIT week 4	% age	GIT wk 5	% age	microbes wk 1	% age
1	1	Aaira Amin	50	56%	81	90%	79	88%	87	97%	81	90%	77	86%	84	93%	90	90%	97	97%	94	94%	82	82%	80	80%
2	2	Abeera Asad	75	83%	79	88%	71	79%	84	93%	88	98%	77	86%	88	88%	94	94%	97	97%	97	97%	80	80%	85	85%
3	3	Adan Farrukh	80	89%	83	92%	0	0%	88	98%	90	100%	80	89%	86	86%	96	96%	96	96%	94	94%	82	82%	90	90%
4	4	Addan Fatima	78	87%	81	90%	85	94%	89	99%	89	99%	74	82%	87	87%	95	95%	97	97%	97	97%	85	85%	87	87%
5	5	Adden Fatima	77	86%	77	86%	78	87%	81	90%	79	88%	60	67%	83	83%	97	97%	95	95%	93	93%	77	77%	93	93%
6	6	Aena Rehman	21	23%	0	0%	79	88%	85	94%	86	96%	45	50%	86	86%	0	0%	96	96%	96	96%	53	53%	88	88%
7	7	Hafsa Sameen	77	86%	84	93%	78	87%	73	81%	87	97%	72	80%	90	90%	96	96%	95	95%	95	95%	84	84%	86	86%
8	8	Ama Ali	76	84%	82	91%	81	90%	88	98%	86	96%	78	87%	83	83%	96	96%	95	95%	96	96%	87	87%	91	91%
9	9	Aiman Imran	72	80%	85	94%	65	72%	0	0%		0%	70	78%	83	83%	96	96%	94	94%	97	97%	84	84%	86	86%
10	10	Aiman Sarfraz	21	23%	82	91%	77	86%	85	94%	89	99%	79	88%	85	85%	96	96%	95	95%	96	96%	87	87%	90	90%
11	11	Aimen Asif	76	84%	72	80%	82	91%	88	98%	85	94%	74	82%	88	88%	95	95%	97	97%	99	99%	83	83%	83	83%
12	12	Aimen Jamil	0	0%	85	94%	75	83%		99%		0%	77	86%	90	90%	98	98%	75	75%	95	95%	78	78%	89	89%
13	13	Aleena Abid	77	86%	81	90%	78	87%	89	0%	88	98%	81	90%	89	89%	93	93%	95	95%	97	97%	84	84%	90	90%
14	14	Aleesha Zafar	80	89%	81	90%	82	91%		0%	89	99%	76	84%	89	89%	96	96%	98	98%	96	96%	68	68%	90	90%
15	15	Alina Batool	76	84%	78	87%	81	90%	91	101%	86	96%	79	88%	88	88%	95	95%	95	95%	95	95%	82	82%	90	90%
16	16	Alisha Zeeshan	22	24%	83	92%	80	89%	87	97%	88	98%	71	79%	90	90%	93	93%	94	94%	99	99%	82	82%	88	88%
17	17	Alishba Naveed	75	83%	85	94%	83	92%	90	100%	92	102%	79	88%	88	88%	99	99%	96	96%	96	96%	84	84%	87	87%
18	18	Alishbaqq Sikandar	77	86%	79	88%	78	87%	88	98%	86	96%	75	83%	86	86%	95	95%	95	95%	96	96%	84	84%	91	91%
19	19	Aliza Tariq	76	84%	84	93%	80	89%	84	93%	90	100%	80	89%	84	84%	97	97%	97	97%	98	98%	84	84%	89	89%
20	20	Amal Abbas	77	86%	82	91%	80	89%	88	98%	85	94%	77	86%	91	91%	95	95%	95	95%	96	96%	84	84%	88	88%
21	21	Ameema Waheed	76	84%	66	73%	0	0%	84	93%	83	92%	76	84%	86	86%	74	74%	97	97%	98	98%	84	84%	86	86%
22	22	Amna .	81	90%	81	90%	79	88%	89	99%	86	96%	78	87%	82	82%	94	94%	95	95%	94	94%	82	82%	90	90%
23	23	Amna Asghar	74	82%	85	94%	80	89%	88	98%	87	97%	77	86%	87	87%	95	95%	96	96%	95	95%	81	81%	84	84%
24	24	Amna Idrees	59	66%	68	76%	53	59%	61	68%	53	59%	74	82%	84	84%	98	98%	95	95%	96	96%	82	82%	88	88%
25	25	Amna Raza	76	84%	81	90%	82	91%		99%	91	101%	79	88%	89	89%	98	98%	98	98%	95	95%	83	83%	86	86%
26	26	Amna Zafar	77	86%	84	93%	83	92%	89	0%	88	98%	72	80%	88	88%	69	69%	97	97%	97	97%	62	62%	84	84%
27	27	Andleeb Zahra	74	82%	81	90%	77	86%	88	98%	84	93%	76	84%	88	88%	96	96%	98	98%	96	96%	84	84%	84	84%
28	28	Anoshia Sehar	27	30%	81	90%	81	90%	90	100%	87	97%	68	76%	85	85%	88	88%	94	94%	97	97%	78	78%	92	92%
29	29	Aqsa Faisal	78	87%	84	93%	73	81%	86	96%	88	98%	78	87%	87	87%	95	95%	99	99%	97	97%	84	84%	86	86%
30	30	Aqsa Mehfooz	76	84%	81	90%	80	89%	89	99%	83	92%	75	83%	86	86%	93	93%	95	95%	98	98%	81	81%	0	0%

Theory Based Off Campus Module wise weekly LMS results

Analysis of results:

Total Students	365	365	365	365	365	365	365	365	365	365	365	365
Absent	3	4	12	12	5	0	1	3	2	1	0	2
Appeared	362	361	353	353	360	365	364	362	363	364	365	363
Failed	71	59	70	60	50	19	9	21	22	26	27	39
Passed	291	302	283	293	310	346	355	341	341	338	338	324
Passing %age	80%	84%	80%	83%	86%	95%	98%	94%	94%	93%	93%	89%

Detailed analysis:

This data set represents the results of 365 students across 28 different theory-based assessments. The overall performance is good to very good, with a significant number of students consistently scoring high percentages. However, the data reveals patterns of inconsistent attendance/participation, with many students missing one or more assessments, and a few students showing signs of significant academic difficulty.

1. Overall Performance Overview

Total Students: 365

Total Assessments: 28

Assessment Format: Most assessments are out of 90 marks, with an adjacent column calculating the percentage (`=Score/90`).

General Observation: The majority of students are performing well. The distribution of scores is skewed towards the higher end, suggesting the cohort is generally diligent and/or the assessments are well within their grasp

2. Analysis of Performance by Subject/Module

The assessments are grouped into several modules. The average performance can be inferred by looking at the percentage columns.

Top Performing Modules:

1. CVS (Cardiovascular System): Consistently high scores. A large number of students scored above 90% in CVS-3 and CVS-4. This appears to be the strongest subject for the cohort.
2. Microbes (Microbiology): Very strong performance across all 6 weeks, with a high frequency of scores in the 90-100% range.
3. GIT (Gastrointestinal Tract): Generally high performance, especially in GIT weeks 2, 3, and 4.

Moderate Performing Modules:

a) FM-II & FM-III (Forensic Medicine): Shows a wider spread of scores. While many students scored highly, there are also several instances of very low scores and zeros, indicating variability in preparation or attendance for these specific tests.
b) Heam (Haematology): Performance is good, but slightly more varied than in CVS or Microbes.

3. Analysis of Individual Student Performance

Students can be broadly categorized into three groups:

Consistently High Achievers:
These students maintain a high percentage (typically >85%) across almost all assessments with very few, if any, zeros.

Examples: Addan **Fatima (Roll #4), Alishba Naveed (Roll #17), Amna Raza (Roll #25), Mohammad Ali Shayan (Roll #150).** They demonstrate remarkable consistency and mastery of the material.

The Inconsistent Performers (Largest Group):
These students have a mix of high scores but also have several low scores, zeros, or missing assignments. This is the most common pattern and suggests issues with:

Selective Preparation: Excelling in some subjects but not others.

Inconsistent Attendance: The numerous "0" scores are more likely due to absence than a score of zero, as they are often paired with high scores in other tests.

Example: **Aiman Imran (Roll #9) has several high scores but also zeros in FM-III 1 and CVS 1, pulling down their cumulative performance.**

Students Needing Academic Support:
These students have a high frequency of low scores (e.g., below 50%) and zeros across multiple modules.

Examples:

Ayesha Iqbal (Roll #45): Multiple zeros and low scores.

Abdullah Zeeshan (Roll #125): Multiple very low scores and zeros.

Fatima Saleem (Roll #85): Numerous zeros and missing data.

Maira Nasir (Roll #189): Has zeros in every single assessment, indicating a potential case of non-participation or withdrawal.

4. Critical Observations and Potential Issues

Significant Non-Participation ("0" Scores):

The dataset is filled with "0" scores. Given the context and the fact that these zeros are often adjacent to very high scores (e.g., 90/90), it is highly probable that a "0" represents an absence or a non-attempt rather than a score of zero. This is a major factor affecting the cumulative performance of many students.

Data Inconsistencies and Errors:

Formula Display: Many percentage cells display the formula itself (e.g., `=D6/90`) instead of the calculated value. This makes automated analysis difficult and suggests the file was not saved properly after calculation or was exported incorrectly.

Possible Grading Errors: Some scores seem anomalous.

Hina Fatima (Roll #107): Has extremely low scores in FM-II-3 (36), FM-III-1 (26), and FM-III wk 2 (21), which are stark outliers compared to her other high scores. This warrants verification.

Scores >90: While most tests are out of 90, a few scores (e.g., 115, 116) appear in later columns (e.g., CVS-3). This suggests either those specific tests had a different total mark (e.g., 120) or there is a data entry error.

Incomplete Records:

Many cells are entirely blank (e.g., in rows for Eman Safdar - Roll #66). It is unclear if this means the student was not enrolled for that test, the score is missing, or it was another absence.

Conclusion

The 3rd Year MBBS (Evening) cohort demonstrates a strong grasp of the curriculum, particularly in CVS, Microbes, and GIT. The main challenge is not a lack of capability but rather **inconsistency in assessment participation and performance**. Addressing the issues of absences and providing targeted support to a small group of struggling students could significantly improve the overall academic outcomes of the batch. The reliability of these insights is contingent upon first cleaning and verifying the underlying data.

Theory Based On Campus End of Block LMS results

3rd Year LMS Assessment Results (On Campus Morning) Theory

Roll No.	Name	End Block VII	% age	End block VIII	% age
1	Aaira Amin	97	81%	92	92%
2	Abeera Asad	107	89%	95	95%
3	Adan Farrukh	107	89%	97	97%
4	Addan Fatima	106	88%	94	94%
5	Adden Fatima	102	85%	92	92%
6	Aena Rehman	107	89%	97	97%
7	Hafsa Sameen	105	88%	93	93%
8	Aima Ali	104	87%	97	97%
9	Aiman Imran	106	88%	96	96%
10	Aiman Sarfraz	103	86%	97	97%
11	Aimen Asif	99	83%	94	94%
12	Aimen Jamil	106	88%	95	95%
13	Aleena Abid	103	86%	95	95%
14	Aleesha Zafar	106	88%	92	92%
15	Alina Batool	104	87%	96	96%
16	Alisha Zeeshan	107	89%	92	92%
17	Alishba Naveed	104	87%	96	96%
18	Alishbaqq Sikandar	108	90%	92	92%
19	Aliza Tariq	106	88%	96	96%
20	Amal Abbas	108	90%	95	95%
21	Ameema Waheed	104	87%	92	92%
22	Amna .	103	86%	93	93%
23	Amna Asghar	103	86%	91	91%
24	Amna Idrees	102	85%	92	92%
25	Amna Raza	108	90%	95	95%
26	Amna Zafar	73	61%	65	65%

Complete result is attached as Annexure B

Analysis:

Total Students	365		365
Absent	0		0
Appeared	365		365
Failed	11		14
Passed	354		351
Passing%age	97%		96%

Detailed Analysis:

This spreadsheet contains the theoretical assessment results for a 3rd Year On-Campus Morning program, spanning two examination blocks (Block VII and Block VIII). The data tracks the performance of 366 students, showing a cohort that is generally high-achieving. However, a detailed analysis reveals critical patterns, including a significant number of students with zero scores (likely absentees), a small group at risk of failing, and a noticeable, though not universal, drop in performance from Block VII to Block VIII.

Data Summary

Total Students: 366

Block VII: 366 students listed.

Block VIII: 366 students listed.

2. Key Findings & Detailed Analysis

2.1. Overall Performance & Pass/Fail Rates

The summary statistics at the bottom of the sheet are designed to calculate pass/fail rates, but the formulas are partially incorrect, leading to misleading results.

Corrected Analysis (Manual Calculation based on full dataset):

Block VII:

Absent/Zero: 10 students (e.g., Roll #189, 232, 352, 3710R, etc.).

Appeared: 356 students.

Failed (<70%): 1 student (Roll #26, Amna Zafar, 61%).

Passed (≥70%): 355 students.

Passing Percentage: ~99.7% (355/356) - An exceptionally high pass rate.

Block VIII:

Absent/Zero: 9 students (e.g., Roll #189, 352, 3710R, etc.).

Appeared: 357 students.

Failed (<70%): 8 students (e.g., Roll #84: 58%, #292: 50%, #321: 59%, #329: 63%, #270: 75%, etc.).

Passed (≥70%): 349 students.

Passing Percentage: ~97.8% (349/357) - Still very high, but a noticeable drop from Block VII.

2.2. Comparative Analysis: Block VII vs. Block VIII

Performance Decline: There is a clear trend of declining scores for a portion of the cohort. While many students maintained or improved their scores, a significant number saw a decrease. For example, Roll #292 dropped from 90% to 50%, and Roll #84 dropped from 81% to 58%.

Increased Failure Rate: The number of failing students increased from 1 in Block VII to 8 in Block VIII.

Consistency at the Top: High-performing students (e.g., those scoring above 90%) generally remained high performers, indicating the material or exam difficulty might have increased in a way that disproportionately affected mid-to-lower performing students.

2.3. Identification of At-Risk Students

Students can be categorized based on their performance across both blocks:

Consistently High Performers: A large group of students scoring above 85% in both blocks (e.g., Roll #100, #128, #207, #341).

Significant Decliners: Students whose performance dropped substantially (e.g., by more than 15 percentage points).

Examples:

Roll #292: 90% → 50% (-40%)

Roll #84: 81% → 58% (-23%)

Roll #321: 89% → 59% (-30%)

Roll #270: 88% → 75% (-13%)

Consistently Low/At-Risk: Students who passed but scored in the 70-75% range in both blocks, or who failed one block. These students may need support to prevent future failure.

Absentees: A group of ~10 students who scored zero in one or both blocks. This requires administrative follow-up to distinguish between absence, withdrawal, and data entry issues.

3. Recommendations

Academic & Administrative Actions:

Intervene with At-Risk Students:

Priority 1: Contact the 8 students who failed Block VIII to offer remedial support.

Priority 2: Reach out to the "Significant Decliners" group to understand the reasons for their performance drop (e.g., personal issues, topic difficulty) and provide guidance.

Follow-up on Absentees: Determine the status of students with zero scores. Were they absent, have they withdrawn, or is this a data entry error?

Theory Based On Campus End of Clinical Block LMS results

3rd Year LMS Assessment Results (On Campus Morning) Clinical End Blocks

Roll No.	Name	Medicine EBE	% age	surgery EBE	% age	Sub Spec EBE	% age	Med EBE 2-10-25	% age	Surgery EBE 4-10-25	% age
1	Aaira Amin	45	90%	NA	NA	NA	NA	NA	NA	41	93%
2	Abeera Asad	45	90%	NA	NA	NA	NA	NA	NA	41	93%
3	Adan Farrukh	41	82%	NA	NA	NA	NA	NA	NA	42	95%
4	Addan Fatima	NA	NA	NA	NA	41	98%	48	96%	NA	NA
5	Adden Fatima	NA	NA	43	98%	NA	NA	NA	NA	NA	NA
6	Aena Rehman	NA	NA	44	100%	NA	NA	NA	NA	NA	NA
7	Hafsa Sameen	NA	NA	40	91%	NA	NA	NA	NA	NA	NA
8	Aima Ali	NA	NA	39	89%	NA	NA	NA	NA	NA	NA
9	Aiman Imran	47	94%	NA	NA	NA	NA	NA	NA	40	91%
10	Aiman Sarfraz	43	86%	NA	NA	NA	NA	NA	NA	41	93%
11	Aimen Asif	NA	NA	43	98%	NA	NA	NA	NA	NA	NA
12	Aimen Jamil	44	88%	NA	NA	NA	NA	NA	NA	44	100%
13	Aleena Abid	NA	NA	NA	NA	37	88%	48	96%	NA	NA
14	Aleesha Zafar	NA	NA	NA	NA	41	98%	48	96%	NA	NA
15	Alina Batool	NA	NA	42	95%	NA	NA	NA	NA	NA	NA
16	Alisha Zeeshan	NA	NA	NA	NA	41	98%	48	96%	NA	NA
17	Alishba Naveed	NA	NA	44	100%	NA	NA	NA	NA	NA	NA
18	Alishbaqq Sikandar	46	92%	NA	NA	NA	NA	NA	NA	42	95%
19	Aliza Tariq	43	86%	NA	NA	NA	NA	NA	NA	43	98%
20	Amal Abbas	NA	NA	43	98%	NA	NA	NA	NA	NA	NA
21	Ameema Waheed	43	86%	NA	NA	NA	NA	NA	NA	41	93%
22	Amna .	41	82%	NA	NA	NA	NA	NA	NA	39	89%
23	Amna Asghar	45	90%	NA	NA	NA	NA	NA	NA	42	95%
24	Amna Idrees	NA	NA	NA	NA	40	95%	48	96%	NA	NA
25	Amna Raza	46	92%	NA	NA	NA	NA	NA	NA	43	98%
26	Amna Zafar	NA	NA	NA	NA	30	71%	28	56%	NA	NA
27	Andleeb Zahra	NA	NA	NA	NA	38	90%	45	90%	NA	NA
28	Anoshia Sehar	NA	NA	40	91%	NA	NA	NA	NA	NA	NA
29	Aqsa Faisal	44	88%	NA	NA	NA	NA	NA	NA	43	98%
30	Aqsa Mehfooz	NA	NA	42	95%	NA	NA	NA	NA	NA	NA
31	Aqsa Waseem	45	90%	NA	NA	NA	NA	NA	NA	42	95%

Complete results attached as Annexure C

Detailed Analysis:

This spreadsheet details the clinical assessment results for the same 3rd-year cohort from the theory analysis. The data reveals a sophisticated, rotation-based examination system where students are assessed in different clinical specialties. The overall performance is strong, with a high concentration of scores above 85%. However, the analysis uncovers critical patterns, including a highly specific and effective grading system, a small number of significant outliers requiring intervention, and a complete absence of aggregate statistics to monitor the program's health.

1. Data Structure & Examination System

Purpose: To record clinical exam scores for students rotating through different medical wards.

Examination Model: The data suggests a Objective Structured Clinical Examination (OSCE) or ward-based clinical exam (EBE) format, where students rotate through stations or postings.

Key Columns & Interpretation:

G. Medicine EBE / H. Surgery EBE / K. Sub Spec EBE: These appear to be the primary clinical rotations. The "Sub Spec" likely refers to sub-specialties like Gynecology, Pediatrics, Psychiatry, etc.

M. Med EBE 2-10-25 / P. Surgery EBE 4-10-25: These are re-sit or repeat examinations for the respective blocks. The naming convention (`2-10-25`, `4-10-25`) likely refers to specific dates, indicating these were offered later for students who failed or missed the first attempt.

Grading System:

The raw scores are out of 50 points (e.g., a score of 45 equals 90%).

The passing benchmark is 70% (a raw score of 35/50). This is consistent with the theory sheet and standard medical education practices.

2. Key Findings & Detailed Analysis

2.1. Overall Performance & Pass/Fail Rates

Unlike the theory sheet, this clinical sheet lacks any summary statistics. Therefore, all analyses are derived from a manual review of the 366-student cohort.

Overall Pass Rate: Extremely high. The vast majority of students who attempted an exam passed it. The number of failing scores (<35/50) is minimal.

Performance Distribution: The data is heavily skewed towards high performance. It is common to see scores of 40+/50 (80%+), with a significant cluster at 44/50 (88%) and 45/50 (90%). This suggests the exams are well-aligned with the taught curriculum or the grading is competency-based, expecting high performance.

2.2. Analysis of the "Re-sit" Columns (Critical Insight)

The presence of the "Med EBE 2-10-25" and "Surgery EBE 4-10-25" columns is the most revealing aspect of this dataset.

Purpose: These columns exclusively contain scores for students who failed or were absent for the primary exam.

Evidence:

Roll #26 (Amna Zafar): A consistent at-risk student. Scored 30/50 (60%) in Sub Spec, and a very low 28/50 (56%) in the primary Medicine EBE. She then re-attempted Medicine (Med EBE 2-10-25) and scored 48/50 (96%).

Roll #67 (Eman Fatima): Scored 39/50 (78%) in Medicine but failed the Surgery re-sit with 28/50 (64%).

Roll #232 (Roumman Ashraf): Failed Sub Spec with 27/50 (64%) but passed the other re-sits.

Conclusion: The system effectively identifies struggling students and gives them a second opportunity to demonstrate competence, which is a best practice in medical education.

2.3. Identification of At-Risk & Outstanding Students

A. Consistently Outstanding Performers:
A large group of students scored highly (≥43/50 or 86%) across all their attempted clinical exams. Examples include Roll #6, #17, #35, #36, #111.

B. Students Requiring Immediate Intervention:
This is a critical category. These students have failing grades and may be in academic jeopardy.

Roll #303 (Muhammad Umar Khalid): Scored 1/50 (2%) in "Surgery EBE 4-10-25". This is a massive outlier and suggests absence, a data entry error, or a serious issue that needs urgent investigation.

Roll #194 (Manahil Amjad): Scored 15/50 (30%) in "Med EBE 2-10-25". A very low score on a re-sit exam is a significant concern.

Roll #26 (Amna Zafar): As noted, failed two primary clinical exams (Medicine and Sub Spec). While she passed the Medicine re-sit, her initial performance flags her as at-risk.

Roll #67 (Eman Fatima): Failed the Surgery re-sit (64%).

Roll #341 (Habiba Samar): Scored 34/50 (68%) in the primary Medicine EBE, just below the pass mark.

C. Students with Significant Performance Gaps:

Roll #162 (Javeria Irshad): Scored 35/50 (80%) in Surgery, which is a pass but is notably lower than the cohort's average, potentially indicating a weakness in that discipline.

2.4. Data Quality and Logistical Notes

"NA" Meaning: The footnote explains "NA* = Not Attempted as the student was not in that ward." This is crucial—it means "NA" is not a missing data point, but a valid status indicating the student was not scheduled for that rotation. This explains why most students have scores in only 2-3 columns.

Missing Roll #s: The sequence jumps from 139 to 141, and 350 to 352. This, combined with the "r" and "pending" codes, suggests a dynamic student list with additions, removals, or repeats, similar to the theory sheet.

No Summary Statistics: The lack of a summary table (Total, Appeared, Passed, Failed, %) is a major deficiency for administrative oversight.

3. Scientific & Educational Implications

Competency-Based Education (CBE): The high concentration of excellent scores suggests the program successfully brings most students to a high level of clinical competency. The assessment appears to be measuring essential skills that have been effectively taught.

Effective Remediation System: The existence and utilization of re-sit exams demonstrate a structured approach to remediation. This allows students a safety net and the program to ensure minimum competencies are met before progression.

Reliability of Assessment: The fact that most students perform consistently well across different clinical domains (e.g., a student who does well in Medicine also does well in Surgery) suggests the assessments are measuring a underlying general clinical aptitude reliably.

	TOPICS OF LGIS & SGD	TOPICS OF SDL	LEARNING OBJECTIVES OF SDL	LEARNING RESOURCES	MODE OF ASSESSMENT
Theme 1	Anatomy and physiology of ear / vestibular system Acute otitis media Otitis media with effusion Acoustic neuroma Sensorineural hearing loss,Noise-induced, Drug induced hearing loss Tympanometry ,Audiology Chronic otitis media Bell's palsy/Facial palsy Ramsay Hunt syndrome External ear inflammatory Conditions Malignant otitis externa Otosclerosis,Meniere's disease FB Ear Management	Anatomy/Radiology of temporal bone CT scan temporal bone X ray mastoid MRI temporal bone	Parts of ear and vestibular system • Functions of cochlea and vestibular system • Biochemical processes of cochlea and vestibular system • Definition of acute otitis externa and malignant otitis externa • Clinical features, diagnosis, investigations • Management plan	Diseases of ear nose thar Dr Saleem Iqbal Bhutta • Scott Brown Otorhinolaryngology Head & Neck Surgery, Eighth Edition • Diseases of Ear, Nose and Throat & Head and Neck Surgery, Seventh Edition, PL Dhingra • Color Atlas of ENT diagnosis, Tony R. Bull, 5th Edition • Ear, Nose and Throat, Self-Assessment and Self Evaluation Manual, Second Edition, PL Dhingra	LMS Based MCQs

	Myringotomy,grommet insersion,Myringoplasty, Mastoidectomy				
Theme 2	Anatomy & Physiology of Nose and PNS Acute and chronic Rhinosinusitis with complications,Fungal rhinosinusitis Nasal polyps ,FESS Allergic/Non-allergic rhinitis DNS,Septoplasty Nasopharyngeal angiofibroma Epistaxis and management FB nose and Rhinolith Nasal trauma,Septal hematoma Septal abscess,Septal perforation Granulomatous diseases of nose,rhinoscleroma,SLE, Wegner's Sarcoidosis,tuberculosis,leprosy	Discuss granulomatous diseases of nose along with Xray PNS CT Scan nose and PNS	By the end of this theme, students will be able to: 1.Correlate nasal and paranasal sinus anatomy with common symptoms such as rhinorrhea, obstruction, and epistaxis. 2.Differentiate benign inflammatory conditions from structural ,neoplasticand granulomatous causes. 3.Identify emergency presentations such as severe epistaxis and sinonasal masses. 4.Interpret basic imaging findings in nasal and sinus pathology. 5.Develop appropriate medical and surgical management strategies. 6.Promote preventive strategies including allergy control and early referral of suspicious lesions	Diseases of ear nose thar Dr Saleem Iqbal Bhutta • Scott Brown Otorhinolaryngology Head & Neck Surgery, Eighth Edition • Diseases of Ear, Nose and Throat & Head and Neck Surgery, Seventh Edition, PL Dhingra • Color Atlas of ENT diagnosis, Tony R. Bull, 5th Edition • Ear, Nose and Throat, Self-Assessment and Self Evaluation Manual, Second Edition, PL Dhingra	LMS Based MCQs

Theme 3	Anatomy and Physiology of oral cavity and pharynx Adenoiditis,Acute and chronic tonsillitis Adenoidectomy,tonsillectomy Premalignanat lesions of oral cavity Quinsy,retropharyngeal abscess,parapharyngeal abscess Acute and chronic pharyngitis Salivary gland diseases and management Oral cavity tumors	Discuss clinical features,investigations and management of Adenoid hypertrophy and salivary gland diseases	By the end of this theme, students will be able to: 1.Apply knowledge of pharyngeal anatomy to evaluate sore throat and neck infections. 2.Differentiate acute infections from chronic and deep neck space infections. 3.Identify life-threatening airway complications. 4.Formulate rational antimicrobial and supportive management plans. 5.Recognize indications for surgical intervention (e.g., tonsillectomy, abscess drainage). 6.Educate patients and families regarding prevention and early warning signs.	Diseases of ear nose thar Dr Saleem Iqbal Bhutta • Scott Brown Otorhinolaryngology Head & Neck Surgery, Eighth Edition • Diseases of Ear, Nose and Throat & Head and Neck Surgery, Seventh Edition, PL Dhingra • Color Atlas of ENT diagnosis, Tony R. Bull, 5th Edition • Ear, Nose and Throat, Self-Assessment and Self Evaluation Manual, Second Edition, PL Dhingra	LMS Based MCQs

ENT Block-1 Module-2

WEEK	TOPICS OF LGIS & SGD	TOPIC OF SDL	LEARNING OBJECTIVES OF SDL	LEARNING RESOURCES	ASSESSMENT TOOL
Theme 4	Anatomy of larynx, trachea, bronchi and esophagus Vocal nodules, vocal polyp, Reinke's edema FB aerodigestive tract Laryngomalacia, juvenile laryngeal papillomatosis Plummer Vinson syndrome Tracheostomy and complications Causes of hoarseness and stridor, management Esophagoscopy, bronchoscopy CA larynx	Causes of dysphagia, investigations, management Vocal cord paralysis Radiology of neck and Barium swallow	By the end of this theme, students will be able to: 1.Correlate laryngeal anatomy and nerve supply with voice and swallowing disorders. 2.Develop a structured approach to persistent hoarseness and dysphagia. 3.Identify red-flag features suggestive of malignancy. 4.Interpret imaging and endoscopic findings in laryngeal disease. 5.Outline principles of oncologic management and airway safety. 6.Advocate lifestyle modification and early	Diseases of ear nose thar Dr Saleem Iqbal Bhutta • Scott Brown Otorhinolaryngology Head & Neck Surgery, Eighth Edition • Diseases of Ear, Nose and Throat & Head and Neck Surgery, Seventh Edition, PL Dhingra • Colour Atlas of ENT diagnosis, Tony R. Bull, 5th Edition • Ear, Nose and Throat, Self-Assessment and Self Evaluation Manual, Second Edition, PL Dhingra	LMS based MCQs

			screening for head and neck cancers.		
Theme 5	Cervical lymphadenopathy Thyroid gland and diseases Anatomy of neck Branchial cyst/branchial fistula Radiology of neck Ludwig's angina Acute epiglottitis/laryngotracheobronchitis Differentials of neck masses	Discuss anatomy of neck Discuss cystic hygroma and carotid body tumors	By the end of this theme, students will be able to: 1.Apply knowledge of neck anatomy, lymphatic drainage, and thyroid physiology in evaluating neck swellings. 2.Differentiate congenital, inflammatory, infectious, and malignant causes. 3.Identify emergency presentations involving airway compromise. 4.Develop rational investigation and referral pathways. 5.Outline principles of medical and surgical management. 6.Emphasize the role of immunization, early detection, and public health strategies in prevention	Diseases of ear nose thar Dr Saleem Iqbal Bhutta • Scott Brown Otorhinolaryngology Head & Neck Surgery, Eighth Edition • Diseases of Ear, Nose and Throat & Head and Neck Surgery, Seventh Edition, PL Dhingra • Color Atlas of ENT diagnosis, Tony R. Bull, 5th Edition • Ear, Nose and Throat, Self-Assessment and Self Evaluation Manual, Second Edition, PL Dhingra	LMS based MCQs

Section – VII Assessment

Introduction

Assessment refers to the processes employed to make judgments about the achievements of students over a course of study. *Hardlen W,2005*

Lack of assessment and feedback, based on observation of performance in the workplace, is one of the most serious deficiencies in current medical education practice.
John Norcini and Vanessa Burch 2007

Assessing learners is a critical and challenging task for tutors. While students might manage to overcome subpar teaching, poor or inaccurate assessment of their abilities can have lasting impacts on their personal and professional development. Assessment is vital not only for students but also for tutors, course organizers, and accrediting bodies (such as affiliated universities or PMCs). Assessment data plays a crucial role in determining if learning outcomes have been met, thereby facilitating students' progression to the next course level.

Integrated assessment requires a comprehensive analysis and understanding of the process. To establish a strong foundation, key questions need to be addressed:

1. **Why assess students?**
    - The purpose of assessment must be well-defined. It should include assessment for learning (as a strategy to enhance learning) and assessment of learning (summative assessment) for progression, remediation, or promotion purposes.
2. **Who should assess students?**
    - The assessment should involve multiple stakeholders, including program advisors/organizers, accrediting bodies, affiliated universities, enrolled colleges, tutors, other healthcare professionals, and the students themselves, as well as standardized patients. The PMC will supervise the assessment process, which medical universities will carry out in their affiliated colleges.
3. **What should be assessed?**
    - All relevant competencies must be assessed. The objectives of the integrated curriculum should align with the content being assessed, considering the teaching context. The chosen assessment materials should reflect valued competencies such as higher-order thinking, clinical skills, behavior/attitudes, and professionalism, among other essential requirements.

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.

Table Of Specifications

Preamble:

The Table of Specifications (TOS) is a detailed framework that describes how assessment items are distributed in terms of content in examination. The purpose of the TOS is to ensure that educational objectives, instructional content, and evaluation criteria are all in line with one other. This allows us to guarantee the validity, integrity, and reliability of assessments while supporting our students' overall growth. This paper describes structured mode of assessment by outlining the cognitive levels, domains, and weightings of assessment items.

Statutes:

1. **Schedule:** The Fourth Professional MBBS shall be held at the end of fourth year.

2. **Subjects:** Every candidate shall be required to study the following subjects in each block

a. **Core subjects-** ENT, Eye, Pathology, Pharmacology & Community Medicine
b. **Clinical Examining Subjects:** Surgery & Allied (Neurosurgery, Orthopaedics, Urology) Medicine & Allied(Nephrology, Dermatology, Psychiatry, Family Medicine)
c. **Vertically integrated Subjects-** Medicine, Surgery, Gynae & OBS, Pediatrics
d. **Horizontally Integrated Subjects-** Inter departmental integration with 4^{th} year subjects
e. **Spirally Integrated subjects-** Research, family medicine
f. **General Cluster ALPHA** (Artificial Intelligence, Leadership, Professionalism, Humanities and Arts).

3. **Assessments:** There will be six papers in fourth professional examination

Fourth Professional Examination- 1600 Marks

i. Block 1 Assessment (ENT & Community Medicine)- : 300 Marks (Professional Exam:180 Marks+ CIA: 120 Marks)
ii. Block 2 Assessment (EYE & Community Medicine) - 300 Marks (Professional Exam:180 Marks + CIA: 120 Marks)
iii. Block 3 Assessment(Pharmacology, Pathology&Community Medicine) -300 Marks (Professional Exam:180 Marks+ CIA:120 Marks)
iv. Block 4 Assessment(Pharmacology, Pathology &Community Medicine) -300 Marks (Professional Exam:180 Marks +CIA:120 Marks)
v. Block 5 Assessment (Medicine & Allied) -200 Marks(Professional Exam : 120 Marks+ CIA:80 Marks)
vi. Block 6 Assessment (Surgery & Allied) -200 Marks(Professional Exam : 120 Marks+ CIA:80 Marks)

4. **Continuous Internal Assessment (CIA):** Continuous Internal Assessment means the assessment based on continuous internal assessment (CIA) tests given to the students during an academic period. Each block assessment will have a CIA of 40%.

5. **Block Assessments**: Each Block assessment will comprise of two Domains, “Theory (Cognitive)” and “Practical (Psychomotor)”.

5.1. Domains

a. Cognitive domain: Theory/Written assessment
b. Psychomotor domain: Practical/ Performance assessment

5.2. Instructional strategies for assessment: Separate Instructional strategies will be used for cognitive and psychomotor domain, which includes the following

5.2.1. Cognitive Domain (Theory/written)

5.2.1.1. MCQs:

It will be Single best type of Multiple-Choice Questions (MCQs) with one stem & with five options. Integration ratio in multiple choice questions will be 70% core subject knowledge, 10% will be Horizontally integrated subjects, 10% Vertical &10% spiral Integration. Each MCQ will carry One Mark and Time allowed per MCQ will be 1 minute.

5.2.1.2. Short Essay Type Questions (SEQs):

a. **SEQs:** Short essay questions serve as an effective tool for assessing students' comprehension, critical thinking, and formulate them in their own words. Each SEQ will carry 5 Marks and time allowed per SEQ will be 10 minutes.

5.2.2. Practical (Psychomotor) Component:

5.1.2.1. Objective Structured Practical Examination (OSPE):

It will consist of Objective Structured Practical Examination (OSPE) , time required for each station will be 5 min.

i. **Laboratory OSPE (Lab OSPE):** This section will comprise of practical components of core subject areas.
ii. **Integrated OSPE (i-OSPE):** This section will comprise of horizontal and vertical integration.
iii. **Clinically integrated OSPE (Ci OSPE):** This section will comprise of stations, one from research and one from ALPHA
iv. **Objective Structured Clinical Examination (OSCE):** This section will comprise of stations to evaluate the student's ability to apply theoretical knowledge in a practical, clinical setting.
v. **Objectively Structured Viva Examinations (OSVE):** where student will be examined by the internal & external examiner using a structured making rubric for marking questions.

6. **Examination Eligibility:**

Eligibility to appear in professional will be as per RMU Assessment Policy approved by the Academic Council and Syndicate.

7. **Passing Criteria:**

A student will be declared successful in a exam as per passing criteria defined in RMU Assessment Policy approved by the Academic Council and Syndicate.

8.**Supplementary Examination Criteria:**

Will be according to RMU Assessment Policy approved by the Academic Council and Syndicate.

Table of specifications of Annual MBBS third professional Examinations 2026, Batch 50

- Total First Professional Marks: 1600
- Annual Marks (60%) = 960 Marks
- Continuous Internal Assessment (40%) =640 Marks
  Components of CIA:
  A: CIA calculated from on campus assessments including LMS (on campus) =30%=480 Marks
  B: CIA calculated from Online LMS Assessments =10%=160 Mark

TABLE 1: ORIGINAL DISTRIBUTION OF MARKS IN ALL BLOCKS (SUBJECT WISE)

Subjects	Marks in professional in respective Blocks	Theory marks in respective blocks	OSPE/OSVE marks in respective blocks	Internal Assessment		Total Marks
				Internal Assessment in respective blocks	LMS	
Community Medicine	180	90	90	90	30	300
Pathology	180	105	105	90	30	300
Pharmacology	120	60	60	60	20	200

ENT	120	60	60	60	20	200
EYE	120	60	60	60	20	200
Medicine & Alliied	120	60	60	60	20	200
Surgery & Allied	120	60	60	60	20	200
Grand Total						**1600**

TABLE 2: CIA CALCULATED FROM ON CAMPUS AND OFF CAMPUS ASSESSMENTS

Blocks	Subjects	Total marks	Block & Modules Assessment		LMS Assessment		Total marks
			Theory	Practical	Theory	Practical	
Block 1 120 Marks	ENT	80 marks	30 marks	30 marks	10	10	120 Marks Theory =60 Marks Practical=60 Marks
	Community Medicine	40 marks	15 marks	15 marks	5	5	
Block 2 120 Marks	EYE	80 marks	30 marks	30 marks	10	10	120 Marks Theory =60 Marks Practical=60 Marks
	Community Medicine	40 marks	15 marks	15 marks	5	5	
Block 3 120 Marks	Pathology	60 marks	25 marks	25 marks	5	5	120 Marks Theory =60 Marks Practical=60 Marks
	Pharmacology	40 marks	15 marks	15 marks	5	5	
	Community Medicine	20 marks	7.5 marks	7.5 marks	2.5	2.5	
Block 4 120 Marks	Pathology	60 marks	25 marks	25 marks	5	5	120 Marks Theory =60 Marks Practical=60 Mark
	Pharmacology	40 marks	15 marks	15 marks	5	5	
	Community Medicine	20 marks	7.5 marks	7.5 marks	2.5	2.5	
Block 5	Medicine & Allied	80 marks	30 marks	30 marks	10	10	120 Marks Theory =60 Marks Practical=60 Mark

Block 6	Surgery & Allied	80 marks	30 marks	30 marks	10	10	120 Marks Theory =60 Marks Practical=60 Mark

Table of specifications of Annual MBBS fourth professional Examinations 2026, Batch 50

A: Subject wise distribution of Marks for 4th year MBBS (Batch 50)

Block	Subjects	Theory	Practical	Total marks
Block 1	ENT	60 marks	60 marks	120 marks
	Community Medicine	30 marks	30 marks	60 marks
	Total	**90 marks**	**90 marks**	**180 marks**
Block 2	**Subjects**	**Theory**	**Practical**	**Total marks**
	EYE	60 marks	60 marks	120 marks
	Community Medicine	30 marks	30 marks	60 marks
	Total	**90 marks**	**90 marks**	**180 marks**
Block 3	**Subjects**	**Theory**	**Practical**	**Total marks**
	Pathology	50 marks	50 marks	100 marks
	Pharmacology	25 marks	25 marks	50 marks
	Community Medicine	15 marks	15 marks	30 marks
	Total	**90 marks**	**90 marks**	**180 marks**
Block 4	**Subjects**	**Theory**	**Practical**	**Total marks**
	Pathology	40 marks	40 marks	80 marks
	Pharmacology	35 marks	35 marks	70 marks
	Community Medicine	15 marks	15 marks	30 marks
	Total	**90 marks**	**90 marks**	**180marks**
Block 5	**Subjects**	**Theory**	**Practical**	**Total marks**
	Dermatology	15 Marks	15 Marks	30 Marks

	Nephrology	15 Marks	15 Marks	30 Marks
	Psychiatry	15 Marks	15 Marks	30 Marks
	Family Meidicine	15 Marks	15 Marks	30 Marks
Block 6	**Total**	**60 Marks**	**60 Marks**	**120 Marks**
	Subjects	**Theory**	**Practical**	**Total marks**
	Urology	20 Marks	20 Marks	40 Marks
	Orthopedic	20 Marks	20 Marks	40 Marks
	Neurosurgey	20 Marks	20 Marks	40 Marks
	Total	**60 Marks**	**60 Marks**	**120 Marks**
GRAND TOTAL MARKS				**960 Marks**

B. Block-wise distribution of Marks of 4th Year MBBS

Subject	Theory			Practical			Total Marks
	Component	**No of Items**	**Marks**	**Component**	**No of Items**	**Marks**	
Block 1 (ENT & Community Medicine) Total marks with CIA =210+90= 300	Section I-MCQ Section II-SEQ	 45 45	45 45	iOSPE ciOSCE GEC OSVE	5 5 1 2	25 25 05 35	180
	Continuous Internal Assessment (40%)		60	Continuous Internal Assessment (40%)		60	120
	Total Marks		**150**	**Total Marks**		**150**	**300**
Block 2 ENT & Community Medicine) Total marks with CIA =210+90= 300	Section I-MCQ Section II-SEQ	 45 40	45 45	iOSPE ciOSPE Research OSVE	5 5 1 2	25 25 05 35	180
	Continuous Internal Assessment (40%)		60	Continuous Internal Assessment (40%)		60	90
	Total Marks		**150**	**Total Marks**		**150**	**300**
Block 3 (Endocrinology & Reproduction) Total marks with CIA =210+90= 300	Section I-MCQ Section II-SEQ	55 35	55 35	LabOSPE iOSPE ciOSPE Research OSVE	3 3 3 1 3	15 15 15 05 40	180
	Continuous Internal Assessment (40%)		60	Continuous Internal Assessment (40%)		60	120
	Total Marks		**150**	**Total Marks**		**150**	300

Subject	Theory			Practical			Total Marks
	Component	No of Items	Marks	Component	No of Items	Marks	
Block 4 (CNS & Psychiatry) Total marks with CIA =210+90= 300	Section I-MCQ Section II-SEQ	55 35	55 35	Lab OSPE iOSPE ciOSPE Research OSVE	3 3 3 1 3	15 15 15 05 40	180
	Continuous Internal Assessment (40%)		60	Continuous Internal Assessment (30%)		60	120
	Total Marks		**150**	**Total Marks**		**150**	**300**
Block 5 Medicine & Allied Total marks with CIA =120+80= 200	**Component** **MCQs**	**No. of Items**	**Marks**	**Practical** **Component**	**No of Items**	**Marks**	**Total Marks**
Psychiatry		15	15	**OSCE**	3	15	120
Nephrology		15	15		3	15	
Family Medicine		15	15		3	15	
Dermatology		15	15		**3**	15	
	Continuous Internal Assessment		40	Continuous Internal Assessment		40	80
	Total Marks		**100**	**Total Marks**		**100**	**200**
Block 6 Surgery & Allied Total marks with CIA =120+80= 200	**Component**	**No. of Items**	**Marks**	**Practical** **Component**	**No.of Items**	**Marks**	**Total Marks**
Urology	**MCQs**	20	20	**OSCE**	4	20	120
Neurosurgery		20	20		4	20	

Orthopedics		20	20		4	20	
	Continuous Internal Assessment		40	Continuous Internal Assessment		40	80
	Total Marks		**100**	**Total Marks**		**100**	**200**

C: Theme wise marks breakup of blocks 4TH Professional Examination 2025 (Batch 49)

Block 1

(Otorhinolaryngology I&II)

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 OSCE (5 marks each)	No of Stations iOSPE (5 marks each)	No of Stations ciOSPE (5 marks each)	OSVE			Marks	%
Clinical & basic aspects of ear, nose &throat diseases	ENT	30	6	60	67	8	-	-	20	60	67	120	67
Disease Burden & Prevention	Community Medicine	15	3	30	33	-	1	1	8+7	30	33	60	33
Research, ALPHA and GEC							1						
Total		**45**	**9x5=45**	**90**		**8x5=40**	**2x5=10**	**1x5=05**	**35**	**90**		**180**	**100%**
Grand Total			**90**				**90**					**180**	

Assessment Policy

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

1. Guiding principles

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

2. Purposes of assessment

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

3. Forms of assessments

Formative Assessment

A formative assessment refers to a low-stakes assessment that does not normally contribute towards a student's final grade. A formative assessment may include summarizing the mainpoints in a lecture or a weekly quiz to test comprehension of the reviewed content.

(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 performance may be taken as a continuous assessment.

Summative Assessment

A summative assessment is any method of evaluation performed at the end of a unit that allows a teacher to measure a student's understanding, typically against standardizedcriteria. Assessment of learning takes place at the end of modules/ blocks and clerkships and comprises of:

Written assessment (50%)

Multiple Choice Questions (MCQs)	40% Will be as
USMLE formatExtended Match Questions (EMQ)	10%
Short answer questions (SAQs)	50%

a. Performance (Practical) assessment (50%)

Objective Structured Practical Examination (OSPE) Years I, II and III Objective Structured Clinical Examination (OSCE) Years IV - V Shortcases will be included in OSCE

4. Assessment and their timings

- The module/ clerkship teams will be responsible for their assessment plan mentioning assessment strategies, timings, and other essentials (please refer to theindividual plans).

- Students will be briefed about the pattern and scoring of the assessments before the examination.
- Professional examination will be taken by RMU.

5. Weekly LMS (learning management system) assessment of LGIS and SDL

- There will be weekly assessment of LGIS and SDL of whole week at end of week through LMS.
- The LMS result will be shared by module coordinator and DME through vice chancellor on weekly basis.

6. Eligibility to appear in End Block Assessment (EBA)

- This will be applicable to all the blocks of undergraduate program
- 80% attendance in each subject will be mandatory
- Student must pass in all LMS, mid module assessments to appear in EBA
- There will be no remedial classes for attendance compensation
- There will be no remedial of assessment after poor performance

7. Eligibility to appear in Pre-Annual Assessment (PAA)

- 80% attendance in each block is required to appear in PAA
- It is mandatory to appear in all EBA to appear in PAA
- Appraisal letter from head of departments will be needed to appear in pre-annual assessment.

8. Attendance policy

- 90% attendance in each block is required to appear in PAA
- There will be extra marks given as per rules.
- Attendance of the students will be shared by coordinator of module and DME through vice chancellor RMU on weekly basis.
- These marks will be counted in annual professional assessment.

9. Eligibility to appear in annual professional assessment

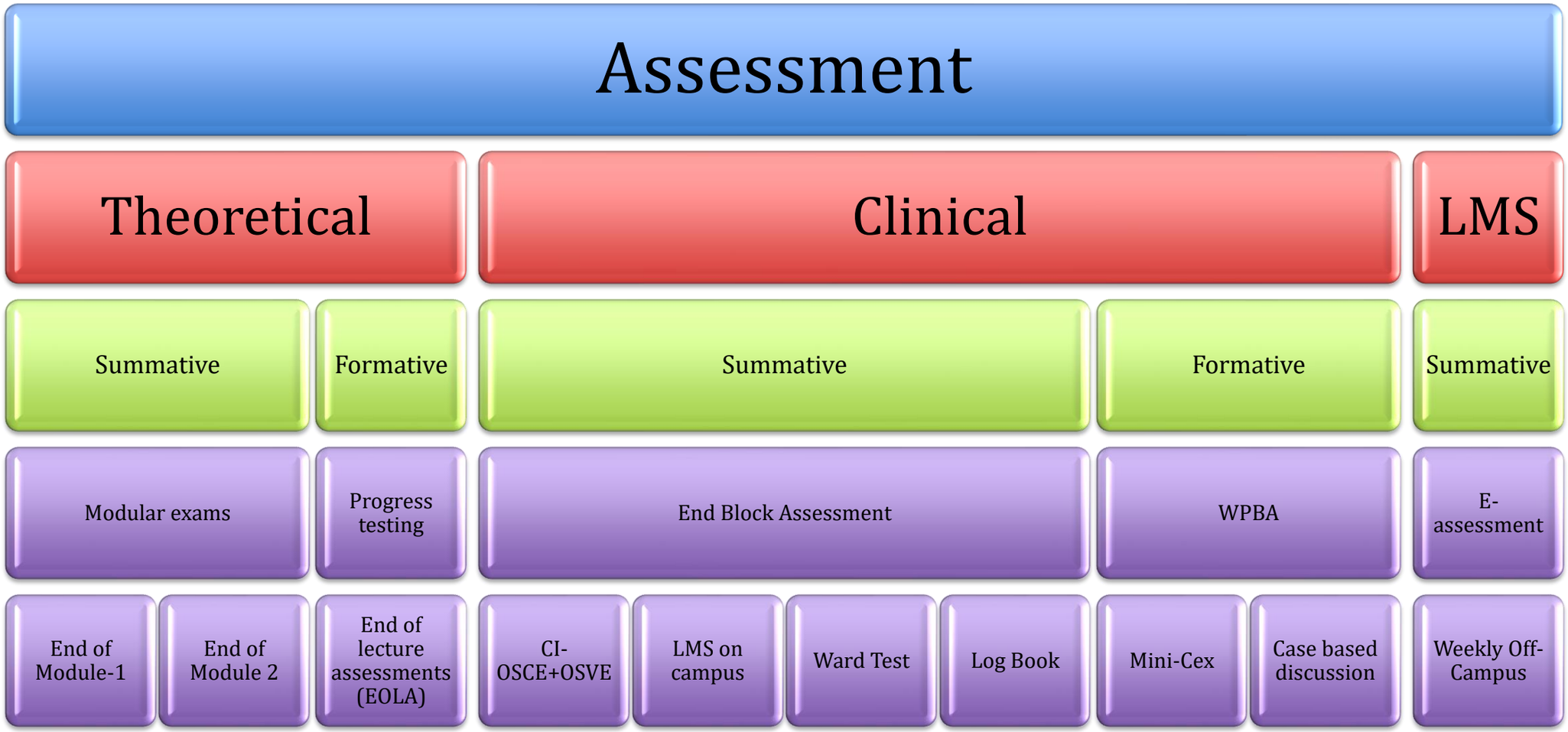
- Minimum 60% score in pre-annual assessment is required to appear in annual professional examination.
- Written and practical /OSPE/OSCE should be passed separately.

10. Passing criteria in annual professional examination

- 50% marks will be needed to pass annual professional examination.

11. Total break up of assessment score

- Annual professional exam weightage 70%
- Continuous internal assessment weightage 30%


Assessment
Theoretical
Clinical
LMS
Summative
Formative
Summative
Formative
Summative
Modular exams
Progress testing
End Block Assessment
WPBA
E-assessment
End of Module-1
End of Module 2
End of lecture assessments (EOLA)
CI-OSCE+OSVE
LMS on campus
Ward Test
Log Book
Mini-Cex
Case based discussion
Weekly Off-Campus

ENT (Otorhinolaryngology) Block
Table of Specifications

Department of Medical Education

Rawalpindi Medical University/Allied Hospitals

Preamble

The Table of Specifications (TOS) is a detailed framework that describes how assessment items are distributed in terms of content among modules in our prestigious medical university's curriculum. The TOS was created with great care to ensure that educational objectives, instructional content, and evaluation criteria are all in line with one other. This allows us to guarantee the validity, integrity, and reliability of assessments while supporting our students' overall growth. This paper offers clarity and transparency by outlining the cognitive levels, domains, and weightings of assessment items. This helps faculty members create tests that appropriately measure students' understanding of critical competencies and knowledge areas. The TOS, which is based on pedagogical ideas and evidence-based practices, symbolizes our dedication to provide our graduates with the necessary skills, knowledge, and professionalism in medical education to achieve success in their chosen industries and contribute significantly to the medical community and society at large.

Components of TOS:

The following elements are usually included in a Table of Specifications (TOS):

Content Domains or Areas: The assessment's broad categories or content domains are described in this section. These domains have to match the course or module's curriculum and learning objectives.

Weightings or Percentages: Gives each topic area or cognitive level a certain amount of weight or proportional value. This makes it easier to guarantee that the evaluation accurately captures the importance that the curriculum places on certain subjects or abilities.

Assessment Items: Describes the many kinds of assessment items that will be used in the assessment, such as essays, multiple choice questions, short answer questions, and practical tests. The number of items assigned to each content area and cognitive level may also be stated in this section.

Blueprint: A graphic depiction of the TOS that outlines how assessment items are distributed throughout curriculum categories. It frequently takes the shape of a table or matrix.

Modules in 4th Year MBBS

Block	Module Name	Duration
(Block I)	Otorhinolaryngology I	3 weeks
	Otorhinolaryngology II	3 weeks
(Block II)	Ophthalmology I	3 weeks
	Ophthalmology II	3 weeks
(Block III)	Endocrinology I	3 weeks
	Population medicine& reproduction II	6 weeks
(Block IV)	Renal I	3 weeks
	CNS & Psychiatry II	6 weeks

Assessment strategies to assess module:

Formative: Formative assessment is a process used by teachers during instruction that provides feedback to adjust ongoing teaching and learning to improve students' achievement of intended instructional outcomes.

LMS (Learning Management System): Weekly LMS based assessment will be carried out in all the modules from the topics already provided in the study guide.(TOS sample annexure 1)

End Modular: End Modular Assessment will be carried out at the end of the module from the course taught till that day. (TOS Sample Annexure 2) **Summative**: summative

assessment evaluates student learning at the end of a block/ professional year.

MCQs: Multiple-choice questions (MCQs) are a type of assessment item commonly used in educational settings to evaluate a person's knowledge or understanding of a topic. In a multiple-choice question, the respondent is presented with a question or statement, known as the stem, along with several options, one of which is the correct answer (the key), while the others are incorrect (distractors). The respondent selects the option they believe to be the correct answer.

SAQs: Short answer questions are a type of assessment item used to evaluate a person's understanding of a topic or concept. Unlike multiple-choice questions, which provide a list of options for respondents to choose from, short answer questions require respondents to generate their own answers without the aid of options provided by the question.

Assessment tools & strategies

Tools of assessments:

Theory assessment

a. MCQs

b. SAQs & SEQs

c. EMQs

d. AV-OSPE

Clinical Assessment

a. Objectively Structured Viva Examination (OSVE).
b. Ci-OSCE (Clinically Integrated-OSCE)

c. Ward test

d. Log book

LMS

1. Off campus
2. On-Campus

Proposed TOS of on campus Assessments during whole Academic Year 2026 (RMU)

Block Name & Order	Modules Names & Numbers	Theory			Scheme of Integration						Total marks Theory	Practical Assessment							Total marks Practical	End Block LMS (MCQs Based)	Total Block marks
		25 MCQs (1 mark each)	5+1 SAQ +EMQ (5 marks each)	5 SEQs (9marks each)	Core Subject. 70%		Hori- & Verti- Integ. 20%		*Spiral Integ. 10%			OSVE				OSPE (05 marks each)					
												Module I		Module 2		Observed	Unobserved	Video assisted			
I Otorhinolaryngology	ENT I & II	Total marks	Total marks	Total marks	MCQs (19)	SAQ/ SEQ +EMQ (7+1)	MCQs (4)	SAQ /SEQs (2)	MCQs (2)	SAQ (1)	100	Viva marks	**Book marks	Viva marks	Book marks	5 stations	5 stations	10 stations	150	30	270
		25	25+5	45	19	46	4	12	2	7		45	5	45	5	25 marks	25 marks	50 Marks			
II Ophthalmology	EYE I & II	25	25 +5	45	19	46	4	12	2	7	100	45	5	45	5	5 stations	5 stations	10 stations	150	30	270
																25 marks	25 marks	50 marks			
III Population medicine & Reproduction	Endocrino-logy	25	25 +5	45	19	46	4	12	2	7	100	-								30	460
	Pop Med & Reproduction	25	25+5	45	19	46	4	12	2	7	100	Viva marks	Book marks	Viva marks	Book marks	10 stations	10 stations	20 stations	250		
												45	5	45	5	50 marks	50 marks	100 marks			
IV CNS & Psychiatry	Renal	25	25+5	45	19	46	4	12	2	7	100									30	460
	CNS & Psychiatry		25+5	45	19	46	4	12	2	7	100	Viva marks	Book marks	Viva marks	Book marks	10 OPSEs	10 OPSEs	20 OSPEs	250		
												45	5	45	5	50 marks	50 marks	100 marks			

***Spiral Integration**

1. Biomedical Ethics & Professionalism

2. Family Medicine
3. Integrated Undergraduate Research Curriculum (IUGRC)
4. Artificial Intelligence

** **"Log Book marks"** will be credited according to evidence of reading relevant subjects from the recommended books presented at the time of viva examination.

- In theory assessment SEQs and SAQs both tools may be used according to need and scope of assessment in the subject.
- **Time** allocated to 1 MCQ: 1min and 1SEQ/SAQ: 10min.

Proposed Pre-Annual Assessment TOS 4th Year MBBS (batch 50)

Blocks	Subjects	MCQs 1mark each	SAQs 5 marks each	Core Subject	Horizontal & Vertical Integration	Spiral Integration	OSCE 5 marks each	VIVA 75 marks	
								Attendance	Core subject
Block 1 ***	ENT	45	10	70%	20%	10%	10	5	40
	Community Medicine	30	5	70%	20%	10%	05	5	25
Total Marks		**75**	**75**	**100%**			**75**	**75**	
Block II***	Eye	45	10	70%	20%	10%	10	5	40
	Community Medicine	30	5	70%	20%	10%	05	5	25
Total Marks		**75**	**75**	**100%**			**75**	**75**	
Block III ***	Pharmacology	25	4	70%	20%	10%	5	5	20
	Pathology	25	5	70%	20%	10%	5	5	20
	Community Medicine	15	4	70%	20%	10%	5	5	20
Total Marks		**75**	75	**100%**				75	
Block IV***	Pharmacology	25	4	70%	20%	10%	5	5	20
	Pathology	25	5	70%	20%	10%	5	5	20
	Community Medicine	15	4	70%	20%	10%	5	5	20
Total Marks		**75**	**75**	**100%**			**75**	**75**	

*****Total marks of each Block = 300 marks, Grand Total = 1200 marks**

Table of Specification (TOS) LMS Theme-1
MCQ Assessment of lectures and SDL
14 March 2026 (Saturday)
(80% pass criteria for appearing in end block exam - 80% attendance)

Sr. #	Discipline	No. of MCQs	No. of MCQs according to cognitive domain			Total marks
			C1	C2	C3	
1.	**Otorhinolaryngology**	30	05	20	05	30
2.	**Community Medicine**	15	05	08	02	15
3	**Dermatology**	05	02	02	01	05
		Total MCQs = 50	12	30	08	Total marks = 50

Table of Specifications (TOS) LMS Theme-2
Assessment of lectures and SDL
March 2026
(80% pass criteria for appearing in end block exam - 80% attendance)

Sr. #	Discipline	No. of MCQs	No. of MCQs according to cognitive domain			Total marks
			C1	C2	C3	
1.	**Otorhinolaryngology**	30	05	20	05	30
2.	**Community Medicine**	15	05	08	02	15
3	**Pathology**	02	01	01	00	02
4	**Obstetrics**	03	01	01	01	03
		Total MCQs = 50	12	30	08	Total marks = 50

Table of Specification (TOS) LMS Theme 3
LMS-MCQ Assessment of lectures and SDL
April,2026 (Saturday)
(80% pass criteria for appearing in end block exam - 80% attendance)

Sr. #	Discipline	No. of MCQs	No. of MCQs according to cognitive domain			Total
			C1	C2	C3	
1.	Otorhinolaryngology	30	05	20	05	30
2.	Community Medicine	15	06	07	02	15
3	Dermatology	05	02	02	01	05
		50	20	22	08	50 marks

End Module 1

Table of specifications (TOS) Fourth Year MBBS
Mar 2026
MCQ+EMQ+SEQ+SAQ+AV-OSPE (150 marks)
(80% pass criteria and 80% attendance for appearing in end block exam)

Sr. #	Discipline	No. of MCQs (1 mark each)	Cognitive domain			No of EMQs (5 marks each)	No. of SEQs (9 marks each)	Cognitive domain			No of SAQs (5 marks each)	Cognitive domain			Total
			C1	C2	C3	1 EMQs	5 SEQs	C1	C2	C3	3 SAQs	C1	C2	C3	
1.	Otorhinolaryngology	35 MCQ	15	15	05	1 x 5 = 5 marks	5x9 = 45	03	01	01	3 x5 = 15	01	01	01	
Theory (120 minutes)		35 marks 35 minutes				05 marks 05 minutes	45 marks 50 minutes				15 marks 30 minutes				Total = 100 Marks 120 minutes

AV-OSPE (10 stations) 60 minutes

	Discipline	No. of stations		Cognitive domain			Total marks
				C1	C2	C3	
1	Ear	02		-	01	01	2x5 = 10 marks
2	Nose	02		-	01	01	2x5 = 10 marks
3	Throat	02		-	01	01	2x5 = 10 marks
4	Audiometry Tympanometry	01 01		-	-	02	2x5 = 10 marks

5	Radiology Instrument	01 01		-	-	02	2x5 = 10 marks
							Total = 50 marks

Core subject	70%
Horizontal/vertical integration	20%
Spiral integration	10%

Table of Specification (TOS) LMS Theme 4
LMS-MCQ Assessment of lectures and SDL
April 2026 (Saturday)
(80% pass criteria for appearing in end block exam - 80% attendance)

Sr. #	Discipline	No. of MCQs	No. of MCQs according to cognitive domain			Total
			C1	C2	C3	
1.	**Otorhinolaryngology**	30	05	20	05	30
2.	**Community Medicine**	15	08	05	02	15
3	**Dermatology**	05	07	02	01	05
		50	37	15	08	50 marks

Table of Specification (TOS) LMS Theme 5
LMS-MCQ Assessment of lectures and SDL
April,2026 (Saturday)
(80% pass criteria for appearing in end block exam - 80% attendance)

Sr. #	Discipline	No. of MCQs	No. of MCQs according to cognitive domain			Total
			C1	C2	C3	
1.	Otorhinolaryngology	30	05	20	05	30
2.	Community Medicine	15	06	07	02	15
3	Dermatology	05	02	02	01	05
		50	20	22	08	50 marks

End Module-2 (Block-1) Otorhinolaryngology
Table of specifications (TOS) Fourth Year MBBS 2026
MCQ+EMQ+SEQ+SAQ+AV-OSPE (150 marks)
(80% pass criteria and 80% attendance for appearing in end block exam)

Sr. #	Discipline	No. of MCQs (1 mark each)	Cognitive domain			No of EMQs (5 marks each)	No. of SEQs (9 marks each)	Cognitive domain			No of SAQs (5 marks each)	Cognitive domain			Total
			C1	C2	C3	1 EMQs	5 SEQs	C1	C2	C3	3 SAQs	C1	C2	C3	
1.	Otorhinolaryngology	35 MCQ	25	05	05	1 x 5 = 5 marks	5x9 = 45	03	01	01	3 x5 = 15	---	01	01	
Theory (120 minutes)		35 marks 35 minutes				05 marks 05 minutes	45 marks 50 minutes				15 marks 30 minutes				Total = 100 marks 120 minutes
AV-OSPE (10 stations) 60 minutes															
	Discipline	No. of stations					Cognitive domain					Total marks			
							C1	C2		C3					
1	Ear	02					-	01		01		2x5 = 10 marks			
2	Nose	02					-	01		01		2x5 = 10 marks			
3	Throat	02					-	01		01		2x5 = 10 marks			
4	Audiometry Tympanometry	01 01					-	-		02		2x5 = 10 marks			
5	Radiology	02					-	-		02		2x5 = 10 marks			
												Total = 50 marks			

Core subject	**70%**
Horizontal/vertical integration	**20%**
Spiral integration	**10%**

This plan of assessment intricately details the structure and evaluation criteria for the undergraduate otorhinolaryngology block exam, designed to align closely with the Accreditation Council for Graduate Medical Education (ACGME) competencies. The block unfolds across two distinct three-weeks modules, with weekly formative assessments strategically integrated to assess and reinforce students' proficiency in the ACGME-defined domains along with special emphasis on research as per university policy.

ACGME competencies	Assessment tool
Medical Knowledge	MCQ, SAQ, OSCE, ward test
Patient care	OSCE, Ward test
Practice- based learning	OSCE, ward test
System based practice	OSCE, ward test
Professionalism	OSCE, ward test
Communication skills	OSCE, ward test
Research	Spirally integrated across all 5 years Research projects

Each formative assessment serves as a targeted gauge for students to showcase their evolving competencies, embracing the ACGME's focus on patient care, medical knowledge, practice-based learning, interpersonal and communication skills, professionalism, and systems-based practice. As the modules progress, these assessments provide iterative insights into learners' development across these crucial competencies.

The culmination of each module manifests in a summative assessment, meticulously crafted to evaluate the synthesis and application of knowledge within the context of the ACGME competencies. This comprehensive approach ensures that the evaluation process not only measures academic understanding but also holistically assesses the skills and attributes essential for effective and compassionate medical practice.

In essence, this table of specifications serves as a dynamic framework for instructors, weaving ACGME competencies into the fabric of assessments to cultivate well-rounded, future-ready healthcare professionals. It underscores the commitment to nurturing individuals who excel not only in the theoretical aspects of otorhinolaryngology but also in the broader spectrum of competencies vital for patient-centered care.

Block Assessment Plan

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

1. Formative Assessment

Assessment Method	Description	Timing
End of Lecture Assessment	Brief quizzes or concept checks to assess understanding after each lecture	End of each lecture
Weekly Quizzes	LMS based Short quizzes covering weekly topics	End of each weeks
TCRF	Discussions involving clinical scenarios to assess clinical reasoning and decision making.	Once a week

2. Summative Assessment:

Summative assessment is taken at the

- End module-I and End module -II
- End block levels.

Assessment framework is specifically designed with careful consideration of subject importance and integration aspects. The distribution of marks is as follows

1	**Core concepts**	**70%**
2	Horizontal/ Vertical integration ● Pathology ● Community medicine/ public health ● Pharmacology Vertical integration ● Family medicine ● General surgery ● Basic sciences	15%
3	Spiral integration ● Research ● Artificial intelligence ● Bioethics	15%

This structure emphasizes a significant focus on core subjects, ensuring a substantial grasp of fundamental concepts. Simultaneously, horizontal, vertical, and spirally integrated subjects each contribute to 10% of the assessment, promoting a balanced understanding and application of knowledge across interconnected domains. The tabulated form provides a clear delineation of weightage assigned to each component, reflecting the comprehensive nature of the assessment strategy.

Department of Otorhinolaryngology Head and Neck Surgery (CIA)

Module 1:

Roll no.	Name of student	Theory Marks	AV-OSPE Marks	Total Marks	Theory CIA	AV-OSPE CIA	TOTAL CIA
		100	50	150	12	3	15

Module 2:

Roll no.	Name of student	Theory Marks	AV-OSPE Marks	Total Marks	Theory CIA	AV-OSPE CIA	TOTAL CIA
		100	50	150	13	2	15

LMS off campus: (10%)

Roll no.	Name of student	Theory Marks (40%)	Clinical (60%)	TOTAL
		08	12	20

LMS On Campus:

Total Theory	Total Clinical
30	**30**

Block 1: (15%):

Roll No	Name of student	LMS (on campus) Marks	Ci-OSCE + OSVE Marks	Total Marks	LMS CIA	Ci-OSCE+OSVE Marks	Clinical Clerkship		Total CIA
		60	**200**	**260**	**5**	**10**	**Assessment = 10**	**Logbook = 5**	**30**

Summary Block-1 CIA: (40%)

Module-1	**Module 2**	**Block-1**	**LMS(off campus)**	**TOTAL**
15	**15**	**30**	**20**	**80**

Section – V Time Table

RMU-12 Integrated Modular Curriculum
4th year MBBS

Session – 2026

Batch 50

Block Name: : **Otorhinolaryngology Block-X 2026**

Duration of Module : **06 Weeks**

Coordinator : **Dr. Ashar Alamgir**

Module Committee		**Module task force**		
Vice Chancellor RMU	Prof. Dr. Muhammad Umar	Coordinator	Dr Ashar Alamgir	
		Co- Coordinator	Dr Farhat/Dr Namra/Dr Maimona	
Director DME	Prof. Dr. Rai Muhammad Asghar	DME Focal Person	Dr. Sidra Hamid	
Convener Curriculum	Prof. Dr. Naeem Akhter	Co-coordinator Comm Med	Dr. Mehwish Riaz	
Chairperson Otorhinolaryngology	Prof Dr Sadia Chaudhry			
Additional Director DME	Prof. Dr. Ifra Saeed			
Chairperson Physiology	Prof. Dr. Samia Sarwar			
Chairperson Biochemistry	Dr. Aneela Jamil	**DME Implementation Team**		
HOD Community Medicine	Prof Dr Rozina Shahadat Khan	Director DME		Dr. Rai Muhammad Asghar
Focal Person ENT 4th Year MBBS	Dr Huma	Implementation In charge 4th Year MBBS		Prof. Dr. Arshad Ali Sabir
Focal Person Comm Med	Dr. Sana Bilal	Deputy Director DME		Dr. Shazia Zeb

Categorization of Modular Content of Otorhinolaryngology		
Category A By Professors	**Category B By Associate & Assistant Professor**	**Category C By Senior Registrars**
Endoscopic anatomy of middle ear	Anatomy and physiology of ear and vestibular system	Chronic Otitis media
Acute otitis media	Acute Otitis externa & Malignant Otitis externa	Snoring and Sleep Apnoea
Otitis media with effusion (OME)	Nasal polyps, Eustachian tube catarrh	Vasomotor Rhinitis and its differentials
Acute ethmoiditis and its complications	Facial nerve palsy	Pure tone audiometry, Tympanometry and BERA/ASSR
Acute epiglottitis	Otosclerosis	Hearing Aids, Cochlear implant
Laryngotracheobronchitis	Sensorineural hearing loss, noise induced hearing loss, drug induced HL, Meniere's	Adenoiditis, Nasopharyngeal Angiofibroma
Foreign body ear, nose	Acute epiglottitis, Acute laryngotracheobronchitis	Allergic rhinitis
Rhinolith	Complications of Chronic Otitis media	Radiology of nose and paranasal sinuses
Atrophic rhinitis	Diseases of salivary glands	Anatomy and physiology of oral cavity, pharynx
Hypertrophic rhinitis	Deviated nasal septum & Rhinoplasty	Septal abscess & septal hematoma
	Complications of rhinosinusitis	Basal cell carcinoma &Squamous cell carcinoma Nose
	Acute and chronic tonsillitis, peritonsillar abscess, retropharyngeal abscess, parapharyngeal abscess	Anatomy and physiology of larynx, trachea, bronchi
	Vocal nodule, vocal polyp, Reinke's edema	Ludwig's angina

Categorization of Modular Content of Community Medicine

Category A*	Category B**	Category C***		
LGIS	LGIS	SDGS	SDL	IUGRC sessions (PAL)
Epidemiology Fundamental concepts	Concept of disease & health	Measures of morbidity & exercise of morbidity statists	COVID 19	Review of health research methodology
Quantification of ill health & death	Concept of disease causation		influenza	Selection of research title (Finer Criteria) & literature review
Epidemiological Study designs	Levels of prevention	Measures of mortality & exercise of morality statists	Infectious disease epidemiology	Finalization of questionnaire and layout of work plan
Measure of association in epidemiological data analysis	Droplet infections		Investigation of epidemic	
Epidemiological investigation	Health dimensions & indicators		Exercise of Investigation of epidemics	
Disease Causation & association concepts	Epidemiology of Communicable diseases			
Overview of Health research methods	Air & ventilation			
Research Sampling techniques	Noise			
	Global warming			

Category A*: Fundamental & Complex Concepts taken by Professors, Associate Professors and Assistant Professors
Category B: Intermediate concepts. Exercises. By Professorial faculty and Senior Demonstrators/ subject specialists.**
Category C*: Relatively lower complex concepts, exercises/ applications. By Assistant professors, Demonstrators & senior PGTs)**

Teaching Staff / Human Resource of Department of Otorhinolaryngology

Sr. #	Designation Of Teaching Staff / Human Resource	Total number of teaching staff	Total teaching hours
1.	**Professor**	**01**	**20 hours**
2.	**Associate professors**	**01**	**32 hours**
3.	**Assistant professors**	**04**	**32 hours**
4.	**Senior Registrars**	**06**	**42 hours**
			126 hours

Teaching Staff / Human Resource of Department of Community Medicine

Sr.no.	Designation	Total number of teaching staff
1.	**Professor**	**01**
2.	**Associate professor**	**01**
3.	**Assistant professor**	**04**
4.	**Demonstrators**	**02**
5.	**PGTs**	**10**

Contact Hours (Faculty) ENT

Sr. #	Hours Calculation for Various Type of Teaching Strategies	Total hours
1.	**Large Group Interactive Session (LGIS)**	**6 hours x 5 weeks = 30 hours**
2.	**Clinical Clerkship**	**4 hours x 6 weeks = 24 hours**
3.	**Case Based Learning (CBD)**	**4 hours x 6 weeks = 24 hours**
4.	**Operation theatre**	**8 hours x 6 weeks = 48 hours**
		126 hours

Contact Hours (Faculty) Community Medicine

Sr. no.	Hours Calculation for Various Type of Teaching Strategies	Total Hours (Faculty)	Total Hours (Students)	Faculty level
1	**LGIS (19). 1hrs each session (half class sessions)**	**2 x 19= 38 hrs.**	**19**	**Professor, Associate, and assistant professors**
2	**SGD (2) approx. 2hrs each session. 1/4th class**	**2 x 8= 16 hrs.**	**4**	**Demonstrator (subject specialists), Senior PGTs**
3	**PAL (IUGRC) (1) approx. 2hrs per session. (16 small group sessions. 8 gps. per day)**	**2 x 16 =32 hrs.**	**2**	**Demonstrator (subject specialists) supervised by professional faculties**
4	**SDL (4)**	**1 x 4 =4 hrs.**	**4**	**Demonstrator (subject specialists)**
		Total: 90hrs	**29hrs**	

Plz remove time tables …all tables from this page on wards

ENT (Otorhinolaryngology)

Block-X

Module-I

3 weeks

ENT (Otorhinolaryngology)

Module-1

Theme-1

Otalgia, otorrhea, dizziness, Hearing loss

Block-X Module-1

RAWALPINDI MEDICAL UNIVERSITY RAWALPINDI NEW TEACHING BLOCK
TENTATIVE TIME TABLE 4th YEAR MBBS – OTORHINOLARYNGOLOGY MODULE-1- 2026

Week - 1

DATE / DAY	8:00 AM – 8:45 AM	08:45am – 9:30am	BREAK 10:00AM – 10:30AM	10:am – 11:30am	11:30am - 1:00pm
Monday 09-03-26	**ENT LGIS** Introduction to subject, Anatomy and physiology of ear, Ext Ear inflammatory conditions Dr Shafaq/Dr Fatima Shahid Lec hall 1 & 2	**COMMUNITY MEDICINE LGIS** Introduction to community medicine & Public health Prof Dr Rozina Shahadat Khan CPC Hall		**Clinical Clerkship** Discuss anatomy & physiology of ear and vestibular system in ENT wards class room	**Case based discussion** Ear history and examination in ENT wards on patients
Tuesday 10-03-26	**ENT LGIS** Acute Otitis media Otitis media with effusion Dr Maimona/Dr Namra Lec hall 1& 2	**COMMUNITY MEDICINE LGIS** Fundamental concepts of preventive medicine,(health and disease) Prof Dr Rozina Shahadat Khan, Dr Afifa Kulsoom Lec hall 1& 2		**Clinical Clerkship** Discuss acute otitis externa Malignant otitis externa and foreign bodies ear in ENT ward class room	**Case based discussion** History and examination of Acute otitis externa Malignant otitis externa patients in ENT ward along with management of FB ear
Wednesday 11-03-26	**ENT LGIS** Menier's dis., BPPV Dr Maimoona/Dr Sundas Lec hall 1& 2	**PHARMACOLOGY LGIS-1** Antihistamines In ENT Dr Maimoona / Dr Saba Lec hall 1 & 2		**Clinical Clerkship** Discuss otitis media with effusion,CSOM Eustachian catarrh in ENT ward class room	**Case based discussion** Demonstration of Myringotomy with grommet insertion,Myringoplasty and Mastoidectomy in Operation Theatre
Thursday 12-03-26	**ENT LGIS** Sensorineural, noise induced, drug induced hearing loss/Tympanometry Audiology, Dr Haitham/Dr Tabasum Lec hall 1& 2	**COMMUNITY MEDICINE LGIS** Concepts of wellbeing , health indicators Prof Dr Rozina Shahadat Khan Dr Imrana Saeed Lec hall 1& 2		**Clinical Clerkship** Discuss PTA and Tympanographs	**Case based discussion** Interpretation of audiological tests of patients with hearing loss

	08:00AM – 09:30AM	09:30AM – 10:15 am		10:15AM – 11:00AM		11:00AM – 12:00PM	ENT-SDL
Friday 13-03-26	PAL / Skill lab Community medicine / Pharmacology IUGRC Contact session 1/ Overview to health research methodology (BatchA-H) Prof .Dr Rozina Shahdat Khan . Effect of histamine and anti histamine on rabbit's ileum (batch I-P) Dr Uzma / Dr Arsheen	ENT **LGIS** Chronic Otitis media with complications Prof Dr Sadia Lec hall 4 Odd	ENT **LGIS** Chronic Otitis Media with complications Dr Ashar Lec hall 5 Even	**COMMUNITY MEDICINE LGIS** Concept of prevention & mode of intervention Prof Dr Rozina Shahadat Khan Dr Imrana Saeed Lec hall 4 Odd	Lec hall 5 Even	ENT-LGIS Facial nerve and its disorders Dr Fatima / Dr Namra Lec hall 4 & 5	Anatomy/Radiology of temporal bone and mastoid x ray mastoid, CT scan temporal bone, MRI temporal bone Dr Shafaq

	08:00AM – 09:30AM	09:30AM – 11:00 AM		BREAK 11;15 AM-11:45 AM	11:00AM – 11:40AM	11:40 am – 12:20PM	12:20 PM – 1:00PM
Saturday 14-03-26	PAL / Skill lab Community medicine / Pharmacology IUGRC Contact session 1/	**Transdisciplinary Clinical Reasoning Forum (TCRF)** A female diabetic patient with otalgia, ear discharge Dr Farhat Lecture Hall 4	A female diabetic patient with otalgia, ear discharge Dr Zainab Lecture Hall 5		ENT **LGIS** Otosclerosis Lect Hall 4 & 5 Dr Zainub/Dr Farhat	Pathology **LGIS 1** Cysts, polyp, cholesteatoma and neoplastic lesions of ENT Dr Abid / Dr Mudassira Lec Hall 4 & 5	**COMMUNITY MEDICINE LGIS** Hearing loss due to noise pollution Prof Dr Rozina Shahadat Khan

	Overview to health research methodology Prof .Dr Rozina Shahdat Khan Effect of histamine and anti histamine on rabbit's ileum Dr Uzma / Dr Arsheen	Odd	Even				Dr Mehjabeen

LMS-1
Theme-1

ENT (Otorhinolaryngology)

Module-1

Theme-2

Rhinorrhoea, nasal obstruction

Block-X Module-1

RAWALPINDI MEDICAL UNIVERSITY RAWALPINDI NEW TEACHING BLOCK

Week - 2

TENTATIVE TIME TABLE 4th YEAR MBBS – OTORHINOLARYNGOLOGY MODULE-1- 2026

DATE / DAY	8:00 AM – 8:45 AM	08:45am – 09:30am		10:00am – 11:30pm	12:00pm -1:00pm
Monday 16-03-26	**DERMATOLOGY LGIS** Approach to a patient with Psoriasis Dr Shahwana Lec hall 4 & 5	**COMMUNITY MEDICINE LGIS** Fundamental Concepts & Uses of Epidemiology (Assoc Prof) Dr Khola Noreen, (Assoc Prof) Dr Sana Bilal. Lec hall 1,2		**Clinical Clerkship** History taking of patients with nose and PNS diseases	**Case based discussion** Examination of Nose and PNS on patients
Tuesday 17-03-26	**ENT LGIS** Nasal septum, Septal haematoma, abscess, perforation, foreign body nose Dr Haitham/Dr Zainab Lec hall 1 & 2	**COMMUNITY MEDICINE LGIS** Introduction to Epidemiologic methods-Descriptive studies Assoc Prof Dr Khola / Assoc Prof Dr Sana Bilal Lect Hall 1 & 2	**N O B R E A K**	**Clinical Clerkship** Discuss types of DNS and Septoplasty	**Case based discussion** Examination of nose for DNS and demonstration of septoplasty in Operation theatre
Wednesday 18-03-26	ENT **LGIS** Nasopharyngeal Angiofibroma, Nasal polyp, FESS Dr Sundas, Dr Fatima Shahid Lec Hall 4,5	**COMMUNITY MEDICINE LGIS** Droplet infections1-small pox,chicken pox,measles Dr Narjis, Dr Asif Lect Hall 1&2		**Clinical Clerkship** Discuss foreign body nose and rhinolith	**Case based discussion** Demonstration of foreign body nose and rhinolith removal
Thursday 19-03-26	EID HOLIDAYS				
Friday 20-03-26					
Saturday 21-03-26	PAL / Skill lab	**Transdisciplinary Clinical Reasoning Forum (TCRF)**	11:15-11:45	COMMUNITY MEDICINE **LGIS**	**DERMATOLOGY LGIS**	**Family Medicine**

LMS-2
Theme-2

ENT (Otorhinolaryngology)

Module-1

Theme-3

Sore throat

RAWALPINDI MEDICAL UNIVERSITY RAWALPINDI NEW TEACHING BLOCK

Block-X Module-1

TENTATIVE TIME TABLE 4th YEAR MBBS – OTORHINOLARYNGOLOGY MODULE-1- 2026

Week - 3

PAKISTAN DAY

8th International Scientific Conference

DATE / DA								
Monda 23-03-2								vity
Tuesday 24-03-26								
Wednesday 25-03-26								
Tursday 26-03-26								
Friday 27-03-26								
Saturday 28-03-26	08:00AM – 09:45AM		10:00AM – 12:00 PM			NOBR	12:00PM – 01:00PM	
	SGD / Skill lab		Transdisciplinary Clinical Reasoning Forum (TCRF)				COMMUNITY	ENT-SDL

LMS-3
Theme-3

ENT (Otorhinolaryngology)

Module-2

Theme-4

Hoarseness, dysphagia

Block-X Module-2

RAWALPINDI MEDICAL UNIVERSITY RAWALPI **Week - 4**

TENTATIVE TIME TABLE 4th YEAR MBBS – OTORHINOLARYNGOLOGY MODULE-2- 2026

DATE / DAY	8:00 AM – 9:00 AM	09:00AM – 10:00AM.		10:30AM – 11:30AM	11.30 AM - 02 PM
Monday 30-03-26	**COMMUNITY MEDICINE LGIS**	**ENT LGIS**		**Clinical Clerkship**	**Case based discussion**
	END OF MODULE-1 MCQ+SEQ+SAQ+EMQ+AV-OSPE			Discuss anatomy of larynx, trachea, bronchi and esophagus in ENT wards	History taking, examination of larynx, trachea in ENT wards on patients
Tuesday 31-03-26	**ENT LGIS**	**COMMUNITY MEDICINE LGIS**		**Clinical Clerkship**	**Case based discussion**
	Acute and Chronic Tonsillitis, Adenoiditis Dr Namra Dr Shafaq Lec hall 4	Analytical epidemiological studies (cohort studies) Dr Khola, Dr Sana Bilal Lec hall 1 & 2		History taking and Examine patient with hoarseness	Demonstrate tracheostomy in operation theatre
Wednesday 01-04-26	**ENT LGIS**	**COMMUNITY MEDICINE LGIS**		**Clinical Clerkship**	**Case based discussion**
	Quinsy, Retropharyngeal abscess, parapharyngeal abscess Foreign body aerodigestive tract Lec hall 1 & 2 Dr Zainab/Dr Maimona	Experimental study design Dr Khola, Dr Sana Bilal Lec hall 1 & 2		Discuss causes of stridor and management	Demonstration of FODL in operation theatre
Thursday 02-04-26	**ENT LGIS**	**COMMUNITY MEDICINE DSL**		**Clinical Clerkship**	**Case based discussion**
	Vocal nodule, vocal polyp, Rienke's edema Laryngomalacia/ Juvenile laryngeal papillomatosis Dr Fatima/Dr Tabassum Lec hall 1 & 2	Association & Causation Dr Khola, Dr Sana Bilal Lec hall 1 & 2		History taking and examination of patient with dysphagia	Demonstrate esophagoscopy and bronchoscopy in operation theatre
Friday 03-04-26	**08:00AM – 10:00AM**	**10AM – 10:40AM**	**10:40AM – 1120AM**	**11:20AM – 12:00PM**	**Self Study**
	PAL / Skill lab	**ENT LGIS**	**COMMUNITY MEDICINE LGIS**	**ENT LGIS**	
	Community medicine / Pathology IUGRC Contact session III discussion on synopsis writing protocols all faculty of community medicine Neoplastic lesions of nasopharynx	Plummer Vinson Syndrome, Croup, ALTB Dr Ashar Lec hall 4 Plummer Vinson Syndrome, Croup, ALTB Prof Dr Sadia Lec hall 5	Air and ventilation Dr Mehjabeen (Senior Demo),Dr Asif (Demo), Lec hall 4, 5	Tracheostomy and complications Dr Maimona/Dr Shafaq Lec hall 4 & 5	Anatomy and physiology of larynx, trachea, esophagus
Saturday 04-04-26	**08:00AM – 10AM**	**10:00AM – 12:00PM**		**12:30PM – 01:15PM**	**01:15-2:00PM**
	PAL / Skill lab	**Transdisciplinary Clinical Reasoning Forum (TCRF)**		**DERMATOLOGY LGIS**	**ENT-SDL**
	Community medicine / Pathology IUGRC Contact session III discussion on synopsis writing protocols all faculty of community medicine	An old age man with hoarseness of voice and difficulty in breathing Dr Fatima Dr Shafaq CPC Hall		Approach to a patient with Bacterial skin infections and scabies Dr Shahwana Lec hall 4 & 5	Vocal cord paralysis, vocal nodules, Radiology of neck and aerodigestive tract **Dr Fatima/Dr Farhat**

LMS-4
Theme-4

ENT (Otorhinolaryngology)

Module-2

Theme-5

Neck Masses

Block-X Module-2

RAWALPINDI MEDICAL UNIVERSITY RAWALPINDI NEW TEACHING BLOCK

Week - 5

TENTATIVE TIME TABLE 4th YEAR MBBS – OTORHINOLARYNGOLOGY MODULE-2- 2026

DATE / DAY	8:00 AM – 9:00 AM	09:00AM – 10:00AM		10:30AM – 11:30AM	11:30AM - 02:00 PM
Monday 06-04-26	COMMUNITY MEDICINE **LGIS** Environment and health (Air Purification Global Warming) Dr Asif, Dr Narjis Lec Hall 1,2	**DERMATOLOGY LGIS** An approach to a patient with cutaneous drug reactions Dr Shawana Lec Hall 1 & 2	**B R E A K**	**Clinical Clerkship** **History taking of a patient with neck swelling**	**CBD** **Examination of patient with neck swelling**
Tuesday 07-04-26	**ENT LGIS** Cervical Lymphadenopathy Dr Sundas/Dr Zainab Lec hall 1 & 2	**ENT LGIS** Anatomy and physiology of neck, Thyroid Gland Lec hall 1 & 2 Prof Dr Sadia Ch/Dr Farhat		**Clinical Clerkship** **Discuss CT scan Neck**	**CBD** **Examination of cervical lymph nodes**
Wednesday 08-04-26	**ENT LGIS** Thyroglossal duct cyst, Goitre Dr Farhat/Dr Fatima Lec hall 1 & 2	COMMUNITY MEDICINE **LGIS** Probability sampling, Dr Afifa,Dr Mehwish Lec Hall 1,2		**Clinical Clerkship** **Discuss Differential diagnosis of neck masses**	**CBD** **Demonstrate Lymph node biopsy in operation theatre**
Thursday 09-04-26	**ENT LGIS** Branchial Cyst/Branchial fistula Dr Namra/Dr Maimona Lec hall 1 & 2	COMMUNITY MEDICINE **LGIS** Non Probability sampling, Dr Afifa,Dr Mehwish Lec Hall 1,2		**Clinical Clerkship** **History of a patient with thyroid swelling**	**CBD** **Examination of patient with thyroid swelling**

	08:00AM – 10:00AM	10:00AM – 10:40AM	10:40AM – 11:20AM		11:20AM – 12:00PM		
Friday 10-04-26	**SGD / Skill lab** Community medicine / Pathology Measurement of Mortality Dr Narjis, Dr Maria, Dr Mehreen A-H)	**ENT LGIS** Radiology in ENT Dr Ashar, Dr Farhat Lec hall 4,5	**DERMATOLOGY LGIS** Approach to a patient with Fungal viral skin infection Dr Shahwana Lec hall 4 **Odd**	Approach to a patient with Fungal viral skin infection Dr Shahwana Lec hall 4 **Even**	**ENT LGIS** Ludwig's angina Dr Shafaq/Dr Tabasum Lec hall 4 & 5		**Self Study** Discuss anatomy and physiology of neck

	08:00AM – 10:00AM	10:00AM – 12:00PM		12:30PM – 01:15PM	1:15-2:00PM
Saturday 11-04-26	**SGD / Skill lab** Community medicine / Pathology Measurement of Mortality Dr Narjis, Dr Maria, Dr Mehreen (Batch I-P)	**Transdisciplinary Clinical Reasoning Forum (TCRF)** A child with fever, neck swelling, difficulty in breathing Dr Maimoona Dr Namra CPC Hall	**B R E A K**	**DERMATOLOGY LGIS** Approach to a patient with Acne and melasma Dr Shahwana Lec hall 4 & 5	**ENT-SDL** Discuss Cystic hygroma and carotid body tumor **Dr Namra** **Dr Zainab**

LMS-5
Theme-5

End Module 2

Block-X Module-2 **Week - 6**

RAWALPINDI MEDICAL UNIVERSITY RAWALPINDI NEW TEACHING BLOCK
TENTATIVE TIME TABLE 4th YEAR MBBS – OTORHINOLARYNGOLOGY MODULE-2- 2026

DATE / DAY				
Monday 13-04-26	**End Module-2 – Theory MCQ+EMQ+SEQ+SAQ 08.30 am to 11.30 am AV OSPE – 11.30 am to 01 pm**			
Tuesday 14-04-26	**Community Medicine Theory and AV-OSPE**			
Wednesday 15-04-26				----
Thursday 16-04-26				----
Friday 17-04-26				----
Saturday 18-04-26				----

Program Evaluation and Feedback

Quality Assurance & Quality Enhancement

- Student Feedback Performa
- Student Report
- Faculty Report
- SWOT Analysis
- Quality Enhancement Cell (QEC) Report

Figure 31 – RMU Quality Assurance Cycle

Feedback & Evaluation

Rawalpindi Medical University is dedicated to advancing equality, diversity, and inclusion across all its activities, processes, and cultural practices, in line with its Public Sector EqualityDuties. This commitment encompasses promoting equality and diversity for everyone, regardless of any protected characteristic, working pattern, family circumstance, socio-economicbackground, political belief, or any other irrelevant distinction. Where pertinent to the policy, decision-making panels will ensure a reasonable gender balance (with at least one man and one woman) and will actively consider the representation of other protected groups.

Principles Feedback from students is essential to inform the development of the University'sprogrammes and to help shape all aspects of their current and future learning and broader experience. The University actively seeks and encourages students to share their views. Our approach aims to create openness, responsiveness and a sense of partnership.

How feedback is received

- **Informal Feedback**

Informal feedback is received by day-to-day dialogue between students and staff,

- **Formal Feedback**

Feedback is received from students in more formal settings. These include:

- **Central survey campaign**

The University regularly invites students to participate in anonymous surveys (Appendix 1).

The central surveys take place after every module, after every Block and at the end of the academic year. This schedule enables the University to work in conjunction with thestudents and help to improve the teaching, learning and assessment methodologies.

- **Focus Group Discussion**
  - **One To One Feedback from Students**

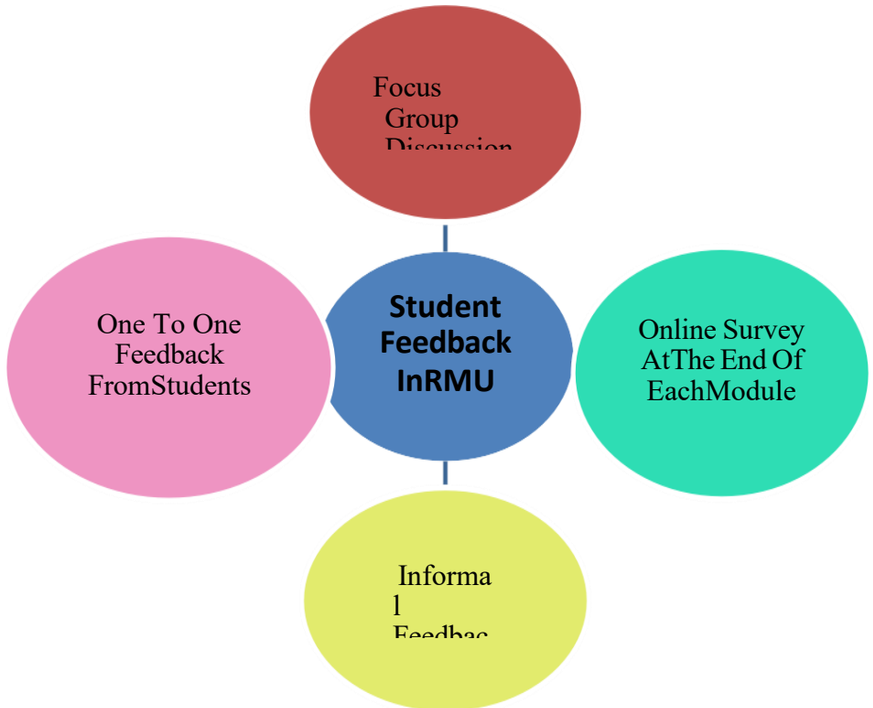


Figure 32 – RMU Feedback framework

Appendix -I Student Feedback Proforma for 2024

(to be conducted after every module completion)

Module Content & Organization

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
The module objectives were informed.					
At the beginning of module study guide was available.					
The module workload was manageable.					
The pace of the module was manageable.					
The module was well organized.					
Module started and ended on time.					
End of block feedback was taken					

Learning Environment and Teaching Methods

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Lectures were delivered appropriately.					
Labs were conducted appropriately.					
Small group discussions were conducted appropriately					
Teaching sessions were as per schedule.					
CBLs were conducted appropriately					
Faculty was cooperative.					
Learning resources were communicated clearly					
SGDs were standardized between different batches					

Quality of Delivery

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
The module stimulated my interest.					
Ideas were presented clearly.					

Learning Resources

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Learning Material was provided /recommended.					
Learning Resources were available in thelibrary.					
Digital / Web Based resources wereavailable.					
Power points of lectures were available					

Student Contribution

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
I participated actively in the module.					
I believe I have made progress in thismodule.					

Assessments

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Class tests were conducted regularly.					
Class tests were helpful					
Test difficulty was appropriate.					
Written Assessment was as per Table ofSpecifications.					
OSPE Exam was as per Table ofSpecification					
Table of Specification was shared					

LMS and its working

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Easy Access to LMS					
Module Content was Available					

SWOT Analysis of Curriculum

SOWT Analysis of Implementation of IMC

- **Strength**
  - We are leading all public sector medical colleges in implementation of integrated modular curriculum
  - We are fulfilling the requirement of World Federation for Medical Education
  - Our future doctor will be able to correlate and integrate basic and clinical knowledge in a better way with the competencies of 7 Star Doctor-acting as leader, manager, decision make, and communicator and care provider, decision maker, researcher and lifelong learner.

- **Opportunities**
  - We have completed the phase –I of implementation for 1st ,2nd and 3rd year and we are now able to implement it in 4th and final year
  - We can further refine our integrated curriculum of 1st and 2nd year MBBS in coming years and can better tackle its flaws.
  - Proper committees for feedback and evaluation are developed with collaboration from QEC& DME.

- **Weaknesses**
    - A change in system is always difficult to be accepted by stakeholders
    - Inflexible as compared to Conventional System.
    - The content of different subjects is sometimes jumbled up in various modules according to the requirement of that specific module which is difficult to be absorbed by the students.
- **Threats**
    - The Modular System can totally collapse back to Conventional System if not vigilantly and expertly handled.

Figure 33 : Centres for Disease Control and Prevention. Framework for program evaluation in public health. MMWR 1999;48 (No. RR-11)

Quality Enhancement Cell (QEC) Report

Quality Enhancement Cell- RMU since its inception has been active in promoting its core function of bringing standardization to university's academic programs in line with the guidelines enunciated by the Higher Education Commission. In this regard, first thing on which QEC team focused was QEC guidelines. Team achieved that milestone in record time. Approved QEC guidelines of RMU were implemented in 2018. Quality Enhancement Cells serve as focal points for quality assurance in the institutions in order to improve and uphold the quality of higher education. Capacity building of academia in quality assurance is one of the key functions of Quality Assurance Agency (QAA), HEC and subsequently of QEC. Thus, QAA and QECs of the Universities work hand in hand to move in this direction of capacity building arrangements that include awareness campaigns, development of quality assurance policy instruments, training to learn the processes and procedures of quality assurance in higher education institutions and development of Manual to equip the practitioners of quality assurance.In recent years it has become an obligation that institutions of higher education demonstrate the effectiveness of their academic programs in providing high quality education that positively impacts students. Furthermore, most accrediting bodies and others concerned with quality assurance are requesting that institutions assess students learning outcomes as a means of improving academic programs. This has led the accrediting bodies to develop methods for assessing the quality of academic programs. So, whole conventional system was needed to be revamped. Rawalpindi Medical University has the honor of being the first public sector Medical University of Punjab which has introduced the modern modular system of medical education for the MBBS course. It was a big challenge for Department of Medical Education (DME) and Quality Enhancement Cell to maintain the quality and standards of all the teaching and training practices. Quality enhancement cell, RMU appreciate the untiring efforts of DME in this regard. DME team has worked day and night for the implementation of the integrated modular curriculum.

Following are the compliments and recommendations by the Quality Enhancement Cell, RMU:

Commendations:

1. Proper, well managed integrated modular curriculum is in place under the vibrant and energetic leadership of Vice Chancellor, Prof. Muhammad Umar and Department of Medical Education. This thing has also been acknowledged by different visits by accreditation bodies like Higher Education Commission (HEC) and Pakistan Medical & Dental Commission.
2. Proper curriculum committee is in place with appropriate representation of the students as members.
3. All stakeholders are on board and are on one page regarding implementation of the integrated modular curriculum.
4. Regular meetings have been done by the curriculum committee.
5. Feedback has been taken regularly with appropriate gap interval in between.
6. Proper record keeping has been done by the Department of Medical Education both in soft and hard form.
7. As far as the assessment is concerned, newly established Examination Department is doing commendable and admirable job.

8. Final results are indicating that both students and faculty has adapted well to integrated modular system and they are satisfied with the system.
9. Campus management system is working efficiently.
10. Standardized format of all teaching strategies has improved the quality of the deliverance of the subject matter.

Recommendations:

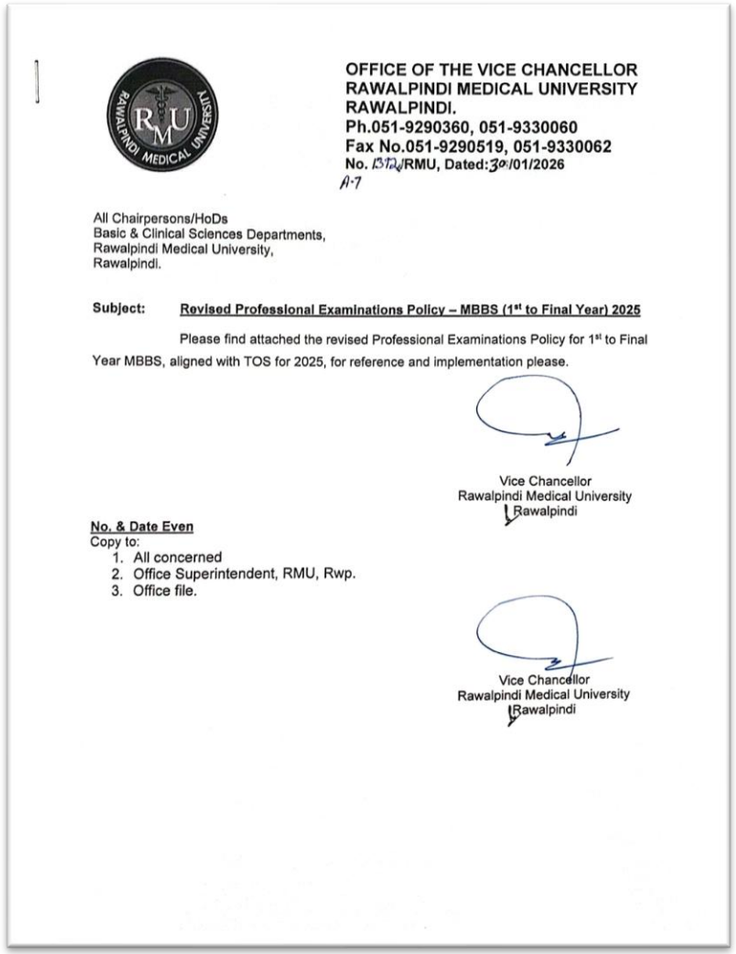
1. Communication and coordination among the departments can be made better. This will help in normalizing the pressure on the Department of Medical Education.
2. Department of Medical Education should be equipped with more human resource.
3. Faculty members should be provided with more opportunities for updating themselves with modern teaching methodologies. They should be encouraged to have certification or masters in medical education.
4. Departments and DME should ensure equal distribution of responsibilities among faculty members.
5. Steps should be taken in account for improving the ladder of the curriculum according to the Harden's ladder of curriculum.
6. Faculty should be encoouraged to participate actively in the Faculty Development Program of the university which is already working on a very good pace.
7. Subjects specialists are advised to have more frequent meetings with the aim of improving the quality of the content delivered to the students.
8. Student centered teaching should be encouraged more.
9. Any motivational lecture should be included in the time table for every class as it is very important for the students for personal growth and development.

The weightage of all clinical lectures should be increased in first and second year MBBS, as the attandance is on the lower side in clinical lectures of the above said years.

Learning Resources

Subject	Resources
Otorhinolaryngology	• Diseases of ear nose throat Dr Saleem Iqbal Bhutta • Scott Brown Otorhinolaryngology Head & Neck Surgery, Eighth Edition • Diseases of Ear, Nose and Throat & Head and Neck Surgery, Seventh Edition, PL Dhingra • Color Atlas of ENT diagnosis, Tony R. Bull, 5th Edition • Ear, Nose and Throat, Self-Assessment and Self Evaluation Manual, Second Edition, PL Dhingra
Community Medicine	• Park's Textbook of Preventive and Social Medicine, 26th edition, Chapter 3, 4, 5 • Textbook of Community Medicine by Muhammad Ilyas and Dr Irfanullah Siddiqi • Epidemiology by Leon Girdis

Section – VI Annexures



OFFICE OF THE VICE CHANCELLOR
RAWALPINDI MEDICAL UNIVERSITY
RAWALPINDI.
Ph.051-9290360, 051-9330060
Fax No.051-9290519, 051-9330062
No. 1572/RMU, Dated: 30/01/2026
A-7

All Chairpersons/HoDs
Basic & Clinical Sciences Departments,
Rawalpindi Medical University,
Rawalpindi.

Subject: **Revised Professional Examinations Policy – MBBS (1st to Final Year) 2025**

Please find attached the revised Professional Examinations Policy for 1st to Final Year MBBS, aligned with TOS for 2025, for reference and implementation please.

Vice Chancellor
Rawalpindi Medical University
Rawalpindi

No. & Date Even
Copy to:
1. All concerned
2. Office Superintendent, RMU, Rwp.
3. Office file.

Vice Chancellor
Rawalpindi Medical University
Rawalpindi

Rawalpindi Medical University (RMU)

Revised Professional Examination Policy – MBBS (First to Final Year)

(Aligned with Final Annual Assessment Table of Specifications year 2025)

1. Purpose and Scope

This policy defines the structure and rules for Final Professional Examinations for all MBBS professional years at Rawalpindi Medical University (RMU).
It ensures consistency, transparency, and alignment with the Table of Specifications (TOS 2025) approved by Board of Faculty.

2. **Definitions**

- **Block:**
  A thematic academic unit (e.g., Block I, II, III etc) comprising multiple subjects.
- **Component (Subject):**
  Each subject within a Block (e.g., Pharmacology , Pathology , Community Medicine Physiology etc.).
- **Sub-components:**
  Each subject has two assessment parts:
  - Theory (Knowledge Component) – MCQs, SEQs.
  - Practical / Skills Component – OSPE, OSCE, OSVE, Viva.
- **Continuous Internal Assessment (CIA):**
  40% marks calculated from CIA (30% from module , block assessments and 10% from LMS-based assessments).
- Final Annual Assessment: Assessment taken at the end of academic year and carries 60% of the total marks for the final annual assessment

3. Passing Criteria (As Per Final Annual Assessment TOS 2025)

To be declared Pass in a Block, a student must:

3.1. At Subject (Component) Level:

- Secure at least 50% marks in each subject of the relevant Block.
- Within each subject, both theory and practical sub-components must be cleared separately (≥50% in each)

3.2. At Block Level (Aggregate):

- Obtain at least 50% aggregate marks in the entire block (sum of all subjects +CIA)

3.4. Example Calculation for passing criteria

Block 3 of year 4 MBBS

Subject	Total Marks		Theory	Practical	Minimum marks required to pass theory	Minimum marks required to pass practical
	Prof	CIA	Prof Marks +CIA	Prof Marks +CIA		
Pharmacology	50	40	25+20=45	25+20=45	22.5	22.5
Community Medicine	30	20	15+10=25	15+10=25	12.5	12.5
Pathology	100	60	50+30=80	50+30=80	40	40
Total Marks (Block)	180	120	150	150	75	75

4. Failing Criteria

Students not meeting criteria mentioned in clause 3.1 and 3.2 will be declared failed

5. Examination Rules

1. Each Block shall be considered a complete academic and assessment unit. A student shall be declared *pass in the Block* only when all its constituent components (subjects) are passed and the overall Block Aggregate reaches the prescribed level(score).
2. It is mandatory to pass each subject within its respective block, not on the aggregate marks of that subject across all blocks.
3. **Failure in a Subject (Component):**
   If a student fails in any component (subject) within a Block, they shall appear in relevant block only in that failed subject (s) during the Supplementary Examination.
4. **Reappearance in Sub-components:**
   Within the failed subject, the student shall reappear in both Theory and Practical sub-components, regardless of which sub-component was failed earlier.
5. **Failure in Block Aggregate:**
   If a student passes all individual subjects (each securing **≥50%**) but fails to achieve the required Block Aggregate of 50%, the student shall reappear in the entire Block (all subjects) during the Supplementary Examination.
6. **Continuous Internal Assessment (CIA):**
   The CIA marks shall be carried forward to the Supplementary Examination.
7. **Structure and Weightage:**
   The Supplementary Examination shall follow the same format, structure, and weightage as the Final Annual (Professional) Examination.

6. Eligibility for Supplementary Examination

A student shall be eligible for Supplementary Examination if:

1. They have completed the required regular attendance and CIA as per policy.
2. They have failed in one or more subjects (components) or failed to meet the aggregate as per passing criteria as mentioned in clause 3.1 and 3.2.

Prof. Dr. Muhammad Umar
Vice Chancellor
Rawalpindi Medical University
Rawalpindi

Reference:

- *UHS Policy*
- *PMDC Policy*

List Of LGIS Topics

Theme 1: Otalgia, Ear Discharge & Dizziness, Hearing loss

Sr. no.	Topic	Faculty
1	Anatomy, Physiology of Ear, External ear inflammatory conditions	Dr. Shafaq/Dr. Fatima
2	Acute otitis media, Otitis media with effusion	Dr. Maimoona/ Dr.Namra
3	Meniere's disease, BPPV	Dr. Maimoona/Dr. Sundas
4	Sensorineural, noise induced, drug induced hearing loss/Tympanometry Audiology	Dr. Haitham/ Dr.Tabassum
5	Chronic Otitis media with complications	Prof Dr. Sadia/ Dr.Ashar
6	Facial nerve and its disorders	Dr. Fatima/ Dr. Namra
7	Otosclerosis	Dr. Farhat /Dr.Zainab
8	A female diabetic patient with otalgia, ear discharge	Dr. Farhat Dr. Zainab

Theme 2: Rhinorrhoea, nasal obstruction

Sr. no.	Topic	Faculty
1	Nasal septum and its diseases, Septal haematoma, abscess and perforation, Foreign body nose	Dr Haitham/Dr Tabasum
2	Allergic rhinitis, Acute and chronic Rhinosinusitis with complications	Prof Dr. Sadia/Dr.Ashar Alamgir
3	Nasopharyngeal Angiofibroma, Nasal polyps, FESS	Dr. Sundas/ Dr.Fatima
4	A young male with profuse nose bleed	Dr. Shafaq
5		Dr. Namra

Theme 3 : Sore throat

Sr. no.	Topic	Faculty
1	Anatomy and Physiology of oral cavity, Pharynx	Dr. Zainab/Dr.Farhat
2	Acute tonsillitis, Chronic tonsillitis, Adenoids	Dr. Tabasum/Prof Dr Sadia
3	Premalignant lesions of oral cavity, submucous fibrosis	Dr. Haitham/ Dr. Farhat
4	Quinsy, Retropharyngeal, parapharyngeal abscess	Dr. Asher/Dr Sundas
5	Acute and chronic pharyngitis, Differentials of Membranous tonsillitis	Dr. Namra/ Dr. Shafaq.
6	Salivary gland Diseases(Mumps, parotitis, submandibular sialadenitis)	Dr Shafaq. /Dr. Maimoona
7	A child with recurrent sore throat and fever	Dr Fatima /Dr. Maimoona

Theme 4: Hoarseness, dysphagia

Sr. no.	Topic	Faculty
1	Anatomy and physiology of Larynx, Trachea and esophagus	Dr. Ashar/ Dr Zainab
2	Vocal nodule, vocal polyp, Rienke's edema	Dr. Sundas/ Dr. Namra
3	Foreign body aerodigestive tract	Dr. Zainub/ Dr.Fatima
4	Laryngomalacia/ Juvenile laryngeal papillomatosis	Dr Haitham/Dr. Tabassum
5	Plummer Vinson Syndrome, Croup, ALTB	Prof Dr Sadia / Dr.Fatima
6	Tracheostomy indications and complications	Dr. Maimoona/ Dr.Shafaq
7	An old age man with hoarseness of voice and difficulty in breathing	Dr. Shafaq/ Dr.Farhat

Theme 5: Neck Masses

Sr. no.	Topic	Faculty
1	Cervical Lymphadenopathy	Dr. Sundas/ Dr. Zainab
2	Anatomy and physiology of neck, Thyroid gland	Prof Dr. Sadia/ Dr. Farhat
3	Thyroglossal duct cyst, Goitre	Dr. Haitham / Dr. Fatima
4	Branchial Cyst/Branchial fistula	Dr. Namra/Dr. Maimoona
5	Radiology in ENT	Dr. Ashar/ Dr. Farhat
6	Ludwig's angina	Dr. Shafaq /Dr. Tabasum
7	A child with fever, neck swelling, difficulty in breathing	Dr. Maimoona / Dr. Namra

List Of Community Medicine Module 1 (11 Lectures)

Sr No	Broad Area Of Teaching	No Of Lectures	Faculty Nominated
1.	Introduction to Community Medicine & Public health	1	Prof Dr Rozina Shahadat Khan (HOD Community Medicine) in CPC
2.	Fundamental concepts of Preventive medicine- I Health & Disease	1	Prof Dr Rozina Shahadat Khan (HOD Community Medicine), Dr Afifa Kulsoom(Assoc Prof)
3.	Concept of wellbeing, Health indicators	1	Prof Dr Rozina Shahadat Khan (HOD Community Medicine), Dr. Imrana Saeed, (APMO)
4.	Concepts of prevention & mode of intervention	1	Prof Dr Rozina Shahadat Khan (HOD Community Medicine), Dr. Imrana Saeed, (APMO)
5.	Hearing loss due to noise pollution		Prof Dr Rozina Shahadat Khan (HOD Community Medicine), Dr Mehjabeen Qureshi (Senior Demo)
6.	Fundamental Concepts & Uses of Epidemiology	1	Dr Sana Bilal (Assoc Prof), Dr Khola Noreen(Assoc Prof)
7.	Introduction to Epidemiologic Methods-descriptive studies		Dr Sana Bilal (Assoc Prof), Dr Khola Noreen(Assoc Prof)
8.	Droplet infections I-Small pox, chicken pox, measles		Dr Narjis(APWMO),Dr Asif (Demonstrator)
9.	Droplet infections II- Rubella, Pertussis, Mumps		Dr Mehwish Riaz(Asst Proff), Dr Mehjabeen (Senior Demo)
10.	Droplet infections III-Tuberculosis		Dr Narjis(APWMO),Dr Asif (Demonstrator)
11.	Droplet infections III (Meningitis, Diphtheria)		Dr Imrana Saeed (APWMO), Dr Mehwish Riaz(Asst Proff)

List Of Community Medicine Module 2 (11 Lectures)

S NO.	Broad Area Of Teaching	No of lectures	Faculty nominated
1.	Measures of morbidity SGD	1	Dr Mehjabeen (Senior Demo),Dr Saba, Dr Zaira (Sr PGTs)
2.	Analytical epidemiological studies (case-control studies)	1	Dr Khola Noreen (Assoc Prof),Dr Sana Bilal (Assoc Prof)
3.	Analytical epidemiological studies (cohort studies)		Dr Khola Noreen (Assoc Prof),Dr Sana Bilal (Assoc Prof)
4.	Experimental study design	1	Dr Khola Noreen (Assoc Prof),Dr Sana Bilal (Assoc Prof)
5.	Non probability Sampling	1	Dr. Afifa (Assoc Prof), Dr. Mehwish Riaz(Asst Proff)
6.	Association & Causation	1	Dr Khola Noreen,(Assoc Prof) ,Dr Imrana Saeed(APWMO)
7.	Air and ventilation		Dr Mehjabeen (Senior Demo),Dr Asif (Demo),
8.	Probability sampling	1	Dr. Afifa (Assoc Prof), Dr. Mehwish Riaz(Asst Proff)
9.	Measures of mortality (SGD)	1	Dr Narjis(APWMO),Dr Maria, Dr Mehreen),(Sr PGTs)
10.	Environment and health (Air Purification Global Warming)	1	Dr Asif, Dr Narjis

Rawalpindi Medical University
4th Year MBBS Model MCQs (USMLE Format)

1. A 24-year-old male presents with long-standing foul-smelling ear discharge and progressive hearing loss. He now develops vertigo on pressure over the tragus and during suction clearance. Otoscopy shows attic retraction with keratin debris. Which of the following is the most likely underlying pathology responsible for vertigo? A. Serous labyrinthitis B. Lateral semi circular canal fistula C. Otosclerosis D. Eustachian tube dysfunction E. Acute otitis media	**Otology**
2. A 55-year-old hypertensive patient presents with profuse unilateral epistaxis not controlled by anterior nasal packing. Bleeding continues into the oropharynx. The next most appropriate step is: A. Septoplasty B. Posterior nasal packing C. Chemical cautery with silver nitrate D. Functional endoscopic sinus surgery E. Nasal steroid spray	**Rhinology**
3. A patient undergoes thyroidectomy and later develops hoarseness and weak cough. Flexible laryngoscopy shows the vocal cord lying in paramedian position. Which nerve injury most likely explains this finding? A. Internal branch of superior laryngeal nerve B. External branch of superior laryngeal nerve C. Recurrent laryngeal nerve D. Glossopharyngeal nerve E. Hypoglossal nerve	**Laryngology**
4. A diabetic patient presents with fever, trismus, medial bulging of tonsillar pillar, and severe throat pain. Contrast CT shows collection extending from tonsillar region into parapharyngeal space. Which of the following is the most serious early complication to monitor? A. Otitis externa B. Airway obstruction C. Facial nerve palsy D. Allergic rhinitis E. Nasal septal deviation	**Head & Neck**

4th Year MBBS Model EMQ

1. Different patients present to the ENT clinic with complaints related to ear discharge, hearing loss, tinnitus, and vertigo. Based on the clinical features described in each statement, select the MOST appropriate option from the list below. Each option may be used once, more than once, or not at all.

List of Options (A–H)

A) Acute suppurative otitis media
B) Chronic suppurative otitis media (tubotympanic type)
C) Chronic suppurative otitis media (atticoantral type)
D) Otosclerosis
E) Serous otitis media
F) Meniere's disease
G) Otitis externa
H) Presbycusis

Statements

1. A patient presents with foul-smelling ear discharge, attic retraction pocket, and risk of intracranial complications.
2. A young adult complains of progressive conductive hearing loss with a normal tympanic membrane and absent stapedial reflex.
3. A child presents with hearing loss following an upper respiratory tract infection, and otoscopy shows a dull tympanic membrane with fluid level.
4. A patient has profuse, painless ear discharge with a central tympanic membrane perforation.
5. An elderly patient presents with bilateral, symmetrical sensorineural hearing loss, worse for high frequencies.
6. A swimmer presents with severe ear pain, tenderness on pulling the pinna, and a narrowed external auditory canal.
7. A patient presents with episodic vertigo, fluctuating hearing loss, tinnitus, and aural fullness.
8. This condition is most commonly associated with cholesteatoma formation.

Answer Key

1. C) Chronic suppurative otitis media (atticoantral type)
2. D) Otosclerosis
3. E) Serous otitis media
4. B) Chronic suppurative otitis media (tubotympanic type)
5. H) Presbycusis
6. G) Otitis externa
7. F) Meniere's disease
8. C) Chronic suppurative otitis media (atticoantral type)

Rawalpindi Medical University
4th Year MBBS Model SEQS & SAQs (USMLE format)

S.No.	Question	Marks	Domain
1	A 5-year-old child is brought to the emergency department with high-grade fever, difficulty in swallowing, drooling of saliva, muffled voice, and respiratory distress. The child is sitting in a leaning-forward position and appears anxious. a.What is the most likely diagnosis? b. What is the characteristic posture seen in this condition? c. What is the most common causative organism? d. What is the most important first step in management? e. Name one investigation that should be avoided before securing the airway.	 1 1 1 1 1	ENT
2	A 12-year-old boy presents with persistent ear discharge for 6 months. The discharge is foul-smelling and associated with decreased hearing. On otoscopy, there is a marginal perforation with granulation tissue. a. What is the most likely type of CSOM? b. What is the main risk associated with this type of disease? c. Name one extracranial complication. d. Name one intracranial complication. e. What is the definitive surgical management?	 1 1 1 1 1	Community medicine
3	A 30-year-old patient presents with bilateral nasal obstruction, hyposmia, and mouth breathing. On examination, pale, glistening masses are seen in both nasal cavities. a. What is the most likely diagnosis? b. From which sinus do ethmoidal polyps commonly arise? c. What are the typical characteristics of a polyp on probing? d. Name one medical treatment option. e. What is the definitive surgical treatment?	 1 1 1 1 1	Pathology

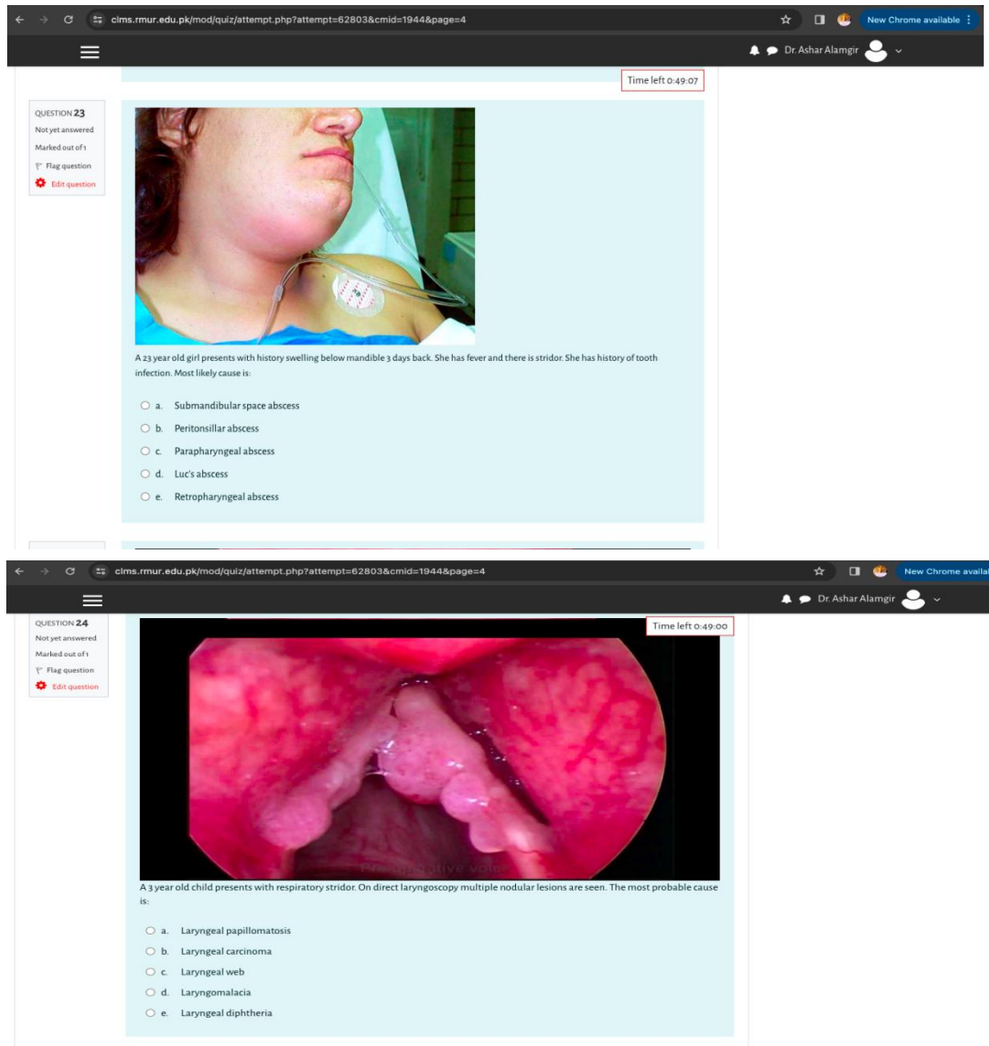
Clinically Oriented Observed and Structured Practical Examination
4th Prof MBBS Annual 2023
Station 9 (Throat)

Total marks :	05
Time allotted:	4 min
Requirements:	Patient, stool, headlight and tongue depressor
Objectives:	To Diagnose Condition and manage it
Subject:	Core ENT , Pharmacology, Pathology Integration horizontal

A 19- year-old boy presented in ENT OPD with complaint of sore throat, high grade fever with rigors and chills, difficulty in swallowing and earache. On examination, a membrane is visible extending onto the medial surface of tonsils.

a. **What is your diagnosis** **01**
b. **Enlist 2 differential diagnosis** **02**
c. **Treatment plan** **02**

Sample Image Based MCQ LMS



ADD EYE TITLE PAGE OF EYE STUDY Guide:

Terms & Abbreviations

Contents

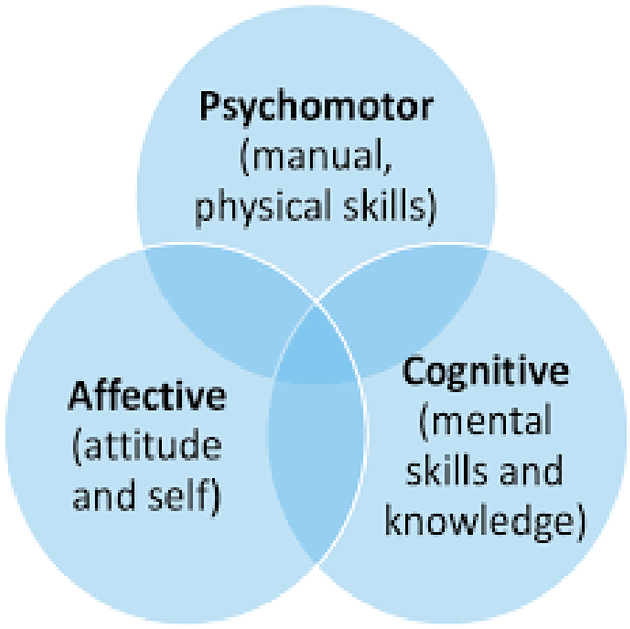
- Domains of Learning
- Teaching and Learning Methodologies/Strategies
  - Large Group Interactive Session (LGIS)
  - Small Group Discussion (SGD)
  - Self-Directed Learning (SDL)
  - Case Based Learning (CBL)
  - Clinical / practical

Tables & Figures

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

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

Section – III Educational Strategies

Ophthalmology-Block-XI

Block Name : Ophthalmology Block-XI (Module I-II)
Duration of module : 03 Weeks each module

Block Committee			Block Task Force Team		
1.	Vice Chancellor RMU	Prof. Dr. Muhammad Umar	1	Coordinator	Dr. Sidra Jabeen
			2	Co-Coordinator	Dr Saira Bano
2.	Director DME	Prof. Dr. Rai Muhammad Asghar	3	DME Focal Person	Dr. Maryum Batool
3.	Convener Curriculum	Prof. Dr. Naeem Akhter	4	Coordinator Community Medicine	Dr Narjis
4.	Dean Basic Sciences	Prof. Dr. Ayesha Yousaf			
5.	Additional Director DME	Prof. Dr. Ifra Saeed			
6.	Chairperson Otorhinolaryngology	Prof Dr Sadia Chaudhry			
7.	HOD Community Medicine	Prof Dr Rozina Shahadat		**DME Implementation Team**	
			1.	Director DME	Prof. Dr. Rai Muhammad Asghar
8.	Focal Person Ophthalmology	Dr Sidra Jabeen	2.	Add. Director DME	Prof. Dr. Ifra Saeed
9.	Focal Person Community Medicine	Dr Sana	3.	Deputy Director DME	Dr Shazia Zaib
			4.	Module planner & Implementation Coordinator	Dr. Omaima Asif
			5	Editor	Dr Omaima Asif

Dr Sidra Jabeen
Associate Professor Ophthalmology
Rawalpindi Medical University

Professor Fuad Niazi
Head of Ophthalmology department
Rawalpindi Medical University

Prof. Muhammad Umar
Vice Chancellor
Rawalpindi Medical University

Associate Professor Ophthalmology

5. Large Group Interactive Session (LGIS)

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

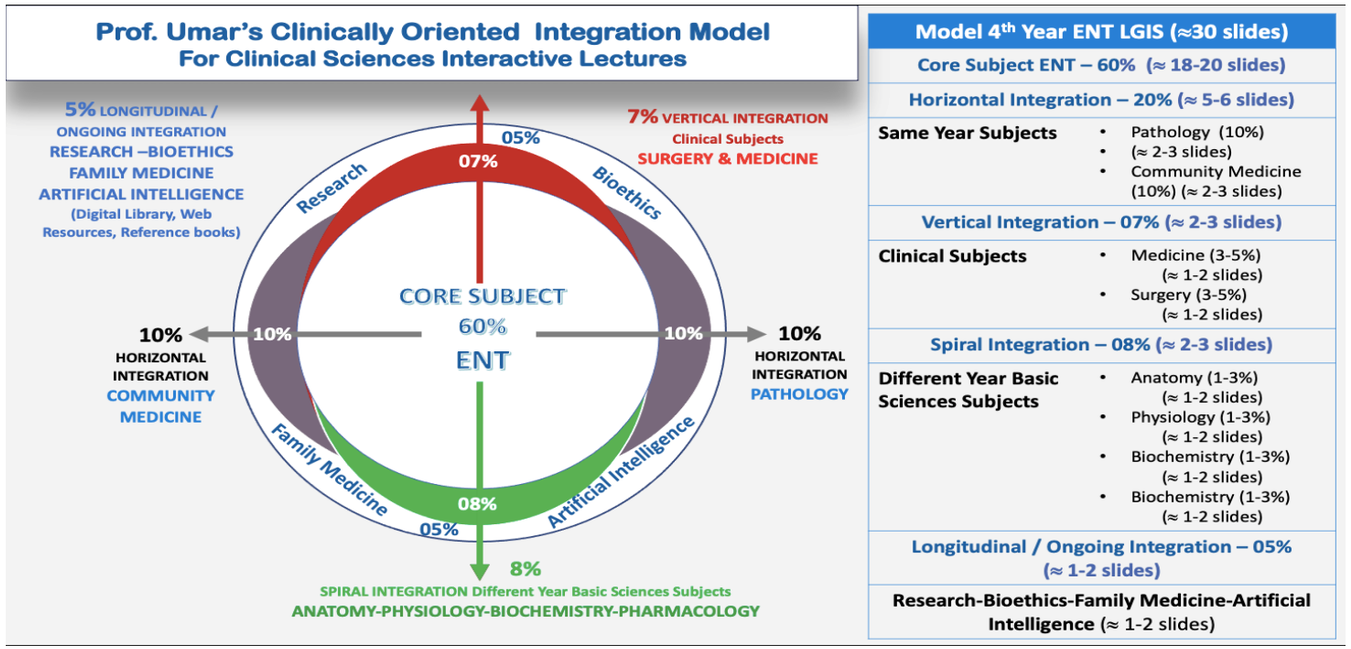


Figure 21 – Prof Umar Model of Integrated Lecture

This format helps students to clarify 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 helps to clarify the concepts.

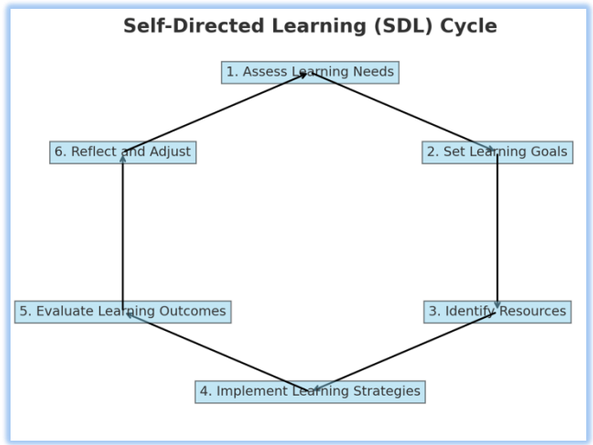
Step 1	Sharing of Learning objectives by using students Study guides	First 5 minutes
Step 2	Asking students pre-planned questions from previous teaching session to develop co-relation (these questions will be standardized)	5minutes
Step 3	Students divided into groups of three and allocation of learning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

Table 2 – Standardization of teaching c

Table 3. Steps of taking Small Group Discussions

S.No	Topics	Approximate %
1	Title Of SGD	
2	Learning Objectives from Study Guides	
3	Horizontal Integration	5%+5% = 10%
4	Core Concepts of the Topic	70%
5	Vertical Integration	10%
6	Related Advance Research points	3%
7	Biomedical Ethical points	2%
8	Spiral integration	5%

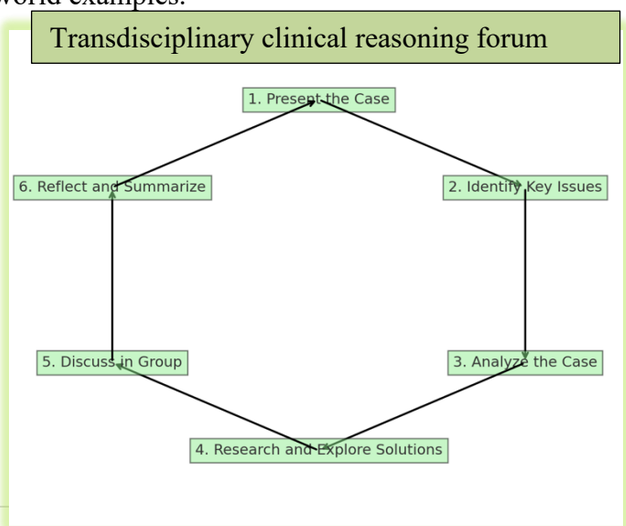
6. Self-Directed Learning (SDL)



- Self- directed learning is a process where students take primary charge of planning, continuing and evaluating their learning experiences.
- Time home assignment
- Learning objectives will be defined
- Learning resources will be given to students = Text book (page no), web site
- Assessment: i. online on LMS (Mid module/ end of Module)

  ii. OSPE station

7. Transdisciplinary Clinical Reasoning Forum (TCRF)



- It's a learner centered model which engages students in discussion of specific scenarios that resemble typically are real world examples.
- Case scenario will be given to the students
- Will engage students in discussion of specific scenarios that resemble or typically are real-world examples.
- Learning objectives will be given to the students and will be based on:

iv. To provide students with a relevant opportunity to see theory in practice

v. Require students to analyze data in order to reach a conclusion.

vi. Develop analytic, communicative and collaborative skills along with content knowledge

Section – IV Themes, Learning Objectives, Teaching Strategies and Tools of Assessment

Themes for Ophthalmology

Week	Theme No.	Topics
Week 1	Theme 1	Red Eye
Week 2	Theme 2	Sudden loss of vision
Week 3	Theme 3	Gradual loss of vision
Week 4	Theme 4	Ocular Aesthetics
Week 5	Theme 5	Watery eye
Week 6	Theme 6	White pupil
Week 6	Assessment	

Theme 1 RED EYE week 1

Topics	Rationale	General learning objectives (SMART)
- Blepharitis **- Ophthalmia neonatorum** **- Infective conjunctivitis** **- Allergic conjunctivitis** **- Degenerative conjunctival disorders** **- Dry eye syndrome** **- Keratitis / Corneal ulcer** **- Herpes simplex keratitis** **- Herpes zoster ophthalmicus** **- Acute anterior uveitis** **- Episcleritis / Scleritis** **- Acute angle-closure glaucoma** **- Chemical injury** **- Corneal foreign body** **- Contact lens-related keratitis**	Red eye is one of the most common ophthalmic complaints and may arise from benign conjunctival irritation or sight-threatening corneal, uveal, or glaucomatous disease. Teaching the red eye integrates anatomy of the ocular surface and anterior segment, physiology of the tear film, microbiology of infection, immunology of allergy and inflammation, pharmacology of ocular therapy, and emergency ophthalmic care. Early recognition of red-flag conditions is essential to prevent visual morbidity. In 4th year MBBS, students transition from theoretical ophthalmology to clinical reasoning. Teaching red eye disorders enables integration of anatomy (conjunctiva, cornea, anterior chamber, and angle), physiology (tear film and intraocular pressure regulation), pathology (infection, inflammation, and immune reactions), microbiology (bacterial, viral, and allergic causes), pharmacology (topical antimicrobials, anti-inflammatories, and glaucoma drugs), emergency medicine (acute glaucoma, chemical injury, corneal ulcer), and public health principles into patient-centered diagnostic and management decision making Enable students to approach red eye as a structured clinical problem requiring careful history-taking, systematic examination, risk stratification, and evidence-based management rather than memorizing isolated diseases. This integrates ophthalmic anatomy, pathology, microbiology, pharmacology, and systemic medicine.	By the end of this theme, students will be able to: * Classify causes of red eye into infectious, allergic, inflammatory, traumatic, and glaucomatous * Perform focused red eye examination including visual acuity, slit-lamp inspection, fluorescein staining, and IOP assessment * Recognize sight-threatening conditions needing urgent referral * Differentiate conjunctivitis from keratitis, uveitis, and glaucoma * Outline appropriate medical and emergency management * Counsel patients regarding hygiene, treatment adherence, and follow-up

- Subconjunctival hemorrhage		

Code	Topic	Learning objectives At the end of the lecture the student should be able to	Learning domain	Teaching strategy	Assessment tool
M1-OPH-001	Approach to Red Eye	• Differentiate between benign and sight threatening causes • Prioritize urgent red-flag conditions requiring immediate intervention • Conduct a focused and thorough ocular examination • Develop patient education and follow up plan	C1 C2 C3 C3	Case discussion	OSCE
M1-OPH-002	Conjunctivitis	• Differentiate bacterial, viral and allergic causes • Recognize characteristic discharge patterns and ocular signs • Outline appropriate medical management for each type	C2 C3 C2	Interactive lecture	MCQ OSCE
M1-OPH-003	Keratitis / Corneal Ulcer	• Recognize corneal staining and urgent care. • Identify complications and visual risk • Outline urgent management • Recognize infectious vs non infectious keratitis • Explain indications for referral or surgical intervention	C1 C2 C3 C3	Bedside teaching	MCQ OSCE
M1-OPH-004	Uveitis	• Identify anterior chamber imflammation. • Recognize systemic associations • Outline referral and treatment principles • Explain investigations for uveitis	C1 C2 C3 C3	Problem based learning	Viva/ OSCE
M1-OPH-005	Acute Glaucoma	• Recognize signs and symptoms of acute angle closure glaucoma • Describe immediate management steps • Identify emergency referral pathways • Discuss pharmacological and laser interventions	C1 C2 C3 C3	Simulation	SAQ MCQ OSCE
	Chemical Injury	• Classify and grade chemical ocular injuries.	C2		

M1-OPH-006		• Demonstrate emergency irrigation and first aid procedures • Recognize the signs that indicate severe ocular damage and poor prognosis	C3 C2	Skills demonstration	OSCE
M1-OPH-007	Benign Red Eye	• Recognize episcleral and subconjunctival hemorrhage • Identify clinical signs that indicate a non emergency condition • Outline conservative management strategies lubrication symptomatic relief	C2 C2 C3	LGIS	SAQ MCQ OSCE

TRANS DISCIPLINARY CLINICAL REASONING FORUM (TCRF)

Theme	Week	Topics	Clinical Case Scenario

Theme 1	Week 1	Red Eye: Identifying Common vs Sight threatening causes	A 28 year old male with mild discomfort, redness and watery discharge

“Managing Presenting Red Eye in young male”

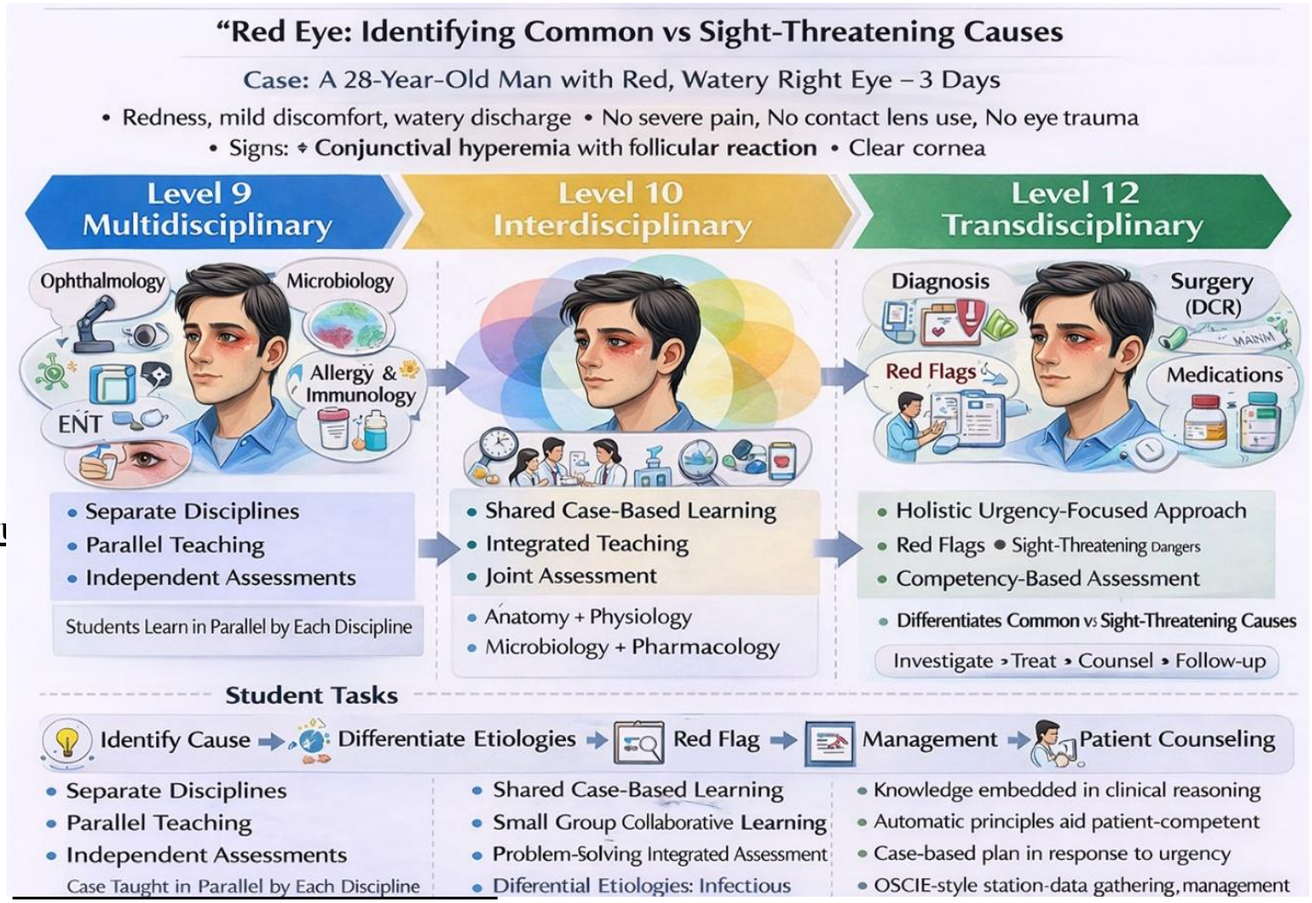
A 28-year-old man presents with redness, mild discomfort, and watery discharge in his right eye for 3 days. He denies severe pain and has no history of trauma or contact lens wear.

On examination:

* Conjunctival hyperaemia with follicular reaction
* Cornea clear
* Pupillary reaction normal
* Intraocular pressure within normal limits

Students are asked to:

* Identify likely causes of red eye in this patient
* Differentiate infectious, allergic, and inflammatory etiologies
* Recognize red-flag features requiring urgent referral
* Perform focused ocular examination
* Develop diagnostic and management plan
* Counsel patient on treatment and follow-up



* Knowledge embedded in clinical reasoning
    * Organizing principle = patient complaint
    * Mirrors real clinical decision-making

Students integrate:

- Anatomy
- Physiology
- Microbiology
- Pharmacology
- Ethics & communication
- Public health

But none are taught separately.

Teaching Format

- Small group facilitated learning
- Faculty from different backgrounds present but not teaching in silos
- Students build the care pathway themselves
- Assessment based on competence and clinical reasoning

Academic Justification Statement

"The case has been designed to reflect RMU level 12 (transdisciplinary integration), where learning is structured around authentic patient problems rather than disciplinary categories. Knowledge from biomedical, clinical, and public health domains is integrated seamlessly within professional practice."

SUBJECT CONTRIBUTION IN TRANS DISCIPLINARY CLINICAL REASONING FORUM -1

Subject / Discipline	Nature of Contribution	Approximate Integration Weight (%)	Rationale for Weight
Ophthalmology	Core diagnostic reasoning & management	35%	Organizing discipline
Pathophysiology	Inflammation, infection, IOP change	15%	Explains mechanism
Microbiology	Pathogens and infection patterns	15%	Guides antimicrobial therapy
Emergency Ophthalmology	Glaucoma, chemical injuries	7%	Structural reasoning
Pediatrics	Neonatal and age specific infections	8%	Age relevance
Public Health	Hygiene and prevention awareness	5%	Preventive aspect

SUBJECT-WISE SPECIFIC LEARNING OBJECTIVES-1

Discipline	Domain	Specific Learning Objectives	Bloom's Level	Integration Role
Ophthalmology	Clinical reasoning	Recognize causes of red eye Differentiate causes of conjunctival, ciliary and mixed congestion	Analyze Analyze	Core organazing discipline

		Perform systematic red eye examination including VA, IOP, fluorescein staining. Formulate emergency vs non emergency management plan	Apply Evaluate	
Pathophysiology	Mechanisms	Explain inflammation & infection Describe corneal epithelial breakdown in keratitis	Analyze	Disease mechanism
Microbiology	Clinical link	Identify pathogens Select appropriate investigations (scraping, culture) in corneal ulcer	Understand	Guides therapy
Emergency Care	Procedural	Initiate urgent treatment	Apply	Vision-saving role

Theme 2 SUDDEN LOSS OF VISION
Week2

Topics	Rationale	General learning objectives (SMART)
Corneal Ulcer Acute Anterior Uveitis Complications of Uveitis Retinal Vascular Occlusions (CRAO, CRVO) Retinal Detachment Acute Angle-Closure Glaucoma Vitreous Hemorrhage Optic Neuritis Endophthalmitis Chemical Injury Blunt Ocular Trauma	Sudden loss of vision represents one of the most critical ophthalmic emergencies encountered in clinical practice. Conditions such as Central Retinal Artery Occlusion, Retinal Detachment, Acute Angle-Closure Glaucoma, Endophthalmitis, and Optic Neuritis may lead to irreversible blindness if not recognized and managed promptly. In 4th year MBBS, students transition toward emergency-oriented clinical reasoning. Teaching sudden visual loss enables integration of: Corneal pathology Uveal inflammation Retinal vascular disorders Neuro-ophthalmology Ocular trauma Glaucoma emergencies Systemic associations (diabetes, hypertension, autoimmune disease) Early recognition of red-flag symptoms such as: Painful vs painless loss of vision Sudden floaters or flashes Severe ocular pain with halos	By the end of the Sudden Loss of Vision module, the 4th year MBBS student will be able to: ● Differentiate causes of sudden painful versus painless loss of vision with at least 80% accuracy in written/viva examination. ● Perform focused emergency ocular examination (visual acuity, pupil reaction, anterior chamber depth estimation, fundus reflex assessment) correctly in 3 out of 4 observed encounters. ● Identify red-flag signs requiring urgent referral (retinal detachment, CRAO, acute glaucoma, penetrating injury). ● Interpret basic investigations (IOP measurement, fundoscopy findings, B-scan, OCT) with minimum 75% accuracy. ● Outline first-line emergency management for common causes of sudden visual loss. ● Demonstrate professional communication and counseling in emergency settings.

Penetrating Ocular Trauma Hyphema	Trauma history Post-surgical infection is essential for timely referral and prevention of permanent visual disability. This module equips students with competencies in emergency triage, focused ocular examination, differential diagnosis, immediate management principles, and referral decision-making.	

Code	Topic	Learning objectives At the end of the lecture the student should be able to	Learning domain	Teaching strategy	Assessment tool
M1-OPH-001	Approach to Sudden Loss of Vision	• Classify sudden visual loss into painful vs painless causes • Develop a stepwise emergency evaluation algorithm • Identify red-flag signs requiring urgent referral • Formulate differential diagnosis using clinical clues • Correlate ocular findings with systemic emergencies	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-002	Retinal Vascular Occlusions (CRAO, CRVO)	• Differentiate CRAO and CRVO clinically • Describe fundoscopic findings and OCT features • Explain pathophysiology and systemic associations (HTN, diabetes, embolism) • Outline emergency management protocol • Plan systemic evaluation and stroke workup	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-003	Retinal Detachment	• Define and classify retinal detachment (rhegmatogenous, tractional, exudative) • Describe warning symptoms (flashes, floaters, curtain) • Interpret clinical and B-scan findings • Outline urgent referral and management options • Discuss prognosis based on macular involvement	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-004	Acute Angle-Closure Glaucoma	• Explain mechanism of angle closure • Recognize classical clinical presentation • Differentiate from other painful red eye conditions • Outline stepwise emergency management • Discuss definitive management (laser PI) and prevention	C1 C2 C3	LGIS	SAQ MCQ OSCE

M1-OPH-005	Optic Neuritis & Neuro-Ophthalmic Causes of Sudden Vision Loss	• Define optic neuritis and identify typical clinical features • Explain RAPD and visual field defects • Correlate optic neuritis with multiple sclerosis • Outline investigations (MRI, VEP) • Describe treatment protocol and prognosis	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-006	Ischemic Optic Neuropathy (Arteritic & Non-Arteritic)	• Differentiate arteritic vs non-arteritic anterior ischemic optic neuropathy • Identify red-flag features of giant cell arteritis • Describe fundoscopic findings (pale disc edema vs hyperemic disc) • Outline urgent investigations (ESR, CRP, temporal artery biopsy) • Develop emergency management plan to prevent fellow eye involvement • Correlate with systemic vascular risk factors	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-007	Ocular Trauma Leading to Sudden Vision Loss	• Classify mechanical ocular trauma • Recognize vision-threatening complications (hyphema, globe rupture, RD) • Outline immediate emergency management • Identify indications for urgent surgical referral • Discuss medico-legal considerations	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-008	Uveitis as a Cause of Sudden Vision Loss (Anterior, Intermediate, Posterior & Panuveitis)	• Define uveitis and classify it anatomically (anterior, intermediate, posterior, panuveitis) • Differentiate granulomatous and non-granulomatous uveitis clinically • Recognize causes of sudden visual loss in uveitis (macular edema, vitritis, retinal vasculitis, optic disc edema) • Identify classical clinical signs (cells & flare, keratic precipitates, hypopyon, posterior synechiae) • Describe systemic associations (HLA-B27 disease, tuberculosis, sarcoidosis, autoimmune disorders) • Outline appropriate investigations including laboratory and imaging workup • Develop a stepwise management plan (topical, periocular, systemic steroids, immunomodulators) • Identify complications (cataract, secondary glaucoma, macular edema, band keratopathy) • Formulate referral strategy and multidisciplinary coordination	C1 C2 C3	LGIS	SAQ MCQ OSCE

TRANS DISCIPLINARY CLINICAL REASONING FORUM (TCRF)

Theme	Week	Topics	
Theme 2	**Week 2**	**Retinal Detachment, Acute Glaucoma, CRAO, Trauma**	**"A 60-year-old man with sudden painless loss of vision"**

"Managing Sudden Painless Loss Of Vision In A Hypertensive Patient"

Clinical Scenario:

A 60-year-old hypertensive male presents with sudden painless loss of vision in the right eye for 3 hours On examination:

• Visual acuity: Counting fingers

• RAPD positive

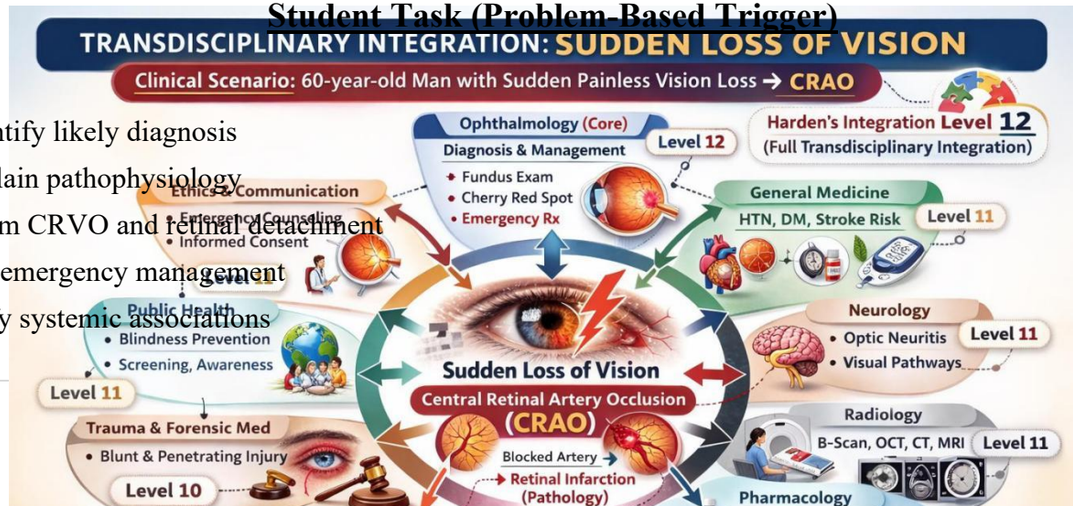
• Fundus: Pale retina with cherry red spot

•IOP Normal

Student Task (Problem-Based Trigger)

Students are asked to:

- Identify likely diagnosis
- Explain pathophysiology
- Differentiate from CRVO and retinal detachment
- Outline emergency management
- Identify systemic associations
- Suggest preventive strategies



What Makes This RMU level 12?

- Knowledge embedded in reasoning
- Organizing principle = patient problem
- Mimics authentic clinical decision-making

Students integrate:

- Anatomy
- Ophthalmology
- Medicine (Hypertension, Diabetes)
- Neurology
- Radiology
- Pharmacology
- Public Health

But none are taught separately.

Teaching Format

- Small group facilitated learning
- Emergency-based case simulation
- Cross-disciplinary faculty discussion
- Assessment based on clinical reasoning and decision making

- **Academic Justification Statement**

"The case has been designed to reflect RMU level 12 (transdisciplinary integration), where learning is structured around authentic patient problems rather than disciplinary categories. Knowledge from biomedical, clinical, and public health domains is integrated seamlessly within professional practice."

SUBJECT CONTRIBUTION IN TRANS DISCIPLINARY CLINICAL REASONING FORUM -2

Subject / Discipline	Nature of Contribution	Approximate Integration Weight (%)	Rationale for Weight
Ophthalmology	Core diagnostic reasoning, emergency recognition & ocular management	35%	Organizing discipline
General Medicine	Systemic associations (HTN, DM, autoimmune, stroke risk)	20%	Major systemic driver
Neurology	Optic neuritis, vascular events, neuro-visual pathways	10%	Neuro-visual integration
Radiology	B-scan, OCT, CT orbit, MRI brain interpretation	10%	Confirms diagnosis
Pharmacology	Emergency drugs (IOP lowering, steroids, antibiotics)	10%	Acute therapeutic planning
Pathology	Vascular occlusion, inflammatory mechanisms	5%	Mechanistic understanding
Forensic Medicine	Ocular trauma documentation & medico-legal aspects 5% Legal implications	5%	Legal implications
Public Health	Prevention of avoidable blindness	3%	Community relevance
Ethics and Communication	Emergency counseling & consent	2%	Professional component

SUBJECT-WISE SPECIFIC LEARNING OBJECTIVES-2

Subject	Domain	Specific Learning Objectives (Students will be able to…)	Bloom's Level	Integration Role
Ophthalmology	**Clinical Skills & Emergency Reasoning**	Differentiate painful vs painless sudden loss of vision	Analyze	Core organizing discipline
		Recognize fundus findings of retinal vascular occlusions	Analyze	
		Identify features of Retinal Detachment	Analyze	
		Recognize clinical presentation of Acute Angle-Closure Glaucoma	Analyze	
		Formulate emergency management plan	Evaluate	
		Identify red-flag features requiring urgent referral	Evaluate	
General Medicine	**Systemic Integration**	Explain relationship of hypertension & diabetes with retinal vascular occlusions	Understand	Systemic Driver
		Outline systemic workup after Central Retinal Artery Occlusion	Analyze	
		Propose stroke risk assessment & prevention strategies	Apply	
Neurology	**Explain pathophysiology of Optic Neuritis** **Correlate visual pathway lesions with symptoms**	Explain pathophysiology of Optic Neuritis	Understand	Neuro-Visual Integration Support
		Correlate visual pathway lesions with clinical findings	Analyze	
Radiology	**Interpret B-scan in vitreous hemorrhage** **Interpret OCT in retinal pathology** **Identify CT findings in trauma**	Interpret B-scan findings in vitreous hemorrhage	Analyze	Diagnostic Confirmation Support
		Interpret OCT in macular pathology	Analyze	
		Identify CT orbit findings in trauma	Analyze	
Pharmacology	**Apply emergency drugs in Acute Angle-Closure Glaucoma**	Outline emergency drugs in acute glaucoma	Apply	Therapeutic Planning Support

	Analyze rationale of steroids in optic neuritis **Select intravitreal antibiotics in Endophthalmitis**	Explain rationale of steroids in optic neuritis	Analyze	
		Identify intravitreal antibiotic indications in Endophthalmitis	Analyze	
Pathology	**Explain ischemic retinal changes in CRAO** **Describe inflammatory mechanisms in uveitis**	Explain ischemic necrosis of inner retinal layers in Central Retinal Artery Occlusion	Analyze	Mechanistic Foundation
		Describe venous stasis and hemorrhagic infarction in Central Retinal Vein Occlusion	Analyze	
		Correlate retinal whitening and cherry red spot with inner retinal infarction	Understand	
		Explain role of atherosclerosis and emboli formatio	Understand	
Forensic Medicine	**Document ocular trauma correctly** **Understand medico-legal implications of penetrating injuries**	Document ocular trauma correctly	Apply	Legal & Professional Extension
		Explain medico-legal implications of penetrating injuries	Understand	
Public Health	**Propose prevention of avoidable blindness** **Develop screening strategies for diabetic retinopathy**	Propose strategies for prevention of avoidable blindness	Create	Community & Preventive Extension
		Outline diabetic retinopathy screening relevance	Apply	
Ethics & Communication	**Counsel patients with irreversible visual loss empathetically** **Communicate urgency without causing panic**	Counsel patient with irreversible visual loss empathetically	Apply	Professional Practice Integration
		Obtain informed consent in emergency procedures	Apply	

Theme 3 GRADUAL LOSS OF VISION
Week 3

Theme	Rationale	General learning objectives (SMART)
Refractive errors: Myopia, Hypermetropia, Astigmatism, Presbyopia	Gradual loss of vision represents one of the most common and clinically significant presentations in ophthalmology. Unlike acute visual loss, gradual decline is often painless and insidious, leading to delayed consultation and irreversible visual damage.	By the end of the Gradual Loss of Vision module, the 4th year MBBS student will be able to: • Describe anatomical basis of gradual visual loss with at least 80% accuracy in written/viva examination.

Dry eye syndrome **Keratoconus** **Corneal dystrophies** **Cataract** **Retinal dystrophies & degenerations (RP, AMD, myopic degeneration)** **Diabetic retinopathy** **Hypertensive retinopathy** **Macular edema** **Primary open-angle glaucoma** **Chronic angle-closure glaucoma** **Secondary glaucoma (including lens-induced)** **Congenital glaucoma** **Chronic optic neuropathies** **Papilledema** **Amblyopia** **Trachoma**	These conditions range from refractive errors to chronic progressive disorders affecting the cornea, lens, retina, optic nerve, and ocular surface. Many are preventable or treatable if detected early, while others require long-term monitoring to prevent permanent blindness. In 4th year MBBS, students must transition from recognizing symptoms to identifying anatomical location of pathology (cornea, lens, retina, optic nerve), differentiating reversible from irreversible causes, and identifying red-flag features requiring urgent referral. Teaching this theme integrates optics (refractive errors), corneal pathology, lens changes, retinal degeneration, systemic diseases (diabetes, hypertension), neuro-ophthalmology, pediatrics (amblyopia, congenital glaucoma), infectious disease (trachoma), and public health (screening and prevention). Early detection of glaucoma, diabetic retinopathy, macular edema, papilledema, and optic neuropathies is essential to prevent permanent blindness. Inclusion of this theme equips students with competencies in visual acuity assessment, refraction basics, slit-lamp findings, fundus interpretation, visual field awareness, red-flag recognition, patient counseling, and preventive strategies.	• Differentiate refractive, corneal, lenticular, retinal, and optic nerve causes based on clinical presentation. • Perform visual acuity assessment, pinhole test, basic refraction screening, and fundus examination correctly in at least 3 out of 4 observed encounters. • Interpret basic investigations (IOP measurement, OCT concept, visual field defects, fundus photographs) with minimum 75% accuracy. • Identify red-flag features requiring urgent referral (acute glaucoma, papilledema, proliferative diabetic retinopathy, macular edema, optic neuropathy). • Outline first-line management and preventive strategies for common causes of gradual vision loss. • Demonstrate empathetic communication while counseling patients regarding chronic visual impairment and long-term follow-up.

Code	Topic	Learning objectives At the end of the lecture the student should be able to	Learning domain	Teaching strategy	Assessment tool
M1-OPH-001	Refractive Errors (Myopia, Hypermetropia, Astigmatism, Presbyopia)	Define types of refractive errors Explain optical principles and image formation Perform visual acuity assessment & pinhole test Outline correction (spectacles, contact lenses, refractive surgery basics)	C1 C2 C3	LGIS	SAQ MCQ OSCE

M1-OPH-002	Dry Eye Syndrome	• Define ptosis and classify types • Describe clinical features and investigations • Pen down management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-003	Keratoconus	• Differentiate benign and malignant lid lesions • Describe clinical features, diagnosis and investigations • Outline management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-004	Corneal Dystrophies	• Define ectropion and entropion • Describe etiology, clinical features, complications • Pen down management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-005	Cataract	• Define proptosis and enumerate causes • Describe clinical features and investigations • Outline management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-006	Retinal Dystrophies & Degenera	• Define blow-out fracture • Describe clinical features and imaging findings • Outline management principles	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-007	Diabetic Retinopathy	• Define hemangioma and neurofibroma • Describe clinical features and systemic associations • Outline management	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-008	Hypertensive Retinopathy & Macular Edema	• Define esotropia and exotropia Demonstrate cover test and motility examination Outline management principles	C1 C2 C3	LGIS	SAQ MCQ OSCE

M1-OPH-009	Primary Open-Angle & Chronic Angle-Closure Glaucon	• Describe non-surgical management • Explain surgical principles • Discuss indications and complications	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-010	Secondary & Congenital Glaucoma	Define types of secondary glaucoma Describe congenital glaucoma features Outline management principles	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-011	Chronic Optic Neuropathies & Papilledema	Differentiate optic atrophy & papilledema Interpret visual field defects Outline referral strategy	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-012	Amblyopia	Define amblyopia & types Describe screening methods Outline management principles	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-013	Trachoma	Define trachoma Describe WHO grading Explain SAFE strategy	C1 C2 C3	LGIS	SAQ MCQ OSCE

TRANS DISCIPLINARY CLINICAL REASONING FORUM (TCRF)

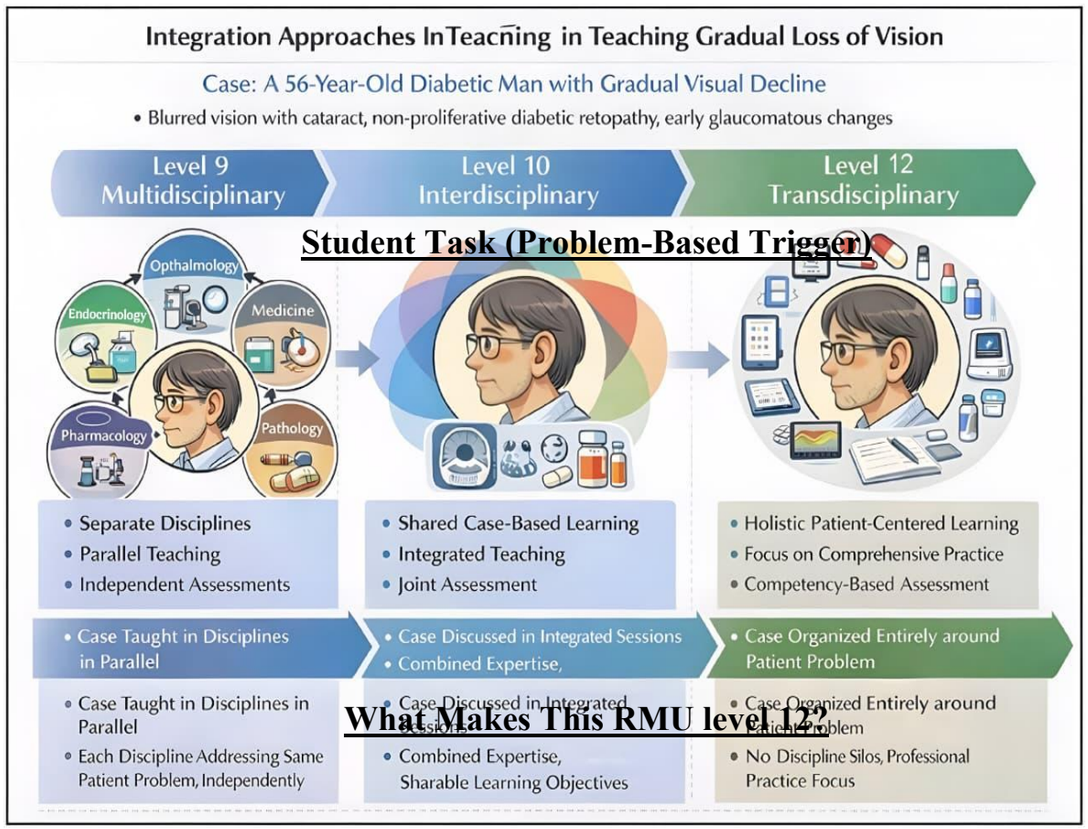
Theme	Week	Topics	Clinical Case Scenario
Theme 1	**Week 1**	**Cataract, Diabetic Retinopathy, Glaucoma**	**Elderly diabetic male with progressive painless visual loss**

“Managing Progressive Painless Visual Decline in a Middle-Aged Diabetic Patient”

Clinical Scenario:

A 55-year-old man presents with gradually progressive painless diminution of vision over 3 years. He is a known case of diabetes mellitus and hypertension for 12 years.

Examination reveals:
- Visual acuity 6/36
- IOP 23 mmHg
- Nuclear sclerosis
- Fundus: microaneurysms, hard exudates near macula
- Cup-disc ratio 0.7



Student Task (Problem-Based Trigger)

Students are asked to:

1. Localize site(s) of pathology (lens, retina, optic nerve).
2. Differentiate cataract vs glaucoma vs diabetic retinopathy as primary cause.
3. Interpret fundus findings and OCT conceptually.
4. Develop comprehensive management plan.
5. Identify red-flag features requiring urgent referral.
6. Counsel regarding systemic control and long-term follow-up.

Suggest long-term screening and follow-up strategies.

What Makes This RMU level 12?

- Knowledge embedded in reasoning
- Organizing principle patient problem
- Mimics authentic clinical decision-making

Students integrate:

- Ophthalmology
- Pathology
- Endocrinology
- Pharmacology
- Public health
- Surgery
- Ethics & communication

But none are taught separately.

Teaching Format

- ● Small group facilitated learning
  ● Faculty from different backgrounds present but not teaching in SLOs.
  ● Students build the care pathway themselves
  ● Assessment based on competence and clinical reasoning

Academic Justification Statement

"The case has been designed to reflect RMU level 12 (transdisciplinary integration), where learning is structured around authentic patient problems rather than disciplinary categories. Knowledge from biomedical, clinical, and public health domains is integrated seamlessly within professional practice."

SUBJECT CONTRIBUTION IN TRANS DISCIPLINARY CLINICAL REASONING FORUM -3

	Nature of Contribution	Approx. Weight (%)	Additional Integration
Ophthalmology	Core diagnosis & procedural planning	70%	Visual acuity, fundus, IOP interpretation
Pathology	Microangiopathy & optic nerve degeneration	9%	Explains disease mechanisms
Pharmacology	Anti-VEGF, anti-glaucoma drugs, steroids	10%	Therapeutic integration
Community Medicine	Screening programs (DR, glaucoma, refractive errors)	10%	Public health blindness prevention
Ethics & Communication	Chronic disease counseling	1%	Patient-centered care

SUBJECT-WISE SPECIFIC LEARNING OBJECTIVES-3

Subject	Domain	Specific Learning Objectives	Bloom's Level	Integration Role
Ophthalmology	Clinical Reasoning	Differentiate corneal, lenticular, retinal & optic nerve causes of gradual vision loss	Analyze	Core organizing discipline
	Clinical Skills	Perform visual acuity, IOP measurement & fundus examination	Apply	
	Management	Formulate integrated management plan	Evaluate	

Pharmacology	Therapeutics	Outline anti-VEGF, anti-glaucoma, lubricants & steroid therapy	Apply	Treatment planning
Pathology	Mechanistic Understanding	Describe degenerative retinal & optic nerve changes	Understand	Explains severity
Community Medicine	Prevention	Propose blindness prevention screening strategies	Apply	Public health extension
Ethics & Communication	Professional Practice	Counsel patient regarding chronic progressive visual loss	Apply	Patient-centered care

Theme 4 OCULAR AESTHETICS
Week 4

Theme	Rationale	General learning objectives (SMART)
Ptosis **Non-neoplastic & neoplastic lid mass** **Ectropion / Entropion** **Proptosis** **Thyroid eye disease** **Blow-out fracture** **Haemangioma** **Neurofibroma** **Esotropia** **Exotropia** **Principles of strabismus management**	Disorders affecting eyelids, orbit and ocular alignment significantly impact both vision and facial aesthetics. These conditions may cause visual obstruction, diplopia, exposure keratopathy, cosmetic disfigurement, psychological distress, and in severe cases, permanent visual loss. In 4th year MBBS, students transition from theoretical ophthalmology to clinical reasoning. Teaching oculo-aesthetic disorders enables integration of anatomy (orbit, extraocular muscles), physiology (ocular motility), pathology (tumors, inflammation), endocrinology (thyroid eye disease), trauma (orbital fractures), pediatrics (hemangioma, strabismus), and reconstructive principles into patient-centered decision making. Early recognition of red-flag signs such as rapidly progressive proptosis, compressive optic neuropathy, malignant eyelid lesions, orbital fractures with muscle entrapment, and restrictive strabismus is essential for timely referral and prevention of permanent morbidity. Inclusion of these disorders equips students with competencies in clinical examination, diagnostic reasoning, emergency recognition, referral decisions, cosmetic counseling, and multidisciplinary management.	● By the end of the Oculo-Aesthetic module, the 4th year MBBS student will be able to: ● ● Describe applied anatomy of eyelids, orbit and extraocular muscles with at least 80% accuracy in written/viva examination. ● Explain etiology, pathophysiology and clinical features of ptosis, lid masses, proptosis, thyroid eye disease, orbital trauma and strabismus during structured discussions. ● Perform focused external ocular examination including lid assessment, ocular motility testing and cover test correctly in at least 3 out of 4 observed encounters. ● Interpret basic orbital imaging (CT orbit) with minimum 75% accuracy in assessment. ● Identify red-flag features requiring urgent referral (optic nerve compression, orbital fracture entrapment, malignant lesions). ● Outline first-line management and indications for surgical intervention. ● Demonstrate professional and empathetic communication while addressing cosmetic concerns..

Code	Topic	Learning objectives At the end of the lecture the student should be able to	Learning domain	Teaching strategy	Assessment tool
M1-OPH-001	Applied Anatomy of Eyelids & Orbit	• Define components of eyelids and orbit • Describe extraocular muscles and their actions • Explain anatomical basis of ptosis and proptosis	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-002	Ptosis	• Define ptosis and classify types • Describe clinical features and investigations • Pen down management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-003	Eyelid Masses (Benign & Malignant)	• Differentiate benign and malignant lid lesions • Describe clinical features, diagnosis and investigations • Outline management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-004	Ectropion / Entropion	• Define ectropion and entropion • Describe etiology, clinical features, complications • Pen down management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-005	Proptosis & Thyroid Eye Disease	• Define proptosis and enumerate causes • Describe clinical features and investigations • Outline management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-006	Orbital Blow-Out Fracture	• Define blow-out fracture • Describe clinical features and imaging findings • Outline management principles	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-007	Hemangioma & Neurofibroma	• Define hemangioma and neurofibroma	C1 C2	LGIS	SAQ MCQ

		• Describe clinical features and systemic associations • Outline management	C3		OSCE
M1-OPH-008	Esotropia & Exotropia	• Define esotropia and exotropia Demonstrate cover test and motility examination Outline management principles	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-009	Principles of Strabismus Management	• Describe non-surgical management • Explain surgical principles • Discuss indications and complications	C1 C2 C3	LGIS	SAQ MCQ OSCE

TRANS DISCIPLINARY CLINICAL REASONING FORUM (TCRF)

Theme	Week	Topics	Clinical Case Scenario
Theme 4	**Week 4**	**Proptosis, Thyroid Eye Disease, Diplopia**	**A young female with progressive proptosis and diplopia**

"Managing Progressive Proptosis in a Young Female"

Clinical Scenario:

A 32-year-old woman presents with bilateral progressive prominence of eyes for 6 months. She complains of diplopia on upward gaze and difficulty closing eyelids at night. She reports weight loss, palpitations and heat intolerance.On examination:

- Bilateral proptosis
- Lid retraction
- Restricted upward gaze
- Mild conjunctival congestion

- CT orbit shows enlargement of extraocular muscles sparing tendons. Thyroid function tests reveal hyperthyroidism.

Student Task (Problem-Based Trigger)

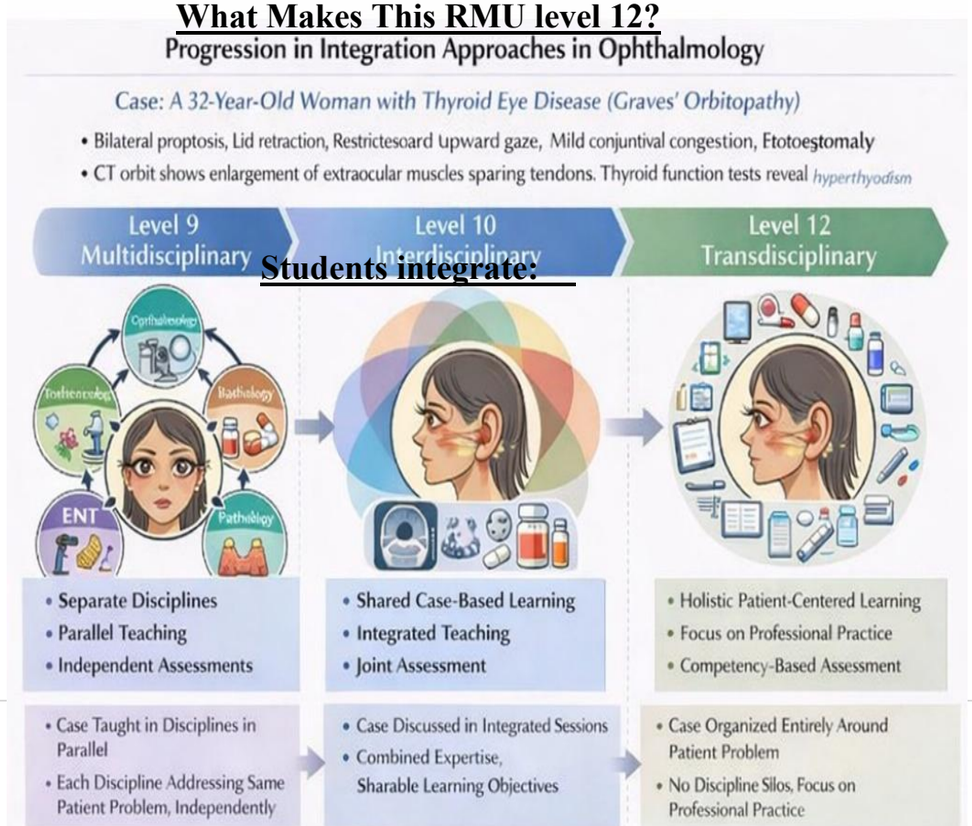
Students are asked to:

1. Identify key clinical concerns.
2. Explain pathophysiological basis of proptosis.
3. Interpret imaging findings.
4. Develop comprehensive management plan.
5. Identify red-flag signs of optic nerve compression.
6. Counsel patient regarding cosmetic and systemic implications.

Suggest preventive and long-term follow-up strategies.

What Makes This RMU level 12?

- Knowledge embedded in reasoning
- Organizing principle = patient problem
- Mimics authentic clinical decision-making



- Anatomy
- Endocrinology
- Radiology
- Pharmacology
- Surgery
- Ethics & communication
- Public health

But none are taught separately.

Teaching Format

- Small group facilitated learning
- Faculty from different backgrounds present but not teaching in silos
- Students build the care pathway themselves
- Assessment based on competence and clinical reasoning

Academic Justification Statement

"The case has been designed to reflect RMU level 12 (transdisciplinary integration), where learning is structured around authentic patient problems rather than disciplinary categories. Knowledge from biomedical, clinical, and public health domains is integrated seamlessly within professional practice."

SUBJECT CONTRIBUTION IN TRANS DISCIPLINARY CLINICAL REASONING FORUM -4

Subject / Discipline	Nature of Contribution	Approximate Integration Weight (%)	Rationale for Weight
Ophthalmology	Core diagnostic reasoning & management	70%	Organizing discipline
Pathophysiology	Autoimmune inflammation mechanism	10%	Explains severity
Pharmacology	Steroids & antithyroid therapy	10%	Therapeutic planning

Public Health	Thyroid screening awareness	7%	Preventive aspect
Ethics & Communication	Cosmetic counseling	3%	Professional component

SUBJECT-WISE SPECIFIC LEARNING OBJECTIVES-4

Subject	Domain	Specific Learning Objectives (Students will be able to…)	Bloom's Level	Integration Role
Ophthalmology	Clinical Skills & Reasoning	Recognize clinical features suggestive of thyroid eye disease and sight-threatening orbitopathy	Analyze	Core organizing discipline
		Differentiate benign from malignant eyelid lesions based on clinical findings	Analyze	
		Perform external ocular examination including lid assessment and ocular motility testing	Apply	
		Formulate comprehensive ophthalmic management plan including medical and surgical options	Evaluate	
		Identify indications for urgent referral (optic nerve compression, muscle entrapment, malignant lesions)	Evaluate	
		Interpret thyroid function tests in relation to ocular findings	Analyze	
		Outline systemic disease control strategies to prevent progression of orbitopathy	Apply	
Pathophysiology	Mechanistic Understanding	Describe pathogenesis of autoimmune orbital inflammation	Understand	Explains severity
Pharmacology	Therapeutics	Outline appropriate medical therapy (steroids, immunomodulators, antithyroid drugs)	Apply	Management planning

		Explain rationale for immunosuppressive therapy in active disease	Analyze	
		Identify potential adverse effects and drug interactions	Analyze	
		Explain facial nerve course relevant to this case	Understand	
Public Health	Prevention	Propose preventive strategies for early detection of thyroid disease and ocular complications	Apply	Community extension
		Suggest community-level awareness programs for childhood strabismus screening	Create	
Ethics & Communication	Professional Practice	Counsel patient regarding cosmetic impact and treatment expectations empathetically	Apply	Patient-centered care
		Communicate long-term follow-up and multidisciplinary care plan effectively	Apply	

Theme 5 Watery Eye week 5

Theme	Rationale	General learning objectives (SMART)

- Dry eye syndrome **- Blepharitis** **- Infective conjunctivitis** **- Allergic conjunctivitis** **- Congenital NLDO** **- Acute dacryocystitis** **- Chronic dacryocystitis** **- Ectropion** **- Entropion**	Epiphora is a common presenting complaint in ophthalmic practice and may arise from ocular surface irritation, eyelid malposition, or lacrimal drainage obstruction. Teaching disorders causing watery eye allows students to integrate applied anatomy of the lacrimal system and eyelids, physiology of tear production and drainage, pathology of inflammation and infection, microbiology of conjunctival and lacrimal disease, pediatric aspects of congenital obstruction, and oculoplastic surgical principles into patient-centered clinical reasoning. In 4th year MBBS, students transition from theoretical ophthalmology to clinical reasoning. Teaching disorders presenting with watery eye enables integration of anatomy (lacrimal drainage system, eyelids, ocular surface), physiology (tear production and drainage), pathology (inflammation, obstruction, infection), microbiology (conjunctival and lacrimal infections), pediatrics (congenital nasolacrimal duct obstruction), and oculoplastic principles into patient-centered decision making. Early recognition of red-flag conditions such as acute dacryocystitis, persistent congenital obstruction, eyelid malpositions causing corneal damage, and chronic lacrimal infection is essential for timely referral and prevention of visual morbidity and systemic spread of infection To enable students to approach watery eye as a clinical problem requiring anatomical understanding, diagnostic reasoning, and patient-centered management rather than isolated theoretical knowledge.	By the end of this theme, the student will be able to: * Describe tear production and lacrimal drainage physiology * Classify causes of epiphora into reflex tearing, obstruction, infection, and eyelid malposition * Perform focused examination including tear meniscus assessment and lacrimal sac regurgitation test * Differentiate congenital from acquired lacrimal obstruction * Recognize emergency presentations requiring urgent referral * Outline appropriate medical and surgical management option

Code	Topic	Learning objectives At the end of the lecture the student should be able to	Learning domain	Teaching strategy	Assessment tool
M1-OPH-001	Tear Physiology and Drainage	• Describe tear film formation and drainage pathway • Describe lacrimal pump mechanism and tear drainage pathway • Relate physiology to epiphora and dry eye pathophysiology	C1 C2 C3	Interactive Lecture	MCQ
M1-OPH-002	Anatomy of Lacrimal System	• Describe anatomy of lacrimal drainage system • Explain anatomical basis of lacrimal obstruction • Relate tear physiology to aqueous-deficient and evaporative dry eye	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-003	Epiphora and Lacrimal Obstruction	• Define epiphora and classify causes (obstructive vs hydrosecretory) • Recognize clinical features of congenital and acquired obstruction • Outline conservative management and indications for probing	C2 C3 C2	Small group teaching	Viva /OSCE Long Case
M1-OPH-004	Acute and Chronic Dacryocystitis	• Describe etiopathogenesis • Recognize complications • Outline medical and surgical management	C2 C3 C2	Problem based learning LGIS	MCQ OSCE
M1-OPH-005	Dry Eye Syndrome – Clinical Features, Diagnosis and Management	• Recognize symptoms and signs of dry eye syndrome • Perform diagnostic evaluation (Schirmer test, tear breakup time, ocular surface staining, meibomian gland assessment) • Use symptom questionnaires (e.g., OSDI) • Outline medical, procedural, and surgical management of DES	C3 C3 C3 C2	Bedside demo	SAQ

TRANS DISCIPLINARY CLINICAL REASONING FORUM (TCRF)

Theme	Week	Topics	Clinical Case Scenario
Theme 5	**Week 1**	**Watery Eye, Lacrimal Drainage Disorders, Eyelid Malposition, Ocular Surface Disease**	**A middle aged woman with watering from left eye**

"Why is this Eye Watering?" – Integrating Causes of Epiph

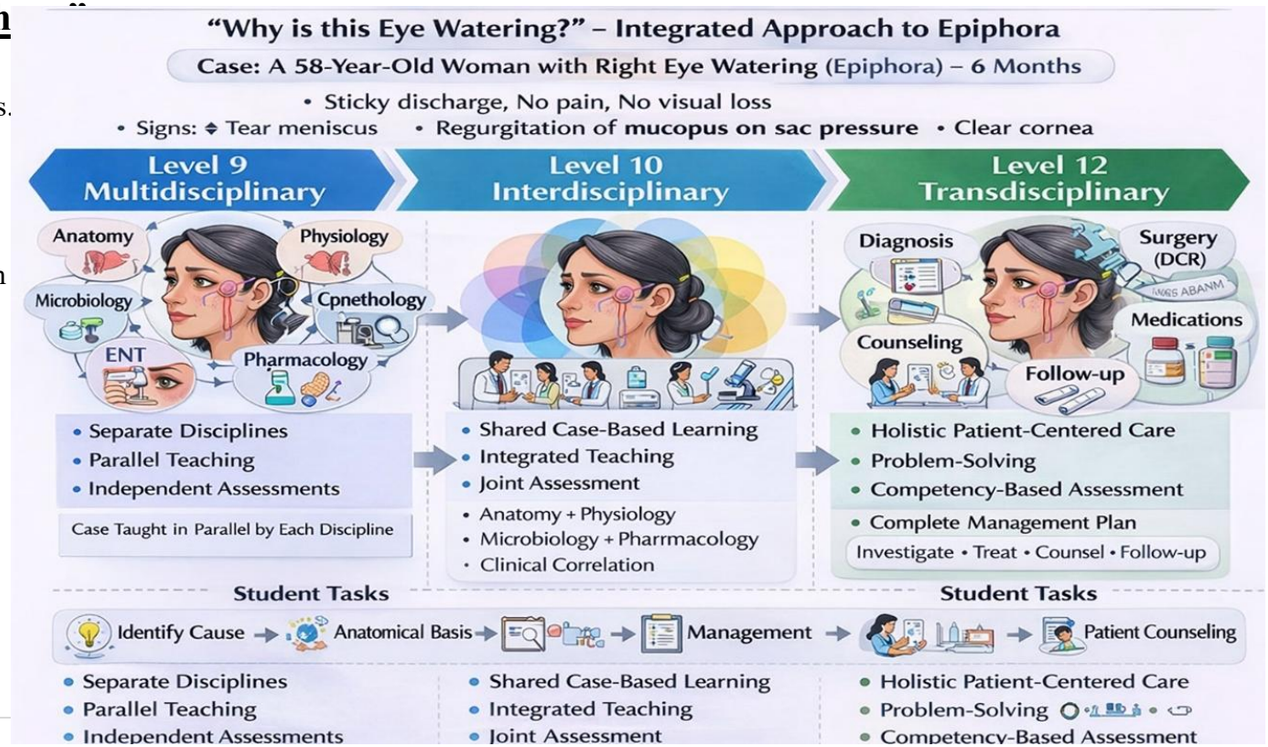
A 55-year-old woman presents with watering from her left eye for the past 5 months.

On examination:

* Tear meniscus height increased
* Gentle pressure over lacrimal sac produces mucopurulent discharge from punctum
* Conjunctiva mildly congested
* Cornea clear

Students are asked to:

* Identify key clinical concerns causing epiphora
* Explain anatomical basis of tear drainage obstruction
* Differentiate reflex tearing from lacrimal blockage
* Interpret clinical examination findings
* Develop comprehensive management plan
* Identify red-flag features needing urgent referral
* Counsel the patient regarding treatment options and prognosis



What Makes This RMU level 12?

* Knowledge embedded in clinical reasoning
* Organizing principle = patient complaint (watering eye)
* Mirrors real clinical decision-making

Students integrate:

* Anatomy of lacrimal system
* Physiology of tear production
* Pathology of infection and obstruction
* Microbiology of lacrimal disease
* Pharmacology of topical therapy
* Oculoplastic surgical principles
* Communication & patient counseling

But none are taught in isolation.

Teaching Format

- Small group facilitated learning
- Faculty from different backgrounds present but not teaching in silos
- Students build the care pathway themselves
- Assessment based on competence and clinical reasoning

Academic Justification Statement

"The case has been designed to reflect RMU level 12 (transdisciplinary integration), where learning is structured around authentic patient problems rather than disciplinary categories. Knowledge from biomedical, clinical, and public health domains is integrated seamlessly within professional practice."

SUBJECT CONTRIBUTION IN TRANS DISCIPLINARY CLINICAL REASONING FORUM

Subject	Contribution	Weight	Rationale
Ophthalmology	Core diagnosis & management	30%	Organizing discipline
Anatomy	Lacrimal and eyelid structure	20%	Structural basis
Pharmacology	Lubricants, antibiotics, antihistamines	15%	Treatment planning
Communication	Counselling & expectations	10%	Patient-centred care

SUBJECT-WISE SPECIFIC LEARNING OBJECTIVES-5

Subject	Learning Objective	Bloom Level	Role
Ophthalmology	Recognize symptoms and signs of epiphora and differentiate watering from discharge Perform complete lacrimal system examination including ROPLAS and syringing Classify causes into obstructive vs hypersecretion epiphora Identify red-flag signs requiring urgent referral (acute dacryocystitis, tumor, trauma) Formulate comprehensive management plan including medical therapy, probing, or DCR	Analyze Apply Analyze Evaluate Evaluate	Core discipline
Anatomy	Describe lacrimal system anatomy Identify surface landmarks of lacrimal sac relevant to examination and surgery	Understand Remember	Structural basis
Pharmacology	Outline drug therapy for infections/allergy	Apply	Medical planning

Communication	Counsel patient regarding treatment prognosis, recurrence risk and surgical options	Apply	Patient care

Theme 6 WHITE PUPIL (LEUKOCORIA)
Week 6

Topics	Rationale	General learning objectives (SMART)

-Congenital cataract **- Mature cataract** **- Retinoblastoma** **- PHPV** **- Coats disease** **- Retinal detachment** **- ROP** **- Congenital glaucoma** **-Toxocarial glaucoma** **- Endophthalmitis** **-Persistent hyperplastic primary vitreous PHPV**	Leukocoria and media-opacity disorders represent critical pediatric and emergency ophthalmic conditions that can signify life-threatening malignancy, preventable childhood blindness, or severe intraocular infection. Conditions such as congenital and mature cataract, retinoblastoma, persistent hyperplastic primary vitreous (PHPV), Coats disease, retinal detachment, retinopathy of prematurity (ROP), congenital glaucoma, toxocarial endophthalmitis, and infective endophthalmitis share the common clinical sign of a white pupillary reflex but differ markedly in prognosis and urgency. Failure to recognize these entities can lead to irreversible visual loss, loss of the eye, systemic morbidity, or death in the case of intraocular tumors. In 4th year MBBS, students advance from basic sciences to applied clinical reasoning. Teaching leukocoria differentials enables integration of embryology (PHPV), genetics and oncology (retinoblastoma), neonatology (ROP), infectious diseases (toxocariasis, endophthalmitis), glaucoma pathophysiology (congenital glaucoma), and retinal disorders (detachment, Coats disease) into a structured diagnostic approach. This fosters the ability to distinguish benign from vision- or life-threatening causes through history, red reflex testing, and targeted examination. Early identification of red-flag signs—such as leukocoria in photographs, buphthalmos with photophobia, strabismus associated with retinoblastoma, prematurity with abnormal retinal vascularization, or painful red eye with hypopyon—enables urgent referral and timely intervention to preserve vision and life.	By the end of the Leukocoria module, the 4th year MBBS student will be able to: ● Describe the applied anatomy and embryology of the lens, vitreous, retina, and anterior chamber angle relevant to congenital cataract, persistent hyperplastic primary vitreous (PHPV), congenital glaucoma, and retinopathy of prematurity, with at least 80% accuracy in written/viva examinations. ● Explain the etiology, pathophysiology, and clinical features of congenital and mature cataract, retinoblastoma, PHPV, Coats disease, retinal detachment, ROP, congenital glaucoma, toxocarial endophthalmitis, and infective endophthalmitis during structured discussions. ● Perform and interpret basic pediatric ocular screening, including red reflex assessment, torchlight examination, corneal diameter estimation, and identification of leukocoria correctly in at least 3 out of 4 observed encounters. ● Differentiate benign, vision-threatening, and life-threatening causes of leukocoria based on history and clinical findings with a minimum of 75% diagnostic accuracy in case-based assessments. ● Identify red-flag features requiring urgent referral, including leukocoria suggestive of retinoblastoma, buphthalmos with photophobia in congenital glaucoma, prematurity with abnormal retinal vascularization in ROP, painful red eye with hypopyon in endophthalmitis, and signs of retinal detachment. ● Outline first-line management principles, preventive strategies (e.g., ROP screening, early cataract surgery), and indications for urgent intervention or multidisciplinary referral. ● Demonstrate professional and empathetic communication while counseling parents regarding childhood eye diseases, visual prognosis, genetic implications, and the importance of early treatment and follow-up.

	Inclusion of these topics equips students with competencies in pediatric eye screening, recognition of ocular emergencies, differentiation of malignant versus benign causes of leukocoria, counseling of parents, preventive strategies (e.g., ROP screening), and multidisciplinary referral, thereby strengthening their role in reducing avoidable childhood blindness and improving patient outcomes.	

Code	Topic	Learning objectives At the end of the lecture the student should be able to	Learning domain	Teaching strategy	Assessment tool
M1-OPH-001	Medial Opacity • Congenital Cataract • Mature Cataract • Endophthalmitis • Congenital glaucoma	• Define congenital and mature cataract and classify types • Describe embryological basis, risk factors, and stages of cataract progression • Recognize clinical features, complications (amblyopia, phacomorphic/phacolytic glaucoma), and outline management principles • Define endophthalmitis and classify exogenous and endogenous types • Describe clinical features including pain, hypopyon, and media opacity • Outline emergency management, referral protocols, and prevention strategies • Define congenital glaucoma and describe angle development anomalies • Recognize clinical features: epiphora, photophobia, buphthalmos, corneal haze	C1 C2 C3	LGIS	SAQ MCQ OSCE
M1-OPH-002	Retinal Pathology 1 • Retinoblastoma • Retinal detachment	• Define retinoblastoma and explain genetic basis (RB1 mutation) • Recognize clinical features including leukocoria and strabismus • Outline urgent referral, diagnostic approach, and management principles	C1 C2 C3	LGIS	SAQ MCQ OSCE

		• Define retinal detachment and classify types • Describe causes and clinical presentation in children • Outline emergency recognition, referral, and management principles			
M1-OPH-003	Retinal Pathology 2 • Retinopathy of Prematurity(ROP) • Coats disease Vitreous Anomalies • Persistent hyperplastic primary vitreous PHPV • Ocular Toxocariasis	• Define ROP and describe risk factors (prematurity, oxygen therapy) • Explain staging, screening guidelines, and prevention strategies • Outline treatment options and follow-up care • Define PHPV and Coats disease, ocular toxocariasis and explain their pathophysiology • Outline diagnostic evaluation, management options, and visual prognosis	C1 C2 C3	LGIS	SAQ MCQ OSCE

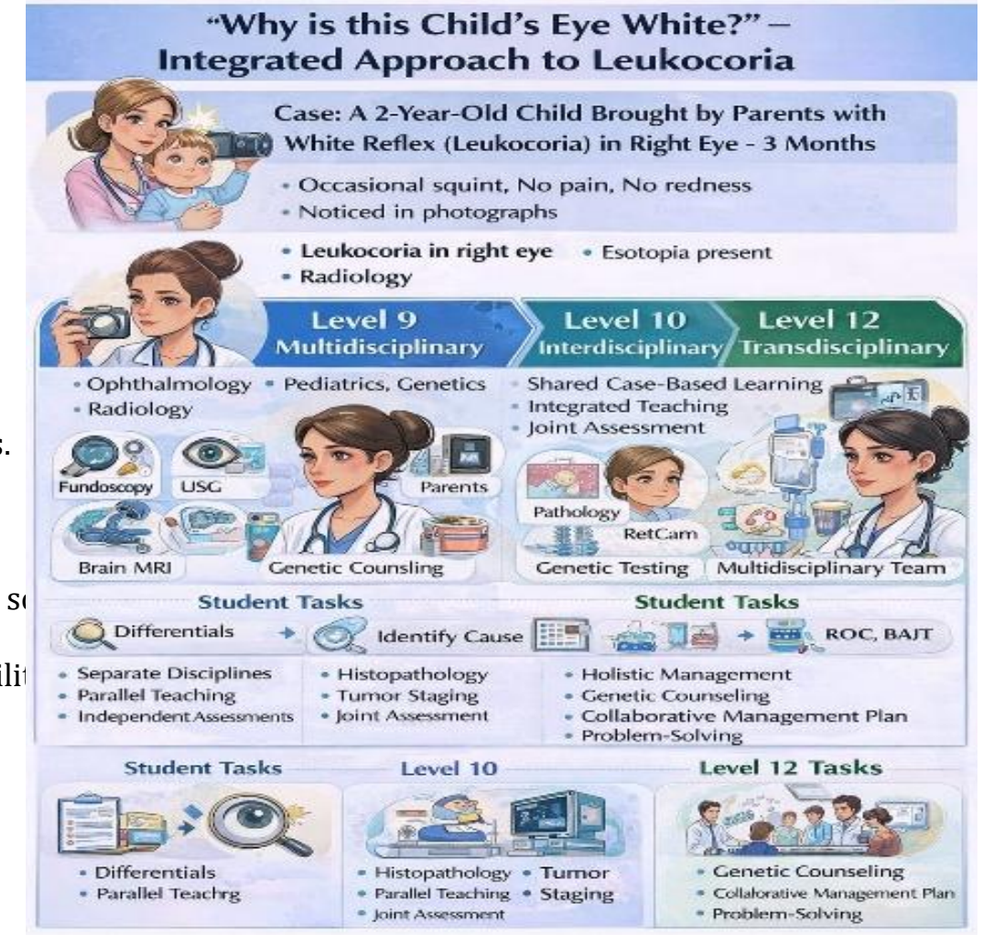
TRANS DISCIPLINARY CLINICAL REASONING FORUM (TCRF)

Theme	Week	Topics	Clinical Case Scenario
Theme 1	**Week 1**	**Leukocoria (White Pupil)**	**A 3 year old child with a white reflex in the right eye and occasional squint**

Managing Leukocoria in a Toddler: A Life-Threatening Red Flag

Clinical Scenario:

A 3-year-old child is brought by parents with a white reflex in the right eye noticed in photographs for the past 2 months. They report occasional squint and recent bumping into objects on the affected side. There is no history of trauma or pain. Birth history is unremarkable.
On examination:
Unilateral leukocoria (right eye)
Intermittent exotropia of the affected eye
Normal anterior segment
Fundus view obscured by a whitish intraocular mass
B-scan ultrasonography shows an intraocular mass with calcifications



Student Task (Problem-Based Trigger)
Students are asked to:

1. Identify key clinical concerns and possible differentials of leukocoria.
2. Explain the pathophysiological basis of leukocoria in intraocular tumors.
3. Interpret ultrasonography findings suggestive of malignancy.
4. Develop an urgent and comprehensive management plan.
5. Identify red-flag signs indicating life-threatening disease.
6. Counsel parents regarding prognosis, genetic implications, and need for s

Suggest preventive strategies and long-term follow-up, including visual rehabili

What Makes This RMU level 12?
● Knowledge embedded in clinical reasoning
● Organizing principle = patient problem (leukocoria)
● Mimics authentic pediatric ophthalmic decision-making

Students Integrate

- Anatomy: Retina, optic nerve, ocular coats
- Pediatrics: Developmental milestones, childhood malignancies
- Oncology & Genetics: Retinal tumors, hereditary risk
- Radiology: Role of B-scan and CT in intraocular masses
- Surgery: Indications for enucleation vs. globe-salvaging therapy
- Ethics & Communication: Breaking bad news, parental counseling
- Public Health: Early screening and prevention of childhood blindness

None are taught in isolation; all are applied within the patient problem.

Teaching Format

- Small-group facilitated learning
- Multidisciplinary faculty presence without silo teaching
- Students construct differential diagnosis and care pathway
- Assessment based on competence, urgency recognition, and clinical reasoning

Academic Justification Statement

"The case is designed to reflect RMU level 12 (transdisciplinary integration), where learning is structured around an authentic pediatric patient presenting with leukocoria. Biomedical sciences, oncology, radiology, clinical decision-making, ethics, and public health principles are integrated seamlessly within professional practice to emphasize early recognition of life-threatening ocular disease and prevention of avoidable childhood blindness."

SUBJECT CONTRIBUTION IN TRANS DISCIPLINARY CLINICAL REASONING FORUM -6

Subject / Discipline	Nature of Contribution	Approximate Integration Weight (%)	Rationale for Weight
Ophthalmology	Core diagnostic reasoning & management	47%	Organizing discipline
Pediatrics	Growth history, developmental impact, systemic associations	15%	Age specific context
Pathophysiology	Mechanisms of leukocoria and ocular inflammation	13%	Explains disease processes
Pharmacology	Chemotherapy, anti-infectives, and glaucoma therapy	13%	Therapeutic planning
Anatomy	Lens, vitreous, retina, ocular development	7%	Structural reasoning
Ethics & Communication	Breaking bad news, parental counseling	5%	Patient-centered care

SUBJECT-WISE SPECIFIC LEARNING OBJECTIVES-6

Subject	Domain	Specific Learning Objectives (Students will be able to…)	Bloom's Level	Integration Role

Ophthalmology	Clinical Skills & Reasoning	Recognize clinical features of leukocoria and differentiate common causes (retinoblastoma, congenital cataract, PHPV, Coats diseas Perform red reflex testing and basic pediatric ocular examination Formulate differential diagnosis for unilateral vs bilateral leukocoria. Develop an urgent management and referral plan for suspected retinoblastoma or endophthalmitis. Identify red-flag signs (strabismus, calcification on imaging, buphthalmos, hypopyon).	Analyze Analyze Apply Evaluate Evaluate	Core organizing discipline
Pediatrics	Clinical Integration	Correlate leukocoria with developmental delay and visual impairment. . Identify perinatal risk factors (prematurity → ROP; infections → cataract). Outline multidisciplinary care for visually impaired children	Understand Analyze Apply	Age-specific context
Pathophysiology	Mechanistic Understanding	Describe mechanisms producing leukocoria (media opacity, tumor reflection, exudation). Explain inflammatory pathways in endophthalmitis and toxocariasis.	Understand	Explains severity
Pharmacology	Therapeutics	Outline chemotherapy principles for retinoblastoma. Describe antimicrobial therapy for endophthalmitis and anti-helminthic therapy for toxocariasis. Identify medical management of congenital glaucoma	Apply Analyze Analyze	Management planning

Anatomy (Applied)	Structural Correlation	Describe embryological development of lens and vitreous relevant to PHPV. Explain anterior chamber angle development in congenital glaucoma Discuss prevention of childhood blindness through early detection programs.	Understand Understand Create	Supports reasoning
Ethics & Communication	Professional Practice	Counsel parents regarding prognosis, treatment options, and genetic implications.	Apply	Patient-centered care
		Communicate sensitively when discussing malignancy or possible enucleation. Explain long-term rehabilitation and visual support needs	Apply	

Self-Directed Learning (SDL) OPHTHALMOLOGY Module 1

WEEK	THEME	Topics of SDL	Learning Objectives	Learning Resources

WEEK 1	**RED EYE**	Blepharitis, Ophthalmia neonatorum, Infective conjunctivitis, Allergic conjunctivitis, Degenerative conjunctival disorders, Dry eye syndrome, Keratitis / Corneal ulcer, Herpes simplex keratitis, Herpes zoster ophthalmicus, Acute anterior uveitis, Episcleritis / Scleritis, Acute angle-closure glaucoma, Chemical injury, Corneal foreign body, Contact lens-related keratitis, Subconjunctival hemorrhage	• Recognize common and emergency causes of red eye • Take focused history and perform ocular examination • Identify urgent conditions requiring referral • Outline first-line management and preventive measures	Kanski's Clinical Ophthalmology, 10th edition Basic Ophthalmology, Kanski & Bowling
WEEK 2	**SUDDEN LOSS OF VISION**	Corneal ulcer, Acute anterior uveitis, Complications of uveitis, Retinal vascular occlusions (CRAO, CRVO), Retinal detachment, Acute angle-closure glaucoma, Vitreous hemorrhage, Optic neuritis, Endophthalmitis, Chemical injury, Blunt ocular trauma, Penetrating ocular trauma, Hyphema	• Take detailed history of sudden vision loss • Differentiate painful vs painless causes • Perform VA, RAPD, fundoscopy, and confrontation fields • Identify ocular emergencies • Outline emergency management and referral	Kanski's Clinical Ophthalmology, 10th edition AAO Basic Ophthalmology Guidelines
WEEK 3	**GRADUAL LOSS OF VISION**	Refractive errors (Myopia, Hypermetropia, Astigmatism, Presbyopia), Dry eye syndrome, Keratoconus, Corneal dystrophies, Cataract, Retinal dystrophies & degenerations (RP, AMD, myopic degeneration), Diabetic retinopathy, Hypertensive retinopathy, Macular edema, Primary open-angle glaucoma, Chronic angle-closure glaucoma, Secondary glaucoma (including lens-induced), Congenital glaucoma, Chronic optic neuropathies, Papilledema, Amblyopia, Trachoma	• Define each cause of gradual visual loss • Identify anatomical site involved (cornea, lens, retina, optic nerve, ocular surface) • Differentiate reversible vs irreversible causes • Recognize red-flag features requiring urgent referral • Outline first-line management & preventive strategies • Perform basic visual assessment and patient counseling	Kanski's Clinical Ophthalmology, 10th edition Pediatric Ophthalmology, Taylor & Hoyt Basic Ophthalmology, Kanski & Bowling

Self-Directed Learning (SDL) OPHTHALMOLOGY Module 2

Week	Themes	Topic of SDL	Learning objectives	Learning resources
WEEK 4	**OCULAR AESTHETICS**	Ptosis, Non-neoplastic & neoplastic lid masses, Ectropion / Entropion, Proptosis, Thyroid eye disease, Blow-out fracture, Haemangiomas, Neurofibroma, Esotropia / Exotropia, Principles of strabismus management, Refractive surgeries	Define ocular aesthetic and oculoplastic procedures ● Describe indications and contraindications ● Discuss surgical techniques and postoperative care ● Recognize complications and follow-up strategies	Kanski's Clinical Ophthalmology, 10th edition Manual of Oculoplastic Surgery, AAO
WEEK 5	**WATERY EYE (Epiphora)**	Dry eye syndrome, Blepharitis, Infective conjunctivitis, Allergic conjunctivitis, Congenital NLDO, Acute dacryocystitis, Chronic dacryocystitis, Ectropion, Entropion	Identify congenital vs acquired causes of watery eye ● Perform basic diagnostic tests (Jones test, syringing) ● Outline management options (conservative, medical, surgical)	Kanski's Clinical Ophthalmology, 10th edition Manual of Oculoplastic Surgery, AAO
WEEK 6	**WHITE PUPIL (Leukocoria)**	Congenital cataract, Mature cataract, Retinoblastoma, PHPV, Coats disease, Retinal detachment, ROP, Congenital glaucoma	Identify causes of leukocoria ● Recognize red-flag signs ● Outline diagnostic investigations (fundus, USG, CT/MRI) ● Discuss management, surgical indications, and referral	Kanski's Clinical Ophthalmology, 10th edition Pediatric Ophthalmology, Taylor & Hoyt

Community Medicine

Module I

Large Group Interactive Session (LGIS)

Topic	At the end of the lecture student should be able to	Learning domain	Teaching strategies	Assessment tools
Introduction of Biostatistics	• Comprehend the relevance of descriptive biostatistics to epidemiological research • Explain principles of descriptive analysis of data.	C2	LGIS	MCQs SAQs SEQs EMQs VIVA

	• Perform simple data analysis including quantitative & qualitative data • Perform cross-tabulation between two categorical binomial variables • Define inferential statistics • Explain the role of inferential statistics in health research decision making • Describe concept of generalization of results to the population • Explain the concept of standard error and confidence interval • Calculate confidence interval and its interpretation.	C2 C3 C3 C1 C2 C2 C2 C3		
Hypothesis testing	• Elaborate the concept of hypothesis testing • Explain role of statistical test of significance in hypothesis testing • Enlist the steps of hypothesis testing • Appreciate the concept of Level of significance • Interpret p-value in published research results • Enable to interpret the Probability distribution chart • Appreciate the Concepts of degree of freedom • Calculate the degree of freedom in different tests of significance.	C2 C2 C1 C2 C3 C3 C2 C3	**LGIS**	MCQs SAQs SEQs EMQs VIVA
Concepts of Screening	• Explain Iceberg phenomenon of diseases with examples • Discuss aims and objectives of screening • Enlist Criteria for screening of diseases & screening tests • Comprehend uses & types of screening with examples • State differences between screening test and diagnostic tests.	C2 C1 C1, C2 C1, C2 C1, C2 C1, C2	**LGIS**	MCQs SAQs SEQs EMQs VIVA

	• Describe rationale of screening tests with reference to natural history of disease and critical point. • Construct2x2table from given data. • Explain measures of validity of screening tests.	C2 C3 C2		
Interpretation of Screening test	• Calculate and interpret sensitivity & specificity of screening test from given data • Calculate and interpret Positive predictive value& Negative predictive value of screening test from given data • Explain yield of screening tests. • Discuss measures used to evaluate screening tests & program • Discuss problems of borderline with emphasis on cut-off point decision	C3 C3 C1 C2 C3	**LGIS**	MCQs SAQs SEQs EMQs VIVA
Concept of Health education	• Define health communication and understand its types. • Explain role of sender, receiver, feedback and content of health message • Explains Shannon Weaver communication model • Appreciate communication barriers • Explain various functions of health communication	C1 C2 C2 C3 C2	**LGIS**	MCQs SAQs SEQs EMQs VIVA
Models and approaches of Health education	• Recognize different models of health education • Understand the scope /contents of health education • Explain different approaches of health education • Appraise the concept of propaganda	C2 C2 C1 C2	**LGIS**	MCQs SAQs SEQs EMQs VIVA
Principles and practices of Health education	• Explain principles of health education • Appraise different ways of practice of health education • Understand social marketing • Comprehend CHC message development protocol	C1 C2 C2 C2	**LGIS**	MCQs SAQs SEQs EMQs VIVA
Epidemiology of Blindness, accidents & injuries	• Describe epidemiology of blindness • Describe patterns of preventable blindness in the community • Recommend approaches to prevention of blindness in the community • Categorize different types of accidents • Describe risk factors involved in accidents • Recommend different preventive strategies for accident controls	C2 C1 C3 C1 C2 C3	**LGIS**	MCQs SAQs SEQs EMQs VIVA
Hospital Administration	• Define hospital • Explain development of hospital as an institution • Appreciate types & functions of hospitals	C1 C2 C2 C2	**LGIS**	MCQs SAQs SEQs EMQs VIVA

	• Understand hospital statistics • Identify factors influencing hospital utilization • Understand the role of hospital administrator	C2 C1		

SELF **DIRECTED**

LEARNING (SDL)

MODULE 2

Topic	Learning objectives	References
Health planning& management (Evaluation of health services)	• Explain 7 steps of evaluation. • Comprehend elements of evaluation.	K Park text book of preventive & social Medicine 26th edition (882-3)
Communication for health education	• Apprise among three models of health education. • Explain steps of planning for Health education. • Differentiate six stages of transtheoretical model of change	• K Park text book of preventive & social Medicine 26th Edition (Chapter 19, 859, 867) • Maxcy-Rosenau-Last Public health & preventive medicine (15th Edi Chapter53)

LARGE GROUP INTERACTIVE SESSION (LGIS)

Topic	At the end of the lecture student should be able to	Learning domain		Teaching strategies	Assessment tools
Test of significance (t, z & chi-square tests)	• Appreciate the concepts of Parametric and non-parametric tests • Differentiate between One tail and two tail tests • Understand the concept of Z test & T test • Apply student t-test for computing difference between 2 means and interpret the results • Elaborate types of t-tests • Differentiate between one sample, independent and paired t tests • Enlist the steps of hypothesis testing • Elaborate the types of chi square test • Perform hypothesis testing by applying chi-square test	C2 C2 C2 C3 C2		**LGIS**	MCQs SAQs SEQs EMQs VIVA

	• Interpret the results of chi-square test • Elaborate fisher's exact test	C2 C1 C2 C3 C3 C2			
Correlation/ regression & ANOVA	• Explain principles of correlation and regression analysis with examples • Draw & interpret scatter diagrams with respect to the types of correlation • Apply ANOVA for comparison of means in more than 2 groups • Differentiate between one way and two-way ANOVA for a given data • Choose different tests for relevant data (decision tree)	C2 C3 C3 C2 C2		**LGIS**	MCQs SAQs SEQs EMQs VIVA
Primary Health care	• Understand primary healthcare • Conceptualize 'health for all' and Alma Ata declaration • Appraise the elements, principles and strategy of Primary Health Care • Outline the challenges that contributed to evolution of PHC	C2 C2 C2 C1		**LGIS**	MCQs SAQs SEQs EMQs VIVA
MDGs, SDGs	• Explain the millennium development goals (MDGs) • Appraise sustainable development goals (SDGs) and their origins • Difference between MDGs and SDGs • Comprehend how SDGs might affect overall health as a global priority in the future • Understand universal health coverage	C2 C2 C2 C2 C1		**LGIS**	MCQs SAQs SEQs EMQs VIVA

Hospital Waste Management	• Explains Healthcare waste • Categorize risk and non-risk waste • Explain health hazards of health care waste • Describe waste management system, team • Describe the disposal / treatment technologies for health care waste	C2 C3 C2 C1 C2		**LGIS**	MCQs SAQs SEQs EMQs VIVA
Planning & Management	• Define Health Planning • Identify the aim and objectives of planning • Understand rationale of planning • Comprehend different phases of planning • Appreciate the various steps of planning cycle • Appreciate various management techniques	C1 C1 C1 C1 C2 C2		**LGIS**	MCQs SAQs SEQs EMQs VIVA
HMIS-Health Management Information System	• Define HMIS • Difference between data and information • Enlist components & features of HMIS • Discuss essential elements & functions of HMIS • Describe steps in developing HMIS • Discuss various sources of health information	C1 C2 C1 C1 C2 C2		**LGIS**	MCQs SAQs SEQs EMQs VIVA
Hospital Administration	• Define hospital • Explain development of hospital as an institution • Appreciate types & functions of hospitals • Understand hospital statistics • Identify factors influencing hospital utilization • Understand the role of hospital administrator	C1 C2 C2 C2 C2 C1		**LGIS**	MCQs SAQs SEQs EMQs VIVA

SMALL GROUP DISCUSSION (SGD)

Topic	At the end of the lecture student should be able to	C/P/A	Teaching strategy	Assessment tools
Health for all-2000	• Understand primary health care • Conceptualize 'health for all' and Alma Ata declaration • Appraise the elements, principles and strategy of PHC • Appraise Recent proceedings of Alma-Ata as Astana declaration	C2 C2 C2 C2	SGD	MCQs SAQs SEQs EMQs VIVA
Surface infections	• Describes the epidemiology of surface infections • Identify the risk factors of surface infections • Recommend the preventive & control measures for surface infections • Appraise the working of Punjab Aids Control Program	C2 C2 C3 C3	SGD	MCQs SAQs SEQs EMQs VIVA
Disinfection	• Differentiate between disinfection & sterilization • Enlist properties of an ideal disinfectant • Explain different types of disinfection • Describe various important types of agents (natural, physical and chemical) used as disinfectants	C1 C1 C2 C2	SGD	MCQs SAQs SEQs EMQs VIVA

SELF DIRECTED LEARNING (SDL)

Topic	Learning objectives	References
Emporiatrics	• Define Emporiatrics • Enlist health risks related to travel • Define Role of health physician in Emporiatrics • Enlist Recommended vaccines for travellers	K Park textbook of preventive & social Medicine, 26th Edition, Chapter 5
Geriatrics	• Differentiate between geriatrics and gerontology • Explain the public health importance of geriatrics • Enlist common health and other problems related to old age • Recommend preventive, rehabilitative measures for older age health problems required to be adopted in travel • Knowledge of high-risk group of travelers • Appreciate the role of health physicians in giving health advise to travelers	K Park textbook of preventive & social Medicine, 26th Edition Chapter 10
Surface-Infection HIV / AIDS a Global pandemic	• Describe lab findings & their significance with HIV infection. • Classify WHO recommended ARV treatments guidelines / regimens.	K Park textbook of preventive & social Medicine 26th Edition Chapter5

BASIC AND CLINICAL SCIENCES (SPIRAL INTEGRATION)

Content Organization

- **Spiral Integration**
    - Biomedical Ethics & Professionalism
    - Family Medicine
    - Behavioral Sciences
    - Integrated Undergraduate Research Curriculum (IUGRC)

LARGE GROUP INTERACTIVE SESSIONS (LGIS) BIOETHICS & PROFESSIONALISM

Topic	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tools
Research and publication ethics	• Demonstrate understanding of different types of "Plagiarism" and "scientific misconduct" as ways of lying, stealing or Cheating related to research and publication • Describe the concept of intellectual property" in reference to research ideas, medical writing, proposals, data, publication Identify issues related to authorship criteria for scientific journals • Describe the Authorship criteria according to ICMJE Guidelines • Identify potential sources of unethical conduct in dissemination of research such as plagiarism, fabrication of data, duplicate publication and gift authorships.	C3	LGIS	MCQs SEQs SAQs Standard matching

INTEGRATED UNDERGRADUATE RESEARCH CURRICULUM (IUGRC)

Topic	Learning Objectives	Teaching Strategy	Assessment Tools
Data collection	• Compile & interpret study data • Make observable improvements or changes in data collection skills & behaviors if required • Record take measures to address logistic issues reported like lack of equipment ,facilities ,need assessment for prior data collection training , poor quality assurance, language barriers , systematic errors • Address ethical concerns of study if any	PAL	Manuscript submission at SJRMC
Descriptive analysis of collected data	• Make variables on computer • Feed data under variables on computers • Summarize data on computer including text, tabulations & graphics • Perform Descriptive analysis of data on computer • Run SPSS	PAL	Manuscript submission at SJRMC

Section – V Time Table

Faculty	Prof. Dr Fuad Ahmad Khan Niazi Dr. Ambreen Gul (Associate Professor) Dr. Sidra Jabeen (Associate Professor) Dr.Saira Bano (Senior Registrar) Dr. Maria Zubair (Senior Registrar) Dr. Fatima Sidra Tanveer (Senior Registrar) Dr. Salman Tariq (Senior Registrar) Dr Rafaaq Saleem (Senior Registrar)
Teaching Strategy	LGIS SDL CBD
Lecture Sites	All Lectures in Lecture hall 1 / 2 From Monday till Thursday All Lectures in Lecture hall 4 / 5 Friday and Saturday EVEN BATCH IN LECTURE HALL 2 AND 4 ODD BATCH IN LECTURE HALL 1 AND 5
List of Recommended books	Kanski's Clinical Ophthalmology 9th edition Parsons' Diseases of the Eye 23rd edition Basic Ophthalmology by Renu Jogi 4th ed. Clinical Ophthalmology by Shafi M. Jatoi 5th edition

	Comprehensive Ophthalmology by Dr. Nasir Chaudhary
Assessment Strategies	MCQs EMQ SEQs SAQ OSPE OSCE OSVE

Categorization of Modular Content of Ophthalmology

Category A	Category B	Category C
Professor Fuad Ahmad khan	Associate Professors	Senior Registrar
Lens;	Dr Sidra Jabeen	1. Conjunctival Disorders – 1
1. Cataract- diagnosis and management	Strabismus;	2. Conjunctival Disorders – 2
2. cataract Surgery and its complications,	1. Squint diagnosis and assessment	3. Dry eye Syndrome
3. Ectopia Lentis	2. Squint Management	4. Lacrimal Drainage system
	Eyelids;	
	3. eyelid tumors and infections	
	4. anomalies of eyelid position	
	Pediatric Ophthalmology	
	5. ROP, RB and congenital cataract	
trauma	**Dr Ambreen Gul**	5.visual pathway
4. blunt ocular trauma	Cornea;	6.3rd, 4th, 6th cranial nerve palsies
5. penetrating ocular trauma	1. corneal Ulcer	7. optic neuropathies
	2. Corneal Dystrophies.	8. Lacrimal System

	Uvea 3. Uveitis- diagnosis and management 4. complications of Uveitis Glaucoma; 5. Approach to Glaucoma, 6. Open and Closed Angle Glaucoma, 7. Secondary Glaucoma	
Retina; **6. Retinal Vascular Disorders,** **7. Retinal Detachment.** **8. acquired macular disorders** 9. Refractive surgery		1. Refractive errors 2. Scleritis/ episcleritis 3. Ocular manifestations of systemic diseases

Contact Hours (Faculty) Ophthalmology

Sr. #	Hours Calculation for Various Type of Teaching Strategies	Total hours
1.	**Large Group Interactive Session (LGIS)**	**6 hours x 5 weeks = 30 hours**
2.	**Clinical Clerkship**	**4 hours x 6 weeks = 24 hours**
3.	**Case Based Learning (CBD)**	**4 hours x 6 weeks = 24 hours**
4.	**Operation theatre**	**8 hours x 6 weeks = 48 hours**

		126 hours

REMOVE ALL TIME TABLES

Block XI(Ophthalmology)
- Module I
3 Weeks

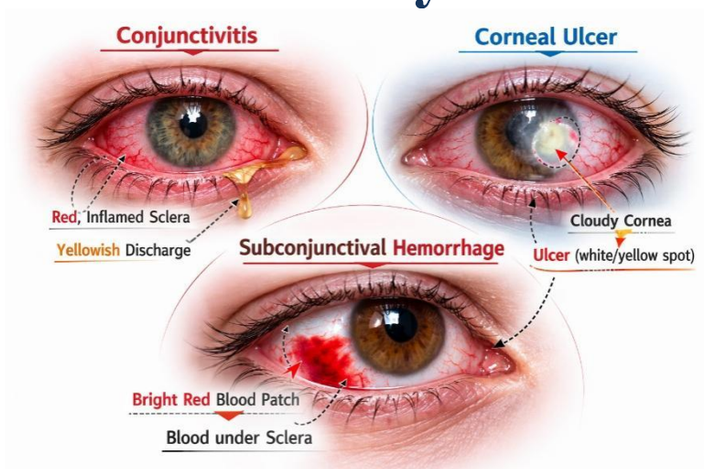
Ophthalmology

Module-1

Week-1

THEME-1

Red Eye



RAWALPINDI MEDICAL UNIVERSITY RAWALPINDI NEW TEACHING BLOCK

TENTATIVE TIME TABLE 4th YEAR MBBS – (EYE) Module I 2025 (1st WEEK/ gradual loss of vision)

DATE / DAY	8:00 AM – 9:00 AM	09:00am – 10:00am		10:30am – 12:00pm	12:00pm - 01:00pm
Monday 14-4-2026	Pathology (LGIS)	EYE (LGIS)	BREAK 10:00AM – 10:30AM	Clinical Clerkship Annexure -1 (Complete 6 weeks rotation plan attached at the end of the curriculum)	
	Neoplasms of Eyelid (Squamous Cell CA, Basal Cell CA) Prof. Dr. Mobina Ahsan Dhody/ Dr. Mudassara Zahid Lect hall 1/ 2	Conjunctival disorders- 1 Dr. Wajeehal/ Dr Sulman Lect hall 1/ 2			
Tuesday 15-4-2026	COMMUNITY MEDICINE (LGIS)	Eye (LGIS)			
	Concepts of screening Prof Rozina Shahadat Khan/ Dr. Sana Bilal Lect hall 1/ 2	Conjunctival disorders- 2 Dr. Wajeehal/ Dr Sulman Lect hall 1/ 2			
Wednesday 16-4-2026	COMMUNITY MEDICINE (LGIS)	Eye (LGIS)			
	Interpretation of screening test Prof Rozina Shahadat Khan/ Dr. Sana Bilal Lect hall 1/ 2	Uveitis 1 Dr. Ambreen/ dr Maria Lect hall 1/2			
Thursday 17-4-2026	Community Medicine (LGIS)	EYE (LGIS)			
	Concepts of health education Dr Khola Noreen/ Dr Afifa Kulsoom Lect hall 1/ 2	Uveitis 2 Dr. Ambreen/ dr Maria Lect hall 1/2			
Friday 18-4-2026	8:00AM- 9:45AM	09:45AM – 10:30	10:30AM – 11:15AM	11:15AM – 12:00PM	
	Community Medicine/ pathology (SGD)	Ophthalmology LGIS	Community Medicine (LGIS)	Pharma (LGIS)	
	Data Collection, Skills Behavior, Logistics and Field Issues (All Senior Faculty and Demonstrators) Non neoplastic lesions of eyelids Dr Fatima/ dr mahjabeen/ dr mehreen/ dr Iqbal	Corneal ulcers Dr. Ambreen/ Dr wajeeha Lect hall 4/5	Development of questionnaire (LGIS) Dr. Afifa Kulsoom/Dr Mehwish Riaz Lect hall 4/5	Ophthalmic Dosage Forms of Drugs Dr. Zunaira/ Dr zufishan Lect hall 4/5	
Saturday 19-4-2026	08:00AM – 09:45AM	09:45AM – 11: 30AM	11:30AM – 12:00 PM	12:00 PM- 1:00PM	01:00PM – 02:00PM
	Community Medicine/ pathology (SGD)	TCRF 1		Ophthalmology LGIS	Ophthalmology LGIS
	Data Collection, Skills Behavior, Logistics and Field Issues (All Senior Faculty and Demonstrators) Non neoplastic lesions of eyelids Dr Fatima/ dr mahjabeen/ dr mehreen/ dr Iqbal	A 28 year old male with mild discomfort, redness and watery discharge CPC hall	Break	Acute and secondary glaucoma DR AMBREEN/ DR SAIRA LECT HALL 4/5	Episcleritis/ scleritis Prof. Dr. Fuad/ Dr Sidra Jabeen Lect hall 4/ 5

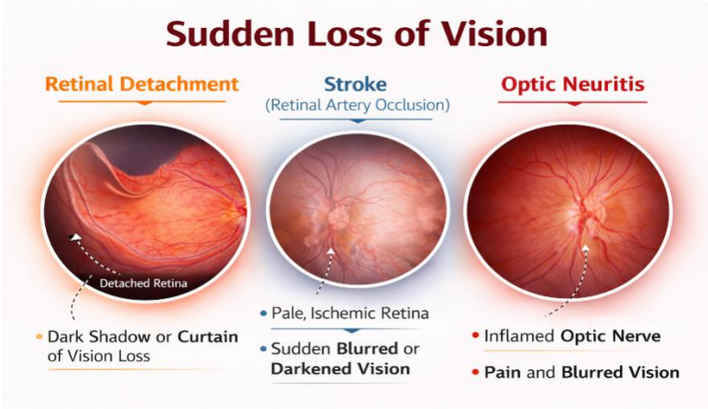
Weekly LMS assessment
LMS-1/ Week-1

MCQ Assessment of lectures and SDL
00-00- 2026 (Saturday)
(80% pass criteria for appearing in end block exam - 80% attendance)

Sr. #	Discipline	No. of MCQs	No. of MCQs according to cognitive domain			Total marks
			C1	C2	C3	
1.	**Otorhinolaryngology**	30	05	20	05	30
2.	**Community Medicine**	15	05	08	02	15
3	**Pharmacology**	05	02	02	01	05
		Total MCQs = 50	12	30	08	Total marks = 50

Ophthalmology

Module-1
Week-2
Theme-2
Sudden loss of vision



RAWALPINDI MEDICAL UNIVERSITY RAWALPINDI NEW TEACHING BLOCK
TENTATIVE TIME TABLE 4th YEAR MBBS – EYE Module I 2025

2nd week/ Sudden loss of vision

DATE / DAY	8:00 AM – 9:00AM	09:00am – 10:00am	BREAK 9:30AM – 10:30AM	10:30am – 12:00pm	12:00pm - 02:00pm
Monday 28-4-2025	Community Medicine (LGIS) Introduction to Biostatistics Dr. Imrana/Dr. Mehjabeen Lect hall 1/ 2	EYE (LGIS) Corneal dystrophies Dr. Ambreen/ dr Wajeeha Lect hall 1/ 2		Clinical Clerkship Annexure -1 (Complete 6 weeks rotation plan attached at the end of the curriculum)	
Tuesday 29-4-2025	Dermatology LGIS Approach to a patient with Urticaria CPC hall	Eye (LGIS) Corneal ectasia and keratoplasty Dr. Ambreen/ dr Wajeeha Lect hall 1/ 2			
Wednesday 30-4-2025	PATHOLOGY (LGIS) Corneal and Conjunctival degenerative and neoplastic disorders Dr. Kiran/ Dr. Fatima Lect hall 1/ 2	Eye (LGIS) Blunt trauma/ chemical injury Dr. Ambreen/ Dr Maria Lect hall 1/ 2			
Thursday 1-5-2024	Community Medicine (LGIS) Hypothesis testing Dr. Imrana/Dr. Mehjabeen Lect hall 5/4	Eye (LGIS) Penetrating trauma Dr. Fatima Sidra/ dr Wajeeha Lect hall 1/ 2			

	08:00AM – 09:45AM		09:45AM – 10:30AM	10:30AM – 11:15AM	11:15AM – 12:00PM	
Friday 2-5-2025	Community Medicine (PAL) Descriptive analysis (All Senior Faculty and Demonstrators)	Eye (CBL) Common ophthalmic surgeries Dr Rafaaq	Eye (LGIS) Retinal detachment Prof Fuad/ Dr Saira Lect hall 4/5	Eye (LGIS) Optic neuritis Dr Fatima/ Dr Sulman Lect hall 4/ 5	Community Medicine (LGIS) Hospital Administration Dr. Narjis/ Dr Abdul Quddus Lect hall 4/ 5	

	08:00AM – 09:45AM		9:45am-1130am	11:30 – 12:00 Break	12:00 PM – 1:00PM	1:00PM – 02:00PM
Saturday 3-5-2025	Eye (CBL) Common ophthalmic surgeries Dr Rafaaq/	Community Medicine (SGD) Descriptive analysis (All Senior Faculty and Demonstrators)	Eye TCRFS 2 A 60-year-old man with sudden painless loss of vision CPC hall		Eye (LGIS) Retinal vein occlusion Prof Fuad/ Dr Saira Lect hall 5/4	pharma (LGIS) Drugs used in ocular infections Dr uzma/ dr Zaheer Lect hall 4/ 5

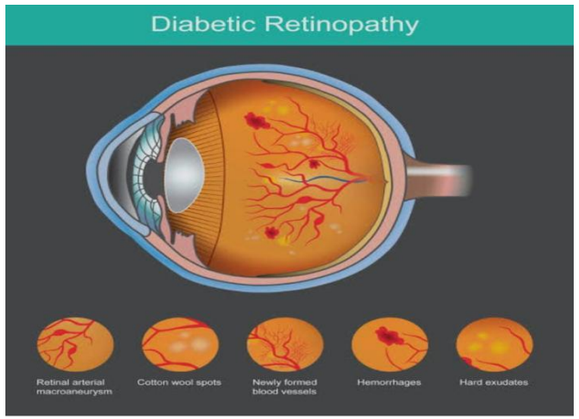
Mid Module-1- Block-1 Assessment (MCQ) Lectures and SDL (Week 2)

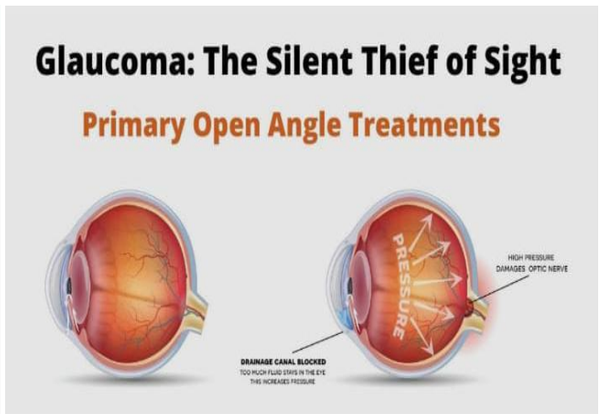
Table of Specification (TOS)
MCQ Assessment of lectures and SDL
00-00- 2026
(80% pass criteria for appearing in end block exam - 80% attendance)

Sr. #	Discipline	No. of MCQs	No. of MCQs according to cognitive domain			Total marks
			C1	C2	C3	
1.	**Ophthalmology**	30	05	20	05	30
2.	**Community Medicine**	15	05	08	02	15
3		05	02	02	01	05
		Total MCQs = 50	12	30	08	Total marks = 50

Ophthalmology
Module-1
Week-3
Theme-3

Gradual loss of vision





RAWALPINDI MEDICAL UNIVERSITY RAWALPINDI NEW TEACHING BLOCK
TENTATIVE TIME TABLE 4th YEAR MBBS – (EYE) Module 1 2026 **(3rd WEEK/ gradual loss of vision)**

DATE / DAY	8:00 AM – 9:00 AM	09:00am – 10:00am		10:30am – 12:00pm	12:00pm - 02:00pm
Monday 5-5-2025	Community Medicine (LGIS) Principles and practices of Health Education Dr Khola Noreen/Dr Mehwish Riaz Lect hall 1/ 2	Eye (LGIS) Diabetic retinopathy/ retinal dystrophies & degeneration Prof Fuad/ Dr Saira Lect hall 4/5	BREAK 10:00AM – 10:30AM	**Clinical Clerkship Annexure -1 (Complete 6 weeks rotation plan attached at the end of the curriculum)**	
Tuesday 6-5-2025	Pathology (LGIS) Pathology of cataract, glaucoma, intraocular infections and tumor Dr. Mobina/ Dr. Mudassara Lect hall 1/ 2	Eye (LGIS) Open angle glaucoma Dr. Ambreen/ Dr wajeeha Lect hall 1/ 2			
Wednesday 7-5-2025	**Prep. Leave for End Module 1 Examination**				
Thursday 8-5-2025	8:00 AM – 10:00AM **End Module 1 Examination (written + AV OSPE)**				

	08:00AM – 09:45AM		09:45AM – 10:30AM	10:30AM – 11:15AM	11:15AM – 12:00PM
Friday 9-5-2025	Community medicine (SGD) Health for All Dr Asif, Dr Mehreen,Dr Mehrish	PATHOLOGY (skill lab) Neoplastic lesions optic nerve Dr Nida Fatima	EYE (LGIS) Cataract Prof Fuad/ Dr Sidra Lect hall 4/ 5	EYE (LGIS) Secondary glaucoma Dr. Ambreen/ Dr wajeeha Lect hall 1/ 2	COMMUNITY MEDICINE (LGIS) Hospital waste management practices Dr. Narjis/ DrAsif Lect hall 5/4

	08:00AM – 09:45AM		9:45AM – 11:30AM	BREAK 11:30AM – 12:00PM	12:00-1:00Pm	1:00PM – 02:00PM
Saturday 10-5-2025	PATHOLOGY (Skill lab) Neoplastic lesions optic nerve Dr Nida Fatima	Community medicine (SGD) Health for All Dr Asif, Dr Mehreen,Dr Mehrish	EYE- TCRF 3 Elderly diabetic male with progressive painless visual loss CPC hall		EYE (LGIS) Ectopia lentis Prof Fuad/ Dr Sidra Lect hall 4/ 5	COMMUNITY MEDICINE (LGIS) HMIS Dr Farah/ Dr. Abdul Quddus Lect hall 1/ 2

End Module 1

Sr. #	Discipline	No. of MCQs	Cognitive domain			No of EMQs	No. of SEQs	Cognitive domain			No of SAQs	Cognitive domain			Total	AV OSPE
		(1 mark each)	C1	C2	C3	(5 marks each)	(9 marks each)	C1	C2	C3	(5 marks each)	C1	C2	C3		5 marks
1.	Ophthalmology	35 MCQ	25	05	05	1	5	03	01	01	3	---	01	01		10
		35 marks				5 MARKS	45 MARKS				15 Marks				100 marks	50 marks

Topic wise distribution End module- I assessment:

Sr.No.	Topic	Weightage %	SAQ 3	SEQ 5	MCQ 35	EMQ 1	AV OSPE
1	Lens disorders	10		1	5		1
2	glaucoma	10	1		5		1
3	Sclera/ episclera	5			2		
4	Conjunctiva	10		1	2		1
5	Cornea	10			5	1	1
6	Uvea	10	1		2		1
7	Retina	15		1	5		1
8	Pathology Pharmacology	10%			3		1

9	Family medicine, General surgery, basic sciences	10%	1	1	3		1
10	Bio ethics, Research, Artificial intelligence	10%			3		1

LMS4
Week-4

Table of Specification (TOS)
LMS-MCQ Assessment of lectures and SDL
(Saturday)
(80% pass criteria for appearing in end block exam - 80% attendance)

Sr. #	Discipline	No. of MCQs	No. of MCQs according to cognitive domain			Total
			C1	C2	C3	
1.	Ophthalmology	30	05	20	05	30
2.	Community Medicine	15	06	07	02	15
3	Dermatology	05	02	02	01	05
		50	20	22	08	50 marks

Ophthalmology Module II/ Block – II

3 Weeks

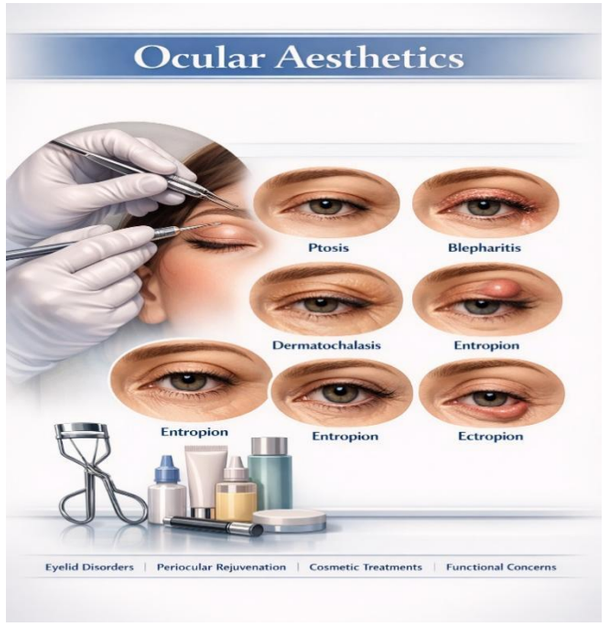
Ophthalmology

Module-2

Week-4

Theme-4

Ocular aesthetics



RAWALPINDI MEDICAL UNIVERSITY RAWALPINDI NEW TEACHING BLOCK
TENTATIVE TIME TABLE 4th YEAR MBBS – (EYE) Module 1 2026 **(4th WEEK/ Ocular aesthetics)**

DATE / DAY	8:00 AM – 9:00 AM	09:00am – 10:00am	10:30am – 12:00pm	12:00pm - 02:00pm		
Monday 12-5-2025	EYE (LGIS)	EYE (LGIS)	BREAK 10:00 – 10:30	**Clinical Clerkship Annexure -1 (Complete 6 weeks rotation plan attached at the end of the curriculum)**		
	Orbit – 1 Dr. Maria/ dr Rafaaq Lect hall 1/ 2	Eyelid and Eyelash Disorder -1 Dr. Wajeeha Rasool/ Dr Fatima Sidra Lect hall 1/ 2				
Tuesday 13-5-2025	COMMUNITY MEDICINE (LGIS)	EYE (LGIS)				
	Primary Health Care Dr. Mehwish/ Dr. Afifa Lect hall 1/ 2	Orbit – 2 Dr. Maria/ dr Rafaaq Lect hall 1/ 2				
Wednesday 14-05-2025	COMMUNITY MEDICINE (LGIS)	Eye (LGIS)				
	Test of significance (t, z & chi-square tests) Dr Imrana / Dr Mehjabeen Lect Hall 1/2	Eyelid and Eyelash Disorder -2 Dr. Wajeeha Rasool/ Dr Fatima Sidra Lect hall 1/ 2				
Thursday 15-5-2025	Dermatology (LGIS)	Eye (LGIS)				
	An approach to a pt. with Nail Disorders. Dr. Shahwana CPC hall	Refractive errors Prof. Dr. Fuad/ dr Saira Bano Lect hall 1/ 2				
Friday 16-05-2025	08:00AM – 09:45AM	09:45AM – 10:30	10:30AM – 11:15AM	11:15AM – 12:00PM		
	Community medicine/ Pathology (SGD)	Eye (LGIS)	Eye (LGIS)	Eye (LGIS)		
	Disinfection Dr Abdul Quddus/Dr Aisha / Dr Maria Pathophysiology and manifestation of systemic diseases in eye Dr mudassira/ dr unaiza/ dr Ayesha/ dr faiza	Refractive surgery Prof. Dr. Fuad/ dr Saira Bano Lect hall 1/ 2	Visual pathway disorders Dr. Fatima/ Dr Sulman Lect hall 4/ 5	Ocular Tumors Dr sulman/ Dr Fatima Even/Lect hall 1/ 2		
Saturday 17-05-2025	08:00AM – 09:45am	09:45AM – 1115 AM	1145AM – 1230PM	1230PM- 1:15PM	01:15PM- 02:00PM	
	Community Medicine/ PATHOLOGY (SGD)	Eye TCRFS 4	Eye (LGIS)	Community medicine (LGIS)	Pharma (LGIS)	
	Disinfection Dr Abdul Quddus/Dr Aisha / Dr Maria Pathophysiology and manifestation of systemic diseases in eye Dr mudassira/ dr unaiza/ dr Ayesha/ dr faiza	**A young female with progressive proptosis and diplopia** CPC hall	Pupillary disorder & nerve palsies Dr Fatima/ Dr sulman Lect hall 1/ 2	Health Planning and Management Dr. Narjis/ Dr. Asif Lect hall 4/5	Drugs used in glaucoma Dr attiya/ dr hasiba Lect hall 4/ 5	

LMS-4
Week-4

Table of Specification (TOS)
LMS-MCQ Assessment of lectures and SDL
April 2026 (Saturday)
(80% pass criteria for appearing in end block exam - 80% attendance)

Sr. #	Discipline	No. of MCQs	No. of MCQs according to cognitive domain			Total
			C1	C2	C3	
1.	**Ophthalmology**	30	05	20	05	30
2.	**Community Medicine**	15	08	05	02	15
3	**Dermatology, pharma, patho**	05	07	02	01	05
		50	37	15	08	50 marks

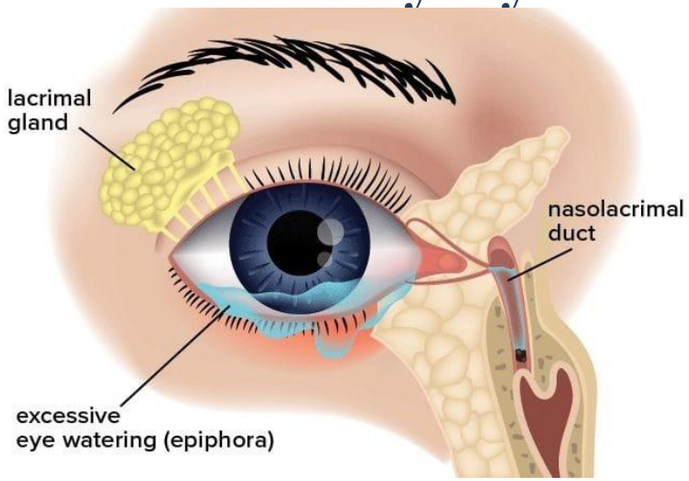
Ophthalmology

Module-2

Week-5

Theme-5

Watery Eye



DATE / DAY	8:00 AM – 9:00 AM	09:00am – 10:00am	10:30am – 11:00pm	11:00pm - 02:00pm
Monday 19-05-2025	EYE (LGIS)	Eye (LGIS)		**Clinical Clerkship Annexure -1 (Complete 6 weeks rotation plan attached at the end of the curriculum)**
	Dry eyes Dr. Ambreen/ dr Saira Lect hall 1/ 2	3rd, 4th, 6th and 7th Cranial nerve palsies Dr. Fatima/ Dr Sulman Lect hall 1/ 2		
Tuesday 20-05-2025	Dermatology (LGIS)	EYE (LGIS)		
	An approach to a pt. with bullous disorders Dr Shawana CPC hall	Lacrimal system Dr. Ambreen/ dr Saira Lect hall 1/ 2		
Wednesday 21-05-2025	Community medicine (LGIS)	Eye (LGIS)		
	Correlation , regression and ANOVA Dr Imrana / Dr Mehjabeen Lect Hall 1/ 2	Ocular complications of systemic medications Dr Wajeeha/ Dr Sulman Lect Hall 4/5		
Thursday 22-05-2025	Eye (LGIS)	Eye (LGIS)		
	Pediatric Ophthalmology Dr. Sidra Jabeen/ Dr Saira Bano Lect hall 1/ 2	Strabismus 1 Dr Sidra/ Dr saira Lect hall 4/ 5		

Friday 23-05-2025	08:00AM – 09:45AM		09:45AM – 10:30AM	10:30AM – 11:15AM	11:15AM – 12:00PM
	Community Medicine (SGD)	ophthalmology (CBL)	EYE (LGIS)	Eye (LGIS)	Eye (LGIS)
	Control of surface infections Dr Asif/Dr Bushra / dr saba	OSCE essentials Dr Fatima	Systemic Diseases affecting Eye Dr. Wajeeha/ Dr Sulman Lect hall 4/ 5	Strabismus 2 Dr Sidra/ Dr saira Lect hall 4/ 5	Ophthalmic lasers Dr maria/ dr sulman Lect hall 4/ 5

Saturday 24-05-2025	08:00AM – 09:45AM		09:45AM – 10:40AM	10:40AM – 11:40AM	BREAK 11:40AM – 12:00PM	12:00AM – 1:00PM	1:00PM-2:00PM
	ophthalmology (CBL)	Community Medicine (SGD)	EYE TCRF 5	Dermatology (LGIS)		Pathology LGIS	Community medicine (LGIS)
	OSCE essentials Dr Fatima	Control of surface infections Dr Asif/Dr Bushra / dr saba	**A middle aged woman with watering from left eye CPC hall**	An approach to a pt. with Lichen Planus Dr Shawana CPC hall		Optic neuropathies, retinal detachment, retinal vascular disease Dr.Fatima/ Dr. Kiran Fatima Lect hall 4/5	Millennium Development Goals & Sustainable Development Goals Dr. Asif / Dr. Narjis Lect hall 4/ 5

LMS-5
Week-5

Table of Specification (TOS)
LMS-MCQ Assessment of lectures and SDL
April,2026 (Saturday)
(80% pass criteria for appearing in end block exam - 80% attendance)

Sr. #	Discipline	No. of MCQs	No. of MCQs according to cognitive domain			Total
			C1	C2	C3	
1.	Ophthalmology	30	05	20	05	30
2.	Community Medicine	15	06	07	02	15
3	Dermatology	05	02	02	01	05
		50	20	22	08	50 marks

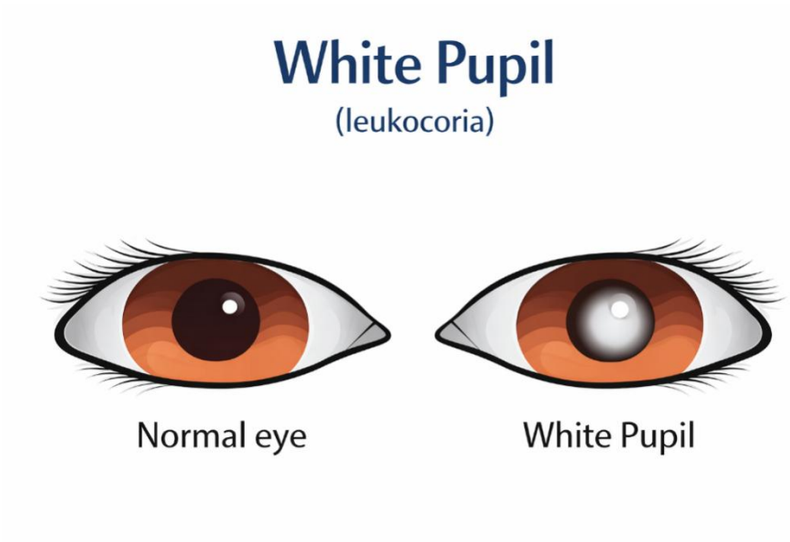
Ophthalmology

Module-2

Week-6

Theme-6

White Pupil



RAWALPINDI MEDICAL UNIVERSITY RAWALPINDI NEW TEACHING BLOCK

TENTATIVE TIME TABLE 4th YEAR MBBS – (EYE) 2025 - Week 6: white pupil

DATE / DAY	8:00 AM – 9:00 AM	09:00am – 10:00am		10:30am – 12:00pm	12:00pm - 02:00pm
Monday 26-05-2025	**End module-II exam (written+ AV OSPE)**		**BREAK 10:00AM – 10:30AM**	**Clinical Clerkship Annexure -1 (Complete 6 weeks rotation plan attached at the end of the curriculum)**	
Tuesday 27-5-2025					
Wednesday 28-05-2025					
Thursday 29-05-2025					
Friday 30-5-2025	08:00AM – 09:45AM	09:45AM – 10:30AM	10:30AM – 11:15AM	11:15AM – 12:00PM	
Saturday 31-5-2025					

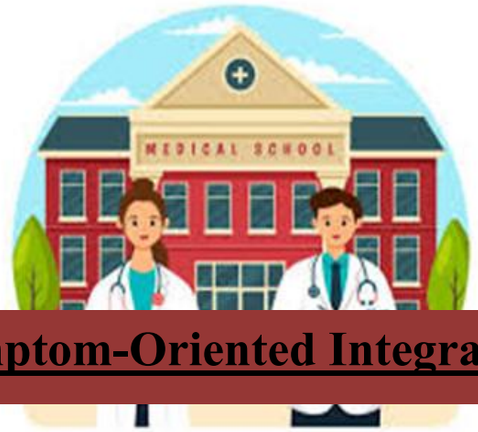
End Module 2

Sr. #	Discipline	No. of MCQs	Cognitive domain			No of EMQs	No. of SEQs	Cognitive domain			No of SAQs	Cognitive domain			Total	AV OSPE
		(1 mark each)	C1	C2	C3	(5 marks each)	(9 marks each)	C1	C2	C3	(5 marks each)	C1	C2	C3		5 marks
1.	Ophthalmology	35 MCQ	25	05	05	1	5	03	01	01	3	---	01	01		10
		35 marks				5 MARKS	45 MARKS				15 Marks				100 marks	50 marks

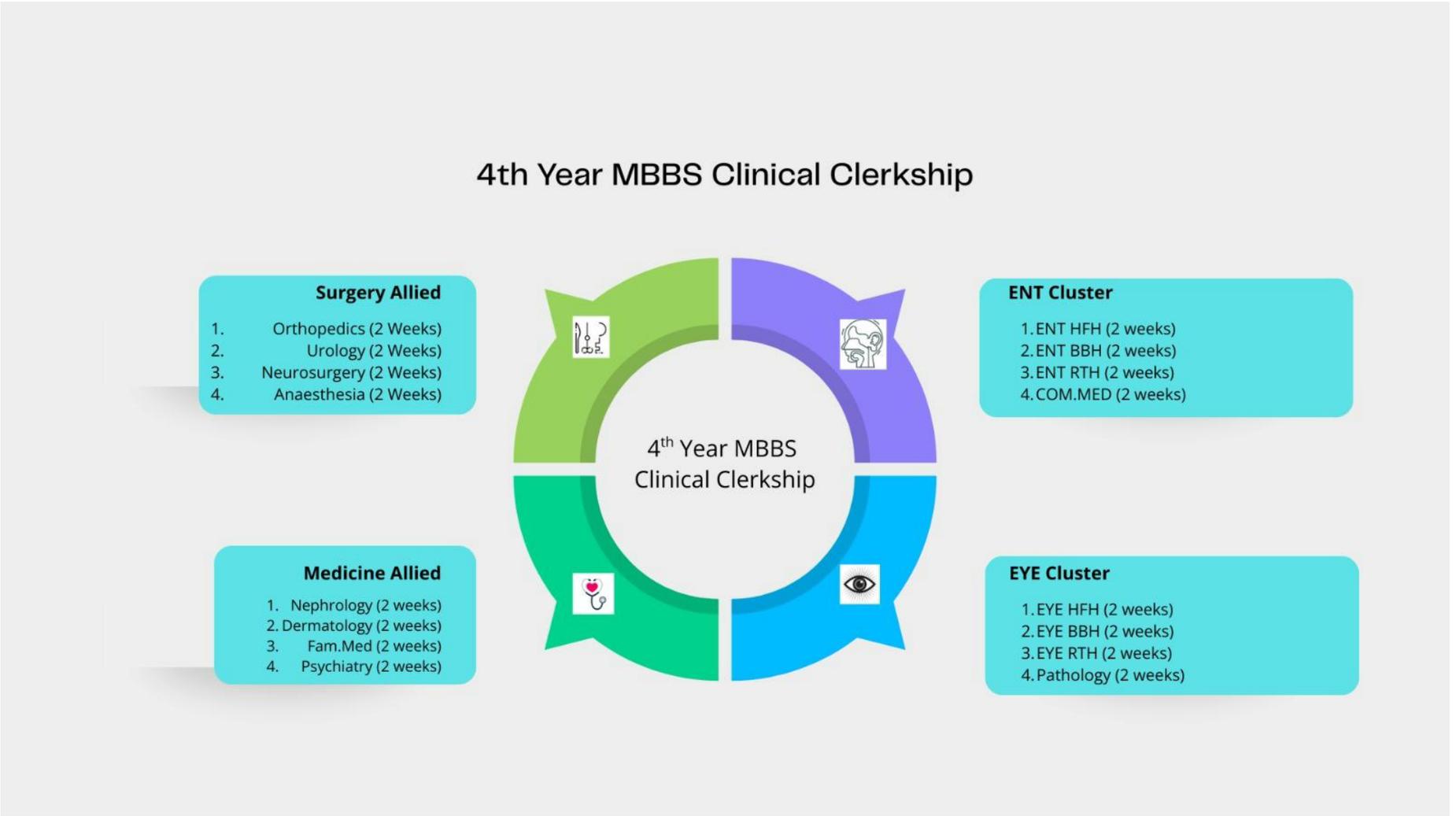
i) **Topic wise distribution End module- 2 assessment:**

Sr.No.	Topic	Weightage %	SAQ 3	SEQ 5	MCQ 35	EMQ 1	AV OSPE
1	Refractive errors/ surgery	5	1	1	2	1	1
2	Lids & Adnexa	5			2		1
3	Lacrimal System	5			2		
4	Dry eyes	5	1	1	2		1
5	Nerve palsies, pupillary disorders	10			4		1
6	strabismus	15		1	5		1
7	Dry eyes	15			5		1

8	Orbit/ ocular tumors	10		1	4		1
9	Pathology Pharmacology	10%	1	1	3		1
10	Family medicine, General surgery, basic sciences	10%			3		1
11	Bio ethics, Research, Artificial intelligence	10%			3		1
			3	5	35		



Section – VI Symptom-Oriented Integrated Clinical Clerkship (SOICC) Ophthalmology



Trans Disciplinary Clinico Connect Session (CCS)

Ophthalmology Integrated Clinical	

nicalClerkship(6Weeks)Byt	calClerkship(4thYearMBBS)–Ha

tical The 4th Year MBBS Ophthalmology Clinical Clerkship is organized around **high-frequency presenting complaints** rather than traditional anatomical divisions. Core themes include: • Gradual loss of vision • Red eye • Sudden loss of vision • Watery eye • Ocular aesthetics • White pupil This **symptom-oriented structure** mirrors real clinical practice, where patients present with complaints rather than diagnoses. It fosters development of **clinical reasoning** by enabling students to build illness scripts, prioritize differential diagnoses, distinguish benign from vision-threatening conditions, and recognize red-flag features requiring urgent intervention. The design promotes **hypothesis-driven diagnostic thinking**, moving beyond memorization toward practical decision-making. the clerkship is delivered within a **workplace-based, competency-driven framework**, where students progress from basic examination skills to integrated clinical judgment across outpatient clinics, wards, and emergency settings. This spiral progression ensures increasing	heendofthecl erkship,stu dents

complexity, contextual learning, and refinement of skills in authentic patient environments.	Educational Framework Aligned	will be able to: 1. Clinical Assess

The program aligns with established medical education models:
 	
• Ronald Harden**'s Integration Ladder (Levels 9–11)**
Promoting vertical and horizontal integration of basic sciences with clinical practice.
• George Miller**'s Pyramid**
Progressing from *Knows How* → *Shows How* → *Does* under supervision.
• **Competency-Based Medical Education (CBME)**
Emphasizing observable, measurable clinical competencies.
• **Patient-centered care principles**
Highlighting communication, ethics, and professionalism.
	Content Level & Duration	1. Take a focused ophthalmic history for patients presenting with:
		  ○ Gradual visual decline
		  ○ Red eye
		  ○ Sudden vision loss
		  ○ Watering or discharge
		  ○ Cosmetic or eyelid concerns
		  ○ White pupillary reflex
		2. Perform systematic ophthalmic examination including:
		  ○ Visual acuity assessment
		  ○ Pupillary reactions
		  ○ Extraocular movements
		  ○ Torch and slit-lamp observation
		  ○ Fundoscopy (observation)
			Competencies

	b l i	○ Confrontation visual fields ○ Lacrimal system assessment basics
Selected themes reflect **regional disease burden and real-world practice**, including: • Cataract as a leading cause of reversible blindness • Diabetic retinopathy and hypertensive eye disease • Infective keratitis and ocular trauma • Glaucoma-related visual morbidity • Vitamin A deficiency and pediatric ocular conditions	c E e a l t h E e l e v a n c e	2 . C l i n i c a l R e a s o n i n g C o m p e t e

This ensures the clerkship remains **contextually relevant**, clinically integrated, and focused on safe practice readiness.	n
	c
	i
	e
	s
	
	3. Generate differential diagnoses based on presenting complaints.
	4. Distinguish benign from sight- or life-threatening conditions.
	5. Recognize ophthalmic emergencies including:
	  o Acute angle-closure glaucoma
	  o Retinal detachment
	  o Central retinal artery occlusion
	  o Severe keratitis
	  o Pediatric ocular malignancy suspicion
	6. Plan initial investigations and interpret basic findings:
	  o Visual acuity charts
	  o OCT and visual field principles
	  o B-scan basics
	  o Blood glucose relevance

	3 . M a n a g e m

	ent&PatientSafetyCompetencies

		7. Outline initial management strategies for common ophthalmic conditions. 8. Identify cases requiring urgent referral or surgical management. 9. Demonstrate understanding of: o Rational use of topical medications o Steroid precautions o Infection prevention 10. Participate in clinics and observe procedures such as slit-lamp exam, cataract workflow, and intravitreal injection.
	4. Communication & Prof	

	11. Counsel patients regarding: • Disease condition and prognosis • Medication adherence • Post-operative care • Warning signs 12. Communicate sensitively with visually impaired patients and parents of children with suspected serious disease. 13. Maintain confidentiality and professional conduct.	e s s i o n a l i s m
		5 . I n t e g

	ration&Systems-BasedCompetenc

	i e s 14. Integrate basic sciences (anatomy, physiology, optics, pathology, microbiology, pharmacology) with clinical findings. 15. Collaborate effectively with multidisciplinary teams including pediatrics, medicine, endocrinology, neurology, oncology, radiology, and rehabilitation services.

Six Week Curriculum

Week	Theme	Learning Outcomes	Teaching Strategies	Learning Resources	Assessment Methods
Week 1	Red Eye – Anterior Segment & Acute Conditions	• Focused ocular history including trauma & CL use • Examine lids, conjunctiva, cornea, AC, IOP • Differentiate common acute conditions • Participate in urgent management planning- Establish rapport with patients and educate them about red eye prevention	Bedside teaching - OPD exposure - Pre-reading - Video demonstrations - Small group discussions	- Textbooks*:* Clinical Ophthalmology by Jack J. Kanski - Videos on keratitis, glaucoma, and uveitis - Tools: Slit-lamp, tonometer, fluorescein strips.	MCQs/SAQs - OSCE: slit-lamp exam, corneal staining, IOP measurement - Faculty feedback - Logbook review
Week 2	Sudden Loss of Vision	- Establish rapport with patients while taking history and explaining disease progression. - Assess vision and examine the anterior segment. - Perform pupillary	- Emergency bedside teaching - Case-based discussions - Trauma simulations - Fundus photograph	- Clinical Ophthalmology (Kanski) - AAO Basic Ophthalmology - Fundus photo atlas	- OSCE (RAPD, anterior segment exam) - OSCE (fundus findings) - Trauma triage station - MCQs and SAQs - Case-based viva -

		reflex examination. - Conduct basic fundus examination using a direct ophthalmoscope. - Enlist common ophthalmic instruments like those used in cataract and glaucoma surgeries. - Participate in formulating management plans for cataracts, glaucoma, and diabetic retinopathy under supervision.	interpretation - Interdepartmental session - Small group discussions - Problem-based learning	- Slit-lamp - Direct ophthalmoscope - Visual acuity charts	Logbook review - Faculty feedback
Week 3	Gradual Loss of Vision	Refractive Errors & Amblyopia- Take focused history of gradual painless vision loss- Measure distance & near visual acuity- Perform pinhole test- Corneal & Ocular Surface Differentiate reversible vs progressive corneal disease- Outline management & preventive strategies Lenticular Causes- Grade cataract - Recognize lens-induced glaucoma- Counsel regarding surgical indications Glaucomatous & Optic Nerve Causes - Interpret visual field defects- Recognize papilledema & chronic optic neuropathies- Identify diabetic & hypertensive retinopathy-	- Bedside teaching- Slit-lamp demonstrations- Fundus photograph interpretation- Case-based discussions (CBD)- Small group discussions (SGD)- Problem-based learning- Interdepartmental sessions	- Clinical Ophthalmology (Kanski)- AAO Basic & Clinical Science Course- Fundus photograph atlas- Slit-lamp- Direct ophthalmoscope- Visual acuity charts- Perimetry	- OSCE (VA, IOP, slit-lamp)- OSVE (fundus interpretation)- Mini-CEX- Case-based viva- MCQs & SAQs- Logbook review- Reflective portfolio

		Recognize macular edema- Formulate algorithm for gradual vision loss			
Week 4	Ocular Aesthetics & Lid/Orbital Disorders	Ptosis,Non-neoplastic & Neoplastic Lid Masses- Recognize common benign (Ptosis,chalazion, papilloma) and malignant (BCC, SCC, melanoma) lesions- Outline referral and management principles Ectropion / Entropion- Identify lid malposition types- Recognize signs of corneal exposure or irritation Proptosis- Differentiate axial vs non-axial proptosis- Identify inflammatory, neoplastic, vascular, and thyroid causes Strabismus (Esotropia / Exotropia) & Principles of Management- Identify types and clinical assessment of strabismus	- Bedside teaching with live patient demonstration- Lid and orbital anatomy demonstration- Case-based discussions (CBD)- Small group discussions (SGD)- Problem-based learning (PBL)- Interdepartmental sessions (ENT, Endocrinology, Radiology, Plastic Surgery)	- Clinical Ophthalmology (Kanski)- AAO Basic & Clinical Science Course (Oculoplastics Chapter)- Fundus & external eye atlas- eyelid ruler, slit-lamp- Ocular motility charts	- OSCE (lid measurements, OSVE (lid/orbital mass identification, proptosis measurement)- Mini-CEX- Case-based viva (thyroid eye disease, blow-out fracture)- MCQs & SAQs- Logbook review- Reflective portfolio
Week 5	Watery Eye & Eyelid Disorders	-Take detailed history focusing on tearing, irritation, discharge, and allergy history. - Perform slit-lamp examination and assess anterior segment. - Identify and differentiate causes of epiphora: dry eye syndrome, blepharitis, infective	Bedside teaching - OPD exposure - Pre-reading - Recorded videos - Small group discussions	Textbook: Clinical Ophthalmology: A Systematic Approach by Jack J. Kanski - Videos of lacrimal and eyelid procedures - Tools: Slit-lamp, fluorescein strips, Schirmer’s test	MCQs/SAQs - OSCE: eyelid exam & lacrimal assessment - Faculty feedback - Logbook review

		and allergic conjunctivitis, congenital NLDO, acute/chronic dacryocystitis. - Examine eyelid malpositions such as ectropion and entropion. - Participate in formulation of basic management plans under supervision.			
Week 6	Leukocoria, Emergency Recognition & Integrated Approach	1. Perform Red Reflex Examination - Identify leukocoria early - Differentiate unilateral vs bilateral 2. Media Opacity Causes - Congenital cataract - Endophthalmitis 3. Retinal Pathology - Retinoblastoma - ROP - Retinal detachment - Coats disease 4. Vitreous Anomalies 5. Management & Referral - Identify life-threatening causes - Plan urgent referral - Counsel parents	- Case-based discussions - Fundus photo interpretation - Red reflex examination practice - Small group discussions - Interdepartmental sessions	- Kanski Clinical Ophthalmology - AAO Basic Ophthalmology - Pediatric ophthalmology atlases - Retinal images - B-scan ultrasonography	- OSCE: Red reflex examination - OSCE: Fundus photo diagnosis - Case-based viva (RB management) - MCQs and SAQs - Logbook review - Faculty feedback

Clinical Skills/ competencies Required

Keyword/Topic	Competency Description

Common Ocular Conditions	Identify and describe common ocular conditions, along with their treatment and management strategies.
History Taking and Case Presentation	Take a detailed and comprehensive ophthalmic history. Present patient cases in a structured and professional format.
Vision Assessment	Demonstrate the steps for assessing visual acuity, including distance, near vision, colour vision, and pinhole testing.
Pupil Examination	Perform a thorough examination of pupils, including anisocoria, hetrochromia, light and near reflex
Slit Lamp Examination	Demonstrate the correct use of the slit lamp for evaluating the anterior segment of the eye, including lids, cornea, and iris.
Direct Ophthalmoscopy	Perform direct ophthalmoscopy to examine the optic disc, macula, and retinal vessels.
Extraocular Movements	Examine uniocular and binocular extraocular movements and interpret findings related to ocular alignment and motility.
Ophthalmologic Emergencies	Recognize common ophthalmic emergencies, describe their clinical features, and determine the need for urgent referral.
Patient Counselling and Education	Counsel patients effectively regarding common conditions such as cataracts, including obtaining informed consent in a simulated environment.
Surgical Exposure	Observe ophthalmic surgical procedures to gain an understanding of surgical techniques, patient preparation, and teamwork.
Preoperative Patient Preparation	Demonstrate the steps of preoperative preparation, including patient education, hygiene, and administration of pre-surgical medications.
Practical Skills in a Simulated Environment	Eyedrop instillation, lacrimal regurgitation techniques and biometry in a simulated setting.

Entrustable Professional Activities (EPA) Framework for Undergraduate Ophthalmology Clinical Clerkship

EPA	Description	Key Competencies	Assessment Methods	Expected Level of Entrustment
1. Perform a Basic Ophthalmic Assessment	Obtain a focused history and perform essential eye examinations, including visual acuity, pupil reflexes, and anterior segment examination.	- Communication skills for history taking - Psychomotor skills for examinations - Basic knowledge of normal/abnormal findings	- OSCE (history taking, torchlight exam) - Faculty feedback - Logbook review	Supervised with direct guidance for performing a complete ophthalmic evaluation
2. Perform Direct Ophthalmoscopy	Conduct direct ophthalmoscopy to examine the fundus, identify abnormalities (e.g., optic disc changes, diabetic retinopathy), and correlate findings with patient symptoms.	- Psychomotor skills for handling the ophthalmoscope - Knowledge of normal and pathological fundus features	- OSCE (direct ophthalmoscopy station) - Faculty feedback - Logbook entries	Supervised with minimal guidance for identifying basic fundus abnormalities
3. Recognize and Manage Red Eye Conditions	Identify common causes of red eye, such as conjunctivitis, keratitis, and uveitis, and propose initial management strategies, including patient education.	- Critical thinking for differential diagnosis - Clinical reasoning for management - Patient communication skills	- OSCE (red eye management station) - Case-based discussions - Ward tests	Indirect supervision; can manage common red eye conditions independently but consult for complex cases

4. Counsel Patients About Cataracts	Educate patients about cataracts, including disease progression, treatment options, and postoperative care, addressing patient concerns empathetically.	- Communication skills for patient-centered counseling - Professionalism and empathy	- OSCE (counseling station) - Faculty feedback - Reflective portfolios	Supervised with minimal guidance for structured counseling sessions
5. Identify and initiate management of Ophthalmic emergencies	Recognize critical conditions such as chemical burn, trauma, retinal detachment or central retinal artery occlusion and escalate appropriately for urgent management.	- Clinical acumen in identifying emergencies - Effective communication with the healthcare team	- OSCE - Logbook review - Case-based discussions	Supervised with direct guidance in identifying emergencies and initiating appropriate management
6. Assist in Common Ophthalmic Procedures	Observe or assist in procedures like cataract surgery or laser therapies, understanding procedural steps and ensuring aseptic techniques.	- Familiarity with instruments - Teamwork in the surgical setting - Adherence to aseptic protocols	- Logbook of observed/assisted procedures - Video interpretation of surgical steps - Supervisor feedback	Supervised with direct guidance for assisting in procedures; independently perform pre- and post-procedure patient preparation tasks

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Duration:	6 Weeks (24 Days) **Week 1 and 2 RTH** **Week 3 and 4 BBH** **Week 5 and 6 HFH** **Time 10:30 – 02:00 PM**
	• 21 Clinical Days

	• 3 Assessment Days **Model:** Symptom-Based Integrated Clinical Clerkship **Integration Level:** Harden Level 9–11

Ophthalmology Clerkship Matrix

Topic	Must Know	Should Know	May Know
Visual acuity assessment	Principles and correct method	Interpretation of findings	LogMAR charts
Pupillary reflexes	Direct, consensual reflex, RAPD	Causes of abnormal reflexes	Detailed neuro-ophthalmic pathways
Red eye	Conjunctivitis, keratitis, uveitis, acute angle-closure glaucoma	Episcleritis, scleritis	Rare inflammatory causes
Corneal diseases	Corneal ulcer recognition and urgency	Fungal vs viral keratitis	Corneal dystrophies
Cataract	Types, symptoms, indications for surgery	Complications of cataract surgery	IOL power calculation
Glaucoma	POAG risk factors, optic disc changes	Basic visual field interpretation	Detailed pharmacology of drugs
Sudden loss of vision	CRAO, CRVO, retinal detachment, optic neuritis	Investigation pathway	Advanced neuro-ophthalmology
Gradual loss of vision	Cataract, glaucoma, diabetic retinopathy	Macular degeneration	Retinal imaging interpretation
Diabetic retinopathy	Stages and screening importance	Treatment options	Anti-VEGF pharmacology
Leukocoria (white pupil)	Retinoblastoma, congenital cataract	Differential diagnosis	Genetic mutations

Lacrimal system disorders	Causes of epiphora, dacryocystitis	Dacryocystorhinostomy indications	Surgical techniques
Ocular trauma	Chemical injury management, open globe recognition	Imaging and referral	Surgical repair techniques
Strabismus	Identification and amblyopia risk	Cover test principles	Surgical correction
Refractive errors	Myopia, hypermetropia, astigmatism	Presbyopia	Refractive surgery
Eyelid disorders	Ptosis, entropion, ectropion, lid tumors	Chalazion management	Cosmetic procedures
Community ophthalmology	Causes of preventable blindness	Screening programs	Epidemiology in detail

Essential Ophthalmic Surgical Procedures

(Psychomotor Domain – Observation Level)

Surgical Procedure	Learning Objectives (Observation Level)	Teaching Methods	Assessment
Phacoemulsification with IOL implantation	Observe the sequence of steps in cataract surgery including capsulorhexis, phacoemulsification and IOL implantation. Identify key surgical instruments used during the procedure.	OT observation under microscope, surgical video demonstration, faculty explanation of steps	OSCE, OSVE, reflective logbook entry
Extracapsular Cataract Extraction (ECCE)	Observe incision construction and nucleus delivery. Identify instruments used for manual cataract extraction and suturing.	Operating room observation, video-based demonstration	OSCE, OSVE, reflective logbook entry
Trabeculectomy	Observe formation of scleral flap and filtration pathway for aqueous drainage. Identify instruments used in glaucoma surgery.	OT exposure, guided surgical discussion	OSCE, OSVE, reflective logbook entry
Peripheral Iridectomy	Observe removal of a peripheral iris segment to improve aqueous flow. Identify instruments used for iris handling.	Surgical observation, video-based learning	OSCE, OSVE, reflective logbook entry

Dacryocystorhinostomy (DCR)	Observe exposure of lacrimal sac and formation of a bony ostium connecting lacrimal sac to nasal cavity.	OT observation, surgical video session	OSCE, OSVE, reflective logbook entry
Nasolacrimal Duct Probing	Observe probing technique through punctum into nasolacrimal duct. Identify punctal dilator and probes used.	Demonstration in OT or skills lab	OSCE, OSVE, reflective logbook entry
Chalazion Incision & Curettage	Observe conjunctival incision and curettage of chalazion contents. Identify chalazion clamp and curette.	Minor OT observation, demonstration	OSCE, OSVE, reflective logbook entry
Ptosis Surgery	Observe identification and tightening of levator muscle.	OT exposure, surgical video teaching	OSCE, OSVE, reflective logbook entry
Entropion Repair	Observe correction of inward eyelid margin and suturing technique used to reposition eyelid.	OT observation	OSCE, OSVE, reflective logbook entry
Ectropion Repair	Observe surgical tightening of eyelid and steps involved in lateral tarsal strip procedure.	OT observation	OSCE, OSVE, reflective logbook entry
Strabismus Surgery	Observe isolation of extraocular muscles and steps of muscle recession or resection.	Surgical observation, video demonstration	OSCE, OSVE, reflective logbook entry
Pars Plana Vitrectomy	Observe insertion of vitrectomy ports and removal of vitreous gel. Identify vitrectomy instruments.	Video-based teaching and OT observation	OSCE, OSVE, reflective logbook entry
Laser Photocoagulation	Observe application of retinal laser burns and patient positioning during procedure.	Laser room observation, video demonstration	OSCE, OSVE, reflective logbook entry
Penetrating Keratoplasty	Observe trephination of diseased cornea and suturing of donor corneal graft.	Surgical video and OT observation	OSCE, OSVE, reflective logbook entry

Integration of Artificial Intelligence in Clinical Clerkship

1. Rationale

Artificial Intelligence (AI) is increasingly used in ophthalmology for **screening, diagnosis, and teleophthalmology services**. Introducing medical students to basic AI applications during clinical clerkship helps them understand how technology can support clinical decision-making and improve access to eye care.

The objective is **not to teach programming or algorithm development**, but to familiarize students with **clinical applications of AI tools in ophthalmic practice**.

2. Learning Objectives

At the end of the clinical clerkship, students should be able to:

- Define basic concepts of artificial intelligence in medicine
- Describe common AI applications in ophthalmology
- Recognize how AI assists in screening and diagnosis
- Interpret AI-generated screening reports in clinical settings
- Understand ethical considerations and limitations of AI tools

3. Areas of AI Application in Ophthalmology

Students will be introduced to examples of AI-assisted clinical practice.

1. Diabetic Retinopathy Screening

AI algorithms can analyze **fundus photographs** and detect diabetic retinopathy automatically.

Students will learn:

- How AI identifies retinal lesions
- Role of AI in community screening programs
- Interpretation of AI-generated reports

Example system:
• Drishti

2. Glaucoma Detection

AI systems can analyze:

• Optic disc photographs
• Optical coherence tomography (OCT)

Students will observe how AI assists in identifying **optic nerve damage and visual field patterns**.

3. Age-Related Macular Degeneration Detection

AI models can analyze **retinal OCT images** to detect:

• Macular edema
• Neovascular AMD
• Geographic atrophy

Students will review example cases where AI helps flag abnormal scans.

4. Retinopathy of Prematurity (ROP) Screening

AI tools can assist in identifying **plus disease and vascular abnormalities** in neonatal retinal images.

Example research system:
• i-ROP Deep Learning System

Students will observe how AI supports pediatric retina specialists in screening programs.

4. AI Activities During Clinical Clerkship

Students will participate in **simple structured activities**.

1. Fundus Image Analysis

Students review fundus photographs and compare their interpretation with **AI-generated reports**.

Learning outcomes:

• Identify retinal lesions
• Understand how AI highlights abnormal features

2. AI-Assisted Case Discussion

Faculty present clinical cases where AI-assisted diagnosis was used.

Example:

Case of diabetic retinopathy screening using AI.

Students discuss:

• AI diagnosis
• Clinical confirmation
• Management plan

3. Teleophthalmology Demonstration

Students observe how AI can be integrated into **telemedicine screening programs**.

Example workflow:

Community fundus camera → AI screening → ophthalmologist review

Organizations using such systems include:

• Orbis International
• Aravind Eye Care System

5. Ethical Considerations

Students will briefly discuss important ethical issues related to AI in healthcare:

• AI cannot replace clinical judgment
• Importance of data privacy and patient confidentiality
• Risk of algorithm bias
• Need for ophthalmologist oversight

6. Assessment in Clinical Clerkship

AI-related learning will be assessed through:

Assessment Method	Description
OSCE station	Interpretation of AI-generated fundus report
Case discussion	AI screening result interpretation
Viva questions	Basic concepts of AI in ophthalmology

7. Expected Competency

By the end of the clerkship, students should be able to:

• Explain the role of AI in ophthalmic screening
• Interpret basic AI-generated screening outputs
• Recognize the advantages and limitations of AI in clinical practice

WEEK 1 Red Eye Time 10:30 – 02:00 PM

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
Day 1	Young adult with painful red eye and photophobia	Infective vs allergic conjunctivitis; blepharitis; keratitis; differentiating discharge types; red flag identification	Steps 1–4: Applied anatomy & microbiology; Steps 7–9: Clinical reasoning; Step 10: Slit-lamp correlation	Ophthalmology + Microbiology	Focused red eye history; torch exam; slit-lamp basics; regurgitation test	Hygiene counseling; infection prevention awareness
Day 2	Contact lens wearer with severe pain & reduced vision	Corneal ulcer; fluorescein staining patterns; microbial vs viral keratitis; risk factors; emergency identification	Level 9–10 (Clinical integration & procedural reasoning)	Ophthalmology + Pathology	Fluorescein staining; corneal exam; identifying epithelial defects	Responsibility in vision-threatening cases
Day 3	Severe painful red eye with decreased vision and headache	Acute anterior uveitis; episcleritis vs scleritis; acute angle-closure glaucoma; pupil and AC assessment	Level 9–11 (Ophthalmology + Medicine integration)	Ophthalmology + Medicine	Pupil examination; AC depth estimation; IOP screening awareness	Urgency recognition; escalation behavior
Day 4	Integrated red eye cases	Differential formulation; emergency triage; investigation selection	Level 10–11 (Interdisciplinary reasoning)	Ophthalmology + Emergency Medicine	Case presentation; structured differential building	Professional communication; safe referral practice

Skill-Based Clerkship Learning Outcomes

Specialty	Skill-Based Clerkship Learning Outcomes (LOs)
Ophthalmology (Primary Discipline)	Perform focused red eye history (pain, discharge, photophobia, vision change)
	Conduct systematic external and anterior segment examination
	Differentiate conjunctival vs ciliary congestion
	Perform fluorescein staining and interpret patterns
	Identify vision-threatening red eye and escalate appropriately
	Present structured red eye case with differential diagnosis
	Counsel patient regarding hygiene, contact lens care, and medication adherence
Microbiology	Correlate discharge type with likely organism
	Justify empirical antibiotic selection during discussion
Pathology	Correlate corneal ulcer appearance with pathological process
	Interpret basic culture & sensitivity report (conceptually)
Medicine / Emergency	Recognize systemic associations (autoimmune disease, herpetic history)
	Identify glaucoma emergency features
	Integrate systemic findings with ocular presentation during case discussion

Week 2 — Sudden Loss of Vision — Time 10:30 – 02:00 PM

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
Day 5	Patient with painful sudden vision loss and red eye	Corneal ulcer; acute anterior uveitis; angle-closure glaucoma; hyphema; differentiating inflammatory vs pressure-related causes	Steps 1–4: Applied anatomy & pathology; Steps 7–9: Clinical reasoning; Step 10: Emergency anterior segment integration	Ophthalmology + Emergency Medicine	Focused painful vision loss history; VA recording; torch exam; anterior chamber assessment; emergency plan formulation	Urgency recognition; safe referral behavior
Day 6	Sudden painless severe vision loss in elderly patient	CRAO, CRVO, retinal detachment, vitreous hemorrhage, optic neuritis; RAPD identification; fundus correlation	Level 9–11 (Clinical reasoning + posterior segment integration)	Ophthalmology + Medicine + Neurology	RAPD assessment; direct ophthalmoscopy; fundus photo interpretation; emergency outline	Time-sensitive decision-making; stroke awareness
Day 7	Trans-Disciplinary Clinical Connect Session Theme: Sudden Vision Loss and Painful Red Eye					
Day 8	End Module Assessment					

Skill-Based Clerkship Learning Outcomes

Specialty	Skill-Based Clerkship Learning Outcomes (LOs)
Ophthalmology (Primary Discipline)	Take focused history in painful vs painless sudden vision loss
	Record visual acuity accurately in emergency setting
	Perform systematic anterior segment examination using torch

	Identify RAPD correctly
	Perform basic fundoscopy and correlate findings clinically
	Differentiate retinal, optic nerve, corneal, and glaucomatous causes
	Formulate immediate emergency management plan
	Present structured sudden vision loss case with prioritized differential
Medicine / Neurology	Correlate CRAO with systemic vascular risk factors
	Identify stroke risk and justify urgent referral
	Recognize demyelinating association in optic neuritis
Radiology	Identify indications for urgent OCT, B-scan, CT orbit, MRI brain
	Justify imaging selection during interdisciplinary discussion
Emergency Medicine	Recognize globe rupture and implement protective measures
	Prioritize triage in ocular emergencies
Pathology / Microbiology	Correlate infective endophthalmitis presentation with likely pathogens
	Justify empirical therapy principles during discussion

Trans-Disciplinary Clinical Connect Session

Theme: Sudden Vision Loss and Painful Red Eye

Clinical Scenario (Problem Trigger)

A 28-year-old man presents to the emergency department with sudden painful loss of vision in the right eye for 24 hours.
He reports severe eye pain, redness, photophobia, and watering. Two days earlier he felt foreign body sensation after working in a dusty environment.
On examination:

- Visual acuity: Counting fingers
- Conjunctival congestion present
- Corneal epithelial defect with fluorescein staining
- Anterior chamber reaction with cells and flare
- Irregular pupil
- Intraocular pressure: 28 mmHg

Further findings:
- No obvious penetrating injury
- Fundus view hazy

The patient requires urgent evaluation and management to prevent permanent visual loss.

Student Task (Problem-Based Trigger)

Students are asked to:

1. Identify the possible causes of sudden painful vision loss in this patient.
2. Explain the pathophysiology of corneal ulcer, uveitis, and acute angle-closure glaucoma.
3. Interpret clinical signs such as fluorescein staining, anterior chamber reaction, and pupil abnormalities.
4. Perform visual acuity assessment and torch examination findings interpretation.
5. Develop an emergency management plan for painful red eye with vision loss.
6. Identify red-flag signs requiring urgent referral or surgical intervention.
7. Counsel the patient regarding prognosis, medication adherence, and prevention of ocular trauma or infection.

What Makes This a Trans-Disciplinary Clinical Connect Session

- No isolated subject-based teaching.

- Clinical problem (sudden vision loss) is the organizing principle.
- Students integrate clinical reasoning, pathophysiology, examination skills, and emergency management.
- Learning simulates real emergency decision-making.

Students Integrate

- Clinical reasoning in Sudden painful vs painless vision loss
- Ocular examination skills (visual acuity, torch examination, fluorescein staining)
- Recognition of ophthalmic emergencies
- Trauma assessment
- Immediate management and referral

Trans-Disciplinary Integration

Discipline	Nature of Contribution	Approximate Integration Weight
Ophthalmology	Diagnosis and emergency management of corneal ulcer, uveitis, glaucoma	45%
Microbiology	Infective causes of corneal ulcer and ocular infections	15%
Pharmacology	Antibiotics, cycloplegics, anti-glaucoma drugs	15%
General Medicine	Systemic diseases associated with uveitis and vascular occlusions	15%
Emergency Medicine	Initial triage and stabilization of ocular emergencies	10%

End Module Assessment: 50 Marks

Week 1 & 2

- OSCE: 6 stations × 5 = 30 marks

- OSVE: 2 stations × 10 = 20 marks

Topic	I × F	Weightage (%)	No. of Stations
Acute Red Eye (Conjunctivitis, Keratitis, Uveitis)	3 × 3	20	1
Acute Angle-Closure Glaucoma	3 × 2	15	1
Corneal Ulcer & Hyphema	3 × 2	15	1
Retinal Vascular Occlusions (CRAO/CRVO)	3 × 3	20	1
Retinal Detachment & Vitreous Hemorrhage	3 × 2	15	1
Optic Neuritis & RAPD	2 × 3	15	1
Total		**100**	**6**

Week 3 Gradual Loss of Vision Time 10:30 – 02:00 PM

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude

Day 9	Young student with progressive blurred distance vision	Myopia, hypermetropia, astigmatism, presbyopia; amblyopia; refractive vs pathological differentiation; compliance issues	Steps 1–4: Optics & visual physiology; Steps 7–9: Clinical reasoning; Step 10: Refraction integration	Ophthalmology + Optometry	VA recording (distance & near); pinhole test; basic refraction screening; amblyopia identification	Counseling for spectacle adherence; amblyopia compliance sensitivity
Day 10	Elderly patient with progressive painless vision loss	Cataract types; lens-induced glaucoma; congenital glaucoma red flags; IOP awareness; surgical indications	Level 9–10 (Anterior segment integration & procedural reasoning)	Ophthalmology + Pediatric Ophthalmology	Slit-lamp lens assessment; digital tonometry; direct ophthalmoscopy; surgical counseling basics	Empathy in elderly care; reassurance regarding surgery
Day 11	Middle-aged patient with insidious peripheral vision loss	POAG; chronic angle-closure glaucoma; optic neuropathies; papilledema differentiation; visual field interpretation	Level 10–11 (Ophthalmology + Medicine integration)	Ophthalmology + Neurology	Confrontation visual fields; optic disc cupping identification; interpretation of basic field defects	Emphasis on long-term follow-up; chronic disease responsibility
Day 12	Diabetic patient with gradual visual decline	Diabetic & hypertensive retinopathy; macular edema; AMD; RP; myopic degeneration; screening algorithms	Level 11 (Transdisciplinary reasoning)	Ophthalmology + Medicine + Endocrinology	Dilated fundoscopy; lesion identification (microaneurysms, exudates, NV); algorithm formulation	Preventive counseling; lifestyle modification advocacy

Skill-Based Clerkship Learning Outcomes

Specialty	Skill-Based Clerkship Learning Outcomes (LOs)
Ophthalmology (Primary Discipline)	Take focused history of gradual painless visual decline
	Measure and document distance & near visual acuity

	Perform pinhole test and differentiate refractive vs pathological causes
	Perform confrontation visual fields
	Identify optic disc cupping and papilledema
	Perform basic dilated fundoscopy
	Differentiate lenticular, retinal, optic nerve, and refractive causes
	Formulate structured differential diagnosis for gradual vision loss
	Counsel regarding chronic disease monitoring and follow-up
Medicine / Endocrinology	Correlate diabetic & hypertensive retinopathy with systemic control
	Justify screening intervals for high-risk patients
Neurology	Differentiate glaucomatous cupping from optic neuropathy
	Recognize papilledema as neurological emergency
Optometry	Correlate refractive findings with VA and pinhole improvement
	Demonstrate basic refraction principles during discussion
Radiology	Identify indications for OCT and visual field testing
	Correlate imaging findings with clinical suspicion

WEEK 4 **Ocular Aesthetics** **Time 10:30 – 02:00 PM**

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
Day 13	Young adult with drooping eyelid affecting vision	Congenital vs acquired ptosis; levator function assessment; ectropion vs entropion differentiation; exposure complications	Steps 1–4: Applied anatomy of eyelid; Steps 7–9: Clinical reasoning; Step 10: Functional-aesthetic integration	Ophthalmology + Plastic Surgery	Levator function measurement; eyelid excursion assessment; lid margin examination	Sensitivity toward cosmetic concerns; respectful communication
Day 14	Elderly patient with enlarging eyelid lesion	Chalazion; papilloma; BCC; SCC; melanoma; red flag signs; biopsy & referral principles	Level 9–11 (Clinical reasoning + oncologic awareness)	Ophthalmology + Pathology + Oncology	Lid mass examination; identifying suspicious features; referral planning	Early malignancy suspicion; ethical counseling
Day 15	Trans-Disciplinary Clinical Connect Session Theme: Gradual Vision Loss with Ocular Structural Abnormalities					
Day 16	End Module Assessment					

Skill-Based Clerkship Learning Outcomes

Specialty	Skill-Based Clerkship Learning Outcomes (LOs)
Ophthalmology (Primary Discipline)	Perform focused history for lid drooping, lid malposition, masses, and proptosis
	Assess levator function and eyelid excursion
	Differentiate ectropion and entropion clinically
	Examine lid lesions and identify suspicious malignant features
	Perform basic ocular motility examination

	Differentiate axial vs non-axial proptosis
	Formulate structured differential for orbital pathology
	Counsel patients regarding functional vs cosmetic indications for surgery
Pathology / Oncology	Correlate clinical features of lid tumors with likely histopathology
	Justify biopsy and referral indications
Endocrinology	Correlate thyroid dysfunction with orbital manifestations
	Explain systemic control in thyroid eye disease
Radiology	Identify indications for CT orbit in proptosis and trauma
	Correlate imaging findings with clinical suspicion
Maxillofacial Surgery / Trauma	Recognize orbital floor fracture features
	Understand principles of multidisciplinary trauma management

Theme: Gradual Vision Loss
Clinical Scenario (Problem Trigger)
A 58-year-old man presents to the eye clinic with gradual painless diminution of vision in both eyes for 2 years.
He reports difficulty reading small print and blurred distance vision, which has progressively worsened. Recently he noticed halos around lights at night and occasional headaches.
He is a known diabetic and hypertensive for 10 years with irregular follow-up.
On examination:

- Visual acuity: 6/60 in right eye, 6/36 in left eye
- Pinhole improves vision partially
- Lens shows nuclear sclerosis

- Intraocular pressure: 24 mmHg
- Fundus examination reveals:
    - Optic disc cupping
    - Microaneurysms and hard exudates at macula
- Eyelid examination shows mild ptosis in left eye

Further evaluation is required to determine the combined causes of visual loss and ocular abnormalities.

Student Task (Problem-Based Trigger)

Students are asked to:

1. Identify possible causes of gradual painless vision loss in this patient.
2. Differentiate refractive errors, cataract, glaucoma, and retinal diseases as causes of progressive vision loss.
3. Explain the pathophysiology of cataract, glaucoma, and diabetic retinopathy.
4. Interpret clinical findings such as optic disc cupping, retinal microaneurysms, and visual acuity changes.
5. Perform visual acuity testing, pinhole test, confrontation visual field testing, and basic fundoscopy interpretation.
6. Develop a comprehensive management plan, including medical, surgical, and preventive strategies.
7. Counsel the patient regarding spectacle use, surgical options, systemic disease control, and follow-up.

What Makes This a Trans-Disciplinary Clinical Connect Session

- Teaching revolves around a single patient problem: gradual vision loss.
- Knowledge from multiple domains is integrated into clinical reasoning.
- Students combine history, examination, imaging interpretation, and systemic disease links.
- Decision-making reflects real outpatient ophthalmology practice.

Students Integrate

- Clinical reasoning in gradual painless vision loss
- Visual acuity assessment and refraction screening
- Fundoscopy interpretation
- Recognition of optic nerve and retinal pathology
- Understanding ocular manifestations of systemic diseases
- Patient counseling and preventive ophthalmology

Trans-Disciplinary Integration

Discipline	Nature of Contribution	Approximate Integration Weight
Ophthalmology	Diagnosis of refractive error, cataract, glaucoma, retinal disease, lid disorders	45%
Radiology	Interpretation of orbital imaging in proptosis and trauma	15%
General Medicine	Diabetes and hypertension management affecting retina	20%
Endocrinology	Thyroid eye disease pathophysiology and management	10%
Oncology / Pathology	Identification of malignant eyelid lesions	10%

Week 3 & 4
End Module Assessment:

- OSCE: 6 stations × 5 = 30 marks
- OSVE: 2 stations × 10 = 20 marks

Topic	I × F	Weightage (%)	No. of Stations
Refractive Errors & Amblyopia	3 × 3	20	1
Cataract (including lens-induced glaucoma)	3 × 3	20	1
Chronic Glaucoma & Optic Neuropathy	3 × 3	20	1
Diabetic/Hypertensive Retinopathy & Macular Disorders	3 × 2	15	1
Ptosis & Lid Malpositions	2 × 2	10	1
Orbital Disorders (Proptosis, Blow-out Fracture, Lid Tumors)	2 × 3	15	1
Total		**100**	**6**

WEEK 5 Watery Eye

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
Day 17	Adult patient with persistent watering and irritation	Reflex tearing vs lacrimal obstruction; dry eye paradox; blepharitis; conjunctivitis differentiation; tear film dynamics	Steps 1–4: Applied anatomy & tear physiology; Steps 7–9: Clinical reasoning; Step 10: Surface disorder integration	Ophthalmology + Microbiology	Focused lacrimal history; tear meniscus assessment; fluorescein staining; regurgitation test; differentiation of infective conjunctivitis	Patient-centered counseling; hygiene awareness

Day 18	Elderly patient with chronic tearing and medial canthal swelling	Chronic dacryocystitis; ectropion; entropion; punctal malposition; surgical indications	Level 9–11 (Clinical reasoning + procedural awareness)	Ophthalmology + Oculoplastic Surgery	Lid evaluation; punctal examination; lid eversion; obstruction recognition; surgical referral planning	Early referral responsibility; procedural consent awareness
Day 19	Infant with watering since birth	Congenital NLDO; ROPLAS; acute dacryocystitis recognition; syringing principles	Level 9–10 (Pediatric + infection integration)	Ophthalmology + Pediatrics	Lacrimal sac palpation (ROPLAS); infection recognition; observation of syringing procedure	Parental reassurance; infection risk sensitivity
Day 20	Integrated watery eye case	Algorithm formation for tearing; differentiating hypersecretion vs obstruction; complication recognition	Level 11 (Transdisciplinary reasoning)	Ophthalmology + Pediatrics + Oculoplastics	Structured case presentation; lacrimal pathway reasoning; management planning	Ethical communication; long-term follow-up counseling

Skill-Based Clerkship Learning Outcomes

Specialty	Skill-Based Clerkship Learning Outcomes (LOs)
Ophthalmology (Primary Discipline)	Take focused lacrimal history (duration, discharge, infection, trauma)
	Assess tear meniscus height
	Perform fluorescein staining for tear film assessment
	Perform and interpret regurgitation test (ROPLAS concept)
	Differentiate reflex tearing from lacrimal obstruction
	Identify lid malposition contributing to epiphora

	Recognize acute dacryocystitis and initiate referral
	Formulate structured differential diagnosis for watery eye
	Counsel regarding lid hygiene and compliance
Pediatrics	Correlate congenital NLDO with developmental anatomy
	Counsel parents regarding massage and infection signs
Oculoplastic Surgery	Identify indications for DCR and lid correction procedures
	Understand principles of minor lacrimal procedures
Microbiology	Correlate discharge characteristics with infective causes
	Justify empirical therapy principles during discussion

WEEK 6 White Pupil

Day	Clinical Case	Core Teaching Points	Harden Integration Level	Multidisciplinary (Level 11)	Skills	Attitude
Day 21	Infant with absent red reflex noticed by parents	Congenital cataract; endophthalmitis; media opacity differentiation; urgency of amblyopia prevention	Steps 1–4: Applied embryology & pathology; Steps 7–9: Clinical reasoning; Step 10: Pediatric anterior segment integration	Ophthalmology + Pediatrics	Red reflex assessment; pediatric history taking; media opacity recognition; urgent referral planning	Sensitivity in parental counseling; urgency awareness
Day 22	Child presenting with leukocoria in photographs	Retinoblastoma recognition; staging principles; imaging planning (B-scan, MRI); life-threatening implications	Level 10–11 (Ophthalmology + Oncology integration)	Ophthalmology + Oncology + Radiology	Fundus photo interpretation; staging discussion; imaging justification	Ethical communication; empathetic parental counseling

Day 23	Trans-Disciplinary Clinical Connect Session Theme: Child with Tearing and White Reflex
Day 24	End Module Assessment

Skill-Based Clerkship Learning Outcomes

Specialty	Skill-Based Clerkship Learning Outcomes (LOs)
Ophthalmology (Primary Discipline)	Assess red reflex accurately in pediatric patients
	Identify media opacity clinically
	Differentiate lens, vitreous, and retinal causes of leukocoria
	Formulate urgent management plan for vision- or life-threatening causes
	Present structured pediatric ocular case
Pediatrics / Neonatology	Identify ROP risk factors and screening timelines
	Counsel parents regarding early detection importance
Oncology	Recognize retinoblastoma as life-threatening emergency
	Understand staging principles and referral pathways
Radiology	Justify imaging selection (B-scan, MRI orbit/brain)
	Correlate imaging findings with clinical suspicion
Pathology	Correlate congenital cataract and infective etiologies with pathological mechanisms

Theme: White pupillary Reflex

Clinical Scenario (Problem Trigger)
A 6-month-old infant is brought by his mother to the eye clinic with persistent watering from the right eye since birth.
The mother also reports that in some photographs taken with a mobile phone, the right pupil appears white instead of red. Recently she noticed mild swelling near the inner corner of the eye with occasional discharge.
On examination:

- Persistent epiphora with increased tear meniscus
- Regurgitation on pressure over lacrimal sac (ROPLAS) positive
- Mild conjunctival congestion
- Absent red reflex in right eye
- Fundus view not clear

Further evaluation is required to rule out serious ocular disease and prevent permanent visual loss.
Student Task (Problem-Based Trigger)
Students are asked to:

1. Identify possible causes of persistent tearing in infants.
2. Differentiate nasolacrimal duct obstruction from conjunctivitis and dry eye conditions.
3. Explain the significance of leukocoria (white reflex) in infants.
4. Demonstrate interpretation of tear meniscus, ROPLAS test, and red reflex examination.
5. List dangerous causes of leukocoria such as retinoblastoma and congenital cataract.
6. Outline initial management of congenital NLDO and acute dacryocystitis.
7. Discuss screening strategies for retinal diseases such as ROP and retinal detachment.
8. Counsel parents regarding urgency of referral and long-term follow-up.

What Makes This a Trans-Disciplinary Clinical Connect Session

- Learning is organized around one patient problem (tearing + leukocoria).

- Multiple ophthalmic subspecialties are integrated into one clinical reasoning process.
- Students apply history taking, examination skills, and emergency recognition.
- The session mirrors real pediatric ophthalmology decision-making.

Students Integrate

- Evaluation of watery eye and lacrimal drainage disorders
- Recognition of ocular infections and eyelid malpositions
- Identification of leukocoria and pediatric ocular tumors
- Interpretation of fundus findings and red reflex abnormalities
- Counseling parents regarding urgent ocular and nasal conditions

Trans-Disciplinary Integration

Discipline	Nature of Contribution	Approximate Integration Weight
Ophthalmology	Diagnosis of lacrimal disorders, leukocoria, retinal disease	45%
Pediatrics	Neonatal history, prematurity risk factors, systemic associations	20%
Radiology	Imaging for retinoblastoma and orbital pathology (B-scan, MRI)	15%
Oncology	Management principles of retinoblastoma	10%
Otorhinolaryngology	Nasal anatomy	10%

Week 5 & 6

End module Assessment:

- OSCE: 6 stations × 5 = 30 marks
- OSVE: 2 stations × 10 = 20 marks

Topic	I × F	Weightage (%)	No. of Stations
Lacrimal Disorders (Chronic Dacryocystitis, NLDO, Acute Dacryocystitis)	3 × 3	20	1
Dry Eye & Surface Causes of Epiphora	2 × 3	15	1
Congenital Cataract & Media Opacities	3 × 2	15	1
Retinoblastoma	3 × 3	20	1
ROP	3 × 2	15	1
Retinal Causes of Leukocoria (RD, Coats Disease)	2 × 2	15	1
Total		**100**	**6**

Teaching schedule

RAWALPINDI TEACHING HOSPITAL RAWALPINDI

Time 10:30 – 02:00 PM

WEEK 1: Red Eye

Day	Topic	Specific Learning Objectives	Station	MOT/MIT	Level of Cognition C1 C2 C3	Psychomotor	Affective	MOA
Monday	Blepharitis; Ophthalmia neonatorum; Infective conjunctivitis; Allergic conjunctivitis; Degenerative conjunctival disorders	Focused history; differentiate causes; recognize conjunctival signs, perform regurgitation test	OPD	Clinical exposure SGD Role modeling Recorded videos Pre-reading OMP	C3	P2	A3	OSVE; Ci-OSCE; Case discussion; Logbook
Tuesday	Dry eye syndrome; Keratitis/Corneal ulcer, Chemical injury; Corneal foreign body; Subconjunctival hemorrhage	Corneal exam; staining patterns; viral recognition; risk factors, Trauma recognition; fluorescein use	Eye OT/OPD	Bedside teaching; Simulation; Videos	C2	P2	A2	OSVE; Mini-CEX; Faculty feedback
Wednesday	Acute anterior uveitis; Episcleritis; Scleritis; Acute	Recognize emergencies; pupil/AC/IOP assessment;	OPD/ER	Bedside teaching; Simulation	C2	P/P2	A2	OSCE; Case presentation; Faculty feedback

	angle-closure glaucoma	initial management						
Thursday	Corneal foreign body, swellings Subconjunctival hemorrhage	fluorescein use; FB removal steps; counselling	Eye OT/ OPD	Foreign body removal, incision and curratage			C3	P2

RAWALPINDI TEACHING HOSPITAL RAWALPINDI

Time 10:30 – 02:00 PM

WEEK 2: Sudden Loss of Vision

Days	Topics	Specific Learning Objectives	Station	MOT/MIT	Level of Cognition C1/C2/C3	Psychomotor (P)	Affective (A)	MOA
Monday	Corneal ulcer Acute anterior uveitis Complications of uveitis Acute angle-closure glaucoma Hyphema	• Take focused history of painful sudden vision loss• Record visual acuity • Perform torch examination • Suggest emergency management	Eye OPD / Emergency	Bedside teaching Clinical exposure SGD CBD Pre-reading	C2 / C3	P2	A3	OSCE OSVE Mini CEX Logbook review

Tuesday	Retinal vascular occlusions (CRAO, CRVO) Retinal detachment Vitreous hemorrhage Optic neuritis	• Take history of painless sudden vision loss • Identify RAPD • Perform fundoscopy • Outline emergency management	Eye wad, OT	Bedside teaching Fundus photo discussion laser photocoagulation, peripheral iridectomy	C3	P2	A3	Ci-OSCE OSVE Mini CEX MCQs
Wednesday	Trans-Disciplinary Clinical Connect Session							
Thursday	End Module Assessment							

BENAZIR BHUTTO HOSPITAL RAWALPINDI

WEEK 3 Gradual Loss of Vision

Time 10:30 – 02:00 PM

Days	Topics	Specific Learning Objectives	Station	MOT/MIT	Level of Cognition (C1/C2/C3)	Psychomotor (P)	Affective (A)	MOA
Monday	Refractive errors: Myopia, Hypermetropia, Astigmatism, Presbyopia Amblyopia	• Take focused history of gradual painless vision loss • Measure and record distance & near visual acuity • Perform pinhole test	Eye OPD / Refraction Room	Bedside teaching Refraction demo SGD Pre-reading	C2	P2	A3	OSCE OSVE Mini-CEX Logbook review

		• Demonstrate basic refraction screening • Differentiate refractive from pathological causes • Counsel regarding spectacle use & amblyopia compliance						
Tuesday	Cataract Secondary Glaucoma (Lens-induced) Congenital Glaucoma	• Elicit symptoms of progressive lenticular opacity, Perform direct ophthalmoscopy.	Eye Ward, OT	Live surgery Phacoemulcification, ECCE	C2 / C3	P2	A3	OSCE Case viva Mini-CEX
Wednesday	Primary Open-Angle Glaucoma Chronic Angle-Closure Glaucoma Chronic Optic Neuropathies Papilledema	• Take history of insidious visual field loss Perform confrontation fields • Identify optic disc cupping • Interpret basic visual field defects • Recognize papilledema as red-flag • Emphasize long-term follow-up	Glaucoma Clinic / OPD	Bedside teaching Perimetry demo Fundus photo discussion SGD	C3	P3	A3	OSCE OSVE Mini-CEX MCQs
Thursday	Diabetic Retinopathy Hypertensive Retinopathy Macular Edema Retinal Dystrophies &	• Take systemic history (DM, HTN) • Perform dilated fundoscopy • Identify microaneurysms, exudates,	Retina Clinic / OPD	Fundus photo discussion Interdepartmental session PBL Multidisciplinary discussion	C3	P2	A3	Ci-OSCE Case-based viva MCQs Reflective portfolio

	Degenerations (RP, AMD, Myopic Degeneration) Integrated Approach	neovascularization • Differentiate macular vs peripheral pathology • Outline screening & prevention strategies • Formulate algorithm for gradual vision loss						

BENAZIR BHUTTO HOSPITAL RAWALPINDI

WEEK 4 OCULAR AESTHETICS

Time 10:30 – 02:00 PM

Days	Topics	Specific Learning Objectives	Station	MOT/MIT	Level of Cognition C1/C2/C3	Psychomotor (P)	Affective (A)	MOA
Monday	Ptosis & Eyelid Malpositions (Ectropion / Entropion)	• Identify congenital vs acquired ptosis• Assess levator function and eyelid excursion• Differentiate lid malposition types	Eye OPD / ward	Bedside teaching, Lid exam demo, SGD	C2	P2	A3	OSCE, Case-based viva, Mini-CEX
Tuesday	Non-neoplastic &	• Recognize common benign	Eye OPD / OT	Case discussion,	C2 / C3	P2	A3	OSCE, Case-based

	Neoplastic Lid Masses, deviation of eyes squint	lid lesions (chalazion, melanoma)• Plan referral & management strategies, Orthoptic assessment		SGD, squint surgery demonstration				viva, Mini-CEX
Wednesday	Trans-Disciplinary Clinical Connect Session							
Thursday	End Module Assessment							

HOLY FAMILY HOSPITAL RAWALPINDI

WEEK 5 **Watery Eyes** **Time 10:30 – 02:00 PM**

Day	Topic	Specific Learning Objectives	Station	MOT/MIT	Level of Cognition **C1 C2 C3**	Psychomotor	Affective (A)	MOA
Monday	Watery eye; Dry eye syndrome, Blepharitis; conjunctivitis;	History for tearing; tear meniscus; staining perform regurgitation test, differentiate conjunctivitis; counselling	OPD	Bedside teaching; Clinical exposure	C3	P2	A3	OSCE OSVE Mini CEX Logbook review
Tuesday	Ectropion; Entropion	Lid evaluation; obstruction signs; lid	OPD/Eye OT	Bedside teaching; Minor		P2	A3	Ci-OSCE OSVE

		eversion; surgical indications		procedure demonstration	C3			Mini CEX MCQs
Wednesday	Congenital NLDO; Acute dacryocystitis	Lacrimal history; ROPLAS; recognize infection; syringing demo	OPD/Eye OT	Procedure demo; Simulation	C2	P/P2	A3	OSCE Mini CEX Faculty feedback Logbook evidence
Thursday	Chronic dacryocystitis	Probing and syringing demonstration, dacryocystorhinostomy	OT	Live surgery demonstration			P2	logbook

HOLY FAMILY HOSPITAL RAWALPINDI

WEEK 6 White Pupil Time 10:30 – 02:00 PM

Days	Topics	Specific Learning Objectives	Station	MOT/MIT	Level of Cognition C1/C2/C3	Psychomotor (P)	Affective (A)	MOA
Monday	Congenital cataract Endophthalmitis	• Assess red reflex • Identify media opacity • Take pediatric history • Plan urgent management	Eye OPD / Ward	Bedside teaching Clinical exposure SGD CBD	C2 / C3	P2	A3	OSCE Mini CEX Logbook review
Tuesday	Retinoblastoma	• Recognize leukocoria as emergency • Understand	Eye Ward / Oncology	Bedside teaching Fundus photo discussion CBD	C3	P2	A3	OSCE OSVE MCQs

		staging • Plan imaging (B-scan, MRI) • Counsel parents		Interdepartmental session				
Wednesday	Trans-Disciplinary Clinical Connect Session							
Thursday	End Module Assessment							

Section – VII Assessment

Introduction

Assessment refers to the processes employed to make judgments about the achievements of students over a course of study. *Hardlen W,2005*

Lack of assessment and feedback, based on observation of performance in the workplace, is one of the most serious deficiencies in current medical education practice.
John Norcini and Vanessa Burch 2007

Assessing learners is a critical and challenging task for tutors. While students might manage to overcome subpar teaching, poor or inaccurate assessment of their abilities can have lasting impacts on their personal and professional development. Assessment is vital not only for students but also for tutors, course organizers, and accrediting bodies (such as affiliated universities or PMCs). Assessment data plays a crucial role in determining if learning outcomes have been met, thereby facilitating students' progression to the next course level.

Integrated assessment requires a comprehensive analysis and understanding of the process. To establish a strong foundation, key questions need to be addressed:

4. **Why assess students?**

- The purpose of assessment must be well-defined. It should include assessment for learning (as a strategy to enhance learning) and assessment of learning (summative assessment) for progression, remediation, or promotion purposes.

5. **Who should assess students?**
   - The assessment should involve multiple stakeholders, including program advisors/organizers, accrediting bodies, affiliated universities, enrolled colleges, tutors, other healthcare professionals, and the students themselves, as well as standardized patients. The PMC will supervise the assessment process, which medical universities will carry out in their affiliated colleges.
6. **What should be assessed?**
   - All relevant competencies must be assessed. The objectives of the integrated curriculum should align with the content being assessed, considering the teaching context. The chosen assessment materials should reflect valued competencies such as higher-order thinking, clinical skills, behavior/attitudes, and professionalism, among other essential requirements.

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.

Table of Specifications

Preamble:

The Table of Specifications (TOS)(TOS) is a detailed framework that describes how assessment items are distributed in terms of content in examination. The purpose of the TOS is to ensure that educational objectives, instructional content, and evaluation criteria are all in line with one other. This allows us to guarantee the validity, integrity, and reliability of assessments while supporting our students' overall growth. This paper describes structured mode of assessment by outlining the cognitive levels, domains, and weightings of assessment items.

Statutes:

8. **Schedule:** The Fourth Professional MBBS shall be held at the end of fourth year.

9. **Subjects:** Every candidate shall be required to study the following subjects in each block

g. **Core subjects-** ENT, Eye, Pathology, Pharmacology & Community Medicine
h. **Clinical Examining Subjects:** Surgery & Allied (Neurosurgery, Orthopaedics, Urology) Medicine & Allied(Nephrology, Dermatology, Psychiatry, Family Medicine)
i. **Vertically integrated Subjects-** Medicine, Surgery, Gynae & OBS, Pediatrics
j. **Horizontally Integrated Subjects-** Inter departmental integration with 4th year subjects
k. **Spirally Integrated subjects-** Research, family medicine
l. **General Cluster ALPHA** (Artificial Intelligence, Leadership, Professionalism, Humanities and Arts).

10. **Assessments:** There will be six papers in fourth professional examination

Fourth Professional Examination- 1600 Marks

vii. Block 1 Assessment (ENT & Community Medicine)- : 300 Marks (Professional Exam:180 Marks+ CIA: 120 Marks)
viii. Block 2 Assessment (EYE & Community Medicine) - 300 Marks (Professional Exam:180 Marks + CIA: 120 Marks)
ix. Block 3 Assessment(Pharmacology, Pathology&Community Medicine) -300 Marks (Professional Exam:180 Marks+ CIA:120 Marks)
x. Block 4 Assessment(Pharmacology, Pathology &Community Medicine) -300 Marks (Professional Exam:180 Marks +CIA:120 Marks)
xi. Block 5 Assessment (Medicine & Allied) -200 Marks(Professional Exam : 120 Marks+ CIA:80 Marks)
xii. Block 6 Assessment (Surgery & Allied) -200 Marks(Professional Exam : 120 Marks+ CIA:80 Marks)

11. **Continuous Internal Assessment (CIA):** Continuous Internal Assessment means the assessment based on continuous internal assessment (CIA) tests given to the students during an academic period. Each block assessment will have a CIA of 40%.

12. **Block Assessments**: Each Block assessment will comprise of two Domains, “Theory (Cognitive)” and “Practical (Psychomotor)”.

5.1. Domains

c. Cognitive domain: Theory/Written assessment
d. Psychomotor domain: Practical/ Performance assessment

5.2. Instructional strategies for assessment: Separate Instructional strategies will be used for cognitive and psychomotor domain, which includes the following

5.2.1. Cognitive Domain (Theory/written)

5.2.1.3. MCQs:

It will be Single best type of Multiple-Choice Questions (MCQs) with one stem & with five options. Integration ratio in multiple choice questions will be 70% core subject knowledge, 10% will be Horizontally integrated subjects, 10% Vertical &10% spiral Integration. Each MCQ will carry One Mark and Time allowed per MCQ will be 1 minute.

5.2.1.4. Short Essay Type Questions (SEQs):

b. **SEQs:** Short essay questions serve as an effective tool for assessing students' comprehension, critical thinking, and formulate them in their own words. Each SEQ will carry 5 Marks and time allowed per SEQ will be 10 minutes.

5.2.2. Practical (Psychomotor) Component:

12.1.2.1. Objective Structured Practical Examination (OSPE):

It will consist of Objective Structured Practical Examination (OSPE) , time required for each station will be 5 min.

i. **Laboratory OSPE (Lab OSPE):** This section will comprise of practical components of core subject areas.
ii. **Integrated OSPE (i-OSPE):** This section will comprise of horizontal and vertical integration.
iii. **Clinically integrated OSPE (Ci OSPE):** This section will comprise of stations, one from research and one from ALPHA
iv. **Objective Structured Clinical Examination (OSCE):** This section will comprise of stations to evaluate the student's ability to apply theoretical knowledge in a practical, clinical setting.

v. **Objectively Structured Viva Examinations (OSVE):** where student will be examined by the internal & external examiner using a structured making rubric for marking questions.

13. **Examination Eligibility:**

Eligibility to appear in professional will be as per RMU Assessment Policy approved by the Academic Council and Syndicate.

14. **Passing Criteria:**

A student will be declared successful in a exam as per passing criteria defined in RMU Assessment Policy approved by the Academic Council and Syndicate.

8.**Supplementary Examination Criteria:**

Will be according to RMU Assessment Policy approved by the Academic Council and Syndicate.

Table of Specifications (TOS)of Annual MBBS third professional Examinations 2026, Batch 50

- Total First Professional Marks: 1600
- Annual Marks (60%) = 960 Marks
- Continuous Internal Assessment (40%) =640 Marks
  Components of CIA:
  A: CIA calculated from on campus assessments including LMS (on campus) =30%=480 Marks
  B: CIA calculated from Online LMS Assessments =10%=160 Mark

TABLE 1: ORIGINAL DISTRIBUTION OF MARKS IN ALL BLOCKS (SUBJECT WISE)

Subjects	Marks in professional in respective Blocks	Theory marks in respective blocks	OSPE/OSVE marks in respective blocks	Internal Assessment		Total Marks
				Internal Assessment in respective blocks	LMS	
Community Medicine	180	90	90	90	30	300
Pathology	180	105	105	90	30	300
Pharmacology	120	60	60	60	20	200
ENT	120	60	60	60	20	200
EYE	120	60	60	60	20	200
Medicine & Alliied	120	60	60	60	20	200
Surgery & Allied	120	60	60	60	20	200
Grand Total						**1600**

TABLE 2: CIA CALCULATED FROM ON CAMPUS AND OFF CAMPUS ASSESSMENTS

Blocks	Subjects	Total marks	Block & Modules Assessment		LMS Assessment		Total marks
			Theory	Practical	Theory	Practical	
Block 1 120 Marks	ENT	80 marks	30 marks	30 marks	10	10	120 Marks Theory =60 Marks Practical=60 Marks
	Community Medicine	40 marks	15 marks	15 marks	5	5	
Block 2	EYE	80 marks	30 marks	30 marks	10	10	

120 Marks	Community Medicine	40 marks	15 marks	15 marks	5	5	120 Marks Theory =60 Marks Practical=60 Marks
Block 3 120 Marks	Pathology	60 marks	25 marks	25 marks	5	5	120 Marks Theory =60 Marks Practical=60 Marks
	Pharmacology	40 marks	15 marks	15 marks	5	5	
	Community Medicine	20 marks	7.5 marks	7.5 marks	2.5	2.5	
Block 4 120 Marks	Pathology	60 marks	25 marks	25 marks	5	5	120 Marks Theory =60 Marks Practical=60 Mark
	Pharmacology	40 marks	15 marks	15 marks	5	5	
	Community Medicine	20 marks	7.5 marks	7.5 marks	2.5	2.5	
Block 5	Medicine & Allied	80 marks	30 marks	30 marks	10	10	120 Marks Theory =60 Marks Practical=60 Mark
Block 6	Surgery & Allied	80 marks	30 marks	30 marks	10	10	120 Marks Theory =60 Marks Practical=60 Mark

Table of Specifications (TOS)of Annual MBBS fourth professional Examinations 2026, Batch 50

A: Subject wise distribution of Marks for 4th year MBBS (Batch 50)

Block	Subjects	Theory	Practical	Total marks
Block 1	ENT	60 marks	60 marks	120 marks
	Community Medicine	30 marks	30 marks	60 marks
	Total	**90 marks**	**90 marks**	**180 marks**
Block 2	**Subjects**	**Theory**	**Practical**	**Total marks**
	EYE	60 marks	60 marks	120 marks
	Community Medicine	30 marks	30 marks	60 marks
	Total	**90 marks**	**90 marks**	**180 marks**

Block 3	**Subjects**	**Theory**	**Practical**	**Total marks**
	Pathology	50 marks	50 marks	100 marks
	Pharmacology	25 marks	25 marks	50 marks
	Community Medicine	15 marks	15 marks	30 marks
	Total	**90 marks**	**90 marks**	**180 marks**
Block 4	**Subjects**	**Theory**	**Practical**	**Total marks**
	Pathology	40 marks	40 marks	80 marks
	Pharmacology	35 marks	35 marks	70 marks
	Community Medicine	15 marks	15 marks	30 marks
	Total	**90 marks**	**90 marks**	**180marks**
Block 5	**Subjects**	**Theory**	**Practical**	**Total marks**
	Dermatology	15 Marks	15 Marks	30 Marks
	Nephrology	15 Marks	15 Marks	30 Marks
	Psychiatry	15 Marks	15 Marks	30 Marks
	Family Meidicine	15 Marks	15 Marks	30 Marks
Block 6	**Total**	**60 Marks**	**60 Marks**	**120 Marks**
	Subjects	**Theory**	**Practical**	**Total marks**
	Urology	20 Marks	20 Marks	40 Marks
	Orthopedic	20 Marks	20 Marks	40 Marks
	Neurosurgey	20 Marks	20 Marks	40 Marks
	Total	**60 Marks**	**60 Marks**	**120 Marks**
GRAND TOTAL MARKS				**960 Marks**

C. Block-wise distribution of Marks of 4th Year MBBS

Subject	Theory			Practical			Total Marks
	Component	**No of Items**	**Marks**	**Component**	**No of Items**	**Marks**	
Block 1 (ENT & Community Medicine) Total marks with CIA =210+90= 300	Section I-MCQ Section II-SEQ	 45 45	45 45	iOSPE ciOSCE GEC OSVE	5 5 1 2	25 25 05 35	180
	Continuous Internal Assessment (40%)		60	Continuous Internal Assessment (40%)		60	120
	Total Marks		**150**	**Total Marks**		**150**	**300**
Block 2 Ophthalmology & Community Medicine) Total marks with CIA =210+90= 300	Section I-MCQ Section II-SEQ	 45 40	45 45	iOSPE ciOSPE Research OSVE	5 5 1 2	25 25 05 35	180
	Continuous Internal Assessment (40%)		60	Continuous Internal Assessment (40%)		60	90
	Total Marks		**150**	**Total Marks**		**150**	**300**
Block 3 (Endocrinology & Reproduction) Total marks with CIA =210+90= 300	Section I-MCQ Section II-SEQ	55 35	55 35	LabOSPE iOSPE ciOSPE Research OSVE	3 3 3 1 3	15 15 15 05 40	180
	Continuous Internal Assessment (40%)		60	Continuous Internal Assessment (40%)		60	120
	Total Marks		**150**	**Total Marks**		**150**	300

Subject	Theory			Practical			Total Marks
	Component	No of Items	Marks	Component	No of Items	Marks	
Block 4 (CNS & Psychiatry) Total marks with CIA =210+90= 300	Section I-MCQ Section II-SEQ	55 35	55 35	Lab OSPE iOSPE ciOSPE Research OSVE	3 3 3 1 3	15 15 15 05 40	180
	Continuous Internal Assessment (40%)		60	Continuous Internal Assessment (30%)		60	120
	Total Marks		**150**	**Total Marks**		**150**	**300**
Block 5 Medicine & Allied Total marks with CIA =120+80= 200	**Component** **MCQs**	**No. of Items**	**Marks**	**Practical** **Component**	**No of Items**	**Marks**	**Total Marks**
Psychiatry		15	15	**OSCE**	3	15	120
Nephrology		15	15		3	15	
Family Medicine		15	15		3	15	
Dermatology		15	15		**3**	15	
	Continuous Internal Assessment		40	Continuous Internal Assessment		40	80
	Total Marks		**100**	**Total Marks**		**100**	**200**
Block 6 Surgery & Allied Total marks with CIA =120+80= 200	**Component**	**No. of Items**	**Marks**	**Practical** **Component**	**No.of Items**	**Marks**	**Total Marks**
Urology	**MCQs**	20	20	**OSCE**	4	20	120
Neurosurgery		20	20		4	20	
Orthopedics		20	20		4	20	

	Continuous Internal Assessment	40	Continuous Internal Assessment	40	80
	Total Marks	**100**	**Total Marks**	**100**	**200**

Assessment Policy

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.

12. 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.

13. Purposes of assessment

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

14. Forms of assessments

Formative Assessment

A formative assessment refers to a low-stakes assessment that does not normally contribute towards a student's final grade. A formative assessment may include summarizing the mainpoints in a lecture or a weekly quiz to test comprehension of the reviewed content.

(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 performance may be taken as a continuous assessment.

Summative Assessment

A summative assessment is any method of evaluation performed at the end of a unit that allows a teacher to measure a student's understanding, typically against standardizedcriteria. Assessment of learning takes place at the end of modules/ blocks and clerkships and comprises of:

Written assessment (50%)	
Multiple Choice Questions (MCQs)	40% Will be as USMLE
formatExtended Match Questions (EMQ)	10%
Short answer questions (SAQs)	50%

a. Performance (Practical) assessment (50%)

Objective Structured Practical Examination (OSPE) Years I, II and III Objective Structured Clinical Examination (OSCE) Years IV - V Short cases will be included in OSCE

15. Assessment and their timings

- The module/ clerkship teams will be responsible for their assessment plan mentioning assessment strategies, timings, and other essentials (please refer to the individual plans).
- Students will be briefed about the pattern and scoring of the assessments before the examination.
- Professional examination will be taken by RMU.

16. Weekly LMS (learning management system) assessment of LGIS and SDL

- There will be weekly assessment of LGIS and SDL of whole week at end of week through LMS.

- The LMS result will be shared by module coordinator and DME through vice chancellor on weekly basis.

17. Eligibility to appear in End Block Assessment (EBA)

- This will be applicable to all the blocks of undergraduate program
- 80% attendance in each subject will be mandatory
- Student must pass in all LMS, mid module assessments to appear in EBA
- There will be no remedial classes for attendance compensation
- There will be no remedial of assessment after poor performance

18. Eligibility to appear in Pre-Annual Assessment (PAA)

- 80% attendance in each block is required to appear in PAA
- It is mandatory to appear in all EBA to appear in PAA
- Appraisal letter from head of departments will be needed to appear in pre-annual assessment.

19. Attendance policy

- 90% attendance in each block is required to appear in PAA
- There will be extra marks given as per rules.
- Attendance of the students will be shared by coordinator of module and DME through vice chancellor RMU on weekly basis.
- These marks will be counted in annual professional assessment.

20. Eligibility to appear in annual professional assessment

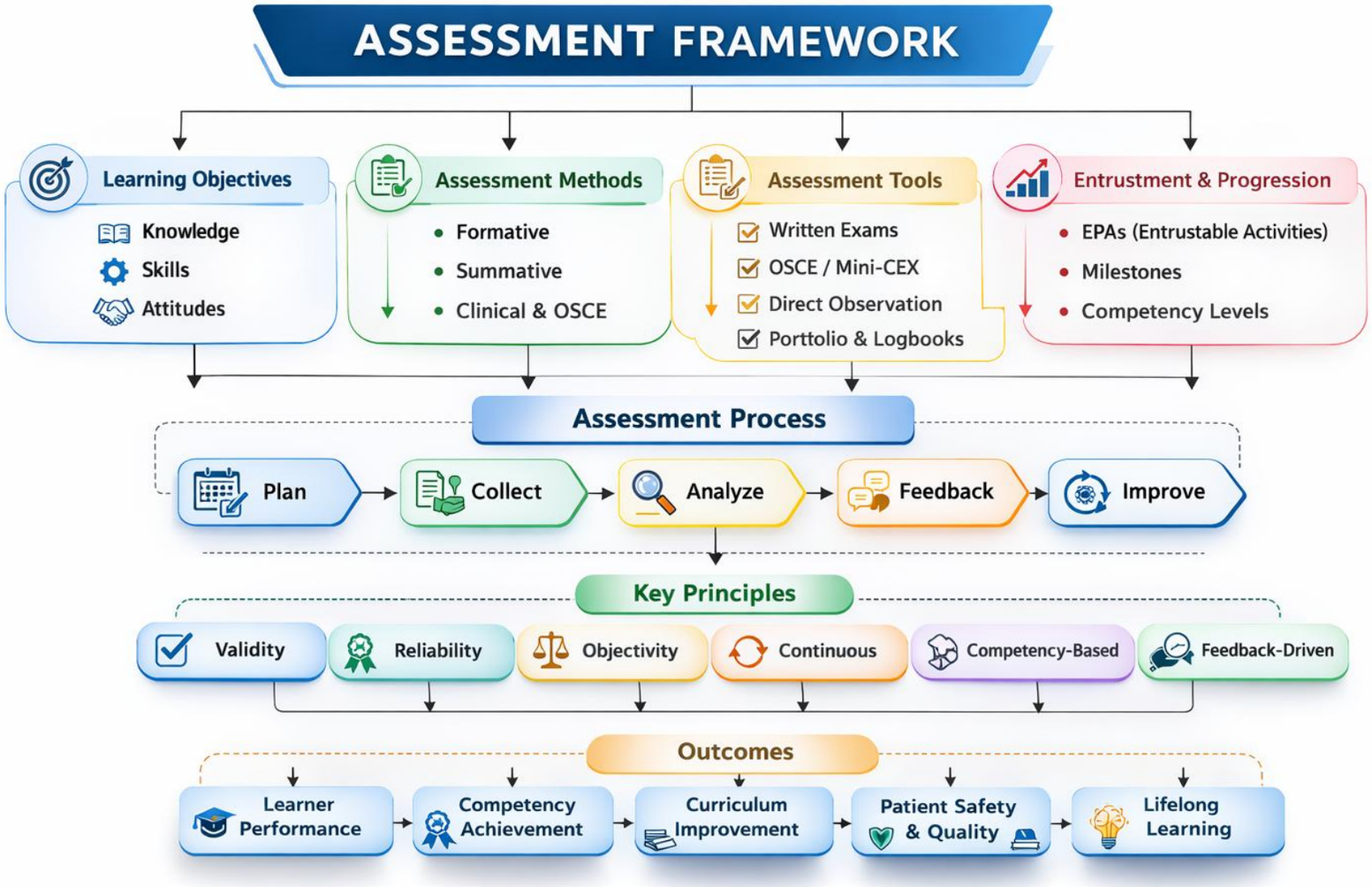
- Minimum 60% score in pre-annual assessment is required to appear in annual professional examination.
- Written and practical /OSPE/OSCE should be passed separately.

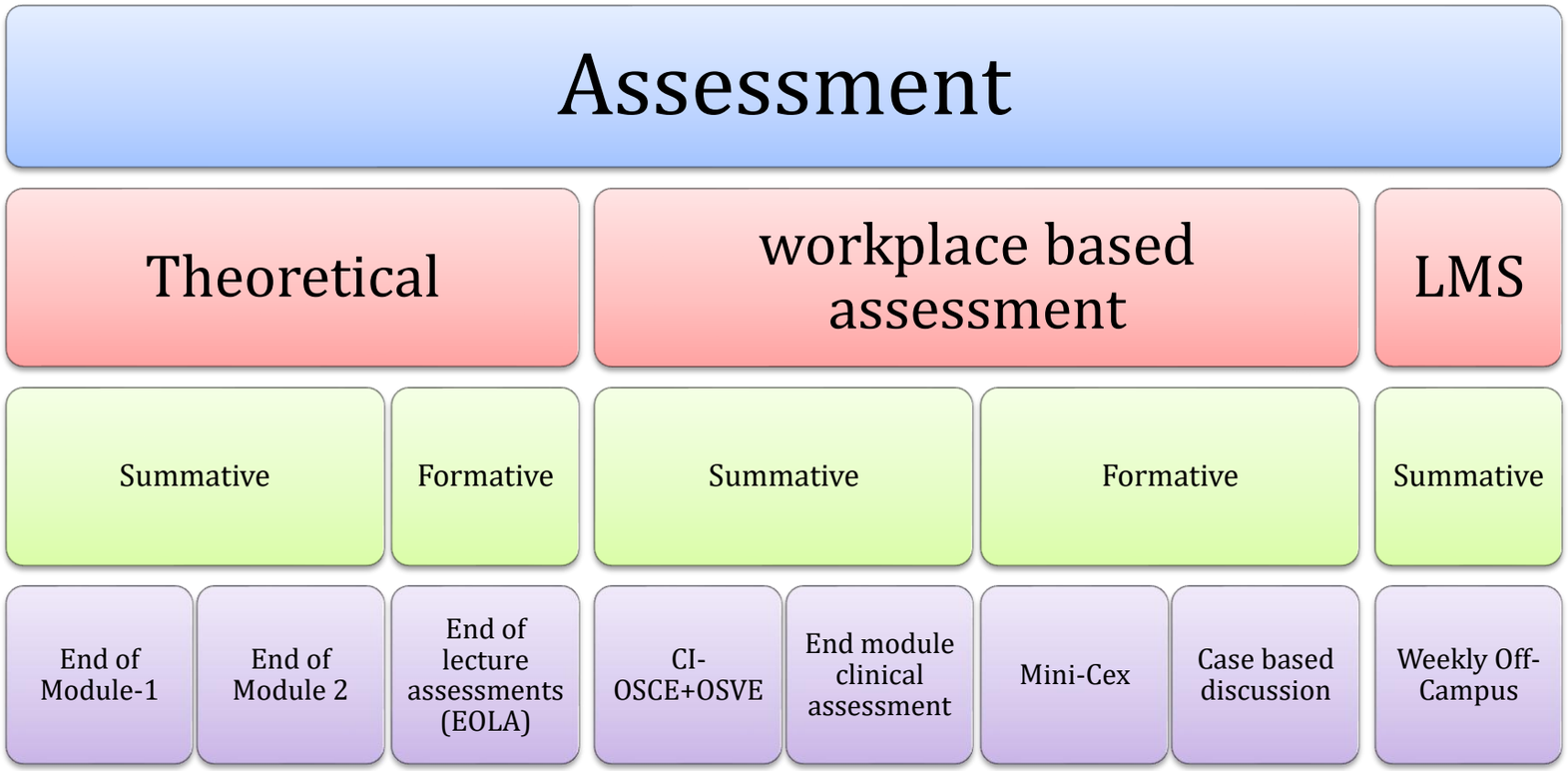
21. Passing criteria in annual professional examination

- 50% marks will be needed to pass annual professional examination.

22. Total break up of assessment score

- Annual professional exam weightage 70%
- Continuous internal assessment weightage 30%


ASSESSMENT FRAMEWORK
Learning Objectives
Knowledge
Skills
Attitudes
Assessment Methods
Formative
Summative
Clinical & OSCE
Assessment Tools
Written Exams
OSCE / Mini-CEX
Direct Observation
Porttolio & Logbooks
Entrustment & Progression
EPAs (Entrustable Activities)
Milestones
Competency Levels
Assessment Process
Plan
Collect
Analyze
Feedback
Improve
Key Principles
Validity
Reliability
Objectivity
Continuous
Competency-Based
Feedback-Driven
Outcomes
Learner Performance
Competency Achievement
Curriculum Improvement
Patient Safety & Quality
Lifelong Learning


Assessment
Theoretical
workplace based assessment
LMS
Summative
Formative
Summative
Formative
Summative
End of Module-1
End of Module 2
End of lecture assessments (EOLA)
CI-OSCE+OSVE
End module clinical assessment
Mini-Cex
Case based discussion
Weekly Off-Campus

Ophthalmology Block
Table of Specifications (TOS)

Department of Medical Education

Rawalpindi Medical University/Allied Hospitals

Preamble

The Table of Specifications (TOS)(TOS) is a detailed framework that describes how assessment items are distributed in terms of content among modules in our prestigious medical university's curriculum. The TOS was created with great care to ensure that educational objectives, instructional content, and evaluation criteria are all in line with one other. This allows us to guarantee the validity, integrity, and reliability of assessments while supporting our students' overall growth. This paper offers clarity and transparency by outlining the cognitive levels, domains, and weightings of assessment items. This helps faculty members create tests that appropriately measure students' understanding of critical competencies and knowledge areas. The TOS, which is based on pedagogical ideas and evidence-based practices, symbolizes our dedication to provide our graduates with the necessary skills, knowledge, and professionalism in medical education to achieve success in their chosen industries and contribute significantly to the medical community and society at large.

Components of TOS:

The following elements are usually included in a Table of Specifications (TOS)(TOS):

Content Domains or Areas: The assessment's broad categories or content domains are described in this section. These domains have to match the course or module's curriculum and learning objectives.

Weightings or Percentages: Gives each topic area or cognitive level a certain amount of weight or proportional value. This makes it easier to guarantee that the evaluation accurately captures the importance that the curriculum places on certain subjects or abilities.

Assessment Items: Describes the many kinds of assessment items that will be used in the assessment, such as essays, multiple choice questions, short answer questions, and practical tests. The number of items assigned to each content area and cognitive level may also be stated in this section.

Blueprint: A graphic depiction of the TOS that outlines how assessment items are distributed throughout curriculum categories. It frequently takes the shape of a table or matrix.

Modules in 4th Year MBBS

Block	Module Name	Duration
(Block I)	Otorhinolaryngology I	3 weeks
	Otorhinolaryngology II	3 weeks
(Block II)	Ophthalmology I	3 weeks
	Ophthalmology II	3 weeks
(Block III)	Endocrinology I	3 weeks
	Population medicine& reproduction II	6 weeks
(Block IV)	Renal I	3 weeks
	CNS & Psychiatry II	6 weeks

Assessment strategies to assess module:

Formative: Formative assessment is a process used by teachers during instruction that provides feedback to adjust ongoing teaching and learning to improve students' achievement of intended instructional outcomes.

LMS (Learning Management System): Weekly LMS based assessment will be carried out in all the modules from the topics already provided in the study guide.(TOS sample annexure 1)

End Modular: End Modular Assessment will be carried out at the end of the module from the course taught till that day. (TOS Sample Annexure 2) **Summative**: summative assessment evaluates student learning at the end of a block/ professional year.

MCQs: Multiple-choice questions (MCQs) are a type of assessment item commonly used in educational settings to evaluate a person's knowledge or understanding of a topic. In a multiple-choice question, the respondent is presented with a question or statement, known as the stem, along with several options, one of which is the correct answer (the key), while the others are incorrect (distractors). The respondent selects the option they believe to be the correct answer.

SAQs: Short answer questions are a type of assessment item used to evaluate a person's understanding of a topic or concept. Unlike multiple-choice questions, which provide a list of options for respondents to choose from, short answer questions require respondents to generate their own answers without the aid of options provided by the question.

Assessment tools & strategies

Tools of assessments:

Theory assessment

e. MCQs

f. SAQs & SEQs

g. EMQs

h. AV-OSPE

Clinical Assessment

e. Objectively Structured Viva Examination (OSVE).
f. Ci-OSCE (Clinically Integrated-OSCE)

g. End module clinical assessment

h. Log book

LMS

3. Off campus
4. On-Campus

Proposed TOS of on campus Assessments during whole Academic Year 2026 (RMU)

Block Name & Order	Modules Names & Numbers	Theory			Scheme of Integration						Total marks Theory	Practical Assessment							Total marks Practical	End Block LMS (MCQs Based)	Total Block marks
		25 MCQs (1 mark each)	5+1 SAQ +EMQ (5 marks each)	5 SEQs (9marks each)	Core Subject. 70%		Hori- & Verti- Integ. 20%		*Spiral Integ. 10%			OSVE				OSPE (05 marks each)					
												Module I		Module 2		Observed	Unobserved	Video assisted			
I Otorhinolaryngology	ENT I & II	Total marks	Total marks	Total marks	MCQs (19)	SAQ/ SEQ +EMQ (7+1)	MCQs (4)	SAQ /SEQs (2)	MCQs (2)	SAQ (1)	100	Viva marks	**Book marks	Viva marks	Book marks	5 stations	5 stations	10 stations	150	30	270
		25	25+5	45	19	46	4	12	2	7		45	5	45	5	25 marks	25 marks	50 Marks			
II Ophthalmology	EYE I & II	25	25 +5	45	19	46	4	12	2	7	100	45	5	45	5	5 stations	5 stations	10 stations	150	30	270
																25 marks	25 marks	50 marks			
III Population medicine & Reproduction	Endocrino-logy	25	25 +5	45	19	46	4	12	2	7	100	-								30	460
	Pop Med & Reproduction	25	25+5	45	19	46	4	12	2	7	100	Viva marks	Book marks	Viva marks	Book marks	10 stations	10 stations	20 stations	250		
												45	5	45	5	50 marks	50 marks	100 marks			
	Renal	25	25+5	45	19	46	4	12	2	7	100									30	

IV CNS & Psychiatry	**CNS & Psychiatry**		25+5	45	19	46	4	12	2	7	100	Viva marks	Book marks	Viva marks	Book marks	10 OPSEs	10 OPSEs	20 OSPEs	250		460
												45	5	45	5	50 marks	50 marks	100 marks			

***Spiral Integration**

5. Biomedical Ethics & Professionalism
6. Family Medicine
7. Integrated Undergraduate Research Curriculum (IUGRC)
8. Artificial Intelligence

** **"Log Book marks"** will be credited according to evidence of reading relevant subjects from the recommended books presented at the time of viva examination.

- In theory assessment SEQs and SAQs both tools may be used according to need and scope of assessment in the subject.
- **Time** allocated to 1 MCQ: 1min and 1SEQ/SAQ: 10min.

Proposed Pre-Annual Assessment TOS 4th Year MBBS (batch 50)

Blocks	**Subjects**	**MCQs 1mark each**	**SAQs 5 marks each**	**Core Subject**	**Horizontal & Vertical Integration**	**Spiral Integration**	**OSCE 5 marks each**	**VIVA 75 marks**	
								Attendance	**Core subject**
Block 1 ***	ENT	45	10	70%	20%	10%	10	5	40
	Community Medicine	30	5	70%	20%	10%	05	5	25
Total Marks		**75**	**75**	**100%**			**75**	**75**	
Block II***	Eye	45	10	70%	20%	10%	10	5	40
	Community Medicine	30	5	70%	20%	10%	05	5	25
Total Marks		**75**	**75**	**100%**			**75**	**75**	

Block III ***	Pharmacology	25	4	70%	20%	10%	5	5	20
	Pathology	25	5	70%	20%	10%	5	5	20
	Community Medicine	15	4	70%	20%	10%	5	5	20
Total Marks		**75**	75	**100%**				75	
Block IV***	Pharmacology	25	4	70%	20%	10%	5	5	20
	Pathology	25	5	70%	20%	10%	5	5	20
	Community Medicine	15	4	70%	20%	10%	5	5	20
Total Marks		**75**	**75**	**100%**			**75**	**75**	

***Total marks of each Block = 300 marks, Grand Total = 1200 marks**

Block Assessment Plan

This plan of assessment intricately details the structure and evaluation criteria for the undergraduate otorhinolaryngology block exam, designed to align closely with the Accreditation Council for Graduate Medical Education (ACGME) competencies. The block unfolds across two distinct three-weeks modules, with weekly formative assessments strategically integrated to assess and reinforce students' proficiency in the ACGME-defined domains along with special emphasis on research as per university policy.

ACGME competencies	**Assessment tool**
Medical Knowledge	MCQ, SAQ, OSCE, end module clinical assessment
Patient care	OSCE, End module clinical assessment
Practice- based learning	OSCE, end module clinical assessment
System based practice	OSCE, end module clinical assessment
Professionalism	OSCE, end module clinical assessment
Communication skills	OSCE, end module clinical assessment
Research	Spirally integrated across all 5 years Research projects

Each formative assessment serves as a targeted gauge for students to showcase their evolving competencies, embracing the ACGME's focus on patient care, medical knowledge, practice-based learning, interpersonal and communication skills, professionalism, and systems-based practice. As the modules progress, these assessments provide iterative insights into learners' development across these crucial competencies.

The culmination of each module manifests in a summative assessment, meticulously crafted to evaluate the synthesis and application of knowledge within the context of the ACGME competencies. This comprehensive approach ensures that the evaluation process not only measures academic understanding but also holistically assesses the skills and attributes essential for effective and compassionate medical practice.

In essence, this Table of Specifications (TOS)serves as a dynamic framework for instructors, weaving ACGME competencies into the fabric of assessments to cultivate well-rounded, future-ready healthcare professionals. It underscores the commitment to nurturing individuals who excel not only in the theoretical aspects of otorhinolaryngology but also in the broader spectrum of competencies vital for patient-centered care.

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

3. Formative Assessment

Assessment Method	Description	Timing
End of Lecture Assessment	Brief quizzes or concept checks to assess understanding after each lecture	End of each lecture
Weekly Quizzes	LMS based Short quizzes covering weekly topics	End of each weeks
TCRF	Discussions involving clinical scenarios to assess clinical reasoning and decision making.	Once a week

4. Summative Assessment:

Summative assessment is taken at the

- End module-I and End module -II
- End block levels.

Assessment framework is specifically designed with careful consideration of subject importance and integration aspects. The distribution of marks is as follows

	Core concepts	70%
2	Horizontal/ Vertical integration • Pathology • Community medicine/ public health • Pharmacology Vertical integration • Family medicine • General surgery • Basic sciences	15%
3	Spiral integration • Research • Artificial intelligence • Bioethics	15%

This structure emphasizes a significant focus on core subjects, ensuring a substantial grasp of fundamental concepts. Simultaneously, horizontal, vertical, and spirally integrated subjects each contribute to 10% of the assessment, promoting a balanced understanding and application of knowledge across interconnected domains. The tabulated form provides a clear delineation of weightage assigned to each component, reflecting the comprehensive nature of the assessment strategy.

Table of Specification (TOS) LMS Theme-1
MCQ Assessment of lectures and SDL
(80% pass criteria for appearing in end block exam - 80% attendance)

Sr. #	Discipline	No. of MCQs	No. of MCQs according to cognitive domain			Total marks
			C1	C2	C3	
1.	**Ophthalmology**	30	05	20	05	30
2.	**Community Medicine**	15	05	08	02	15
3	**Dermatology**	05	02	02	01	05
		Total MCQs = 50	12	30	08	Total marks = 50

Table of Specifications (TOS)(TOS) LMS Theme-2
Assessment of lectures and SDL
March 2026
(80% pass criteria for appearing in end block exam - 80% attendance)

Sr. #	Discipline	No. of MCQs	No. of MCQs according to cognitive domain			Total marks
			C1	C2	C3	
1.	**Ophthalmology**	30	05	20	05	30

2.	**Community Medicine**	15	05	08	02	15
3	**Pathology**	02	01	01	00	02
4	**Obstetrics**	03	01	01	01	03
		Total MCQs = 50	12	30	08	Total marks = 50

Table of Specification (TOS) LMS Theme 3
LMS-MCQ Assessment of lectures and SDL
April,2026 (Saturday)
(80% pass criteria for appearing in end block exam - 80% attendance)

Sr. #	Discipline	No. of MCQs	No. of MCQs according to cognitive domain			Total
			C1	C2	C3	
1.	Ophthalmology	30	05	20	05	30
2.	Community Medicine	15	06	07	02	15
3	Dermatology	05	02	02	01	05
		50	20	22	08	50 marks

End Module 1

Table of Specifications (TOS)(TOS) Fourth Year MBBS
Mar 2026
MCQ+EMQ+SEQ+SAQ+AV-OSPE (150 marks)
(80% pass criteria and 80% attendance for appearing in end block exam)

Sr. #	Discipline	No. of MCQs (1 mark each)	Cognitive domain			No of EMQs (5 marks each)	No. of SEQs (9 marks each)	Cogniti ve domain			No of SAQs (5 marks each)	Cognitive domain			Total
			C1	C2	C3	1 EMQs	5 SEQs	C1	C2	C	3 SAQs	C1	C2	C3	
1.	Ophthalmology	35 MCQ	15	15	0 5	1 x 5 = 5 marks	5x9 = 45	03	01	01	3 x5 = 15	01	01	01	
Theory (120 minutes)		35 marks 35 minutes				05 marks 05 minutes	45 marks 50 minutes				15 marks 30 minutes				Total = 100 Marks 120 minutes
AV-OSPE (10 stations) 60 minutes															

Topic vise distribution End module I

Sr.No.	Topic	Weightage %	SAQ 3	SEQ 5	MCQ 35	EMQ 1	AV OSPE
1	Lens disorders	10		1	5		1
2	glaucoma	10	1		5		1
3	Sclera/ episclera	5			2		
4	Conjunctiva	10		1	2		1
5	Cornea	10			5	1	1
6	Uvea	10	1		2		1

7	Retina	15		1	5		1
8	Pathology Pharmacology	10%	1	1	3		1
9	Family medicine, General surgery, basic sciences	10%			3		1
10	Bio ethics, Research, Artificial intelligence	10%			3		1

Table of Specification (TOS) LMS Theme 4
LMS-MCQ Assessment of lectures and SDL
April 2026 (Saturday)
(80% pass criteria for appearing in end block exam - 80% attendance)

Sr. #	Discipline	No. of MCQs	No. of MCQs according to cognitive domain			Total
			C1	C2	C3	

1.	**Otorhinolaryngology**	30	05	20	05	30
2.	**Community Medicine**	15	08	05	02	15
3	**Dermatology**	05	07	02	01	05
		50	37	15	08	50 marks

Table of Specification (TOS) LMS Theme 5
LMS-MCQ Assessment of lectures and SDL
April,2026 (Saturday)
(80% pass criteria for appearing in end block exam - 80% attendance)

Sr. #	Discipline	No. of MCQs	No. of MCQs according to cognitive domain			Total
			C1	C2	C3	
1.	Ophthalmology	30	05	20	05	30
2.	Community Medicine	15	06	07	02	15
3	Dermatology	05	02	02	01	05
		50	20	22	08	50 marks

End Module-2 (Block-1) Otorhinolaryngology
Table of Specifications (TOS)(TOS) Fourth Year MBBS 2026
MCQ+EMQ+SEQ+SAQ+AV-OSPE (150 marks)
(80% pass criteria and 80% attendance for appearing in end block exam)

Sr. #	Discipline	No. of MCQs (1 mark each)	Cognitive domain			No of EMQs (5 marks each)	No. of SEQs (9 marks each)	Cognitive domain			No of SAQs (5 marks each)	Cognitive domain			Total
			C1	C2	C3	1 EMQs	5 SEQs	C1	C2	C3	3 SAQs	C1	C2	C3	
1.	Ophthalmology	35 MCQ	25	05	05	1 x 5 = 5 marks	5x9 = 45	03	01	01	3 x5 = 15	---	01	01	
Theory (120 minutes)		35 marks 35 minutes				05 marks 05 minutes	45 marks 50 minutes				15 marks 30 minutes				Total = 100 marks 120 minutes
AV-OSPE (10 stations) 60 minutes															

Topic wise distribution End module II

Sr.No.	Topic	Weightage %	SAQ 3	SEQ 5	MCQ 35	EMQ 1	AV OSPE
1	Refractive errors/ surgery	5	1	1	2		1
2	Lids & Adnexa	5			2		1
3	Lacrimal System	5			2		

4	Dry eyes	5	1	1	2	1	1
5	Nerve palsies, pupillary disorders	10			4		1
6	strabismus	15		1	5		1
7	Dry eyes	15			5		1
8	Orbit/ ocular tumors	10		1	4		1
9	Pathology Pharmacology	10%	1	1	3		1
10	Family medicine, General surgery, basic sciences	10%			3		1
11	Bio ethics, Research, Artificial intelligence	10%			3		1
			3	5	35		

Workplace Based Assessment Framework:

1. **Continuous Formative Assessment**

Assessment Method	Description	Timing
Case-Based discussions	Discussions involving clinical scenarios to assess clinical reasoning and decision making.	Twice a week
Mini CEX	Focused observation of clinical encounters with immediate feedback	Once a week

Feedback sessions	Dedicated time for discussing performance and identifying learning gaps.	Once a week

2. **Log book and Reflective Learning**

Logbook entries	Mandatory recording of key procedures (e.g., tonometry, visual acuity testing, slit lamp exam) with supervisor sign-off.
Record of patient interaction	Details of patient encounters, including history, examination, and learning outcomes.

3. **End module clinical assessment**

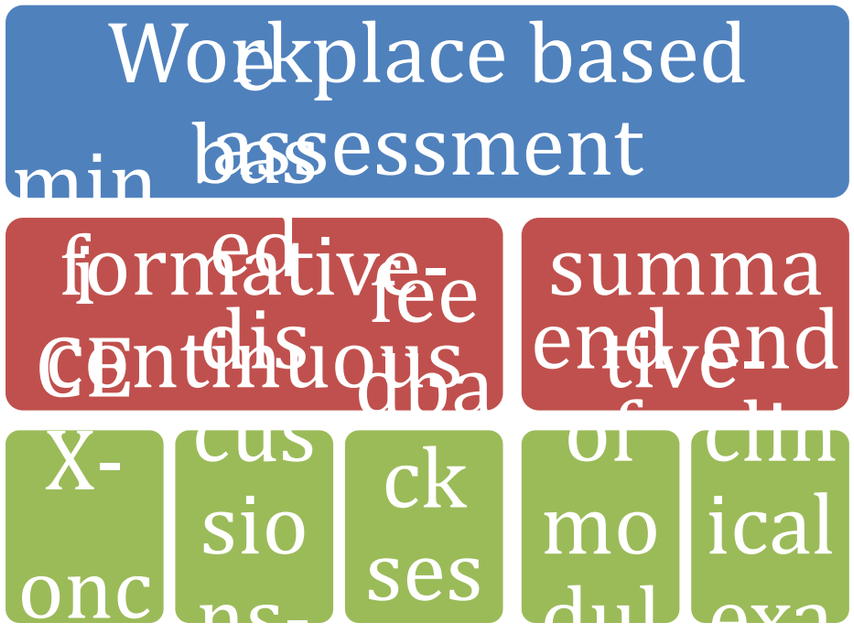
4th year MBBS students have to complete 6 weeks clinical clerkship in Ophthalmology which includes 2 weeks rotation individually in HFH, BBH and DHQ. Assessment of Psychomotor and Affect skill will be taken at the end of each fortnightly rotation in respective hospital.

4. **End clinical assessment:**

Conducted after completion of the 6-week rotation in 4 clusters.

Total Marks: 50

i. Ci-OSCE: 30 Marks
ii. OSVE:20 Marks



A. OSCE

Station No.	Content	Task Description	No. of Stations	Cognitive Level (KSA)	Skills to be Assessed	Assessment Focus

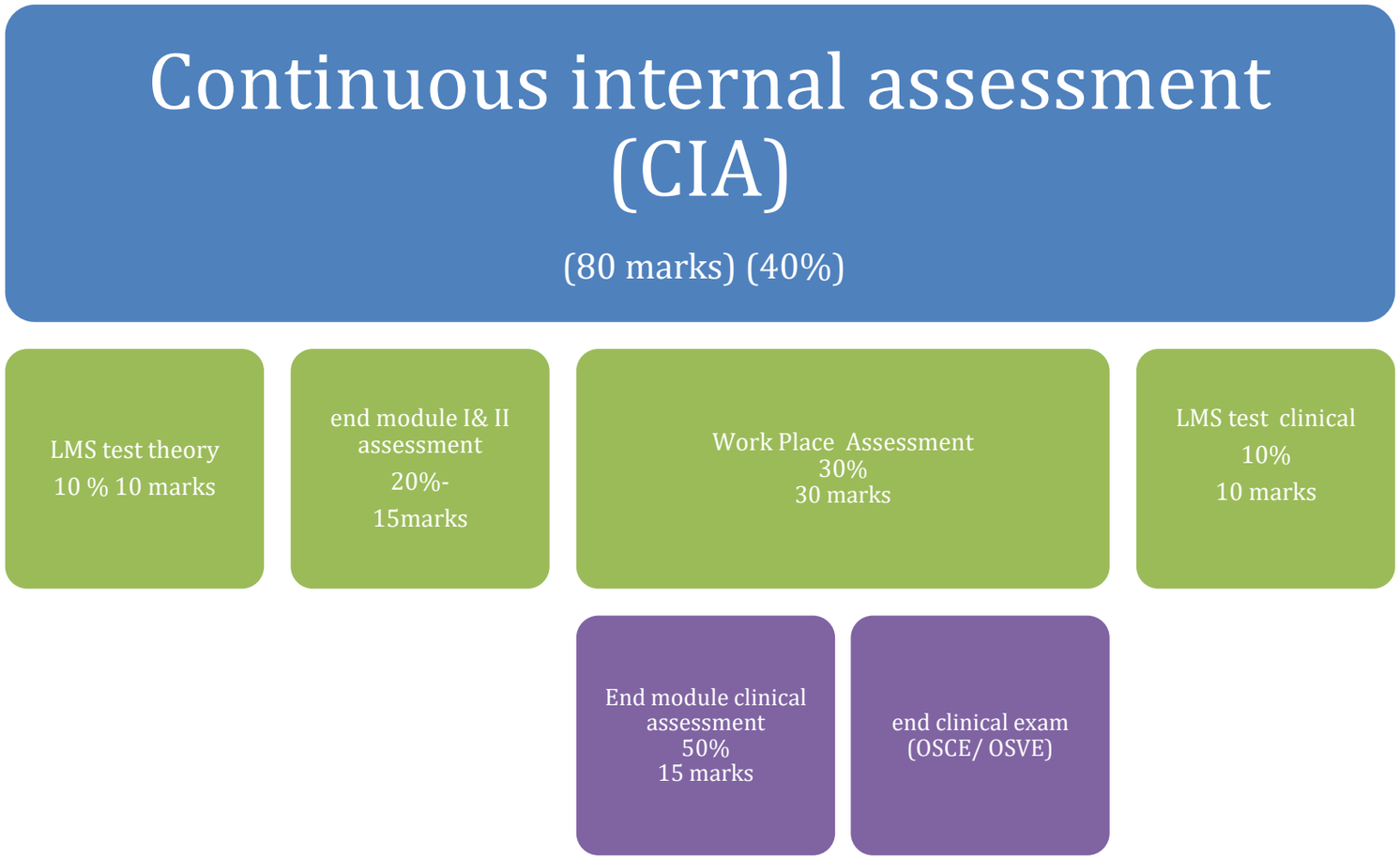
1	History Taking • Red Eye • Loss of vision(sudden/ gradual) • Abnormal appearance of eye	Take a focused history from a patient.	1	Knowledge, Skills, Attitude (KSA)	History-taking, logical reasoning	Identification of cause and associated risk factors.
2	Direct Ophthalmoscopy	Perform direct ophthalmoscopy on a dummy or model to identify fundus features.	1	Knowledge, Skills	Examination technique, interpretation	Accuracy in identifying fundus abnormalities (e.g., optic disc changes).
3	Counseling • Cataract Surgery • Ocular tumors	Counsel a patient about the risks, benefits, and postoperative care for cataract surgery.	1	Knowledge, Attitude	Communication, patient education	Empathy, clarity, and structured counseling.
4	Examination skills: • Visual Fields by Confrontation • Pupil Examination • Extraocular movements • Cover/ uncover test • Torchlight Examination	Perform **assigned skill** based on the examiner's instruction	1	Knowledge, Skills	Examination technique, perform and interpretation	Accuracy in performing the assigned technique and identifying any abnormalities.
5	Ophthalmic Instruments	Identify and explain the use of common ophthalmic instruments (e.g., slit lamp, tonometer).	1	Knowledge	Instrument identification, application	Accuracy in naming instruments and explaining their clinical use.

6	Surgical Video Interpretation	Watch a short surgical video (e.g., phacoemulsification) and describe the steps involved.	1	Knowledge, Skills	Identification, procedural knowledge	Recognition of surgical steps and their relevance.

B. OSVE

Station No.	Skill Assessed	Station Type	Marks Distribution **(10 marks each)**	Time (Minutes)	Key Competencies/Skills	Domain
1	Diagnosis and Management of anterior segment disorders	Case-Based Viva (Anterior Segment)	Diagnosis (3), Investigation (3), Management (4)	10	Discuss the diagnosis, appropriate investigations, and management plan.	C3
2	Interpretation of Fundus images/ videos	Image/ video Based Viva (Posterior Segment)	Identification (3), Interpretation (4), Management approach (3)	10	Identify key findings from a given fundus photograph (e.g., diabetic retinopathy) and suggest management options.	C3

Continuous internal assessment (CIA): Department of Ophthalmology



Module 1:

Roll no.	Name of student	Theory Marks	AV-OSPE Marks	Total Marks	Theory CIA	AV-OSPE CIA	TOTAL CIA
		100	50	150	12	3	15

Module 2:

Roll no.	Name of student	Theory Marks	AV-OSPE Marks	Total Marks	Theory CIA	AV-OSPE CIA	TOTAL CIA
		100	50	150	13	2	15

LMS: (20%)

Roll no.	Name of student	Theory Marks (10%)	Clinical (10%)	TOTAL
		10	10	20

Summary Block-1 CIA: (40%)

Module-1	Module 2	Workplace based assessment	LMS	TOTAL
15	15	30	20	80

Section – VIII Learning Management System (LMS) Curriculum-OPHTHALMOLOGY

4th year MBBS 2026
Ophthalmology Block-XI

LMS-Based Teaching and Assessment Model

Vision

To enhance **competency-based learning, clinical reasoning, and continuous assessment** among fourth-year medical students by utilizing a **Learning Management System (LMS)** integrated with **Self-Directed Learning (SDL), Directed Self Learning (DSL), and weekly LMS-based assessments**.

Introduction

A **Learning Management System (LMS)** is a digital platform that enables the delivery, management, and evaluation of educational content. In medical education, LMS facilitates structured learning by integrating teaching resources, clinical discussions, and assessment tools into a unified digital environment.

The integration of LMS into undergraduate ophthalmology education promotes **student-centered learning, continuous evaluation, and improved engagement with clinical material**.

At **Rawalpindi Medical University**, the LMS platform (CLMS) provides students with centralized access to lectures, learning resources, assessments, and academic progress tracking.

LMS Weblink

https://clms.rmur.edu.pk/

Objectives of LMS Integration

The LMS-based model aims to:

1. Facilitate **structured delivery of ophthalmology learning resources**
2. Promote **self-directed and lifelong learning habits**
3. Improve **clinical reasoning through case-based discussions**
4. Enhance **interpretation of ophthalmic images and diagnostic findings**
5. Provide **continuous formative assessment**
6. Enable **real-time monitoring of student performance**
7. Encourage **regular engagement with weekly learning themes**
8. Integrate **technology into undergraduate medical education**

Educational Strategy

The ophthalmology module utilizes a **blended learning model** consisting of three interconnected components:

Educational Component	Description	Learning Environment

Self-Directed Learning (SDL)	Students independently review assigned topics	Home / Online
Directed Self Learning (DSL)	Faculty-guided discussion of SDL topics	Classroom / Clinical setting
LMS-Based Assessment	Weekly MCQ assessment evaluating knowledge and clinical reasoning	LMS platform

This **SDL-DSL-LMS cycle** promotes **active learning and continuous assessment**.

Learning Process (Weekly Cycle)

The ophthalmology module follows a **three-step weekly learning cycle**.

Step 1 – Self-Directed Learning (SDL)

Students independently review learning material uploaded on the LMS.

SDL includes

• Recommended textbook reading
• Clinical videos
• Fundus and slit-lamp images
• Clinical case descriptions

Purpose

• Develop independent learning habits
• Prepare students for clinical discussions
• Encourage deeper understanding of disease mechanisms

Step 2 – Directed Self Learning (DSL)

Following SDL, students attend **faculty-guided DSL sessions**.

During DSL sessions:

• Faculty review key concepts
• Students discuss clinical cases

• Ophthalmic images are interpreted
• Differential diagnosis is explored
• Students clarify misconceptions

DSL bridges the gap between **theoretical knowledge and clinical application**.

Step 3 – LMS-Based Weekly Assessment

At the end of each week, students complete an **online LMS-based assessment**.

The purpose is to evaluate:

• Conceptual understanding
• Clinical reasoning
• Image interpretation
• Decision-making in clinical scenarios

6. Structure of LMS Assessment

Each weekly assessment consists of **50 Multiple Choice Questions (MCQs)**.

Assessment Component	Number of Questions
Concept-based MCQs	25
Clinical scenario-based MCQs	15
Image-based MCQs	10
Total	**50**

Duration: 40–50 minutes

Assessment Format

• Automated grading
• Immediate feedback
• Performance analytics

Contribution to Continuous Internal Assessment (CIA)

LMS assessments contribute to **Continuous Internal Assessment (CIA)**.

Key features include:

• Weekly assessments promoting regular study habits
• Performance tracking for each student
• Identification of students requiring academic support
• Integration of theory and clinical learning

LMS assessments contribute to **both theoretical and clinical components of Continuous internal assessment**.

LMS Assessment Framework

An effective LMS-based assessment system evaluates **three core domains of medical education**.

Domain	Description
Knowledge	Understanding of ophthalmic diseases and principles
Skills	Clinical reasoning and interpretation of investigations
Attitudes	Professionalism and clinical decision-making

Weekly Teaching Themes

The SDL-DSL-LMS model is implemented through **six clinical themes**.

Week	Theme
Week 1	Red Eye
Week 2	Sudden Loss of Vision
Week 3	Gradual Loss of Vision
Week 4	Ocular Aesthetics
Week 5	Watery Eye (Epiphora)
Week 6	White Pupil (Leukocoria)

Example SDL Structure

Week 1 – Red Eye

Component	Details
Key Topics	Conjunctivitis, Keratitis, Uveitis, Episcleritis, Acute angle-closure glaucoma
Learning Objectives	Identify causes of red eye, differentiate painful vs painless conditions
Learning Resources	Kanski's Clinical Ophthalmology
SDL Activities	Videos, clinical image review
Assessment	LMS MCQ test

Implementation of LMS

Successful implementation requires the following components.

Infrastructure

A robust LMS platform capable of handling multiple users simultaneously.

IT Support

Dedicated IT team responsible for:

- System maintenance
- Technical support
- Data management

User Management

Each student receives:

- Unique LMS login credentials
- Secure access to course material

Assessment Scheduling

- Weekly LMS exams scheduled in advance
- Automated notifications sent to students

Communication

LMS facilitates communication through:

• Announcements
• Discussion forums
• Messaging tools

Advantages of LMS-Based Learning

Implementation of LMS provides several educational benefits.

For Students

• Encourages continuous learning
• Improves clinical reasoning
• Provides immediate feedback
• Enhances digital literacy

For Faculty

• Allows tracking of student progress
• Identifies struggling students early
• Facilitates structured assessment

Quality Assurance and Continuous Improvement

Continuous monitoring ensures effective implementation.

Key measures include:

• Student feedback forms
• LMS performance analytics
• Periodic curriculum review
• Faculty evaluation meetings

General Learning Outcomes

By completing the LMS-based ophthalmology module, students will be able to:

1. Apply theoretical knowledge to common ophthalmic clinical scenarios
2. Interpret slit-lamp findings and fundus images
3. Identify ophthalmic emergencies
4. Outline diagnosis and initial management of common eye diseases
5. Integrate knowledge from SDL and clinical clerkship activities
6. Evaluate personal learning progress through formative assessments

Self-Directed Learning (SDL) OPHTHALMOLOGY Module 1

WEEK	THEME	Key LGIS	Topics of SDL	Learning Objectives	Learning Resources	Video links	Assessment Tools
WEEK 1	**RED EYE**	Blepharitis, Ophthalmia neonatorum, Infective conjunctivitis, Allergic conjunctivitis, Degenerative conjunctival disorders, Dry eye syndrome, Keratitis / Corneal ulcer, Herpes simplex keratitis, Herpes zoster ophthalmicus, Acute anterior uveitis, Episcleritis	• Conjunctivitis (viral, bacterial, allergic) • Keratitis and corneal ulcer • Episcleritis vs scleritis • Anterior uveitis • Acute angle-closure glaucoma • Subconjunctival hemorrhage	• Recognize common and emergency causes of red eye • Take focused history and perform ocular examination • Identify urgent conditions requiring referral • Outline first-line management and preventive measures	Kanski's Clinical Ophthalmology, 10th edition Basic Ophthalmology, Kanski & Bowling	Approach to red eye https://youtu.be/hBgI9SiU2nY	LMS based MCQ

		/ Scleritis, Acute angle-closure glaucoma, Chemical injury, Corneal foreign body, Contact lens-related keratitis, Subconjunctival hemorrhage	• Approach to painful vs painless red eye				
WEEK 2	**SUDDEN LOSS OF VISION**	Corneal ulcer, Acute anterior uveitis, Complications of uveitis, Retinal vascular occlusions (CRAO, CRVO), Retinal detachment, Acute angle-closure glaucoma, Vitreous hemorrhage, Optic neuritis, Endophthalmitis, Chemical injury, Blunt ocular trauma, Penetrating ocular trauma, Hyphema	• Retinal detachment • Central retinal artery occlusion • Central retinal vein occlusion • Vitreous hemorrhage • Optic neuritis • Acute angle-closure glaucoma • Approach to painless vs painful sudden vision loss	• Take detailed history of sudden vision loss • Differentiate painful vs painless causes • Perform VA, RAPD, fundoscopy, and confrontation fields • Identify ocular emergencies • Outline emergency management and referral	Kanski's Clinical Ophthalmology, 10th edition AAO Basic Ophthalmology Guidelines	Sudden loss of vision differentials https://youtu.be/1ggUC264TeQ retinal detachment https://youtu.be/HjpcwHpFBRU	LMS based MCQ
WEEK 3	**GRADUAL LOSS OF VISION**	Refractive errors (Myopia, Hypermetropia, Astigmatism, Presbyopia), Dry eye syndrome,	• Refractive errors and presbyopia	• Define each cause of gradual visual loss • Identify anatomical site involved (cornea, lens,	Kanski's Clinical Ophthalmology	Gradual loss of vision causes https://youtu.be/Ifb6AkI2y7g Diabetic retinopathy https://youtu.be/SEU3UoM1fII slit lamp examination of cataract	LMS based MCQ

		Keratoconus, Corneal dystrophies, Cataract, Retinal dystrophies & degenerations (RP, AMD, myopic degeneration), Diabetic retinopathy, Hypertensive retinopathy, Macular edema, Primary open-angle glaucoma, Chronic angle-closure glaucoma, Secondary glaucoma (including lens-induced), Congenital glaucoma, Chronic optic neuropathies, Papilledema, Amblyopia, Trachoma	• Cataract (age-related and complicated) • Open-angle glaucoma • Diabetic retinopathy • Age-related macular degeneration • Optic neuropathies (chronic) • Approach to painless progressive visual loss	retina, optic nerve, ocular surface) • Differentiate reversible vs irreversible causes • Recognize red-flag features requiring urgent referral • Outline first-line management & preventive strategies • Perform basic visual assessment and patient counseling		https://youtu.be/fX4mUecybYU cataract surgery https://youtu.be/icYLMmENk_c	

SDL Ophthalmlology module 2

Week	Themes	Key LGIS	Topic Of SDL	Learning objectives	Learning resources	Video link	Assessment Tool

WEEK 4	**OCULAR AESTHETICS**	Ptosis, Non-neoplastic & neoplastic lid masses, Ectropion / Entropion, Proptosis, Thyroid eye disease, Blow-out fracture, Haemangiomas, Neurofibroma, Esotropia / Exotropia, Principles of strabismus management, Refractive surgeries	• Ptosis (congenital and acquired) • Dermatochalasis • Entropion and ectropion • Blepharitis • Chalazion and stye • Thyroid eye disease basics • Psychosocial aspects of cosmetic concerns	Define ocular aesthetic and oculoplastic procedures ● Describe indications and contraindications ● Discuss surgical techniques and postoperative care ● Recognize complications and follow-up strategies	Kanski's Clinical Ophthalmology, 10th edition Manual of Oculoplastic Surgery, AAO	Ptosis evaluation https://youtu.be/GTLBTP2CqJY	LMS based MCQ
WEEK 5	**WATERY EYE (Epiphora)**	Dry eye syndrome, Blepharitis, Infective conjunctivitis, Allergic conjunctivitis, Congenital NLDO, Acute dacryocystitis, Chronic dacryocystitis, Ectropion, Entropion	• Lacrimal drainage anatomy and physiology • Congenital nasolacrimal duct obstruction • Chronic dacryocystitis • Punctal stenosis	Identify congenital vs acquired causes of watery eye ● Perform basic diagnostic tests (Jones test, syringing) ● Outline management options (conservative, medical, surgical)	Kanski's Clinical Ophthalmology, 10th edition	Lacrimal drainage system https://youtu.be/VJo5z11rUYQ DCR surgery https://youtu.be/uLGhyhLL-fE	LMS based MCQ

			• Reflex tearing (dry eye disease) • Evaluation of epiphora				
WEEK 6	**WHITE PUPIL (Leukocoria)**	Congenital cataract, Mature cataract, Retinoblastoma, PHPV, Coats disease, Retinal detachment, ROP, Congenital glaucoma	• Pediatric cataract • Retinoblastoma • Persistent fetal vasculature • Retinopathy of prematurity • Coats disease • Approach to white pupillary reflex	Identify causes of leukocoria ● Recognize red-flag signs ● Outline diagnostic investigations (fundus, USG, CT/MRI) ● Discuss management, surgical indications, and referral	Kanski's Clinical Ophthalmology	Approach to leukocoria https://youtu.be/pO2FvqnNZcQ	LMS based MCQ

Communication of Self-Directed Learning (SDL)

Self-Directed Learning topics will be communicated to students **one week in advance through the Learning Management System (LMS)** used at Rawalpindi Medical University.

At the beginning of each week, faculty members will upload the following materials on the LMS:

• SDL topics for the week
• Learning objectives

• Recommended textbook readings
• Clinical videos and image-based learning material
• Short clinical scenarios for preparation

Students will receive **automated LMS notifications** informing them about newly uploaded learning material. They are expected to review the resources independently before attending the scheduled Directed Self Learning session.

This process ensures that students come prepared for **active participation in discussions and clinical reasoning exercises**.

Implementation of Directed Self Learning (DSL)

Directed Self Learning sessions are conducted **after students complete SDL preparation**. These sessions allow faculty to guide students in applying theoretical knowledge to clinical situations.

DSL sessions will be conducted in **interactive classroom or clinical settings under faculty supervision**.

Format of DSL Sessions

During DSL sessions, the following learning activities will take place:

• Brief review of SDL concepts
• Discussion of clinical case scenarios
• Interpretation of slit-lamp photographs and fundus images
• Identification of differential diagnoses
• Discussion of diagnosis and initial management
• Clarification of difficult concepts

Faculty members act as **facilitators**, encouraging students to analyze clinical situations and develop problem-solving skills.

Structure of a Typical DSL Session

Activity	Description	Time
Review of SDL topics	Brief recap of key concepts	10 minutes
Case discussion	Clinical scenario analysis	15 minutes
Image interpretation	Fundus and slit-lamp findings	10 minutes

Management discussion	Diagnosis and treatment approach	10 minutes
Summary	Key take-home points	5 minutes

Total duration: **45–50 minutes**

Integration of SDL, DSL, and LMS Assessment

The ophthalmology module follows a **structured weekly learning cycle**:

Step	Learning Activity
Step 1	Self-Directed Learning (independent preparation through LMS resources)
Step 2	Directed Self Learning (faculty-guided discussion and clinical reasoning)
Step 3	LMS-based weekly assessment (MCQs evaluating concepts and clinical application)

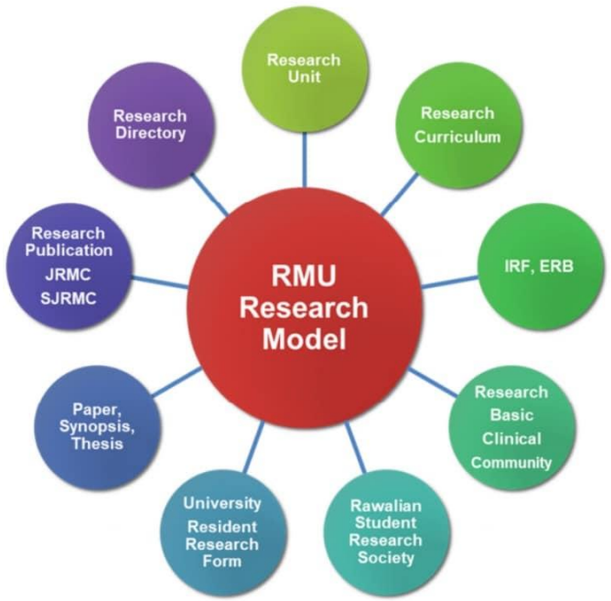
This cycle ensures that students **prepare independently, apply knowledge through discussion, and demonstrate understanding through assessment**.

Section – IX Spirally integrated curriculum

Research

Cultivating the culture of Research has always been envisioned as one of the main pillars of Rawalpindi Medical University, as a means to develop healthcare professionals capable of contributing to the development of their country and the world. For the purpose thereof, right from the inception of Rawalpindi Medical University, efforts were concentrated to establish a comprehensive framework for research in Rawalpindi Medical University, as a matter of prime importance. With team efforts of specialists in the field of research, framework was made during the first year of the RMU, for the

development and promotion of Research activities in RMU, called the Research Model of RMU, giving clear scheme and plan for establishment of required components for not only promoting, facilitating and monitoring the research activities but also to promote entrepreneurship through research for future development of RMU itself.



Biomedical ethics

Ethical choices, both minor and major, confront us every day in the provision of health care for persons with diverse values living in a pluralistic and multicultural society.
Four commonly accepted principles of health care ethics, excerpted from Beauchamp and Childress (2008), include the:
1. Principle of respect for autonomy,
2. Principle of nonmaleficence,
3. Principle of beneficence, and
4. Principle of justice.

Family medicine

Family Medicine is the primary care medical specialty concerned with provision of comprehensive health care to the individual and the family regardless of sex, age or type of problem. It
is the specialty of breadth that integrates the biological, clinical and behavioral sciences. Family physicians can themselves provide care for the majority of conditions encountered in
the ambulatory setting and integrate all necessary health care services.

Artificial intelligence

Artificial intelligence in medicine is the use of machine learning models to search medical data and uncover insights to help improve health outcomes and patient experiences. Artificial intelligence (AI) is quickly becoming an integral part of modern healthcare. AI algorithms and other applications powered by AI are being used to support medical professionals in clinical settings and in ongoing research. Currently, the most common roles for AI in medical settings are clinical decision support and imaging analysis.

Section – X Program Evaluation and Feedback

Quality Assurance & Quality Enhancement

- Student Feedback Performa
- Student Report
- Faculty Report
- SWOT Analysis
- Quality Enhancement Cell (QEC) Report

Figure 31 – RMU Quality Assurance Cycle

Feedback & Evaluation

Rawalpindi Medical University is dedicated to advancing equality, diversity, and inclusion across all its activities, processes, and cultural practices, in line with its Public Sector EqualityDuties. This commitment encompasses promoting equality and diversity for everyone, regardless of any protected characteristic, working pattern, family circumstance, socio-economicbackground, political belief, or any other irrelevant distinction. Where pertinent to the policy, decision-making panels will ensure a reasonable gender balance (with at least one man and one woman) and will actively consider the representation of other protected groups.

Principles Feedback from students is essential to inform the development of the University'sprogrammes and to help shape all aspects of their current and future learning and broader experience. The University actively seeks and encourages students to share their views. Our approach aims to create openness, responsiveness and a sense of partnership.

How feedback is received

- **Informal Feedback**

Informal feedback is received by day-to-day dialogue between students and staff,

- **Formal Feedback**

Feedback is received from students in more formal settings. These include:

- **Central survey campaign**

The University regularly invites students to participate in anonymous surveys (Appendix 1).

The central surveys take place after every module, after every Block and at the end of the academic year. This schedule enables the University to work in conjunction with thestudents and help to improve the teaching, learning and assessment methodologies.

- **Focus Group Discussion**
  - **One To One Feedback from Students**

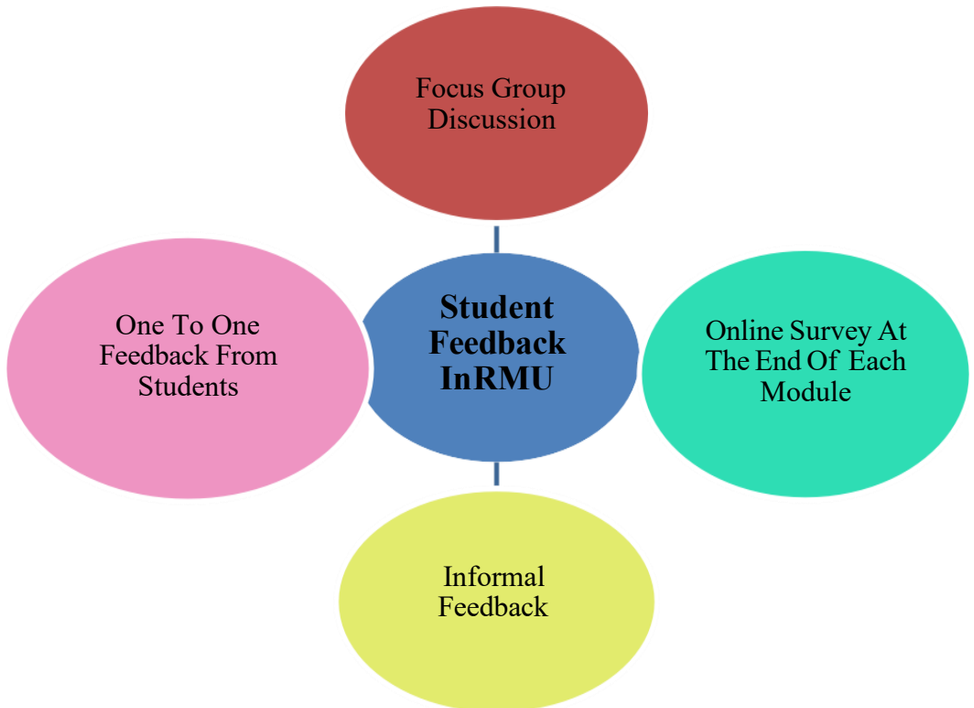


Figure 32 – RMU Feedback framework

Appendix -I Student Feedback Proforma for 2024
(to be conducted after every module completion)

Module Content & Organization

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
The module objectives were informed.					
At the beginning of module study guide was available.					
The module workload was manageable.					
The pace of the module was manageable.					
The module was well organized.					
Module started and ended on time.					
End of block feedback was taken					

Learning Environment and Teaching Methods

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Lectures were delivered appropriately.					
Labs were conducted appropriately.					
Small group discussions were conducted appropriately					
Teaching sessions were as per schedule.					
CBLs were conducted appropriately					
Faculty was cooperative.					
Learning resources were communicated clearly					
SGDs were standardized between different batches					

Quality of Delivery

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
The module stimulated my interest.					
Ideas were presented clearly.					

Learning Resources

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Learning Material was provided /recommended.					
Learning Resources were available in thelibrary.					
Digital / Web Based resources wereavailable.					
Power points of lectures were available					

Student Contribution

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
I participated actively in the module.					
I believe I have made progress in thismodule.					

Assessments

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Class tests were conducted regularly.					
Class tests were helpful					
Test difficulty was appropriate.					
Written Assessment was as per Table ofSpecifications.					
OSPE Exam was as per Table ofSpecification					

Table of Specification was shared					

LMS and its working

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Easy Access to LMS					
Module Content was Available					

SWOT Analysis of Curriculum

SOWT Analysis of Implementation of IMC

- **Strength**
  - We are leading all public sector medical colleges in implementation of integrated modular curriculum
  - We are fulfilling the requirement of World Federation for Medical Education
  - Our future doctor will be able to correlate and integrate basic and clinical knowledge in a better way with the competencies of 7 Star Doctor-acting as leader, manager, decision make, and communicator and care provider, decision maker, researcher and lifelong learner.

- **Opportunities**
  - We have completed the phase –I of implementation for 1st ,2nd and 3rd year and we are now able to implement it in 4th and final year

- We can further refine our integrated curriculum of 1st and 2nd year MBBS in coming years and can better tackle its flaws.
- Proper committees for feedback and evaluation are developed with collaboration from QEC& DME.

- **Weaknesses**
  - A change in system is always difficult to be accepted by stakeholders
  - Inflexible as compared to Conventional System.
  - The content of different subjects is sometimes jumbled up in various modules according to the requirement of that specific module which is difficult to be absorbed by the students.

- **Threats**
  - The Modular System can totally collapse back to Conventional System if not vigilantly and expertly handled.

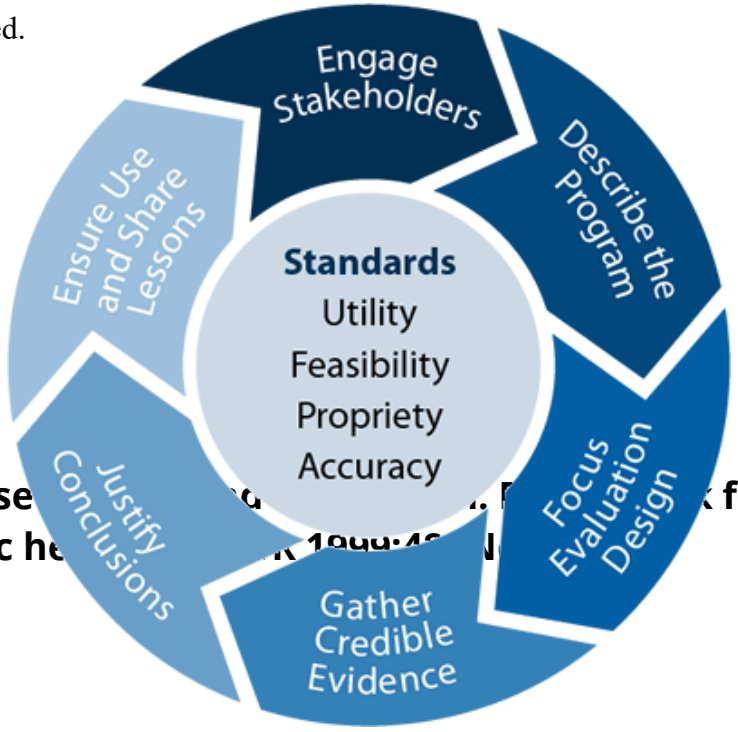


Figure 33 : Centres for Disease [illegible] for program evaluation in public he[illegible]

Quality Enhancement Cell (QEC) Report

Quality Enhancement Cell- RMU since its inception has been active in promoting its core function of bringing standardization to university's academic programs in line with the guidelines enunciated by the Higher Education Commission. In this regard, first thing on which QEC team focused was QEC guidelines. Team achieved that milestone in record time. Approved QEC guidelines of RMU were implemented in 2018. Quality Enhancement Cells serve as focal points for quality assurance in the institutions in order to improve and uphold the quality of higher education. Capacity building of academia in quality assurance is one of the key functions of Quality Assurance Agency (QAA), HEC and subsequently of QEC. Thus, QAA and QECs of the Universities work hand in hand to move in this direction of capacity building arrangements that include awareness campaigns, development of quality assurance policy instruments, training to learn the processes and procedures of quality assurance in higher education institutions and development of Manual to equip the practitioners of quality assurance.In recent years it has become an obligation that institutions of higher education demonstrate the effectiveness of their academic programs in providing high quality education that positively impacts students. Furthermore, most accrediting bodies and others concerned with quality assurance are requesting that institutions assess students learning outcomes as a means of improving academic programs. This has led the accrediting bodies to develop methods for assessing the quality of academic programs. So, whole conventional system was needed to be revamped. Rawalpindi Medical University has the honor of being the first public sector Medical University of Punjab which has introduced the modern modular system of medical education for the MBBS course. It was a big challenge for Department of Medical Education (DME) and Quality Enhancement Cell to maintain the quality and standards of all the teaching and training practices. Quality enhancement cell, RMU appreciate the untiring efforts of DME in this regard. DME team has worked day and night for the implementation of the integrated modular curriculum.

Following are the compliments and recommendations by the Quality Enhancement Cell, RMU:

Commendations:

11. Proper, well managed integrated modular curriculum is in place under the vibrant and energetic leadership of Vice Chancellor, Prof. Muhammad Umar and Department of Medical Education. This thing has also been acknowledged by different visits by accreditation bodies like Higher Education Commission (HEC) and Pakistan Medical & Dental Commission.
12. Proper curriculum committee is in place with appropriate representation of the students as members.
13. All stakeholders are on board and are on one page regarding implementation of the integrated modular curriculum.

14. Regular meetings have been done by the curriculum committee.
15. Feedback has been taken regularly with appropriate gap interval in between.
16. Proper record keeping has been done by the Department of Medical Education both in soft and hard form.
17. As far as the assessment is concerned, newly established Examination Department is doing commendable and admirable job.
18. Final results are indicating that both students and faculty has adapted well to integrated modular system and they are satisfied with the system.
19. Campus management system is working efficiently.
20. Standardized format of all teaching strategies has improved the quality of the deliverance of the subject matter.

Recommendations:

10. Communication and coordination among the departments can be made better. This will help in normalizing the pressure on the Department of Medical Education.
11. Department of Medical Education should be equipped with more human resource.
12. Faculty members should be provided with more opportunities for updating themselves with modern teaching methodologies. They should be encouraged to have certification or masters in medical education.
13. Departments and DME should ensure equal distribution of responsibilities among faculty members.
14. Steps should be taken in account for improving the ladder of the curriculum according to the Harden's ladder of curriculum.
15. Faculty should be encoouraged to participate actively in the Faculty Development Program of the university which is already working on a very good pace.
16. Subjects specialists are advised to have more frequent meetings with the aim of improving the quality of the content delivered to the students.
17. Student centered teaching should be encouraged more.
18. Any motivational lecture should be included in the time table for every class as it is very important for the students for personal growth and development.

The weightage of all clinical lectures should be increased in first and second year MBBS, as the attandance is on the lower side in clinical lectures of the above said years.

Learning Resources

Subject	Resources
Ophthalmology	• Kanski's Clinical Ophthalmology 9th edition • Parsons' Diseases of the Eye 23rd edition • Basic Ophthalmology by Renu Jogi 4th ed. • Clinical Ophthalmology by Shafi M. Jatoi 5th edition • Comprehensive Ophthalmology by Dr. Nasir Chaudhary
Community Medicine	• Park's Textbook of Preventive and Social Medicine, 26th edition, Chapter 3, 4, 5 • Textbook of Community Medicine by Muhammad Ilyas and Dr Irfanullah Siddiqi • Epidemiology by Leon Girdis

Section – XI Annexures

OFFICE OF THE VICE CHANCELLOR
RAWALPINDI MEDICAL UNIVERSITY
RAWALPINDI.
Ph.051-9290360, 051-9330060
Fax No.051-9290519, 051-9330062
No. 1372/RMU, Dated: 30/01/2026
A-7

All Chairpersons/HoDs
Basic & Clinical Sciences Departments,
Rawalpindi Medical University,
Rawalpindi.

Subject: **Revised Professional Examinations Policy – MBBS (1st to Final Year) 2025**

Please find attached the revised Professional Examinations Policy for 1st to Final Year MBBS, aligned with TOS for 2025, for reference and implementation please.

Vice Chancellor
Rawalpindi Medical University
Rawalpindi

No. & Date Even
Copy to:
1. All concerned
2. Office Superintendent, RMU, Rwp.
3. Office file.

Vice Chancellor
Rawalpindi Medical University
Rawalpindi

Rawalpindi Medical University (RMU)

Revised Professional Examination Policy – MBBS (First to Final Year)

(Aligned with Final Annual Assessment Table of Specifications year 2025)

1. Purpose and Scope

This policy defines the structure and rules for Final Professional Examinations for all MBBS professional years at Rawalpindi Medical University (RMU).
It ensures consistency, transparency, and alignment with the Table of Specifications (TOS 2025) approved by Board of Faculty.

2. **Definitions**

- **Block:**
  A thematic academic unit (e.g., Block I, II, III etc) comprising multiple subjects.
- **Component (Subject):**
  Each subject within a Block (e.g., Pharmacology , Pathology , Community Medicine Physiology etc.).
- **Sub-components:**
  Each subject has two assessment parts:
  - Theory (Knowledge Component) – MCQs, SEQs.
  - Practical / Skills Component – OSPE, OSCE, OSVE, Viva.
- **Continuous Internal Assessment (CIA):**
  40% marks calculated from CIA (30% from module , block assessments and 10% from LMS-based assessments).
- Final Annual Assessment: Assessment taken at the end of academic year and carries 60% of the total marks for the final annual assessment

3. Passing Criteria (As Per Final Annual Assessment TOS 2025)

To be declared Pass in a Block, a student must:

3.1. At Subject (Component) Level:

- Secure at least 50% marks in each subject of the relevant Block.
- Within each subject, both theory and practical sub-components must be cleared separately (≥50% in each)

3.2. At Block Level (Aggregate):

- Obtain at least 50% aggregate marks in the entire block (sum of all subjects +CIA)

3.4. Example Calculation for passing criteria

Block 3 of year 4 MBBS

Subject	Total Marks		Theory	Practical	Minimum marks required to pass theory	Minimum marks required to pass practical
	Prof	CIA	Prof Marks +CIA	Prof Marks +CIA		
Pharmacology	50	40	25+20=45	25+20=45	22.5	22.5
Community Medicine	30	20	15+10=25	15+10=25	12.5	12.5
Pathology	100	60	50+30=80	50+30=80	40	40
Total Marks (Block)	180	120	150	150	75	75

4. Failing Criteria

Students not meeting criteria mentioned in clause 3.1 and 3.2 will be declared failed

5. Examination Rules

1. Each Block shall be considered a complete academic and assessment unit. A student shall be declared *pass in the Block* only when all its constituent components (subjects) are passed and the overall Block Aggregate reaches the prescribed level(score).
2. It is mandatory to pass each subject within its respective block, not on the aggregate marks of that subject across all blocks.
3. **Failure in a Subject (Component):**
   If a student fails in any component (subject) within a Block, they shall appear in relevant block only in that failed subject (s) during the Supplementary Examination.
4. **Reappearance in Sub-components:**
   Within the failed subject, the student shall reappear in both Theory and Practical sub-components, regardless of which sub-component was failed earlier.
5. **Failure in Block Aggregate:**
   If a student passes all individual subjects (each securing ≥**50%**) but fails to achieve the required Block Aggregate of 50%, the student shall reappear in the entire Block (all subjects) during the Supplementary Examination.
6. **Continuous Internal Assessment (CIA):**
   The CIA marks shall be carried forward to the Supplementary Examination.
7. **Structure and Weightage:**
   The Supplementary Examination shall follow the same format, structure, and weightage as the Final Annual (Professional) Examination.

6. Eligibility for Supplementary Examination

A student shall be eligible for Supplementary Examination if:

1. They have completed the required regular attendance and CIA as per policy.
2. They have failed in one or more subjects (components) or failed to meet the aggregate as per passing criteria as mentioned in clause 3.1 and 3.2.

Prof. Dr. Muhammad Umar
Vice Chancellor
Rawalpindi Medical University
Rawalpindi

Reference:

- *UHS Policy*
- *PMDC Policy*

Sample paper

FOURTH YEAR BLOCK II (EYE) EXAM 2023

Sample Paper MCQs

MCQs
Time allowed: 60 mins
Total Marks: 35 (eye) + 20 (C.Med) = 55

1. A one-year-old baby is brought to eye opd by her parents with complain of watering, photophobia and enalarged eye ball. On examination there is hazy cornea with inadequate view of the angle and increased intraocular pressure on digital tonometry. Topical and systemic iop lowering drugs were given and a surgical intervention was decided to be performed. The most appropriate surgical procedure for this patient is
   a. Lens extraction
   b. Goniotomy
   c. Trabeculotomy
   d. Cyclolaser ablation
   e. Anterior chamber paracentesis

2. An 18 months old baby was brought to eye opd by her parents with complain of whitish pupillary reflex. She was diagnosed with retinoblastoma which was limited to eye ball occupying more than half of the vitreous volume and not invading the optic nerve. The most appropriate treatment option is
   a. Evisceration
   b. Exenteration
   c. Chemotherapy
   d. Radiotherapy
   e. Enucleation

3. The most common primary orbital malignancy in childhood is
   a. Rhabdomyosarcoma
   b. Optic nerve sheath meningioma
   c. Capillary hemangioma

d. Neuroblastoma
e. Lacrimal gland carcinoma

Sample Paper SEQs

1. **A 25 year's old, male presented in the emergency department with the complaint of spillage of acid in his right eye. On examination of the right eye, his corneal epithelium was swollen and opaque. You are suspecting an ocular chemical injury.**

   a. What will be your immediate management of this case? (02)

   b. Write Roper-Hall grading of the chemical injury? (02)

   c. Write two long term complication of the chemical injury? (01)

2. **A 45 years old man presents to the OPD with complains of right sided ocular discomfort and painful rash involving the right peri-orbital region for the past 4 days. Examination reveals tender, vesicular rash involving the right sided forehead and upper lid which respects the midline. Slit lamp examination reveals dendritic ulcers on the cornea. Rest of the ocular examination is unremarkable.**

   a. Based on the history and examination, the most probable diagnosis in this patient would be? (1)

   b. What would be a suitable management plan for this patient? (3)

   c. State two neurological complications that can be associated with this condition? (1)

3. **A 52 years old female presents to the ER with excruciating pain in the right eye and decreased vision in the right eye for the past 1 hour. She states that she is seeing "halos" around light and is also feeling extremely nauseous. Examination reveals severe circumciliary congestion with vertically oval, mid-dilated pupil that is poorly reactive to light. Applanation tonometry reveals IOP of 50mmHg**

   a. Based on these findings, the most probable diagnosis in this case would be? (1)
   b. What would the treatment plan for this patient? (2)
   c. What are the options to prevent such attacks in future in this patient? (2)

4. **A diabetic patient presents to eye OPD with complaint of gradual decrease in vision of his both eyes particularly effecting His central vision. His best corrected visual acuity is 6/36 and 6/18 respectively in both eyes. On detailed fundus examination of both eyes there are multiple dot blot and flame shaped hemorrhage in all quadrant along with clinically significant macular edema.**

   a. What investigations you would like to do that in patient? (1)
   b. What treatment modalities are available currently for this disease? (2)
   c. What other complications can develop in this patient? (2)

Sample Paper SAQs

A 29-year-old woman presents with a 3-month history of bilateral eye bulging, excessive sweating, palpitations, and weight loss. On examination, she has a diffusely enlarged, smooth thyroid gland.

i. What is your most probable diagnosis? 1
ii. Name any two ocular signs associated with this condition. 2
iii. List two sight-threatening complications. 2

KEY:

i. Thyroid Eye Disease (Graves' Orbitopathy)
ii. Any two of the following:

- Dalrymple's sign (lid retraction)
- Von Graefe's sign (lid lag on downgaze)
- Kocher's sign (staring appearance)
- Exophthalmos (proptosis)

iii. Compressive optic neuropathy, Exposure keratopathy

Sample AV OSPE:

A 60-year-old female presents to the emergency department with sudden onset severe pain in her right eye, blurred vision, and headache. her anterior segment photograph is shown

a) **What is the most likely diagnosis?**

b) **What are the clinical signs shown?**

c) **How will you manage the patient?**

d) **What is the definitive treatment?**

Sample Video Assisted OSPE

Carefully watch the video and answer the following questions

https://www.youtube.com/watch?v=cs0vAMfOVdY&t=33s

a. Identify the surgical procedure shown in the video.

b. List two indications for performing this procedure.

d. Name four potential postoperative complications.

Discipline Wise Details of Module Content

Subjects	Contents		Subjects	Contents
Community Medicine	Reproductive health-preventive obstetrics-maternal death (MCH-I) Reproductive health-preventive obstetrics-maternal health (MCH-II) Reproductive health-preventive obstetrics-safe- mother hood (MCH-III) Family planning & Population control approach & practices (FP-I)		**Community Medicine**	Demography- Population growth transition & trends-I (Demography-I) Demography-Population growth trends & transition. (Demography-II) Population Migration and urbanization (Demography-III) Breast feeding School health services
Pharmacology	Prolactin antagonist Family planning & Population control and National perspective I (FP-II) Gonadal hormones : I Estrogens Gonadal hormones : II Progestin Gonadal hormones: III Anabolic		**Pharmacology**	Hormonal contraceptives Child abuse & Handicapped children Oxytocic drugs and Uterine Health economics Framework, structure Relaxants Drug used in the treatment

Pathology	Benign Diseases of Ovary Benign Diseases of breast (Non-Neoplastic Lesions) Malignant Diseases of Ovary. Malignant neoplasm of

Pathology	Testicular tumors GTD & Choriocarcinoma Benign and Premalignant Lesions of Cervix Diseases of Lower Urinary Tract Proliferative lesions of Endometrium and

Spiral Courses	
The Holy Quran	**Translation**
Bioethics & Professionalism	Abortion ethics
Radiology & Artificial Intelligence	Imaging in obstetrics & anomaly scan
Family Medicine	Core concepts of family medicine in antenatal care during normal pregnancy
Research	IUGRC viva
Vertical Integration	

Gynae/Obs	Basic terminologies in obstetrics Basic antenatal care Minor pregnancy disorders Nutrition in pregnancy Prenatal diagnosis Early pregnancy complications (miscarriages, ectopic pregnancy) Induced and septic abortions Diagnosis of labour First stage of labour and management Abnormalities of 1st stage of labour Normal CTG

Gynae/Obs	Abdominal delivery Third stage of labour and its complications (retained placenta, uterine inversion) Post-partum hemorrhage Puerperium and its complications Contraception Multiple pregnancy Antepartum hemorrhage Perineal infections Preterm labor PPROM

	Revision of stages of labour and management Intra-uterine Death Management of GTD Physiology of Menstrual Cycle Management of STDs		Management of premalignant & malignant disease of cervix Management of benign & malignant disease of uterus. Management of benign and malignant ovarian

Pediatrics	Neonatal resuscitation Breast feeding LBW / prematurity Immunization
Surgery	Pelvic cellulitis& abscess Complication of laparotomy (visceral & vascular injury) Surgical intervention of breast
Medicine	Infections in pregnancy (RTI's, GIT, EYE/ENT, Dermatitis) Diabetes in pregnancy Anemia in pregnancy Liver disorders & thrombocytopenia in pregnancy Epilepsy in pregnancy Asthma in pregnancy Thrombotic disorders in pregnancy Rheumatological disorders in pregnancy osteoarthritis

1- POPULATION MEDICINE & REPRODUCTIVE HEALTH BLOCK TEAM

S.#	MODULE TASK FORCE TEAM	
1.	Coordinator	Dr. Sana Bilal
2.	Co- Coordinator (Module 1)	Dr Mehjabeen Qureshi
3.	Co- Coordinator (Module 2)	Dr Imrana Saeed
4.	CMS /LMS support	Dr Saba Maryam & Dr Maria Jabeen
DME IMPLEMENTATION TEAM		
1.	Director DME	Prof. Dr. Ifrah Saeed
2.	Additional Director DME	Dr. Khola Noreen

DURATION OF BLOCK **07 WEEKS**		
S.#	**MODULE COMMITTEE**	
1.	Vice Chancellor RMU	Prof. Dr. Muhammad Umar
2.	Director DME	Prof. Dr. Ifrah Saeed
4.	Additional Director DME	Dr. Khola Noreen
3.	Dean Basic Sciences	Prof. Dr. Samia Sarwar
5.	HOD Community Medicine	Prof. Dr. Rozina Shahadat Khan
6.	Focal Person Pharmacology	Dr. Zari
7.	Focal Person Community Medicine	Dr. Sana Bilal
8.	Focal Person Pathology	Dr. Mehreen

2- BLOCK PREPARATION TEAM

Department of Community Medicine

Rawalpindi Medical University

1. **Professor. Dr. Rozina Shahadat Khan**
   HOD Community Medicine Department
   Final Review/Editing

2. **Dr. Sana Bilal**

   Associate Prof, Coordinator

3. **Dr. Imrana Saeed**

   APWMO, Co-Coordinator

4. **Dr. Mehjabeen Qureshi**

Sr Demo, Co-Coordinator

3- Introduction to Population Medicine & Reproductive Health module

Introduction: Reproduction module provides integration of core concepts that underlie the foundation of basic sciences and their use in clinical medicine. This will eventually lead to develop critical thinking for integration and application of basic knowledge for clinical application.

Rationale: The Reproduction module is designed to impart basic knowledge about Obs/Gynae, Pathology, Pharmacology, and Community Medicine. This knowledge will serve as a base on which the student will construct further knowledge about the etiology, pathogenesis and prevention of diseases; the principles of their therapeutics and management.

Module Outcomes

Knowledge

1. Each student will be able to acquire knowledge about the basic concepts of diseases in the community**,** use technology based medical education and to appreciate concepts & importance of
    a. **Research**
    b. **Biomedical ethics**
    c. **Family medicine**
    d. **Artificial Intelligence Skills**

2. Interpret and analyze various practical & practices of clinical sciences.

Attitude

Demonstrate a professional attitude. Team building spirit and good communication skills.

This block will run in 7 weeks. The content covered will be made visible through introductory titles of the teaching sessions. Instructional strategies are given in the timetable and learning objectives are briefed in study guides. Study guides will also be available on university website.

4- TERMS & ABBREVIATIONS

1. Large Group Interactive Session (LGIS)
2. Small Group Discussion (SGD)
3. Self-Directed Learning (SDL)
4. Case Based Learning (CBL)
5. Peer assisted learning (PAL)
6. Clinical / skill lab (SL)

5- DOMAINS OF LEARNING ACCORDING TO BLOOMS TAXONOMY

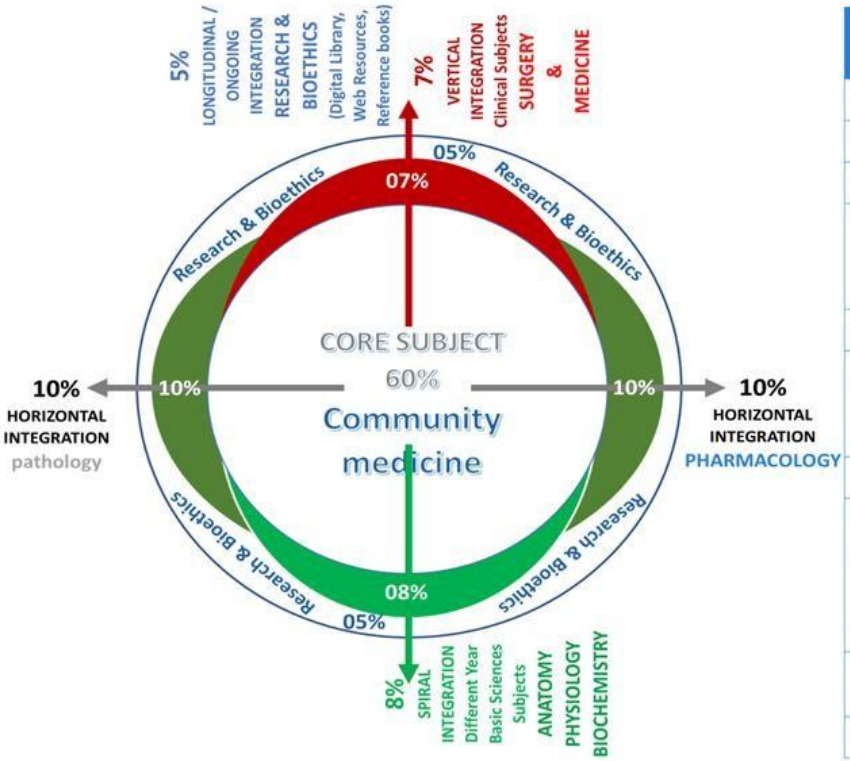
1.	**C**	**Cognitive Domain:** knowledge and mental skills.
	• C1	Remembering
	• C2	Understanding
	• C3	Applying
	• C4	Analyzing
	• C5	Evaluating
	• C6	Creating
2.	**P**	**Psychomotor Domain:** motor skills.
	• P1	Imitation
	• P2	Manipulation
	• P3	Precision
	• P4	Articulation
	• P5	Naturalization
3.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

	• A5	Internalize

6- TEACHING AND LEARNING METHODOLOGIES / STRATEGIES

Large Group Interactive Session (LGIS)

The large group interactive session is structured format of Prof Umar Model of Integrated lecture. It will be followed for delivery of all LGIS. 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.



4th Year community medicine LGIS (≈30 slides)	
Core Subject – 60% (≈ 18-20 slides)	
Community medicine (≈ 18-20 slides)	
Horizontal Integration – 20% (≈ 5-6 slides)	
Same Year Subjects	• Pharmacology (10%) (≈ 2-3 slides) • Pathology (10%) (≈ 2-3 slides)
Vertical Integration – 07% (≈ 2-3 slides)	
Clinical Subjects	• Medicine (3-5%) (≈ 1-2 slides) • Surgery (3-5%) (≈ 1-2 slides)
Spiral Integration – 08% (≈ 2-3 slides)	
Different Year Basic Sciences Subjects	• Anatomy (1-3%) (≈ 1-2 slides) • Physiology (1-3%) (≈ 1-2 slides) • Biochemistry (1-3%) (≈ 1-2 slides)
Longitudinal / Ongoing Integration – 05% (≈ 1-2 slides)	
Research & Bioethics (≈ 1-2 slides)	

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 helps to clarify the concepts.

Standardization of teaching content in SGDs

S. No	Contents
1	Title of SGD
2	Learning Objectives from Study Guides
3	Horizontal Integration 5%+5% = 10%
4	Core Concepts of the Topic 70%
5	Vertical Integration 10%
6	Related Advance Research points 3%
7	Biomedical Ethical points 2%
8	Spiral integration 5%

Steps of taking Small Group Discussions

Step 1	Sharing of Learning objectives by using students Study guides	5 minutes
Step 2	Asking students pre-planned questions from previous teachingsession to develop co-relation (these questions will be standardized)	5minutes
Step 3	Students divided into groups of three and allocation of learningobjectives	5minutes
Step 4	ACTIVITY: Students will discuss the learning objectives amongthemselves	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 structuredquestions from learning content	15 min
Step 8	Questions on Core Concepts	1 min
Step 9	Questions on Horizontal Integration	1 min
Step 10	Questions on Vertical Integration	1min
Step 11	Questions on related research article	1 min
Step 12	Questions on related Ethics Content	1 min
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	5 min

Self-Directed Learning (SDL)

- Self- directed learning is a process where students take primary charge of planning, continuing, and evaluating their learning experiences.
- Home based / time assignment.
- Learning objectives are briefed in study guide
- Learning resources including pages, book names etc. or link / web site
- Assessment: it will be online on LMS on a predefined schedule

Case Based Learning (CBL)

- It's a learner centered model which engages students in discussion of specific scenarios that resemble typically are real world examples.
- Case scenario will be given to the students
- Will engage students in discussion of specific scenarios that resemble or typically are real-world examples.

Transdisciplinary Clinical Reasoning Forum (TCRF)

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

iii. Develop analytic, communicative and collaborative skills along with content knowledge

Horizontally Integrated Basic Sciences

S no	Subjects	Teaching hours without practical/PAL
1	Pathology (LGIS+SGD+CBL)	18
2	Community medicine (LGIS+SGD)	16
3	Pharmacology (LGIS+SGD+CBL)	09

Vertically Integrated Clinical Subjects

S no	Subjects	Teaching hours
1	Gynae & Obs (LGIS+CBL)	41
2	Medicine (LGIS)	11
3	Anesthesia (LGIS)	03

4	Pediatrics (LGIS)	04

THEMES FOR ENOCRINOLOGY MODULE 2026

WEEK	THEME No.	TOPICS
Week 1	Theme 1	Metabolic Homeostasis s Diabetes Care Continuum
Week 2	Theme 2	Regulation of Thyroid s Parathyroid Hormones
Week 3	Theme 3	The HPA Axis in Health and Disease
Week 4	ASSESSMENT	

Theme 1: Week 1: Metabolic Homeostasis s Diabetes Care Continuum

Theme	Rationale	General learning objectives (SMART)
Metabolic Homeostasis s Diabetes Care Continuum	Diabetes mellitus is a major global and national public health problem and a leading cause of morbidity and mortality. It affects multiple organ systems and requires integration of physiology, biochemistry, pathology, pharmacology, medicine, ophthalmology, nephrology, cardiology, and community medicine. In 4th year MBBS, students must transition from theoretical knowledge to patient-centered management of chronic diseases. Understanding the continuum from insulin resistance to microvascular and macrovascular complications enables rational prescribing, early complication detection, and preventive counseling. Acute complications of diabetes such as diabetic ketoacidosis (DKA), hyperosmolar hyperglycemic state (HHS), and severe hypoglycemia are life-threatening emergencies commonly encountered in emergency and ICU settings. Early recognition and prompt management significantly reduce mortality. Teaching this theme integrates physiology, biochemistry, internal medicine, emergency medicine, and critical care. It equips students with essential competencies required for safe clinical practice.	By the end of this theme, the student will be able to: 1. Describe the pathophysiology of Type 1 and Type 2 diabetes mellitus with at least 80% accuracy in written/viva examinations. 2. Differentiate between insulin resistance and beta-cell dysfunction during structured case discussions. 3. Diagnose diabetes using standard laboratory criteria in at least 75% of case-based assessments. 4. Outline comprehensive management plans including lifestyle modification and pharmacotherapy in simulated clinical scenarios. 5. Identify and classify microvascular and

		macrovascular complications during ward-based discussions. 6. Counsel patients regarding diet, exercise,

		and self-monitoring effectively in observed clinical encounters. 7. Explain the pathophysiology of DKA and HHS during structured assessments with at least 75% accuracy. 8. Interpret arterial blood gas, serum ketones, and electrolyte reports correctly in at least 3 out of 4 simulated cases. 9. Formulate stepwise management plans for DKA according to undergraduate-level guidelines. 10. Recognize early warning signs of hypoglycaemia and initiate immediate management in OSCE simulations. 11. Demonstrate appropriate fluid and insulin therapy prescription in case-based exercises.

Pathology						
Code	**Topic**	**Contents Outlines (Major Topics s Sub-Topics)**	**Learning Objectives** **At the end of the session students should be able to;**	**Learning Domains**	**Teaching Strategy**	**Assessment Tool**

M1-PMRH-P-001	Diabetics mellitus	Introduction classification C causes of Diabetes Mellitus Plasma glucose regulation	• Classify Diabetes Mellitus • Diagnose, and explain pathogenesis • of diabetes along with glucose homeostasis.	C2 C3	LGIS	MCQs, SEQs, OSPE, Viva

		Pathophysiology of DM Investigation for DM				
M1-PMRH-P-002	Complications of Diabetes Mellitus	Pathophysiology diagnosis and complications of diabetes mellitus	• Describe in detail the complications, pathological findings and organ involvement in diabetes • Explain the lab investigations required to diagnose diabetes	C2 C2	CBL	MCQs
M1-PMRH-P-003	Pancreatic tumors, Neuroendocrine	Introduction to Pancreatic tumors, Neuroendocrine, clinical features, pathophysiology and its Investigations	• Explain Pancreatic tumors, Neuroendocrine diseases	C3	SGD	MCQs, SEQs, OSPE, Viva
M1-PMRH-P-004	Chronic pancreatitis C pancreatic carcinoma	Pancreatic pathologies and differences between them	• Identify and explain the gross and microscopic features of chronic pancreatitis • Differentiate between normal pancreas and pancreatic adenocarcinoma /pancreatic carcinoma. • Differentiate between pancreatic carcinoma and chronic pancreatitis	C3 C3 C3	Skill lab	OSPE/OSCE

Pharmacology						
Code	**Topic**	**Contents Outlines (Major Topics s Sub-**	**Learning Objectives**	**Learning Domains**	**Teaching Strategy**	**Assessment Tool**

		Topics)	**At the end of the session students should be able to;**			
M1-PMRH-PH-001	Drugs Used in Diabetes I	Oral hypoglycemic Sulfonylureas Meglitinides	• Classify Oral Hypoglycemic • Describe the mechanism of action of Sulfonylureas • Compare first- and second-generation Sulfonylureas	C2 C2 C2	LGIS	MCQs, SEQs, OSPE, Viva

			• Describe adverse effects of sulfonylureas • Describe the mechanism of action of Meglitinides • Compare Sulfonylureas C Meglitinides	C2 C2 C3		
M1-PMRH-PH-002	Drugs Used in Diabetes II	Biguanides Alpha-glucosidase inhibitors Thiazolidinediones Amylin analogs	• Discuss the mechanism of action C adverse effects of Biguanides • Differentiate between Sulfonylureas and Biguanides • Discuss the mechanism of action C adverse effects of • Alpha-Glucosidase Inhibitors • Discuss the mechanism of action C adverse effects of • Thiazolidinedione • Describe the mechanism of action C adverse effects of • Amylin analogs • Describe the mechanism of action C adverse effects of • GLP-1 analogs and Gliptins • Discuss uses of Oral Anti-diabetics	C2 C2 C2 C2 C2 C2 C2 C3	LGIS	MCQs/SEQs
M1-PMRH-PH-003	Drugs used in diabetes III	Insulin	• Classify Insulins • Compare animal C human insulins • Discuss the kinetics of different insulins with clinical significance • Describe the uses C adverse effects of Insulins • Describe insulin resistance	C1 C2 C2 C2 C2	LGIS	MCQs/SEQs

M1-PMRH-PH-004	Diabetes mellitus		• Classify the drugs used in the management of DM • Identify the drug group preferred in the given case	C2 C3	CBL	PBQ / Scenario Based Questions Identify the drug group preferred in the given case

Community Medicine						
Code	**Topic**	**Contents Outlines (Major Topics s Sub-Topics)**	**Learning Objectives** **At the end of the session students should be able to;**	**Learning Domains**	**Teaching Strategy**	**Assessment Tool**
M1-PMRH-CM-001	Non-Communicable Disease introduction (Hypertension, CHD)	Epidemiology of Hypertension, CHD Prevention of hypertension, CHD Classification Rules of halves	• Explain criteria of Chronic Non-Communicable diseases. (NCDs) • Appraise the burden of NCDs in inter-C national context. • Describe list of major NCDs of the region. • Describe common Risk Factors of NCDs. • Explain gaps in knowledge in natural history of NCDs C General preventive approaches • Explain epidemiology, prevention C control strategies for cardiovascular	C2 C2 C2 C2 C2 C3	LGIS	MCQs, SEQs, OSPE, Viva

			diseases (CHDs) • Explain epidemiology, prevention C control strategies for Hypertension	C3 C3		

			• Explain rules of halves C tracking of Blood Pressure strategy (hypertension)			
M1-PMRH-CM-002	Non-Communicable Disease (Diabetes, obesity)	Epidemiology of diabetes C obesity Prevention C control of diabetes C obesity Classification of diabetes C obesity Assessment of Body mass index	• Describe the risk factors and their importance in causation of diabetes C obesity • Apprehend the burden of diabetes C in Pakistan • Classify diabetes C obesity • Define C Measure obesity via different methods of obesity assessment • Calculate body mass index and interpret the results • Recommend approaches to prevention and control of diabetes and obesity in Community	C2 C2 C2 C2 C3 C3	LGIS	MCQs, SEQs, OSPE, Viva

Medicine						
Code	**Topic**	**Contents Outlines (Major Topics s Sub-Topics)**	**Learning Objectives** **At the end of the session students should be able to;**	**Learning Domains**	**Teaching Strategy**	**Assessment Tool**
M1-PMRH-M-001	Diabetes Insipidus	Clinical features C management of diabetes insipidus	• Explain the clinical presentation and physical findings in DI. • Differentiate between central DI and nephrogenic DI and describe etiology of both types. • Describe importance of water	C2 C3 C2	LGIS	MCQ/SEQ

			deprivation test in diagnosis and differentiation between both types of DI	C2 C2		

			• Discuss various treatment options available for management of diabetes insipidus.			
M1-PMRH-M-002	Diabetes and Hypoglycemia	Types of diabetes	• Enlist types of diabetes mellitus. • Diagnose diabetes mellitus. • Develop management plan for diabetes mellitus, including both pharmacological and nonpharmacological therapies. Identify clinical features of hypoglycemia and discuss management plan	C2 C3 C3	LGIS	MCQs, SEQs,
M1-PMRH-M-003	Diabetes Mellitus/DKA	C/F of diabetic ketoacidosis and its diagnosis Managing complication of DM	• Define Diabetes ketoacidosis • Discuss its clinical features • Plan relevant investigations • Diagnose and manage complications of diabetes mellitus. • (DKA, HONK) • Discuss treatment and management plan. Outline DKA and its management • Counsel the parents. • Do follow-up	C1 C2 C3 C3	LGIS	MCQs/SEQs

Surgery						
Code	**Topic**	**Contents Outlines (Major Topics s Sub-**	**Learning Objectives**	**Learning Domains**	**Teaching Strategy**	**Assessment Tool**

		Topics)	**At the end of the session students should be able to;**			

M1-PMRH-S-001	Surgical intervention of pancreatic tumor	Surgical diseases of pancreas and their management	• Discuss the surgical anatomy of pancreas • Explain the prevention of pancreatic tumors • Enlist the surgical diseases of pancreas • Approach towards a patient with suspected SOL in pancreas • Do pre-operative preparation of patient with SOL • Elaborate the protocol for surgery of distal pancreas	C2 C3 C2 C2 C2	LGIS	MCQ/SEQ

Paediatrics						
Code	**Topic**	**Contents Outlines** **(Major Topics s Sub-Topics)**	**Learning Objectives** **At the end of the session students should be able to;**	**Learning Domains**	**Teaching Strategy**	**Assessment Tool**
M1-PMRH-Ped-001	Diabetes Mellitus	Diabetes mellitus and its complications	• Explain pathophysiology and clinical presentation of Diabetes Mellitus • Plan relevant investigations • Recognize complications of diabetes mellitus • Manage disease and its complications • Counsel the parents and patient	C2 C3 C2 C2	LGIS	MCQ/SEQ

Family Medicine

Code	Topic	Contents Outlines (Major Topics s Sub- Topics)	Learning Objectives At the end of the session students should be able to;	Learning Domains	Teaching Strategy	Assessment Tool

M1-PMRH-FM-001	Core concepts of family medicine in (Noncommunicable diseases)	Discussion will cover; Diabetes mellitus and obesity its psychological impacts on families	• Explain the management strategies of a diabetic patient in general practice including the psychosocial impact of disease on patient and their families • Describe the strategies for prevention of diabetes mellitus and its complications • Identify the red-flags in a diabetic patient and appropriately refer to specialty care when required • Describe the aetiology, risk factors and complications of obesity • Explain the role of diet, exercise and anti-obesity drugs in the management of obesity and its complications • Identify the red-flags in an obese patient and appropriately refer to specialty care when required • Explain the psychosocial impact of disease on patient and their families	C2 C3 C2 C2 C2	LGIS	MCQ

Peer assisted learning (PAL)* IUGRC Contact Session

Indictors of accomplishment Prior readings / assigned work	**Learning objectives/ competencies**	**Learning outcomes**	**Assessment strategy**

Session 6 **Preparing students for data collection, entry,**	1. Task of data collection during summer vacation completed under	At the end of session students should be able to; 1. Compile C interpret study data	MCQ in module exam

analysis and result compilation	constant guidance and supervision of respective batch in-charges 2. Data collection is submitted to respective batch in-charges and hard copy as marker for task completion and evidence 3. Final Data entry C analysis into SPSS Software started under guidance of senior faculty 4. Result compilation and discussion writing marker for task completion and evidence 5. All task done under guidance of senior faculty	2. Make observable improvements or changes in data collection skills 3. Completion of data analysis by application of relevant statistical test 4. Finalize result compilation C discussion writing	

Transdisciplinary Clinical-Reasoning Forum (TCRF-1)

Theme-1

Theme	Week	Topics	Clinical Case Scenario
Theme 1	**Week 1**	Hyperglycemia, polyuria, weight loss, diabetic ketoacidosis, diabetic complications	**A diabetic with acute metabolic complications**

Clinical Scenario

A 45-year-old man presents to the emergency department with excessive thirst, family reports increasing drowsiness and confusion.

He was diagnosed with type 2 diabetes mellitus five years ago

but admits poor adherence to medications and diet.

On examination he is dehydrated and tachycardic with deep rapid breathing

and fruity breath odor.
Laboratory findings show:

Blood glucose: 420 mg/dL
Arterial blood gas demonstrates metabolic acidosis

Urine is positive for ketones
He is admitted for urgent management.

Student Task (Problem-Based Trigger)

- Identify the key clinical problem and most likely diagnosis.
- Explain the underlying pathophysiological mechanisms.
- Interpret relevant laboratory and imaging findings.
- Develop a comprehensive management plan.
- Identify potential complications.
- Counsel the patient regarding long-term disease control.
- Suggest preventive strategies at community level.

What Makes This Harden Level 11 Integration?

Learning is organized around an authentic patient problem rather than separate disciplines. Students integrate biomedical sciences, clinical reasoning, therapeutics and public health perspectives while developing a comprehensive care pathway.

Students integrate:

- Biochemistry (implicitly)
- Pathophysiology (implicitly)
- Pharmacotherapy (within management)
- Ethics and communication (within counselling)
- Public health (within prevention)
  But none are taught separately.

Teaching Format

- Small group facilitated learning
- Faculty from different backgrounds present but not teaching in silos
- Students build the care pathway themselves
- Assessment based on competence and clinical reasoning

Academic Justification Statement

"The case has been designed to reflect Harden Level 11 (transdisciplinary integration), where learning is structured around authentic patient problems rather than disciplinary categories. Knowledge from biomedical, clinical, and public health domains is integrated seamlessly within professional practice."

Subject Contribution in Clinico-Concept Connect Session

Subject / Discipline	Nature of Contribution	Approximate Integration Weight (%)
Internal Medicine	Diagnosis and management of diabetic ketoacidosis	30%
Biochemistry	Glucose metabolism and ketone body formation	15%
Physiology	Insulin regulation and metabolic homeostasis	15%
Pharmacology	Insulin therapy and fluid management	15%
Pathology	Microvascular complications of diabetes	10%
Public Health	Diabetes prevention strategies	10%
Ethics C Communication	Lifestyle counseling and adherence	5%

Subject-Wise Specific Learning Objectives

Subject	Learning Objective	Bloom Level
Internal Medicine	Analyze clinical presentation and formulate management plan	Analyze/Evaluate

Physiology	Explain hormonal regulation mechanisms	Understand
Pathology	Describe disease mechanisms causing symptoms	Analyze
Pharmacology	Select appropriate pharmacological therapy	Apply
Public Health	Propose preventive strategies at community level	Create

Theme 2: Week 2: Regulation of Thyroid s Parathyroid Hormones

Theme	Rationale	General learning objectives (SMART)

Regulation of Thyroid s Parathyroid Hormones	Thyroid diseases are highly prevalent and frequently encountered in clinical practice. Disorders such as hypothyroidism, hyperthyroidism, thyroid nodules, and autoimmune thyroid disease require integration of anatomy, physiology, pathology, immunology, pharmacology, radiology, and internal medicine. Early diagnosis prevents serious complications including cardiovascular disease, infertility, growth delay, and thyroid storm. Teaching thyroid disorders at 4th year MBBS level enhances diagnostic reasoning, interpretation of thyroid function tests, and rational management strategies. Thyroid nodules are common in the general population, and a subset may represent malignancy. Proper evaluation requires integration of clinical examination, endocrinology, radiology (ultrasound), pathology (FNA cytology), and surgery. Early detection of thyroid cancer improves prognosis and survival. This theme develops students' competencies in risk stratification, diagnostic reasoning, and referral decision-making.	By the end of this theme, the student will be able to: 1. Describe thyroid hormone synthesis, transport, and regulation with at least 80% accuracy in written examinations. 2. Differentiate primary, secondary, and subclinical thyroid disorders in structured case discussions. 3. Interpret thyroid function tests (TSH, T3, T4) accurately in at least 75% of formative assessments. 4. Outline management plans for hyperthyroidism including conditions such as Graves' disease during simulated clinical scenarios.

		5. Recognize features of severe hypothyroidism and thyroid storm in OSCE stations. 6. Counsel patients regarding long-term follow-up and medication adherence effectively in outpatient settings. 7. Perform a focused thyroid examination correctly in at least 3 out of 4 observed clinical encounters. 8. Identify red-flag features suggestive of malignancy in case-based discussions with at least 75% accuracy. 9. Outline the role of ultrasound and fine-needle aspiration cytology (FNAC) in evaluation of thyroid nodules. 10. Differentiate benign from malignant thyroid conditions during structured assessments. 11. State indications for surgical referral in simulated clinical scenarios.

Pathology						
Code	**Topic**	**Contents Outlines (Major Topics s Sub- Topics)**	**Learning Objectives**	**Learning Domains**	**Teaching Strategy**	**Assessment Tool**

			At the end of the session students should be able to;			
M1-PMRH-P-005	Hypothyroidism and Thyroid Tumors	Pathophysiology of thyroid gland	• explain hypothyroidism • classify and explain benign and malignant	C2 C2	LGIS	MCQs, SEQs, OSPE Viva

		Introduction types, causes Csign symptoms of hypothyroidism Pathophysiology of Hashimoto's Thyroid function test	• neoplasms of thyroid			
M1-PMRH-P-006	Hyperthyroidism	Introduction types, causes Csign symptoms of hyperthyroidism Pathophysiology of Grave's disease Thyroid function test	• Compare and differentiate between hyperthyroidism and hypothyroidism To describe pathophysiology of graves' disease.	C3	LGIS	MCQs, SEQs, OSPE Viva
M1-PMRH-P-007	Parathyroid Disorders	Introduction to parathyroid disorders and its Investigations	• Explain Parathyroid Disorders, clinical features and pathophysiology	C2	SGD	MCQs, SEQs, OSPE, Viva
M1-PMRH-P-008	Parathyroid Adenoma/carcinoma	Introduction to parathyroid adenoma /carcinoma, clinical features, pathophysiology and its Investigations	• Explain Parathyroid Adenoma/carcinoma, clinical features and pathophysiology	C2	SGD	MCQs, SEQs, OSPE, Viva

M1-PMRH-P-00G	Thyroiditis, Multinodular goiter	Classify and identify various types of thyroiditis & Multinodular goiter	• Classify different types of thyroiditis • Identify gross features and microscopic features such as Massive lymphoplasmacytic infiltration with lymphoid follicles formation and large active germinal center in Hashimoto's thyroiditis • Explain the gross features asymmetrically enlarged gland with Irregular nodules and	C1 C2 C2	Skill Lab	OSPE/OSCE

			microscopic features such as varied sized dilated follicles with hyperplastic epithelium in multinodular goiter and grave's disease • Identify microscopic features such as closely packed small follicles lined by cuboidal epithelium, within a fibrous capsule in follicular adenoma • Identify gross and microscopic features as complex, branching, randomly oriented papillae with fibrovascular cores and specific nuclear features in papillary carcinoma of thyroid			
M1-PMRH-P-010	Parathyroid adenoma/ carcinoma	Pathogenesis of parathyroid adenoma	• Identify and explain the gross and microscopic features of pituitary adenoma • Identify and explain the gross and microscopic features of parathyroid adenoma and how to differentiate it from carcinoma	C2 C3	Skill Lab	OSPE/OSCE

Pharmacology

Code	Topic	Contents Outlines (Major Topics s Sub- Topics)	Learning Objectives At the end of the session students should be able to;	Learning Domains	Teaching Strategy	Assessment Tool

M1-PMRH-PH-005	Anti-thyroid Drugs I	Thyroid preparations	• Describe different Thyroid Preparations • Describe the drugs that block each step of thyroid hormone synthesis • Classify Anti-thyroid Drugs	C2 C2 C2 C2	LGIS	MCQs, SEQs,
M1-PMRH-PH-006	Anti-thyroid Drugs II	Mechanism of action Adverse effects Use of beta blockers in hypothyroidism	• Describe the mechanism of action C adverse effects of the groups of anti-thyroid drugs • Explain the use of Beta Blockers in the treatment of Hyperthyroidism • Enumerate the uses of Anti-thyroid Drugs • Explain the rationale for use of different drugs in thyroid storm	C2 C2 C2 C2	LGIS	MCQs/SEQs
M1-PMRH-PH-007	Drugs that Affect Bone Mineral Homeostasis I	Principal hormonal Regulators Pharmacokinetics and pharmacodynamics of vitamin d	• Enumerate principal hormonal regulators of bone mineral homeostasis • Explain pharmacokinetics and pharmacodynamics of Vitamin D • Enumerate non hormonal agents affecting bone mineral homeostasis			
M1-PMRH-PH-008	Hypothyroidism		• Describe different Thyroid Preparations • Dose adjustment in different scenarios	C2 C3	CBL	PBQ / Scenario Based Questions

	P-Drug C Prescription writing		• P -Drug and prescription writing on • Diabetes Mellitus type II • Graves' Disease • Adrenal Insufficiency	C2	Skill Lab	OSPE

Community Medicine						
Code	**Topic**	**Contents Outlines (Major Topics s Sub- Topics)**	**Learning Objectives** **At the end of the session students should be able to;**	**Learning Domains**	**Teaching Strategy**	**Assessment Tool**
M1-PMRH-CM-003	**Non-Communicable Diseases (Cancer)**	Epidemiology of cancers Prevention & control of cancers Warning signs of cancer	• Differentiate categories of cancers • Identify epidemiology of cancers • recommend the approaches for prevention of cancers in the community	C2 C2 C2	LGIS	MCQs, SEQs, OSPE, Viva
M1-PMRH-CM-004	**Health programs of Pakistan**	Malaria Control Program TB Control Program AIDS Control Program Hepatitis Control Program National Program of Family Planning	• Explain program and National Health programs. • Enlist C elaborate important national health programs • Discuss the key points regarding National Program for family planning and primary healthcare, EPI, AIDs Control program, Hepatitis control	C2 C2 C2 C3	SGD	MCQs, SEQs, OSPE, Viva

Medicine

Code	Topic	Contents Outlines (Major Topics s Sub- Topics)	Learning Objectives At the end of the session students should be able to;	Learning Domains	Teaching Strategy	Assessment Tool

M1-PMRH-M-004	Hypothyroidism	Causes, C/F, investigations, treatment C complications of hypothyroidism	• Define hypothyroidism • Discuss Causes of hypothyroidism • Discuss clinical features (especially congenital hypothyroidism) • Discuss lab investigations and their interpretation. • Treatment and plan of management • Discuss Complications and counseling aspects	C2 C3 C2 C2	LGIS	MCQ/SEQ
M1-PMRH-M-005	Hyperthyroidism Thyroid Disorder	Thyroiditis C Grave's disease Comparison of hyper and hypothyroidism	• Compare and differentiate between hyperthyroidism and hypothyroidism • Explain thyroiditis and graves' disease. • Enlist various types of thyroid disorders. • Differentiate between clinical features of hyperthyroidism and hyperthyroidism.	C2 C3 C3	LGIS	MCQs, SEQs,

Surgery						
Code	**Topic**	**Contents Outlines (Major Topics s Sub-Topics)**	**Learning Objectives** **At the end of the session students should be able to;**	**Learning Domains**	**Teaching Strategy**	**Assessment Tool**
M1-PMRH-	Surgical intervention	Surgical anatomy of thyroid, diseases of	• Briefly describe anatomy of the thyroid gland and vascular	C2	LGIS	MCQ/SEQ

S-002	of Thyroid gland	thyroid and their management	supply	C3 C2		

			• Enlist important clinical signs and symptoms of different benign and malignant diseases of thyroid • Approach towards a patient with thyroid pathology. • Outline pre-operative work up for thyroid gland • Managing patient with thyroid pathology • Enlist the surgical procedure of thyroid	C2 C2		
M1-PMRH-S-003	Surgical intervention of parathyroid gland	Surgical anatomy of parathyroid gland, managing patient with parathyroid pathology	• Discuss the surgical anatomy of parathyroid gland • Enlist diseases treatable with surgery • Discuss briefly parathyroid adenoma, hyperplasia and carcinoma • Outline pre-operative work up for parathyroid gland • Approach towards a patient with parathyroid pathology.	C2 C3 C2	LGIS	MCQ/SEQ

Paediatrics						
Code	**Topic**	**Contents Outlines (Major Topics s Sub-Topics)**	**Learning Objectives** **At the end of the session students should be able to;**	**Learning Domains**	**Teaching Strategy**	**Assessment Tool**

M1-PMRH-Ped-002	**Hypothyroidism**	Hypothyroidism and its clinical presentation	• Enlist causes • Discuss clinical presentation at various ages	C2 C3	LGIS	MCQ/SEQ

			• Plan, interpret Investigations and take appropriate action • Treat and counsel the parents • Do follow-up	C2 C2		

Gynaecology s Obstetrics						
Code	**Topic**	**Contents Outlines (Major Topics s Sub-Topics)**	**Learning Objectives** **At the end of the session students should be able to;**	**Learning Domains**	**Teaching Strategy**	**Assessment Tool**
M1-PMRH-G-001	Thyroid in pregnancy	C/F of thyroid disorders in pregnancy C management	• Enlist thyroid disorders during pregnancy • Illustrate clinical presentation of thyroid disorders in pregnancy • Discuss feto-maternal effects of thyroid disorder • Discuss the management of these disorders	C2 C3 C2 C2	LGIS	MCQ/SEQ

Theme 3: Week 3: The HPA (Hypothalamic-Pituitary-Adrenal) Axis in Health and Disease

Theme	Rationale	General learning objectives (SMART)

The HPA Axis in Health and Disease	Cortisol plays a vital role in maintaining homeostasis, regulating metabolism, immune response, blood pressure, and adaptation to stress. Disorders of the hypothalamic–pituitary–adrenal (HPA) axis can lead to life-threatening conditions such as adrenal crisis or chronic morbidity due to adrenal insufficiency or hypercortisolism. In 4th year MBBS, understanding the physiological basis of cortisol regulation enables integration of anatomy, physiology, biochemistry, pathology, and clinical medicine. Early recognition of adrenal emergencies is essential for all future physicians regardless of specialty. Corticosteroids are among the most widely prescribed drugs across multiple specialties including medicine, pediatrics, dermatology, pulmonology, rheumatology, and obstetrics. Their potent anti-inflammatory and immunosuppressive effects make them life-saving in conditions such as asthma exacerbations, autoimmune diseases, septic shock, and organ transplantation. However, inappropriate dosing or duration can lead to serious adverse effects. Teaching their rational use at 4th year MBBS level promotes safe prescribing practices and integration of pharmacology with real-world patient care.	By the end of this theme, the student will be able to: 1. Describe the anatomy and physiology of the HPA axis and cortisol synthesis pathway with at least 80% accuracy in written/viva examinations. 2. Explain the feedback regulation and circadian rhythm of cortisol during structured case discussions. 3. Differentiate primary and secondary adrenal insufficiency in simulated clinical scenarios with at least 75% diagnostic accuracy. 4. Identify clinical features of acute adrenal crisis and outline emergency management correctly in OSCE stations. 5. Interpret laboratory investigations (serum cortisol, ACTH levels) appropriately in at least 3 out of 4 case-based exercises. 7. Classify corticosteroids according to potency and duration of action with at least 80% accuracy in assessments.

		8. Explain the mechanism of action (genomic and non-genomic) during pharmacology viva or structured discussions. 9. Select appropriate corticosteroid therapy

		(drug, dose, route, duration) for common conditions such as asthma, SLE, and nephrotic syndrome in at least 75% of case-based evaluations. 10. Demonstrate correct principles of steroid tapering in simulated prescription-writing exercises. 11. Counsel patients regarding benefits and potential adverse effects of steroid therapy effectively in observed clinical encounters..

Pathology						
Code	**Topic**	**Contents Outlines (Major Topics s Sub-Topics)**	**Learning Objectives** **At the end of the session students should be able to;**	**Learning Domains**	**Teaching Strategy**	**Assessment Tool**
M1-PMRH-P-011	Adrenal Gland/ Hyperadrenalism	Introduction to Hyperadrenalism Types C Investigation of Hyperadrenalism	• Explain pathophysiology of Cushing syndrome • Explain the pathophysiology of hyperaldosteronism and adrenogenital syndromes	C2 C3	LGIS	MCQs, SEQs, OSPE, Viva

M1-PMRH-P-012	Hypoadrenalism and adrenal tumors	Introduction to hypoadrenalism Types C Investigation of hypoadrenalism	• Describe the pathophysiology of Addison's disease and other hypo adrenal disorders • To describe the pathophysiology and microscopic features for diagnosis of adrenal cortical adenoma and carcinoma	C2, C3	LGIS	MCQs, SEQs, OSPE, Viva

M1-PMRH-P-013	Disorders of Post-Pituitary Hormones	Introduction to post pituitary gland and hormones secreted, Diseases /disorders of post pituitary gland, Investigations	• Explain hypopituitarism and posterior pituitary gland diseases	C2	SGD	MCQs, SEQs, OSPE, Viva
M1-PMRH-P-014	Disorders of Adrenal medulla & MEN Syndrome	Introduction to adrenal medulla gland, Diseases /disorders of adrenal medulla, Features of MEN, S syndrome and Investigations	• Describe the pathophysiology and microscopic features of pheochromocytoma • Explain the diagnostic features of men 1 and men 2 syndromes.	C2 C3	SGD	MCQs, SEQs, OSPE, Viva
M1-PMRH-P-015	Pineal gland	Pathophysiology, functions, diagnosis and investigations	• Describe in detail the pathological findings • Explain the lab investigations required for diagnose	C2 C2	CBL	MCQs

Pharmacology						
Code	**Topic**	**Contents Outlines (Major Topics s Sub-Topics)**	**Learning Objectives** **At the end of the session students should be able to;**	**Learning Domains**	**Teaching Strategy**	**Assessment Tool**
M1-PMRH-PH-00G	Corticosteroid I	Classification C Mechanism of action	• Classify corticosteroids • Describe the mechanism of action of Corticosteroids	C2 C2	LGIS	MCQs, SEQs, OSPE Viva

M1-PMRH-PH-010	Corticosteroid II	Classification C Mechanism of action	• Describe the actions of glucocorticoids • Describe the Uses of Corticosteroids	C2 C2	LGIS	MCQs/SEQs
M1- **PMRH-PH-011**	Corticosteroid III	Uses Adverse effects Contraindications	• Describe the adverse effects of Corticosteroids	C1 C2	LGIS	MCQs/SEQs

			• Justify the tapering off of corticosteroids • Describe the contraindications of corticosteroids			
M1-PMRH-PH-012	Mineralocorticoid Antagonist		• Enumerate mineralocorticoid antagonists • Describe the mechanism of action of mineralocorticoid antagonists	C2 C2	SGD	MCQs
M1-PMRH-PH-013	Glucocorticoid Antagonists		• Enumerate glucocorticoid antagonists • Describe the mechanism of action of glucocorticoid antagonists	C2 C2	SGD	MCQs
M1-PMRH-PH-014	Corticosteroid		• Classify corticosteroids • Describe the mechanism of action of corticosteroids • Describe the actions of glucocorticoids • Describe the Uses of Corticosteroids • Describe the adverse effects of Corticosteroids • Justify the tapering off of corticosteroids • Identify the contraindications of corticosteroids	C2 C2 C2 C2 C2 C3	CBL	PBQ / Scenario Based Questions

Community Medicine						
Code	**Topic**	**Contents Outlines (Major Topics s Sub-Topics)**	**Learning Objectives** **At the end of the session students should be able to;**	**Learning Domains**	**Teaching Strategy**	**Assessment Tool**

M1-PMRH-CM-005	Health care delivery system	Objectives, components C models of Health care system	• Define health system • Enlist health system models • Comprehend components of healthcare delivery system • Illustrate the functions and objectives of health system	C2 C2 C2 C2	LGIS	MCQs, SEQs, OSPE, Viva
M1-PMRH-CM-006	Health care delivery system of Pakistan	Levels and functions of healthcare system Tiers C functions of healthcare system of Pakistan	• Describe the levels of health care system • Elaborate the healthcare services available at all levels of healthcare system • Describe the tiers of health care system of Pakistan • Discuss the functions of healthcare system of Pakistan	C2 C2 C2 C3 C3	LGIS	MCQs, SEQs, OSPE, Viva

Medicine						
Code	**Topic**	**Contents Outlines (Major Topics s Sub- Topics)**	**Learning Objectives At the end of the session students should be able to;**	**Learning Domains**	**Teaching Strategy**	**Assessment Tool**

M1-PMRH-M-006	Cushing's Syndrome and Addison's Disease	C/F, diagnosis, causes and management of Cushing's Syndrome and	• Identify clinical presentation of Cushing's disease and describe diagnostic workup and management plan of • Cushing's syndrome.	C2 C3 C2	LGIS	MCQ/SEQ

		Addison's Disease	• Differentiate between Cushing's disease and syndrome. • Enlist various causes of Cushing's syndrome • Identify causes and clinical features of Addison's disease Differentiate between primary and secondary Addison's disease	C2 C2		
M1-PMRH-M-007	Hyperaldosteronism	C/F, diagnosis, causes and management of Hyperaldosteronism	• Identify clinical presentation of • Hyperaldosteronism and describe diagnostic workup and management	C1 C2	LGIS	MCQs/SEQs
M1-PMRH-M-008	Acromegaly	Clinical features C investigations of acromegaly along with its management	• Identify clinical presentation and physical findings in acromegaly. • Describe laboratory workup of acromegaly. • Explain various therapeutic options in management of acromegaly • Recall clinical conditions associated with acromegaly.	C1 C2 C2	LGIS	MCQs/SEQs

Surgery

Code	Topic	Contents Outlines (Major Topics s Sub-Topics)	Learning Objectives At the end of the session students should be able to;	Learning Domains	Teaching Strategy	Assessment Tool
M1-PMRH-S-004	Surgical intervention of adrenal gland	Surgical anatomy and surgical intervention of adrenal gland	• Discuss the surgical anatomy of adrenal gland	C2 C3	LGIS	MCQ/SEQ

			• Approach adrenal towards a patient with incidental SOL in gland • Describe pheochromocytoma • Illustrate pre-operative workup for pheochromocytoma • Prepare a patient for pheochromocytoma • Discuss Surgical procedure for pheochromocytoma including minimally invasive surgery	C2 C2 C2		

Peer assisted learning (PAL)* IUGRC Contact Session

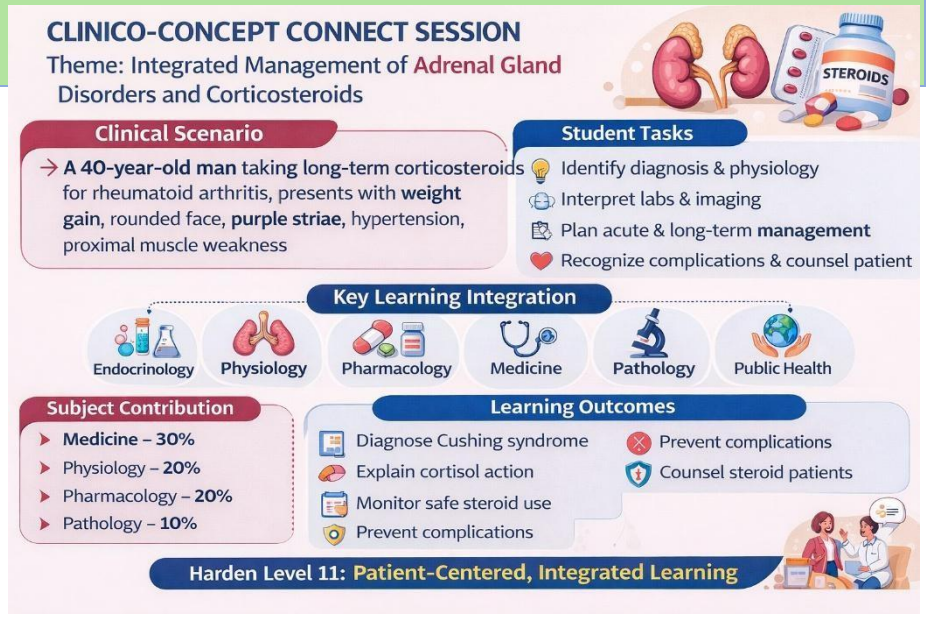
Indictors of accomplishment Prior readings / assigned work	Learning objectives/ competencies	Learning outcomes	Assessment strategy

Session 7 **Preparing students for report writing according to SJRMC guidelines**	a. Review of task of result writing and discussion write up under guidance and supervision of respective batch in-charges b. Briefing on manuscript writing according to SJRMC guidelines c. Detailed session on report writing according to standard guidelines	• Guidance on report writing as per guidelines shared • Finalization of manuscript writing, report writing and manuscript wiring according to SJRMC guidelines	MCQ in module exam

Transdisciplinary Clinical-Reasoning Forum (TCRF-2)

Theme-3

Theme	Week	Topics	Clinical Case Scenario
Theme 3	Week 3	Hypertension, obesity, cortisol excess, Cushing syndrome, steroid therapy	A female patient with Cushing Syndrome Due to Prolonged Steroid Use



Clinical Scenario

A 40-year-old woman presents with progressive weight gain, facial rounding, fatigue and muscle weakness.

She has been receiving long-term corticosteroid therapy for severe rheumatoid arthritis.

Examination findings include moon face, central obesity,

purple abdominal striae, hypertension (160/95 mmHg)

and proximal muscle weakness.

Investigations reveal elevated blood glucose

and decreased bone mineral density.

Student Task (Problem-Based Trigger)

- Identify the key clinical problem and most likely diagnosis.
- Explain the underlying pathophysiological mechanisms.
- Interpret relevant laboratory and imaging findings.
- Develop a comprehensive management plan.
- Identify potential complications.
- Counsel the patient regarding long-term disease control.
- Suggest preventive strategies at community level.

What Makes This Harden Level 11 Integration?

Learning is organized around an authentic patient problem rather than separate disciplines. Students integrate biomedical sciences, clinical reasoning, therapeutics and public health perspectives while developing a comprehensive care pathway.

Students integrate:

- Anatomy (implicitly)
- Pathophysiology (implicitly)
- Radiological Imaging interpretation (within reasoning)
- Pharmacotherapy (within management)
- Ethics and communication (within counselling)
- Public health (within prevention)

But none are taught separately.

Teaching Format

- Small group facilitated learning
- Faculty from different backgrounds present but not teaching in silos

- Students build the care pathway themselves
- Assessment based on competence and clinical reasoning

Academic Justification Statement

"The case has been designed to reflect Harden Level 11 (transdisciplinary integration), where learning is structured around authentic patient problems rather than disciplinary categories. Knowledge from biomedical, clinical, and public health domains is integrated seamlessly within professional practice."

Subject Contribution in Clinico-Concept Connect Session

Subject / Discipline	Nature of Contribution	Integration Weight (%)
Internal Medicine	Diagnosis of Cushing syndrome	30%
Physiology	Hypothalamic-pituitary-adrenal axis regulation	20%
Pharmacology	Corticosteroid pharmacology and adverse effects	20%
Pathology	Metabolic effects of cortisol excess	10%
Radiology	Imaging of adrenal glands	10%
Public Health	Safe steroid prescribing practices	5%
Ethics C Communication	Counseling regarding steroid risks	5%

Subject-Wise Specific Learning Objectives

Subject	Learning Objective	Bloom Level
Internal Medicine	Analyze clinical presentation and formulate management plan	Analyze/Evaluate
Physiology	Explain hormonal regulation mechanisms	Understand

Pathology	Describe disease mechanisms causing symptoms	Analyze
Pharmacology	Select appropriate pharmacological therapy	Apply
Public Health	Propose preventive strategies at community level	Create

Self-Directed Learning (SDL)

Pathology			
Sr. No.	**Topic**	**Learning outcomes** **At the end of session students will be able to:**	**Reference**
01	Contributions of the endocrine system to homeostasis	• Describes the effects of endocrine system on homeostasis.	Robin basic pathology 10th edition Chapter endocrine system Page: 749
02	Summarize the site of production, regulation, thyroid gland	• Discuss steps of production and regulation of thyroid hormone	Robin basic pathology 10th edition Chapter endocrine system page: 755 – 756

03	Investigations of a case of goiter	• Know basic laboratory investigations of a case of goiter	Robin basic pathology 10th edition Chapter endocrine system page: 762 – 763
04	Investigations of diabetes mellitus	• Know basic laboratory investigations of a case of diabetes mellitus	Robin basic pathology 10th edition chapter endocrine system page: 772

Community Medicine			
#	**Topics**	**Learning objectives.** **Students will be able to …**	**Learning resource**
1	**Epidemiology of Stroke**	1. Describe problem statement of stroke. 2. Risk factors of stroke 3. Strategies for stroke control in population	K Park Ed. 27th (pg. 377-78)
2	**Epidemiology of Rheumatic Heart disease (RHDs)**	1. Describe problem statement of RHDs. 2. Epidemiological factors of RHDs. 3. WHO criteria for diagnosis of RHDs 4. Approaches for Prevention of RHDs in population	K Park Ed. 27th (pg. 378-81)
3	**Adolescent health**	1. Discuss normal adolescent development, its impact on health 2. Counselling of adolescents with specific conditions 3. Identification of normal growth and pubertal development 4. Manage common health &mental health conditions, nutrition related disorders 5. Identify signs of substance use and substance use disorders	K Park Ed. 27th (pg. 670-73)

Pharmacology

TOPIC	LEARNING OUTCOMES At the end of session students will be able to:	REFERENCE

Post Covid incidence of thyroid diseases and their pharmacological treatment	• define hypothyroidism • Correlate lab results of thyroid function tests and patient's symptoms • Discuss pathophysiology of thyroid disease in association with Covid • Discuss the role of drugs used for hypothyroidism in post Covid patients	Thyroid and COVID-19: a review on pathophysiological, clinical and organizational aspects https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7992516/#:~:text=Thyroid%20and%20COVID%2D19%3A%20a%20review%20on%20pathophysiological%2C%20clinical%20and%20organizational%20aspects The Association Between COVID-19 and Thyroxine Levels: A Meta- Analysishttps://www.frontiersin.org/articles/779692
Bisphosphonates and bone mineral diseases	• Classify drugs used for bone mineral diseases • Describe mechanism of action and uses of bisphosphonates • Describe adverse effects of bisphosphonates	The Effect of Bisphosphonates on Fracture Healing Time and Changes in Bone Mass Density: METAAnalysishttps://www.frontiersin.org/articles/10.3389/fendo.2021. 688269/full#:~:text=10.3389/fendo.2021.688269-,The%20Effect%20of%20Bisphosphonates%20on%20Fracture%20Healing%20Time%20and %20Changes%20in

Nuclear receptors coactivators	• Descried Steroid receptor signaling mechanisms • Discuss the role of coactivators in steroid receptor functioning • Enumerate the drugs acting through steroid receptor activation	Nuclear Integration of Glucocorticoid Receptor and Nuclear Factor-κB Signaling by CREB-binding Protein and Steroid Receptor Coactivator-1* https://www.jbc.org/article/S0021-9258(19)59316- 4/fulltext#:~:text=Nuclear%20Integration%20of%20Glucocorticoid%20 Receptor%20and%20Nuclear%20Factor%2D%CE%BAB%20Signaling

		%20by%20CREB%2Dbinding%20Protein%20and%20Steroid%20Recep tor%20Coactivator%2D1*
DPP-4 INHIBITORS AND PANCREATIC CARCINOMA	Risk of dipeptidyl peptidase-4 (DPP-4) inhibitors on sitespecific cancer: A systematic review and meta-analysis https://onlinelibrary.wiley.com/doi/abs/10.1002/dmrr.3004	Dipeptidyl Peptidase-4 Inhibitor–Associated Pancreatic Carcinoma https://journals.sagepub.com/doi/abs/10.1177/1060028015610123?jou rnalCode=aopd#:~:text=Dipeptidyl%20Peptidase%2D4%20Inhibitor%E2%80%93Associated%20Pancreatic%20Carcinoma

Themes for Population Medicine & Reproductive Health Module 2026

Week	Theme number	Theme Topics	Subthemes
Week 1,2,3	Theme 1	Maternal Health	1. Antenatal care 2. Natal care 3. Postnatal care
Week 4	Theme 2	Maternal Gynecological Problems	1. Benign & Malignant Diseases of Vulva, Vagina & Breast 2. Benign & Malignant Diseases of Ovary & Uterus
Week 5	Theme 3	Child Health	1. Intrauterine Care 2. Newborn Care 3. Integrated Management of Neonatal and Childhood Illness) & growth monitoring
Week 6	Theme 4	Population Health	1. Demography & population trends 2. Family Planning

Week 1,2,3 ; Theme 1: Maternal Health

Theme / Subtheme	General Learning Outcomes (GLOs)(Aligned with Obstetrics, Medicine, Community medicine, Pathology & Pharmacology	Rationale
Theme: Maternal Health	By the end of the week, the student should be able to: 1. Explain the epidemiology and determinants of maternal morbidity and mortality at global and national levels. 2. Describe the continuum of maternal care (antenatal, intra- natal, postnatal) within the framework of primary health care. 3. Identify major causes of maternal mortality and outline evidence-based preventive strategies. 4. Discuss the role of health systems, referral pathways, and skilled birth attendance in improving maternal outcomes. 5. Demonstrate respectful maternity care principles and ethical considerations in maternal health services.	Maternal health remains a major public health priority, particularly in low- and middle-income countries where preventable causes contribute significantly to maternal morbidity and mortality. For 4th year MBBS students transitioning into clinical practice, teaching about maternal health provides an opportunity to integrate obstetrics, medicine, pathology, pharmacology, ethics, and public health principles into patient-centered care. The continuum of care—from antenatal, intrapartum, to postnatal services—demonstrates how preventive strategies, early risk

Subtheme 1: Antenatal Care (ANC)	By the end of this section, the student should be able to: 1. Describe objectives and components of quality antenatal care. 2. Outline recommended ANC visit schedules and essential assessments (history, examination, investigations). 3. Identify high-risk pregnancy through screening and risk stratification. 4. Counsel pregnant women on nutrition, immunization, birth preparedness, and danger signs. 5. Discuss prevention and early detection of common antenatal complications (e.g., anemia, hypertensive disorders, gestational diabetes).	identification, skilled birth attendance, and timely referral collectively reduce adverse outcomes. Teaching maternal health at this stage strengthens competencies in: • Risk assessment and screening of high-risk pregnancies • Early recognition of obstetric emergencies • Evidence-based preventive strategies • Respectful maternity care and ethical practice

Subtheme 2: Natal Care (Intrapartum Care)	By the end of this section, the student should be able to: 1. Describe the stages and physiology of normal labor. 2. Explain monitoring of labor using partograph and clinical parameters. 3. Recognize warning signs and complications during labor (e.g., obstructed labor, postpartum hemorrhage risk factors). 4. Discuss principles of clean and safe delivery practices. 5. Outline indications for referral and emergency obstetric care.	• Health systems understanding and referral pathways Additionally, maternal health is directly linked to neonatal survival and long-term child outcomes, reinforcing its intergenerational impact. A strong foundation in maternal care prepares graduates to contribute effectively to safe motherhood initiatives, primary health care services, and national reproductive health program
Subtheme 3: Postnatal Care (PNC)	By the end of this section, the student should be able to: 1. Describe the components and timing of postnatal visits for mother and newborn. 2. Identify early and late postpartum complications. 3. Counsel mothers on breastfeeding, nutrition, family planning, and newborn care. 4. Discuss psychological aspects including postpartum depression and social support systems. 5. Explain the importance of postnatal follow-up in reducing maternal and neonatal morbidity and mortality.	

Specific Learning Objectives --- Obstetrics

Code	Topic	Learning objectives At the end of the lecture the student should be able to	Cognitive Levels	Assessment Tool
M2-PMRH-G-001	**Basic terminologies in obstetrics** **Prenatal diagnosis**	• Enlist the aims of antenatal care. • Discuss the importance of early booking and regular anc. • Define prenatal diagnoses. • Enlist the conditions diagnosed with prenatal tests. • Identify the high-risk women for prenatal diagnostic testing. • Name the noninvasive and invasive tests. • Elaborate the timing, method, complications and diagnostic accuracy of each test. • Explain the risk prediction method for down's syndrome.	C1 C2 C2 C1 C1 C1 C1 C2 C2	MCQS/ SAQ
PMRH-G-002	**Early pregnancy complications** **(miscarriages, ectopic pregnancy)**	• Define miscarriage and its types. • Elaborate the risk factors. • Explain the clinical features of all types of miscarriage. • Discuss key management principles of different types of miscarriages including counseling for futurepregnancies.	C1 C2 C2	MCQ

PMRH-G-003	**Induced and septic abortions & Abortion Ethics**	• Define induced septic abortion. • Describe their clinical presentations and investigations required. • Enumerate the complications of induced septic abortion. • Discuss the management plan and follow up.	C1 C2 C1 C2	MCQ, SAQ

PMRH-G-004	**Diagnosis of labour First stage of labour,** **management & Abnormalities** **Normal CTG**	• Define labour and its different stages. • Discuss the maternal and fetal anatomy relevant to labor and delivery. • Identify the signs of onset of labour. • Describe the normal progress of labor in relation to portogram. • Explain the methods of fetal monitoring during labor and their normal values. • Describe the significance of power, passage and passengers. • Discuss the importance of adequate hydration and diet during labour. • Describe the abnormalities of 1st stage of labour. • Discuss the contribution of power, passage and passenger in progress of labour. • Identify the abnormal progress of labor on portogram • Scenario based discussion on fetal monitoring during labour • Identify the 04-basic f hr. Parameters to be interpreted on CTG trace. • Differentiate between normal and abnormal CTG patterns.	C1 C2 C1 C2 C1 C2 C2 C2 C2 C1 C1 C2 C2 C2	MCQ, SAQ
PMRH-G-005	**Second stage of labour** **Normal labour**	• Define the second stage of labour and its normal duration. • Discuss the management of second stage of labour. • Discuss role of power passage and passenger in prolong second stage of labour. Describe the mechanism of normal labour	C1 C2 C2 C2	MCQ, SAQ

PMRH-G-006	**Episiotomy,** **Operative vaginal delivery**	• Define episiotomy. • Enlist its different types. • Explain anatomical structures involved in episiotomy. • Identify indications of episiotomy in correlation with the patient's condition. • Discuss complications of episiotomy. • Define operative vaginal delivery. • Discuss the urgency of operative vaginal deliveries & enumerate its indications. • Discuss prerequisites of operative vaginal delivery. • Discuss methods for application of forceps and vacuum. Enlist the complications of operative vaginal delivery	C1 C1 C2 C3 C2 C1 C2 C1 C2 C2	MCQ, SAQ
PMRH-G-007	**Abdominal delivery**	• Define abdominal delivery. • Discuss briefly the anatomy of anterior abdominal wall. • Discuss the indications of c-section. • Categorize the caesarean section according to RCOG. • Explain the steps of LSCS. • Describe the steps of cesarean section. Discuss the complications associated with LSCS.	C1 C2 C2 C3 C2 C2 C2	MCQ, SAQ
PMRH-G-008	**Third stage of labour and its complications (retained**	• Define third stage of labour • Discuss management of third stage of labour. • Define post-partum hemorrhage.	C1 C2 C1 C2	MCQ, SAQ

	placenta, uterine inversion)	(Primary & secondary post-partum hemorrhage) Discuss the risk factors for post-partum hemorrhage.		
PMRH-G-009	**Post-partum hemorrhage**	• Describe the signs, symptoms and diagnosis of primary PPH.	C2 C2	MCQ, SAQ

		• Discuss the investigations and management of primary post-partum hemorrhage. • Describe the signs, symptoms and diagnosis of secondary post-partum hemorrhage. Discuss investigations and management of secondary postpartum hemorrhage.	C2 C2	
PMRH-G-010	**Puerperium and its complications**	• Define puerperium. • Explain the normal physiological changes of normal puerperium. • Discuss the postnatal care during puerperium. Enlist the common disorders of puerperium and their management.	C1 C2 C2 C1	MCQ, SAQ
PMRH-G-011	**Multiple pregnancy**	• Define multiple pregnancy. • Discuss the types of twin gestation according to chorionicity and zygosity. • Interpret the ultrasound findings of multiple pregnancy in first trimester. • Discuss the antenatal care in twin pregnancy. • Discuss the fetomaternal complications associated with multiple pregnancy. • Plan the mode of delivery according to presentation of first twin. . Describe the mechanism of delivery of twins.	C1 C2 C3 C2 C2 C3/C4 C2	MCQ, SAQ

PMRH-G-012	**Antepartum hemorrhage**	• Define antepartum hemorrhage • Enlist causes of APH. • Differentiate clinically between placenta previa and placental abruption. • Elaborate the emergency approach towards the patient with massive hemorrhage. • Discuss management plan for placenta previa.	C1 C1 C3 C2 C3	MCQ SAQ

		Discuss the management plan for placental abruption	C3	
PMRH-G-013	**Preterm labor** **PPROM**	• Define preterm labour. • Enlist its causes. • Plan the management of patient with preterm labour. • Discuss fetal implications of preterm birth. • Define p-prom. • Enlist its causes. • Plan the management of patient with P-Prom. Discuss Fetomaternal Complications Of P-Prom	C1 C1 C3 C2 C1 C1 C3 C2	MCQ SAQ
PMRH-G-014	**Prolonged pregnancy/Induction** **of labour**	• Define prolong pregnancy. • Correlate fetomaternal risks associated with prolong pregnancy. • Enlist indications and contraindications for IOL. • Describe modified bishop scoring system. • Explain methods of IOL. Discuss complications of IOL.	C1 C2 C1 C2 C2 C2	MCQ SAQ

Specific learning objectives --- Medicine

Code	Topic	Learning objectives At the end of the lecture the student should be able to	Cognitive Level	Assessment tool
PMRH-M-001	Infections in pregnancy (RTIs, GIT, EYE/ENT, Dermatitis)	• Enlist common infections which occur more frequently in pregnancy and risk factors for these infections • Know obstetric complications of infections • Treatment of infections in pregnancy and during breastfeeding	C1 C1 C2/C3	MCQS
PMRH-M-002	Hypertension pre-eclampsia, eclampsia ,	• Recall etiology, pathophysiology • Explain risk factors for , clinical features and investigations to confirm diagnosis • Construct management plan including prevention and discuss complications of eclampsia for both fetus and mother	C1 C2 C3	MCQs
PMRH-M-003	Diabetes in pregnancy	• Recall etiology, pathophysiology of gestational diabetes mellitus • Explain risk factors, clinical features and investigations to confirm diagnosis • Construct management plan of each disorder and discuss complications of these conditions for both fetus and mother	C1 C2 C3	MCQS

PMRH-M-004	Anemia in pregnancy	• Recall etiology, pathophysiology and common types of anemia in pregnancy • Explain risk factors for anemia, clinical features and investigations to confirm diagnosis	C1 C2 C3	MCQS

		• Construct management plan including prevention and discuss complications of anemia for both fetus and mother		
PMRH-M-005	Liver disorders & thrombocytopenia in pregnancy	• Discuss etiologies and risk factors for common thrombotic disorders in pregnancy • Explain clinical features and investigations to confirm thrombotic disorders in pregnancy and post-partum period • Discuss appropriate anticoagulation therapy in pregnancy and breastfeeding	C1 C1 C2	MCQs
PMRH-M-006	Asthma in pregnancy	• Explain the effects of pregnancy on asthma • Explain risk factors, clinical features and investigations to confirm diagnosis Discuss treatment plan and appropriate medication to control asthma in pregnancy	C1 C2 C3	MCQS
	Thrombotic disorders in pregnancy	Explain etiologies and prevalence of thrombocytopenia in pregnancy	C2	MCQs

PMRH-M-007	Rheumatological illness and pregnancy	• Explain the effects Rheumatological illness during pregnancy • Explain risk factors, clinical features and investigations to confirm diagnosis Discuss treatment plan and appropriate medication to control these in pregnancy	C2 C3 C3	MCQs
PMRH-M-008	Overview of Rheumatological disorders	• Explain common Rheumatological disorders during pregnancy	C2 C3	MCQs

		• Explain risk factors, clinical features and investigations to confirm diagnosis Discuss treatment plan and appropriate medication to control these in pregnancy	C3	
PMRH-M-009	Osteoarthritis	• Define osteoarthritis & its types • Enlist predisposing factors • Enlist clinical features & diagnostic criteria Management strategy	C1 C2 C2 C3	MCQS
PMRH-M-010	Epilepsy in pregnancy	Explain how does epilepsy effects pregnancy	C1	MCQs
PMRH-M-011	Asthma in pregnancy	• Explain the effects of pregnancy on asthma • Explain risk factors, clinical features and investigations to confirm diagnosis Discuss treatment plan and appropriate medication to control asthma in pregnancy	C1 C2 C3	MCQS

Specific Learning objectives--- Community Medicine

Code	Topic	Contents Outlines Sub-Topics	Learning Objectives After the Session Students Will Be Able To:	Level of cognition	Teaching strategy	Assessment Tools
PMRH-CM-001	Reproductive Health and domiciliary services	• Preventive medicine in obstetrics-I • Maternal and child health care (MCH) • Maternity cycle • MCH problems • Delivering MCH services • Recent trends in MCH care	• Define and comprehend the rationale of different components of maternal and child health including o Reproductive health & its components o Safe motherhood & its components o Maternal mortality rate, causes & prevention • Infer the logic behind application of different preventive measures in various phases of life to improve the maternal health • Appreciate the relationship between the maternal health status and the outcome of pregnancy • Determine the factors that contribute to HIGH maternal mortality rate (MMR).	C2 C3 C3 C2	LGIS	MCQ, SEQ, Viva

PMRH-CM-002.	Preventive obstetrics(antenatal)	• Preventive medicine in obstetrics-II • Preventive services for mothers • Indicators in MCH care	• Understand the availability of preventive services for mother during antenatal period • Explain the concept of dimensions of continuum of care • Describe the in detail the services for mother during antenatal period • Describe the in detail the relevance of antenatal care to the health of mother and pregnancy outcome.	C1 C3 C2 C2	LGIS	MCQ, SEQ, Viva

PMRH-CM-003	Preventive obstetrics in Post-natal period	• Preventive medicine in obstetrics-III • Domiciliary care • Institutional care • Rooming in • Post-natal period and related complications	• Comprehend the concept of care required for the rapid restoration of the mother to optimum health • Enlist the preventive strategies required to prevent complications during intra natal & post-natal period. • Appreciate the importance of health education for mother/family regarding intra natal & postnatal complication • Understand the relevance of family planning services provided during postnatal period	C2 C2 C3 C2		MCQs, SEQs, Viva

Specific Learning objectives--- Pathology

Code	TOPIC	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives Students should be able to	Learning Domain	Teaching strategy	Assessment Tool
PMRH-P-001	Early preg. complications Nonneoplastic placental	Pathology of early pregnancy complications & Non neoplastic placental pathology	• Enlist etiology, pathogenesis, complications, investigations of nonneoplastic placental pathology	C2	SGD	MCQ, SEQ, VIVA

	pathology					
PMRH-P-002	GTD & Choriocarcinoma	Gestational trophoblastic diseases and choriocarcinoma	• Explain Pathological features, diagnosis and follow-up of Gestational Trophoblastic Disease. • Enlist difference between complete and partial mole	C2 C1	LGIS	MCQ, SEQ, VIVA

			• Describe incidence and pathological features of Choriocarcinoma	C2		
PMRH-P-003	Cervical carcinoma and screening through cervical smears		• Describe pap smear, CIN, cervical carcinoma with its histopathological features	P2,P3	Skill Lab	OSPE, VIVA
PMRH-P-004	Rh Incompatibility, Anemia & Diseases in Pregnancy		• Enlist etiology, pathogenesis, complications, investigations		CBL	MCQs
PMRH-P-005	Benign diseases of breast	• Congenital anomalies. • Inflammatory lesion of breast. • duct ectasia, fat necrosis and granulomatous mastitis	• Identify the congenital anomalies of breast • Classify and describe the in inflammatory lesions of breast • explain duct ectasia fat necrosis and granulomatous mastitis	C1 C2 C2	LGIS	MCQ SEQ VIVA

PMRH-P-006	Malignant neoplasm of breast	• Classification of epithelial and stromal malignant lesions • Invasive mammary carcinoma (NOS) • Familial Breast Cancer, with molecular	• Classify the neoplasms of breast • explain the histology, grading, staging, lab diagnosis of breast cancer	C2 C2	LGIS	MCQ SEQ VIVA

		Mechanisms of Carcinogenesis and Tumor Progression				
PMRH-P-007	Benign & malignant diseases of uterus		• Enlist benign and malignant diseases if uterus with their introduction describe the gross and histopathological features	P1,P2	Skill Lab	MCQ SEQ OSPE VIVA

Specific Learning objectives of Pharmacology

code	**Topic**	**Learning Objectives**	**Learning Domains**	**Teaching strategy**	**Assessment Strategy**
PMRH-PH-001	Oxytocic drugs Uterine Relaxants	• Describe actions of oxytocin • Describe uses and adverse effects of oxytocin • Elaborate clinical uses of prostaglandin	C2 C2 C3	LGIS	SEQ MCQ, VIVA

		• Enlist ergot alkaloids, their uses and adverse effects • Classify Tocolytics • Describe the pharmacodynamics of tocolytic agents • Discuss their uses & adverse effects	C1 C1 C2 C1		
PMRH-PH-002	Gonadal hormones: I-Estrogens	• Enumerate Estrogen antagonists/SERMs	C1 C2 C2	LGIS	SEQ MCQ VIVA

		• Introduction of Newer SERMS (Bazedoxifene and Ospemifene) • Describe mechanism of action, uses & adverse effects of Estrogen antagonists/SERMs • Discuss the effects of enzyme inducers on metabolism of SERMs.	C2		
PMRH-PH-003	Gonadal hormones :II Progestin	• Differentiate between Natural and synthetic Progestins. • Describe mechanism of action, uses & adverse effects of Progestins.	C2 C2	LGIS	SEQ, MCQ, VIVA
PMRH-PH-004	Gonadal hormones' Anabolic	• Enumerate androgen preparations • Describe uses & adverse effects of androgen preparations • Discuss Pharmacokinetic and Pharmacodynamics of Anti-androgens	C1 C2 C2	LGIS	SEQ MCQ VIVA
PMRH-PH-005	Drug used Treatment of Infertility	• Enlist drugs used for treatment of Infertility • Discuss Aromatase inhibitors • Describe Gonadotropin analogues (FSH, hMG, hCG), and risk of OHSS (ovarian hyperstimulation syndrome). • Discuss the pharmacology of GnRH antagonists • Discuss adverse effects and interactions.	C1 C2 C2 C1 C2	LGIS	SEQ.VIVA .MCQ

PMRH-PH-006	PK Calculations II	• Calculations for maintenance dose • Calculations for plasma half-life & steady state concentration	P2	Skill Lab	OSPE

PMRH-PH-007	P drug & Prescription writing	• P drug & prescription writing for infertility • P drug & prescription writing for premature labour	P2	Skill Lab	OSPE

Specific Learning Objectives--- Anesthesia

Code	TOPIC	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives Students should be able to	Learning Domain	Teaching strategy	Assessment Tool
PMRH-Ans-001	Regional Anesthesia (Spinal & Epidural)	Principles of regional anesthesia.	• Describe principles of regional anesthesia • . Explain anatomy of spinal cord and epidural space. Identify indications and contraindications of spinal anesthesia. • Recognize complications such as hypotension and post-Dural puncture headache. • Outline management of spinal anesthesia complications	C1 C2 C2 C2	LGIS	MCQ, SEQ, EMQ

SDL 1 Per Wk. Theme 1.

Subject	Content Outlines (Major Topics & Sub Topics)	Learning Objectives At the end of SDL students will be able to:	Learning Resource	Assessment tool
Gynae & obs.	Renal Disease in Pregnancy	• Explain the Effect of CKD on pregnancy outcome • enlist feto-maternal complications associated with dialysis • Discuss the feto-maternal outcome of Pregnancy in women with renal transplants.	Obstetrics by Ten Teachers (20th edition) Page 148	MCQs
	Heart Disease in Pregnancy	• Pre-pregnancy counseling of heart disease in pregnancy. • Elaborate antenatal management of heart disease in pregnancy. • Management of labour and delivery in patients with heart disease in pregnancy • Discuss the treatment of heart failure in pregnancy	Obstetrics by Ten Teachers (20th edition) Page 155	MCQs

Community medicine	Genetics	• Acquire knowledge about human genetics, genotype, phenotype • Classify genetic diseases • Describe Preventive and social measures of genetic diseases • Define euthenics • Explain importance of Genetic counselling	Page 764, K-Park	MCQs

	Reproductive health	Describe. • early neonatal care • Immediate neonatal care • Early neonatal examination • Neonatal screening	K Park Ed. 27th (532-535	MCQs
Pathology	Fibrocystic changes of Breast	• explain fibrocystic changes of breast • explain briefly types of changes , describe the morphology, how the fibrocystic changes are related to breast carcinomas	Robbins Basic Pathology 9th Edition Chapter 17 Female Genital System Pg 705-707	MCQ SEQ OSPE VIVA
	Epidemiology of breast CA	Epidemiology and Risk factors related to breast cancer	Robbins Basic Pathology 9th Edition Chapter 17 Female Genital System Pg 741	MCQ SEQ OSPE VIVA
Pharmacology	Novel endocrine therapies for hormone positive breast cancer	• Enumerate hormonal treatments of breast cancer • Discuss the mechanism of action of SERM and SERD in breast cancer Give new therapies acting via nuclear estrogen receptors in breast cancer	Lloyd MR, Wander SA, Hamilton E, Razavi P, Bardia A. Next-generation selective estrogen receptor degraders and other novel endocrine therapies for management of metastatic hormone receptor-positive breast cancer: current and emerging role. *Therapeutic Advances in Medical* *Oncology*. 2022;14. doi:10.1177/17588359221113694	MCQS

	Use and abuse of anabolic steroids	• Differentiate between androgens and • anabolic steroids • Discuss the clinical application of anabolic steroids Give the organ effects of anabolic effects Identify the health consequences of abuse of anabolic steroids	Gagliano-Jucá T, Basaria S. Abuse of anabolic steroids: A dangerous indulgence. Current Opinion in Endocrine and Metabolic Research. 2019 Dec 1;9:96-101.	MCQS

Transdisciplinary Clinical–Reasoning Forum (TCRF-1)

Theme 1

Theme: Maternal Health

Theme	Week	Topic	Clinical Case Scenario
Theme 1	Week 1,2,3	Antenatal Complication – Severe Pre-eclampsia	A pregnant woman presenting with headache, hypertension and edema in the third trimester

"Managing a Pregnant Woman with Severe Pre-eclampsia" Clinical Scenario

A 26-year-old primigravida at 32 weeks of gestation presents to the emergency obstetric unit with severe headache, blurring of vision, and swelling of feet and face for the last 3 days.

She attended only one antenatal visit earlier in pregnancy. Her blood pressure today is 170/110 mmHg. Urine dipstick shows 3+ proteinuria. She reports decreased fetal movements since morning.

On examination, she has bilateral pedal edema, brisk deep tendon reflexes, and mild epigastric tenderness. Fundal height corresponds to 30 weeks and fetal heart rate is 150/min.

Investigations reveal:

- Hb: 10.2 g/dL
- Platelet count: 110,000/mm³
- Elevated liver enzymes
- Urinary protein: significant
- Ultrasound: **intrauterine growth restriction (IUGR)**

The obstetric team discusses **stabilization, antihypertensive therapy, magnesium sulfate prophylaxis, fetal monitoring, and possible early delivery**.

Student Task (Problem-Based Trigger)

Students are asked to:

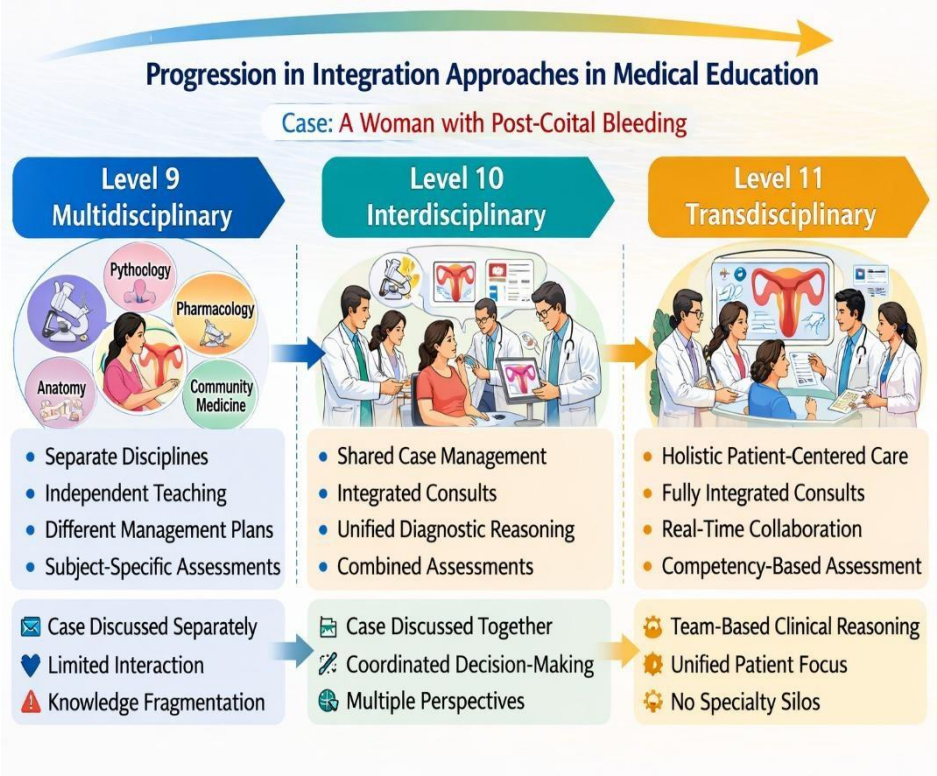
1. Identify **risk factors and warning signs** of hypertensive disorders in pregnancy.
2. Interpret **clinical findings and laboratory results** suggesting severe pre-eclampsia.
3. Explain **maternal and fetal pathophysiology** of pre-eclampsia.
4. Formulate an **evidence-based management plan** including antihypertensive therapy and seizure prophylaxis.
5. Discuss **indications and timing of delivery**.
6. Identify **anesthetic considerations** for emergency cesarean section.
7. Suggest **antenatal screening and community-based prevention strategies**.

Students Integrate (Implicitly)

- **Maternal physiology & anatomy** (uteroplacental circulation, cardiovascular changes in pregnancy)
- **Pathophysiology** (abnormal placentation, endothelial dysfunction, vasospasm in pre-eclampsia)
- **Clinical interpretation** (blood pressure measurement, proteinuria assessment, laboratory findings)
- **Fetal assessment** (ultrasound findings, fetal growth restriction, fetal monitoring)

- **Pharmacologic principles** (antihypertensives, magnesium sulfate for seizure prophylaxis)
- **Anesthetic considerations** (perioperative management for cesarean delivery in hypertensive pregnancy)
- **Obstetric decision-making** (timing and mode of delivery in severe pre-eclampsia)
- **Ethics & communication** (counseling the patient and family regarding maternal and fetal risks)
- **Public health perspective** (importance of antenatal care, early detection of high-risk pregnancy, referral systems)

None are taught in isolation.



What Makes This Harden's Integration Level 11?

- No subject headings
- Knowledge embedded within clinical reasoning
- Patient problem is organizing principle
- Learning mirrors authentic emergency decision-making

- Small group **case-based learning**
- Facilitated **clinical reasoning discussion**

- *Emergency obstetric management simulation*
  - **Patient counseling role-play**
  - Competency assessment based on:
    - Clinical reasoning
    - Therapeutic decision making
    - Communication skills
    - Referral and system-level thinking

Academic Justification Statement

This case represents **Harden Level 11 (Transdisciplinary Integration)** where maternal health learning is structured around a real clinical emergency rather than subject boundaries. Biomedical knowledge, pharmacologic therapy, anesthetic considerations, and public health principles is integrated seamlessly within professional clinical practice.

Subject Contribution in TCRF Session 1

Subject / Discipline	Nature of Contribution	Approx. Integration Weight (%)	Rationale
Obstetrics & gynecology	Diagnosis and management of pre-eclampsia, delivery planning	30%	Core clinical discipline
Medicine	Hypertension pathophysiology, systemic complications	15%	Medical management of maternal disease
Pathology	Placental pathology, endothelial dysfunction	12%	Explains disease mechanism
Pharmacology	Antihypertensives, magnesium sulfate therapy	12%	Rational drug therapy
Anesthesia	Anesthetic planning for cesarean delivery	10%	Perioperative maternal safety

Community Medicine	ANC coverage, risk screening, maternal mortality prevention	11%	Public health dimension
Ethics & Communication	Counseling regarding maternal and fetal risks	10%	Professional competence

Subject-Wise Specific Learning Objectives

Subject	Domain	Specific Learning Objectives (Students will be able to...)	Bloom's Level	Integration Role
Obstetrics & Gynecology	Clinical Reasoning	Diagnose severe pre-eclampsia based on clinical and laboratory findings	Analyze	Core discipline
		Identify indications for early delivery	Evaluate	
		Develop management plan for hypertensive disorders in pregnancy	Evaluate	
Medicine	Maternal Medicine	Explain systemic effects of severe hypertension in pregnancy	Understand	Medical context
		Identify complications such as HELLP syndrome and eclampsia	Analyze	

Pathology	Disease Mechanism	Describe placental abnormalities associated with pre-eclampsia Explain endothelial dysfunction and reduced placental perfusion	Understand	Mechanistic understanding
			Understand	
Pharmacology	Therapeutics	Outline pharmacologic management including magnesium sulfate therapy Discuss antihypertensive drug selection during pregnancy	Apply	Treatment
			Analyze	
Anesthesia	Perioperative Care	Identify anesthetic considerations in cesarean section for pre-eclampsia	Apply	Maternal safety
			Analyze	

Subject	Domain	Specific Learning Objectives (Students will be able to…)	Bloom's Level	Integration Role
		Recognize risks of general vs regional anesthesia		
Community Medicine	Public Health	Identify population-level determinants of maternal mortality Propose ANC strategies for early detection of high-risk pregnancies	Analyze	Prevention
			Create	
Ethics & Communication	Professional Skills	Counsel patient and family regarding risks and management options	Apply	Shared decision making

Wk. 4 ;Theme 2: Maternal Gynecological Problems

Theme / Subthemes	General Learning Outcomes (Aligned with Gynecology, Pathology & Pharmacology)	Rationale

Theme 2: Maternal & Gynecological Problems	By the end of this theme, the student should be able to: 1. Describe the epidemiology and risk factors of common benign and malignant gynecological disorders across the reproductive lifespan. *(Gynecology)* 2. Explain the etiopathogenesis and morphological basis of gynecological and breast diseases. *(Pathology)* 3. Correlate clinical manifestations with underlying pathological processes for accurate diagnosis. *(Gynecology/Pathology)* 4. Prescribe commonly used gynecological drugs rationally, including mechanism of action, indications,	Gynecological disorders represent a substantial proportion of outpatient visits and hospital admissions across the reproductive lifespan. Benign conditions such as fibroids, menstrual disorders, infections, and breast diseases significantly affect quality of life, while gynecological malignancies remain major causes of morbidity and mortality among women. For undergraduate medical students, this theme provides an essential platform for integrating clinical gynecology with

	contraindications, adverse effects, and monitoring. *(Pharmacology)*.	pathology and pharmacology. Understanding etiopathogenesis, morphological changes, hormonal influences, and molecular mechanisms enables students to correlate clinical findings with underlying disease processes, thereby strengthening diagnostic reasoning. At the 4th year level, students must develop competence in: • Clinical evaluation of gynecological complaints • Correlation of symptoms with pathological processes • Rational pharmacological prescribing • Screening and early detection strategies for malignancies • Ethical and culturally sensitive communication in women's health
Subtheme 1: Benign & Malignant Diseases of Vulva, Vagina & Breast	By the end of this section, the student should be able to: 1. Describe common benign disorders (e.g., vulvovaginitis) and their clinical features. *(Gynecology)* 2. Explain pathogenesis and risk factors of malignancies affecting vulva, vagina, and breast. *(Pathology)* 3. Correlate clinical findings with histopathological patterns. *(Pathology)* 4. Discuss screening and early detection strategies. *(Gynecology)* 5. Outline pharmacological management including antimicrobials, hormonal therapy, and chemotherapeutic agents. *(Pharmacology)*	

Subtheme 2: Benign & Malignant Diseases of Ovary & Uterus (Including Menstrual Problems, Infertility)	By the end of this section, the student should be able to: 1. Describe common benign uterine and ovarian conditions (e.g., fibroids, cysts, endometriosis) *(Gynecology)* 2. Explain etiopathogenesis of endometrial and ovarian malignancies *(Pathology)* 3. Classify menstrual disorders and relate them to endocrine and structural abnormalities. *(Gynecology/Pathology)* 4. Outline diagnostic approaches including imaging and histopathological evaluation. *(Gynecology/Pathology)* 5. Discuss rational pharmacological management of menstrual disorders and gynecological malignancies. *(Pharmacology)*	This theme equips future physicians with the knowledge and clinical reasoning skills necessary for safe initial management and appropriate referral of common and serious gynecological conditions

Specific Learning Objectives--- Gynaecology

Code	Topic	Learning objectives At the end of the lecture the student should be able to	Cognitive Levels	Teaching Strategy	Assessment Tool
PMRH-G-014	Menstrual Cycle	• Describe features of normal menstrual cycle. • Elaborate the ovarian and endometrial changes which occur during normal menstrual cycle. • Discuss the role of hypo axis in controlling the menstrual cycl**e.**	**C1** **C2** **C2**	LGIS	**MCQ, SAQ**
PMRH-G-015	Management of benign & malignant disease of vulva & vagina	• Name the common benign conditions of vulva and vagina. • Identify their etiological factors. • Describe their clinical presentation. • Enlist their diagnostic investigations. • Discuss the management options for each condition. • Name the malignant conditions of vulva and vagina. • Describe their clinical presentation. • Enlist their diagnostic investigations. • Discuss the management options for each condition.	C1 C1 C2 C1 C3 C1 C2	LGIS	**MCQ, SAQ**

			C1 C3		
P **M** **RH**	Management of premalignant	• Define premalignant diseases of cervix. • Discuss the role of HPV testing in cervical screening program. • Enlist the investigations for cervical screening of mass population.	C1 C2 C1 C1	LGIS	**MCQ SAQ**

-G-01 4	& malignant disease of cervix	• Enumerate types of CIN and their management options. • Discuss the pathogenesis of cervical CA. • Elaborate the FIGO staging of cervical cancer. • Discuss the management options according to the stage of disease.	C2 C2		
	Management of benign & malignant disease of uterus.	• Enlist the common benign conditions of uterus according to their tissue of origin. • Discuss the clinical features of benign uterine conditions. • Describe the tests used to evaluate the uterine and endometrial pathology • Explain the available treatment options for uterine fibroids and the rationale for selection. • Classify malignant diseases of uterus. • Identify their etiology, risk and protective factors. • Discuss clinical presentation of malignant disease of uterus. • Describe the investigations needed for diagnosis and staging of uterine cancer. • Discuss figo staging of endometrial cancer. • Explain management, follow up and five-year survival rate of endometrial cancer.	C1 C2 C2 C3 C2 C1/ C2 C2 C2 C3 C2	LGIS	**MCQ SAQ**
PMRH-G-016	Management of benign and malignant ovarian tumors	• Enlist the types of malignant ovarian tumors. • Enumerate their risk factors. • Describe clinical features of the disease. • Explain the diagnostic criteria investigations and tumor markers of malignant ovarian tumor. • Discuss the figo staging of ovarian carcinoma. • Discuss management, follow up and 5-year survival	C1/C 2 C2 C2 C3 C3	LGIS	MCQ SAQ

Specific Learning Objectives --- Pathology

Code	Topic	Contents Outlines (Major Topics & Sub-Topics)	Learning objectives. Students will be able to	Learning Domain	Teaching Strategy	Assessment Tool
PMRH-P-008	Malignant diseases of cervix.	• Cervical Intraepithelial Neoplasia • Cervical Carcinomas.	• Describe Etiology and morphology of Acute and Chronic Cervicitis (C2) Interpret morphological diagnosis of Cervical intraepithelial Neoplasia. • Classify Cervical Carcinomas • Describe Morphological features and prognosis of cervical cancer.	C3 C2 C2	LGIS	MCQs, SEQs, OSPE Viva

PMRH-P-009	Benign Diseases of Uterus	• Endometrial hyperplasia and epithelial neoplastic lesions	• Enlist causes of endometrial hyperplasia and carcinoma. • Evaluate morphological features of Endometrial Hyperplasia. • Describe classification, genetic pathogenesis and morphology of Malignant Tumors of the Endometrium	C1 C3 C2	LGIS	MCQs, SEQs, OSPE Viva

PMRH-P-010	Benign diseases of ovary	• Classification of ovarian Cystic neoplasm and • Polycystic ovarian syndrome	• Categorize nonneoplastic and functional ovarian cysts • Describe Pathogenesis of polycystic ovarian syndrome • Interpret morphological diagnosis of endometriotic cyst	C2 C2 C3	LGIS	MCQ SEQ VIVA
PMRH-P-011	Malignant diseases of Ovary.	• Ovarian tumors	• Classify ovarian tumors. • Describe pathogenesis morphological features and prognosis of surface epithelial ovarian tumors • Interpret morphological diagnosis of ovarian tumors • Differentiate between pathogenesis and histopathological features of various Germ cell and sex cord stromal ovarian tumor • Describe Prognosis and staging of ovarian tumors • Enumerate Diagnostic work up for ovarian tumors	C2 C2 C3 C3 C2 C2	LGIS	MCQ SEQ VIVA
PMRH-P-012	Pathologies of lower urinary tract	• Lower ureter,urethra,urinary bladder	Describe pathologies of lower urinary tract in males and females	C2	LGIS	MCQ,SEQ, VIVA

PMRH-P-013	Dysfunctional uterine bleeding	• Endometriosis • Endometrial polyps	• Describe causes and pathogenesis of Functional Endometrial Disorders (Dysfunctional Uterine Bleeding) and Inflammatory Disorders. • Interpret diagnosis via morphological features of endometriosis and Adenomyosis & Endometrial Polyps	C2 C3	SGD	MCQ,SEQ, VIVA
PMRH-P-014	Testicular atrophy, cryptorchidism		• Describe risk factors, histopathology, pathogenesis & investigations of testicular atrophy	C3	CBL	MCQ,SEQ, VIVA
PMRH-P-015	Lesions of Cervix	• Benign and Premalignant Lesions of Cervix	• Describe Etiology and morphology of Acute and Chronic Cervicitis • Categorize Endocervical Polyps and Metaplasia • Describe risk factors etiology pathogenesis of metaplasia leading to dysplasia.	C2 C2 C2	SGD	MCQ,SEQ, VIVA

PMRH-P-016	Pathology of vulva & vagina		• Categorize nonneoplastic lesion (Development anomalies, Infections and cysts) of vulva and vagina. • Enlist Premalignant lesions	C2 C2 C3		MCQ,SEQ, VIVA

			• Interpret diagnosis of Vulvar and Vaginal intra epithelial neoplasia and malignant lesion of vulva and vagina			
PMRH-P-017	Testicular tumors	• Germ cell types • Non germ cell types	• Describe the classification and pathology of testicular tumours, including germ cell and non-germ cell types. • Identify the clinical presentation and diagnostic methods used for testicular tumours, including tumour markers and imaging. • Explain the management and prognosis of testicular tumours, including surgery, chemotherapy, and radiotherapy.	C1 C1 C2	LGIS	MCQ, SAQ

Specific Learning Objectives--- Pharmacology

Code	Topic	Learning Objectives	Learning Domains	Teaching Strategy	Assessment Tool

PMRH-PH-001	Prolactin antagonist	• Enumerate Prolactin Antagonists • Describe Mechanism of Action, Uses as well as adverse effects of Prolactin Antagonists • Highlight comparative Pharmacology of Cabergoline and Bromocriptine	C1 C2 C2	LGIS	SEQ MCQ VIVA
	PK Calculations I	• Calculation for loading dose • Calculation for maintenance dose	P	Skill lab	OSPE
	PK Calculations II	• Calculations for maintenance dose • Calculations for plasma half-life & steady state concentration	P	Skill lab	OSPE

Self-Directed Learning SDL 1 per wk. Theme 2

Subject	Content Outlines (Major Topics & Sub Topics)	Learning Objectives At the end of lecture students will be able to:	Learning Resource	Assessment tool
Gynae & obs.	Respiratory Disease in Pregnancy (Asthma)	Explain the effects of pregnancy on asthma , explain risk factors, clinical features and	Obstetrics by Ten Teachers (20th edition) Page 158	MCQs

		investigations to confirm diagnosis C), Discuss treatment plan and appropriate medication to control asthma in pregnancy		
	Neurological Disease in Pregnancy Epilepsy	explain how does epilepsy effects pregnancy, enlist antiepileptic's drugs which are safe in pregnancy and breastfeeding, Devise management plan and discuss complications of epilepsy for both fetus and the mother	Obstetrics by Ten Teachers (20th edition) Page 160	MCQs
Community medicine	Ottawa charter on health promotion	Explain key areas of action for health promotion	K Park Ed. 27th (30,31)	MCQ
	Dynamics of human behavior (Human psychology	Describe dynamics of human behavior in terms of health behavior, illness behavior and treatment behavior Comprehend learning as Behavior change Describe 3 types of learning	K Park Ed. 27th (673, 674, 676, 678)	2-3MCQ
Pathology	prostatitis	Categorize different types of prostatitis Explain etiology clinically presentation of	Robbins Basic Pathology 9th Edition Chapter 17 Male Genital System Pg 663-664	MCQ SEQ OSPE VIVA

		prostatitis, diagnosis of prostitis		
	Polycystic ovarian disease	Define PCOD, what is conical presentation of PCOD, Investigation of PCOD, Morphological changes of PCOD	Robbins Basic Pathology 9th Edition Chapter 17 Female Genital System Pg 695 - 696	MCQ SEQ OSPE VIVA
Pharmacology	Pharmacological management of dysmenorrhea	Recall the pathophysiology of dysmenorrhea Enlist short- and	Mittal R. Medical management of Dysmenorrhea. International	MCQS

		long-term management strategies of dysmenorrhea Discuss the salient pharmacological feature of different strategies	Journal of Advance Research, Ideas and Innovations in Technology. 2019;5(1). Harel Z. Dysmenorrhea in adolescents and young adults: an update on pharmacological treatments and management strategies. Expert opinion on pharmacotherapy. 2012 Oct 1;13(15):2157-70.	
	Hormonal therapy for prostate cancer (GnRH antagonist VS ADT)	Identify different agents used in prostate cancer Recognize the role of different hormone receptors in prostate cancer Describe the clinical merits and demerits of different treatment options	Rice MA, Malhotra SV, Stoyanova T. Second-generation antiandrogens: from discovery to standard of care in castration resistant prostate cancer. Frontiers in oncology. 2019 Aug 28;9:801.	MCQS

Transdisciplinary Clinical–Reasoning Forum (TCRF-2)

Theme 2

Theme	Week	Topic	Clinical Case Scenario
Theme 2: Maternal & Gynecological Problems	Week 4	Cervical Cancer	A woman presenting with post-coital bleeding and abnormal vaginal discharge

“Evaluating a Woman with Post-Coital Bleeding”

Clinical Scenario

A 38-year-old multiparous woman presents to the gynecology outpatient clinic with post-coital bleeding and foul-smelling vaginal discharge for the past 3 months. She also reports intermittent lower abdominal discomfort and recent unexplained weight loss.

She has never undergone cervical cancer screening. Her obstetric history reveals early marriage at 17 years and four vaginal deliveries. She reports that her husband has multiple sexual partners.

On pelvic examination, the cervix appears irregular, friable, and bleeds on touch. A Pap smear shows high-grade squamous intraepithelial lesion (HSIL).Colposcopy reveals an abnormal transformation zone, and biopsy confirms squamous cell carcinoma of the cervix.

The healthcare team discusses further staging, treatment options, and prevention strategies including HPV vaccination and screening programs.

Student Task (Problem-Based Trigger)

Students are asked to:

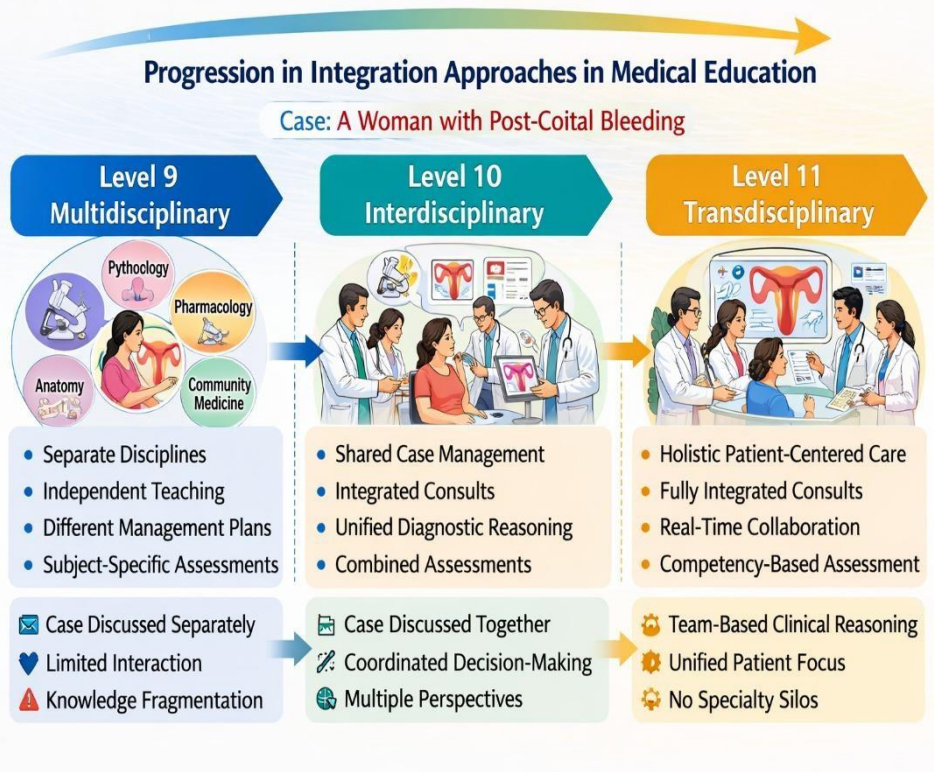
1. Identify risk factors for cervical intraepithelial neoplasia and cervical cancer.
2. Interpret clinical and pathological findings from Pap smear and biopsy.
3. Explain the role of HPV infection in carcinogenesis.
4. Describe screening strategies and early detection methods.
5. Discuss FIGO staging and treatment options.

6. Counsel the patient regarding HPV vaccination and preventive strategies.
7. Identify community-level interventions for cervical cancer prevention.

Students Integrate (Implicitly)

● Cervical anatomy (ectocervix, endocervix, squamocolumnar junction, transformation zone)
● Pathophysiology (HPV infection and progression from CIN to invasive carcinoma)
● Histopathology interpretation (Pap smear findings and CIN grading)
● Clinical decision-making (screening, staging, and treatment planning)
● Pharmacologic principles (HPV vaccination and chemotherapy)
● Cancer prevention strategies (screening programs and vaccination)
● Ethics & communication (counseling women regarding screening and reproductive health)
● Public health perspective (population screening and early detection programs)

None are taught in isolation.



What Makes This Harden's Integration Level 11?

No subject boundaries during discussion

• Learning organized around a real gynecological patient problem
• Biomedical science integrated within clinical reasoning
• Students combine gynecology, pathology, pharmacology, anatomy and public health knowledge simultaneously

- Emphasis on competence in screening, diagnosis, and prevention

Teaching Format

• Small group case-based discussion Interpretation of Pap smear and histopathology images
• Clinical decision-making discussion
• Patient counseling role-play on screening and vaccination
• Competency assessment focusing on:

- Diagnostic reasoning
- Preventive strategies
- Therapeutic planning
- Communication skills

Academic Justification Statement

This case represents Harden Level 11 (transdisciplinary integration) where cervical cancer learning is organized around an authentic clinical scenario rather than discipline-based teaching. Students integrate knowledge of cervical anatomy, HPV pathogenesis, screening strategies, pharmacological prevention, and oncological management within clinical decision-making.

Subject Contribution in Transdisciplinary Clinical–Reasoning Forum

Subject / Discipline	Nature of Contribution	Approx. Integration Weight (%)	Rationale

Obstetrics & Gynecology	Screening, staging, and management of cervical cancer	30%	Core clinical discipline
Pathology	HPV pathogenesis, CIN grading, histopathology	20%	Explains disease mechanism
Pharmacology	HPV vaccination, chemotherapy	15%	Prevention and treatment
Anatomy	Cervical anatomy and transformation zone	10%	Structural basis of disease
Community Medicine	Screening programs and prevention strategies	15%	Public health dimension
Ethics & Communication	Counseling for screening and vaccination	10%	Professional competence

Subject-Wise Specific Learning Objectives

Subject	Domain	Specific Learning Objectives (Students will be able to...)	Bloom's Level	Integration Role
	Clinical Reasoning	Define cervical intraepithelial neoplasia (CIN) and cervical cancer Identify risk factors for cervical cancer	Understand Analyze Apply Evaluate	Core discipline

Obstetrics & Gynecology		Describe screening methods including Pap smear and HPV testing Explain FIGO staging and treatment options		
Anatomy	Structural Understanding	Identify parts of cervix including ectocervix and endocervix Describe squamocolumnar junction and transformation zone Correlate cervical anatomy with site of CIN development	Understand Understand Analyze	Supports reasoning

Subject	Domain	Specific Learning Objectives (Students will be able to…)	Bloom's Level	Integration Role
Pathology	Mechanistic Understanding	Explain role of HPV infection in cervical carcinogenesis Differentiate CIN grades based on histological findings Distinguish CIN from invasive carcinoma	Understand Analyze Analyze	Disease mechanis m
Pharmacology	Therapeutics	Explain mechanism and role of HPV vaccination Identify drugs used in cervical cancer therapy Describe principles of chemotherapy in gynecological malignancies	Understand Apply Understand	Prevention Treatment
Community Medicine	Public Health	Describe population screening strategies for cervical cancer Propose community-level interventions for cervical cancer prevention	Analyze Create	Prevention
Ethics & Communication	Professional Skills	Counsel women regarding screening and HPV vaccination	Apply	Patient education

Week 5- Theme 3: Child Health

Theme / Subtheme	General Learning Outcomes (GLOs) (Aligned with Obstetrics , Pead's, community medicine & Pathology)	Rationale
Theme: Child Health	By the end of this week, the student should be able to: 1. Describe the epidemiology and determinants of neonatal, infant, and under-five morbidity and mortality at global and national levels. 2. Explain the continuum of care approach linking maternal, fetal, newborn, and child health services. 3. Identify major preventable causes of child morbidity and mortality and outline evidence-based interventions. 4. Discuss national child health programs and primary health care strategies for improving child survival.	Child health is intrinsically linked to maternal and reproductive health and remains a central component of public health strategies aimed at reducing under-five mortality. For 4th year MBBS students, child health teaching emphasizes the continuum of care beginning from intrauterine life through newborn and early childhood stages. It allows integration of pediatrics, obstetrics, preventive medicine, epidemiology, and primary health care concepts into comprehensive child survival strategies. This theme develops competencies in:
Subtheme 1: Intrauterine Care	By the end of this section, the student should be able to: 1. Explain the importance of maternal health in determining fetal and neonatal outcomes. 2. Describe preventive strategies during pregnancy that promote optimal intrauterine growth. 3. Discuss management principles of high-risk fetuses in collaboration with referral services.	

Subtheme 2: Newborn Care	By the end of this section, the student should be able to: 1. Describe essential newborn care practices. 2. Identify danger signs in neonates requiring urgent referral. 3. Explain prevention and management principles of common neonatal conditions (e.g., birth asphyxia, neonatal sepsis, low birth weight). 4. Counsel caregivers regarding breastfeeding and thermal protection.	• Recognition of neonatal and childhood danger signs • Preventive strategies including immunization and nutrition • Application of IMNCI guidelines in primary care settings. Growth monitoring and interpretation of growth charts

Subtheme 3: IMNCI (Integrated Management of Neonatal and Childhood Illness) & growth monitoring	By the end of this section, the student should be able to: 1. Explain the rationale and components of the IMNCI strategy. 2. Classify common childhood illnesses using IMNCI guidelines & referral. 3. Explain principles and importance of growth monitoring in early childhood. 4,Discuss preventive and corrective strategies for undernutrition and overnutrition.	Understanding child health from both clinical and community perspectives prepares students to address preventable causes of mortality, promote early detection of growth faltering, and support national child survival initiatives.

Specific Learning Objectives--- Gynaecology (LGIS)

Code	Topic	Learning objectives	Cog level	Teaching strategy	Assessment mode

PMRH -G-017	Intra-uterine Death	• Define intrauterine fetal death. • Enumerate the causes of IUFD. • Enlist the investigations to rule out causes of IUFD • Discuss the important points of counselling of parents in breaking the bad news. • Discuss the feto-maternal complications associated with IUFD. • Elaborate management of patient with IUFD.	C1 C1 C1 C2 C2 C3	LGIS	**MCQ, SAQ**
PMRH -G-018	IUGR & oligohydramnios	• Define fetal growth restriction. • Discuss the etiology • Explain the pathophysiology of IUGR. • Discuss the antenatal surveillance of the FGR fetus. • Outline the management plan regarding timing and mode of delivery. • Elaborate the prognosis of fetus in IUGR.	C1 C2 C2 C2 C3 C1	LGIS	MCQS SAQ

Specific Learning Objectives--- Community Medicine (LGIS)

Code	Topic	Subtopics	Learning Objectives At the End of Lecture Students Will Be Able To:	Learning Domain	Teaching strategy	Assessment Tool

PMRH-CM-004	Preventive medicine in pediatrics I	Preventive medicine in pediatrics-I • Mortality in infancy and childhood • Integrated Management of Childhood Illness (IMCI)	• Knowledge about concept of infant mortality • Determine the factors which predispose to high infant mortality • Appreciate the causes of infant mortality in different phases of child bearing and postnatal periods. • Classify according to Integrated Management of Childhood Illness • Classify degree of Pneumonia and ARI according to IMNCI	C1 C2 C3 C2 C2 C2	LGIS	MCQs SEQs
PMRH-CM-005	Preventive medicine in pediatrics growth & development II	• Preventive medicine in pediatrics-II Surveillance of growth & development • Preventive measures to control infant and child mortality	• Able to record Weight the baby and measure the height of children • Assess degree of dehydration • Prepare home-made ORS • interpret growth chart • Suggest preventive measures at different levels of prevention and in different scenarios • Understand the logic of measures taken to prevent infant and child mortality	C3 C3 C3 C3 C3 C2	LGIS	MCQs, SAQs
PMRH-CM-006	Growth assessment in children	Monitoring of child growth & development	• Describe determinants of child growth & development • Describe methods assessment of physical growth of child • Explain formation of growth chart.	C2 C3 C3	LGIS	SEQs and OSPE and Viva Voce

PMRH-CM-007	School health service	• Functions of school health services • Health related problems of school children	• Define School health services • Enlist objectives of School Health Services. • Explain duties of School Health Team. • Enlist various health related problems of School children.	C1 C1 C2 C2 C2	LGIS	MCQs, SEQs and OSPE

		• Implementation strategies of school health services	• Enumerate and explain various functions of School health services. • Demonstrate importance of implementation of various aspects of school health services.	C2 C2		
PMRH-CM-008	Handicapped	• Definition • Difference between handicapped, impairment, disability • Types of disability • Rehabilitation	• Define handicapped • Define impairment and disability • Differentiate between handicapped, impairment and disability with examples • Enlist types of disability and causes of disability • Define rehabilitation, enlist types of rehabilitation and objectives of rehabilitation • Integrated approach towards handicapped and prevention of disability • Appraise Social attitude towards handicapped	C1 C1 C2 C1 C2 C3 C3	LGIS	MCQs SAQ

Specific Learning Objectives--- Pediatrics

Code	Topic	Learning objectives At the end of the lecture the student should be able to	Learning Domain	Teaching strategy	Assessment tool
PMRH-Ped-001	Neonatal resuscitation	• Identify the babies who will need resuscitation at birth • Enlist steps of resuscitation as per algorithm • Identify different sizes of face masks, ambo bags, laryngoscope blades and their use by pictures.	C2 C3 C2	LGIS	MCQS
PMRH-Ped-002	Breast feeding	• Enumerate advantages of breast feeding • Describe the physiology • Know the importance of early initiation of breast feeding • Enlist five steps towards good breast feeding	C2 C3 C2 C2	LGIS	MCQS
PMRH-Ped-003	LBW / prematurity	• Define LBW babies • Enlist common causes of LBW babies • Enumerate important complications and problems of premature babies • Manage prematurity and its complications	C2 C3 C2 C2	LGIS	MCQS

PMRH-Ped-004	Neonatal seizures	• Define neonatal seizures • Describe the common etiological causes of neonatal seizures • Recognize the different clinical types of neonatal seizures • Outline the diagnostic approach to a neonate with seizures • Discuss the principles of management of neonatal seizures	C1 C1 C2 C3 C2	LGIS	MCQs

PMRH-Ped-005	Infant of diabetic mother	• Describe the pathophysiology of fetal hyperinsulinemia • Outline the immediate postnatal evaluation and monitoring of IDM • discuss the principles of prevention and management of complications in IDM	C2 C3 C2 C2 C2	LGIS	MCQS
PMRH-Ped-006	Jaundice in newborns	• Define neonatal jaundice • Identify the common causes of neonatal jaundice • Outline the clinical assessment and diagnostic evaluation • Discuss the principles of management and prevention of complications	C1 C1 C3 C3	LGIS	MCQs

Specific Learning Objectives--- Anesthesia

Code	**Topic**	**Learning objectives** **At the end of the lecture the student should be able to**	**Learning Domain**	**Teaching strategy**	**Assessment tool**

PMRH-Ans-002	General Anesthesia and Monitoring	• Define general anesthesia and its components. Explain stages of anesthesia. • Identify commonly used induction agents and inhalational anesthetics. • Interpret standard monitoring (ECG, SpO2 , NIBP, ETCO2). • Describe complications associated with general anesthesia	C1 C1 C3 C2	LGIS	MCQS.SEQ.EMQ

Self-Directed Learning (SDL) 1 Per Wk. Theme 3

Subject	Content Outlines (Major Topics & Sub Topics)	Learning Objectives At the end of SDL students will be able to:	Learning Resource	Assessment tool
Gynae & obs.	HIV in Pregnancy effect on fetus	Discuss guidelines of HIV in pregnancy. Discussion regarding the management of HIV in pregnancy.	Obstetrics by Ten Teachers(20th edition) Page 184	MCQs
Community medicine	Child Health in context of MCH Services	Describe determinants of child growth & development Describe methods assessment of physical growth of child .	K Park Ed. 27th (541,42,43,44, -47	MCQs

Pathology	Sexually transmitted diseases	Enlist various sexually transmitted diseases Understand their pathogenesis and laboratory diagnosis	Robbins Basic Pathology 9th Edition Chapter 17	MCQS
Pharmacology	Teratogenic Drugs	Identify and recall the major teratogenic drugs.	Katzung's Basic & Clinical Pharmacology, 16th Edition	MCQS

Week 6- Theme 4: Population Health

Theme / Subtheme	General Learning Outcomes (GLOs)	Rationale
Theme: Population Health	By the end of this week, the student should be able to: 1. Explain key concepts of population health and their relevance to reproductive and community health. 2. Describe demographic indicators used to assess population dynamics. 3. Analyze the relationship between population growth, socioeconomic development, and health outcomes. 4. Discuss national population policies and their public health implications. 5. Demonstrate ethical and culturally sensitive communication in population-related health services.	Population health provides the broader demographic and socioeconomic context within which maternal and child health outcomes are shaped. For undergraduate medical students, understanding population dynamics is essential for linking individual patient care to community-level health planning. This theme strengthens competencies in:

Subtheme 1: Demography &population trends	By the end of this section, the student should be able to: 1. Define key demographic terms (e.g., fertility rate, mortality rate, dependency ratio, population pyramid). 2. Interpret demographic data and population pyramids. 3. Explain measures of fertility and their determinants. 4. Analyze implications of rapid population growth, urbanization, and migration on health systems 5. Propose evidence-based strategies to address population- related health challenges.	• Application of demographic indicators in health analysis • Understanding family planning as a public health intervention • Counseling for informed contraceptive choice • Linking women empowerment, education, and fertility trends

Subtheme 2: Family Planning	By the end of this section, the student should be able to: 1. Explain the concept, objectives, and public health importance of family planning. 2. Describe different contraceptive methods, their mechanisms, indications, contraindications. 3. Counsel couples on informed choice and method selection using evidence-based criteria. 4. Identify barriers to family planning uptake and propose strategies to improve access and acceptance.	

Specific learning objectives--- community medicine

CODE.	Topic	Contents Outlines Sub-Topics	Learning Objectives After the Session Students Will Be Able To:	Level of cognition	Teaching Strategy	Assessment Tools

6. PMRH-CM-009	Demography and population trends- I	• Definition • Linkage of Demography with other disciplines • Application of Demography within the health system • Sources of population data • Measures of fertility & maternal mortality • Population explosion	• Define demography and population dynamics • Discuss linkage of demography with other disciplines • Apply demographic concepts in health system. • Discuss all major sources of population data with special emphasis on population Census • Calculate different rates related to mortality from given data • Calculate different rates related to fertility from given data • Describe Demographic, economic, social and interdisciplinary implications of population explosion	C1 C3 C3 C2 C3 C3 C2	LGIS	MCQs, SEQ, OSPE & VIVA VOCE

PMRH-CM-010	Demography and population trends II--(Demographic transition)	• Demographic transition • Demographic cycle • Malthusian theory • Population Momentum • Demographic dividend, bonus, trap • Growth Rate • Population doubling time	• Discuss theory of demographic transition • Describe and interpret stages of demographic cycle with examples and logical reasoning • Graphically illustrate the stages of demographic cycle • Explain limitations of this model • Discuss Malthusian theory of population growth • Explain population momentum • Interpret the effect of population momentum on growth of population • Appraise demographic dividend, bonus, trap • Calculate growth rate from given data. Calculate and interpret population doubling time	C2 C3 C3 C2 C2 C2 C3 C3 C3 C3		MCQS, SEQS, OSPE, VIVA VOCE

PMRH-CM-011	Demography III-- Migration and urbanization, Population density	• Population dynamics • Migration and urbanization • Population density • Family size • Replacement level fertility • Life expectancy	• Discuss concept of demographic equation • Calculate population at a particular time from the given data • Calculate population in future from given data • Discuss push and pull factors associated with migration. • Describe various measures of migration. • Discuss implications of urbanization • Explain types of migration and associated measures • Define population density • Explain family size and factors associated with it	C1 C3 C3 C2 C1 C2 C2 C1 C2	LGIS	MCQs, SEQs and OSPE and Viva Voce

			• Appraise replacement level fertility • State what is meant by life expectancy and how it is calculated	C3 C3		

PMRH-CM-012	Health economics Framework	• Concept and definitions
		• Types
		• Framework of health economics
		• Supply and demand
		• Elasticity
		• Production possibility frontier
		• Different types of Costs
		• Structures of Economic Evaluation
			• Define economics, health economics
			• Explain
			  ○ Macroeconomics
			  ○ Microeconomics
			  ○ Positive economics
			  ○ Normative Economics
			• Describe framework of health economics
			• Explain law of demand and law of supply
			• Describe elasticity
			• Appraise Production possibility frontier
			• Explain Different types of Costs
			• Interpret
			  ○ Cost minimization analysis
			  ○ Cost effectiveness analysis
			  ○ Cost utility analysis
			  ○ Cost Benefit analysis
				C1
				C2
				
				C2
				C2
				C2
				C2
				C3
				
				C3
					LGIS	MCQ
						SAQ

PMRH-CM-013	Public health on global scale	• World health organization United nations international children's emergency fund (UNICEF)	• Describe history, constitution and objectives of WHO • State WHO regions • Explain organizational structure of WHO with functions of each • Describe history, mission and milestones of UNICEF • Enlist important NGOS of Pakistan	C1 C2 C2 C2 C1	LGIS	MCQ SAQ

PMRH-CM-014	Family planning-I	• Health aspects of family planning • Welfare concept • Small family norms • Eligible couples • Couple protection rate	• To identify the need and requirements for an informed decision-making process on contraceptive choice • To characterize the principles of reproductive rights and gender issues related to family planning • identify the scope of family planning • appreciate health aspects of family planning • understand the terms of small family norms and eligible couples & target couples • calculate the couple Protection rate of a given population	C2 C2 C1 C3 C2 C3	LGIS	MCQs, SEQs and OSPE
PMRH-CM-014	Family planning-II National population policy	• National populatio n policy • Unmet need of family planning • Classification of Fertility regulating methods • Barrier methods • Natural contraceptiv e methods Terminal methods	• Explain national population policy • Understand the concept of unmet need of family planning • Classify fertility regulating method • Comprehend barrier method • Classify natural methods of fertility control • Explain sterilization and its complication	C2 C2 C2 C2 C2 C2	LGIS	MCQs, SEQs and OSPE

PMRH-CM-015	Demographic transitions	• Population pyramids • Dependency ratio • Age-sex composition	• Explain population pyramid • Read and interpret a population pyramid • Identify and interpret population pyramids in different stages of growth • Identify and interpret different types of population pyramids with respect to shape • Explain any asymmetry in shape • Identify baby boom in population pyramid • State importance of population pyramids • Calculate and interpret dependency ratio • Explain age and sex composition of a population • Calculate sex ratio from a given data	C2 C3 C3 C3 C3 C3 C1 C3 C2 C3	LGIS	MCQs, SEQs and OSPE and Viva Voce
PMRH-CM-016	Evaluation of Family Planning methods & breast feeding	• Intra uterine devices • Hormonal contraceptives • Evaluation of contraceptive methods • Breast feeding practices	• Characterize the following contraceptive methods based on mechanism of action, indicators of effectiveness, side effects, non-contraceptive benefits, eligibility criteria and interventions for certain problems during use: ○ Combined oral contraceptives ○ Progestin only pills ○ Injectable contraceptives ○ Hormonal implants ○ Tubal ligation and vasectomy ○ Intrauterine contraceptive devices • Discuss Emergency contraception & New contraceptive technology • Appraise correct method of Breast feeding	C3	SGD	MCQs, SAQ,SEQ, OSPE

				C2 C3		

Specific Learning objectives--- Pathology

code	Topic	Contents Outlines (Major Topics & Sub-Topics)	Learning objectives. Students will be able to	Learning Domain	Teaching strategy	Assessment tool
PMRH-P-017	BPH, prostatic cancer, testicular atrophy, seminoma	• BPH • prostatic cancer • testicular atrophy seminoma	• Describe Etiology and morphology of BPH, prostatic cancer, testicular atrophy, seminoma Enumerate investigations for investigations	C2 C2	LGIS	MCQ, SEQ.VIVA
PMRH-P-018	Endometritis Adenomyosis, Endometriosis,	• Risk factors • histopathology	Describe risk factors, histopathology, pathogenesis of endometritis, adenomyosis, endometriosis	C2,C3	SGD	MCQ, SEQ.VIVA

Specific Learning objectives--- Anesthesia

code	Topic	Contents Outlines (Major Topics & Sub-Topics)	Learning objectives. Students will be able to	Learning Domain	Teaching strategy	Assessment tool
PMRH-Ans-003	Perioperative Complications	Common intra-operative complications	• Identify common intra- operative complications (hypotension, hypoxia, arrhythmias). • Explain causes of perioperative anaphylaxis and aspiration. Interpret monitoring findings in perioperative emergencies. • Describe immediate management of anesthesia related crisis. • Emphasize patient safety and crisis resource management.	C1 C2 C2 C2	LGIS	MCQ, SEQ,EMQ

PMRH-Ans-004	Post-Operative Care and Pain Management	Post-operative care and recovery	• Define post-operative care and recovery room monitoring. • Identify early post-operative complications. Explain pain pathways and pain assessment scales. • Describe multimodal analgesia and opioid use. • Discuss prevention and management of post- operative nausea and vomiting.	C1 C2 C2 C2	LGIS	MCQ, SEQ..EMQ

SDL 1 Per Wk. Theme 4

Subject	Content Outlines (Major Topics & Sub Topics)	Learning Objectives At the end of lecture students will be able to:	Learning Resource	Assessment tool
Gynae & obs.	Covid-19 in Pregnancy and Immunization	Discuss guidelines of Covid 19 in pregnancy and dengue in pregnancy.	WHO guidelines of Covid-19 in pregnancy	MCQs
Community medicine	Population control	Explain element of national pop cont strategy Explain national pop control policy Population control action program	Practical Journal of Com-Med Annexure III. https://pwd.punjab.gov.pk/ https://www.pc.gov.pk/uploads/plans/Ch4-Population2.pdf	MCQs
Pathology	Diseases of prostrate, ovary, breast and uterus	Explain the neoplastic and non neoplastic etiologies of diseases of prostrate, ovary and uterus Have knowledge of their pathogenesis and laboratory diagnosis	Robbins Basic Pathology 9th Edition Chapter 17	MCQs
Pharmacology	SPRMs	Explain the mechanism and clinical use of selective progesterone receptor modulators (SPRMs).	Katzung's Basic & Clinical Pharmacology, 16th Edition	MCQs

Transdisciplinary Clinical–Reasoning Forum (TCRF-3)

Theme 4

Theme	Week	Topic	Clinical Case Scenario
Theme 4: Population Health	Week 6	Family Planning & Contraceptive Counseling	A young couple seeking advice on spacing pregnancies

“Counseling a Couple for Family Planning” Clinical Scenario

A 28-year-old woman visits a primary health care clinic with her husband seeking advice on spacing their next pregnancy. She delivered her second child 6 months ago and is currently breastfeeding. She reports irregular menstrual cycles since delivery and is unsure about which contraceptive method would be safe while breastfeeding. She also expresses concerns about side effects of hormonal contraceptives.

Her medical history is unremarkable, and she has no chronic illnesses. Her husband works in a nearby city and visits home only occasionally. The couple wants effective contraception but also plans to have another child in the future.

Students must evaluate suitable contraceptive options, physiological considerations during lactation, pharmacologic mechanisms, counseling strategies, and public health implications of family planning.

Student Task (Problem-Based Trigger)

Students are asked to:

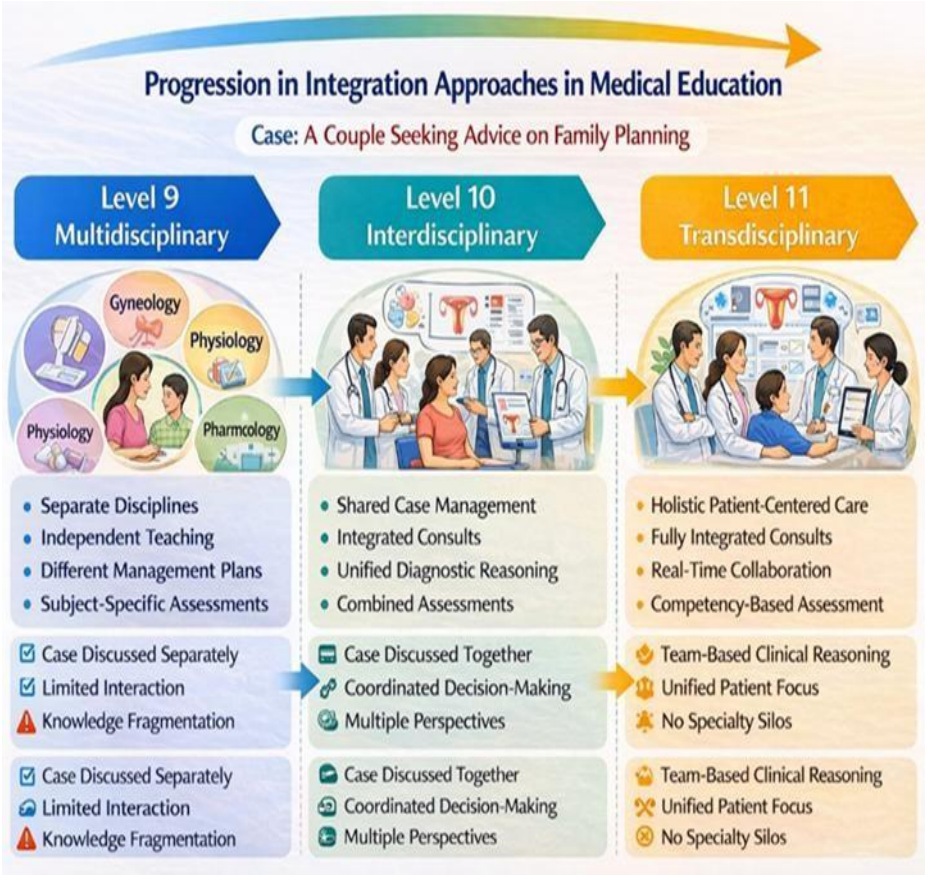
1. Identify factors influencing contraceptive choice in this couple.
2. Explain physiological changes during lactation affecting fertility.
3. Compare different contraceptive methods suitable during breastfeeding.

4. Interpret benefits and risks of hormonal and non-hormonal contraception.
5. Develop a patient-centered contraceptive counseling plan.
6. Discuss public health importance of birth spacing and family planning programs.
7. Address socio-cultural and ethical issues in contraceptive counseling.

Students Integrate (Implicitly)

• Reproductive physiology (ovulation, lactational amenorrhea, hormonal regulation of fertility)
• Clinical gynecology (contraceptive eligibility and method selection)
• Pharmacologic principles (mechanisms of hormonal contraceptives and IUCDs)
• Pathophysiological considerations (contraindications and side effects)
• Public health perspective (family planning programs and population control strategies)
• Primary care management (family physician counseling and follow-up)
• Ethics & communication (respectful and culturally sensitive counseling)
• Population health impact (birth spacing and maternal-child health outcomes)

None are taught separately.



What Makes This Harden's Integration Level 11?

• No subject-wise teaching boundaries
• Knowledge embedded within a real primary care scenario
• Learning organized around patient and population health needs

• Clinical, biological, pharmacological, and public health concepts integrated
• Focus on competence in contraceptive counseling and decision-making

Teaching Format

• Small group case-based discussion
• Contraceptive method comparison exercise
• Counseling role-play between students and simulated couple
• Decision-making activity using WHO contraceptive eligibility criteria
• Competency-based assessment focusing on:

- Clinical reasoning
- Rational contraceptive selection
- Counseling and communication
- Public health awareness

Academic Justification Statement

"This case reflects **Harden Level 11 (transdisciplinary integration)** where learning is organized around a real primary care problem rather than disciplinary silos. Biomedical knowledge, clinical gynecology, pharmacology, and population health principles are integrated within patient-centered contraceptive counseling and decision-making."

Subject Contribution in TCRF Session – Family Planning

Subject / Discipline	Nature of Contribution	Approx. Integration Weight (%)	Rationale
Gynecology	Contraceptive methods, eligibility criteria, clinical counseling	25%	Core clinical discipline for reproductive health
Physiology	Hormonal regulation of ovulation, lactational amenorrhea	15%	Explains physiological basis of fertility and contraception
Pharmacology	Mechanism of action, indications, contraindications, and side effects of contraceptives	20%	Rational drug selection and safe prescribing
Community Medicine	National family planning program, population health impact	15%	Public health perspective and population control
Family Medicine	Primary care counseling, follow-up and continuity of care	15%	Patient-centered counseling and shared decision making
Pathology	Pathophysiological considerations and contraindications to contraceptive use	10%	Explains disease conditions affecting contraceptive choice

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Subject-Wise Specific Learning Objectives – Family Planning Session

Subject	Domain	Specific Learning Objectives (Students will be able to...)	Bloom's Level	Integration Role
Gynecology	Clinical Reasoning	Identify appropriate contraceptive methods for a breastfeeding woman Counsel couples regarding benefits and risks of different contraceptive methods Apply WHO eligibility criteria for contraceptive selection	Apply Apply Analyze	Core discipline
Physiology	Reproductive Physiology	Explain hormonal regulation of ovulation and menstrual cycle Describe mechanism of lactational amenorrhea as natural contraception Correlate hormonal changes with fertility during postpartum period	Understand Understand Analyze	Physiological basis
Pharmacology	Therapeutics	Describe mechanism of action of hormonal and non-hormonal contraceptives Identify indications, contraindications, and adverse effects of contraceptive drugs	Understand Analyze	Drug therapy
Community Medicine	Public Health	Select appropriate contraceptive drug based on patient profile Explain the role of family planning in population stabilization Identify barriers to family planning uptake in communities Propose strategies to improve contraceptive acceptance and access	Apply Understand Analyze Create	Population health

Family Medicine	Patient-Centered Care	Conduct patient-centered counseling for contraceptive choice Address socio-cultural concerns and myths related to contraception	Apply Analyze	Primary care perspective

Subject	Domain	Specific Learning Objectives (Students will be able to...)	Bloom's Level	Integration Role
Pathology	Clinical Correlation	Identify medical conditions that contraindicate specific contraceptive methods Correlate underlying disease states with contraceptive risks	Understand Analyze	Safety considerations

Integrated Undergraduate Research Curriculum Sessions (IUGRC)

S. No.	Sessions	Session Objectives	Teaching Strategy
1	Session 1	Research Viva	PAL

2	Session 2	Research Presentations	PAL

Human Resource of Department of Community Medicine

Sr.no.	Designation	Total number of teaching staff

1	Professor	01
2	Associate professor	03
3	Assistant professor	02
4	Demonstrators	04
5	PGTs	05

Detail of Contact Hours Community Medicine (Faculty &Students)
Ranking of the Content of Community Medicine

Category A*	**Category B****	**Category C*****		
LGIS	LGIS	SDGS	SDL	IUGRC SESSIONS (PAL)

Reproductive health MCH, domiciliary care, Preventive aspects of infant & childcare (5 lectures)	Health care of school children	Family planning IUCDs	Dynamics of human behavior (Human psychology/ Genetics	Session 1 Research viva
National population control policy, issues & challenges, Family planning, Hormonal contraception (2 lectures)	Public health on global scale, WHO, NGOs and agencies		Ottawa charter on health promotion, Population control	Session 2 Preparing students oral presentation

Sr. No.	Hours Calculation for Various Type of Teaching Strategies	Total Hours (Faculty) Hrs. x class x session	Total Hours (Students)	Faculty level
1	LGIS (16). 1hrs each session (half class sessions)	1x2 x 16= 32 hrs.	16	Assistant professors & above
2	SGD (1) approx. 2hrs each session. 1/4 class	1x4 x 2= 8 hrs.	1	Demonstrators (subject specialists), Senior PGTs
3	PAL (IUGRC) (2) approx. 2hrs per session. (16 small group sessions).	2x 16x2 =64hrs.	2	Demonstrators (subject specialists) supervised by senior faculties
4	SDL (6)	6 x 1 =6 hrs.	6	Demonstrators (subject specialists)
Total: 110 hrs.			25 hrs.	

Fertility trends Demography concepts, Demography Transition models Population pyramids,(4 lectures)	Handicapped		Reproductive health/breast feeding	
Health economics (1 lecture)	Growth monitoring		Child Health in context of MCH Services	

Category A*: Fundamental & Complex Concepts taken by Professors, Associate Professors and Assistant Professors
Category B**: Intermediate concepts. Exercises. By Professorial faculty and Senior Demonstrators/ subject specialists.

Category C***: Relatively lower complex concepts, exercises/ applications. By Assistant professors, Demonstrators & senior PGTs)

Details of Contact Hours Students & Faculty

Community Medicine Faculty Wise Lectures Allocation

Sr. no	Faculty nominated	No of lectures
1.	Prof. Dr. Rozina Shahadat Khan	07
2	(Assoc. Prof) Dr. Khola Noreen	03
3	(Assoc. Prof) Dr. Sana Bilal	03
5	(Asst. Prof) Dr Mehwish Riaz	03
6	(APMO) Dr. Imrana Saeed	03
7	(APMO) Dr Narjis Zaidi	03
8	(Sr Demonstrator) Dr Mehjabeen Qureshi	04
9	(Sr Demonstrator) Dr. Asif Maqsood Butt	04

Teaching Staff / Human Resource of Department of Pathology

Sr.no.	Designation	Total number of teaching staff
1	Professor	0
2	Associate professor	01

3	Assistant professor	03
4	Demonstrators	11

Detail of Contact hours (faculty) **& contact hours** (students)

Sr. no.	Hours Calculation for Various Type of Teaching Strategies	Total Hours (Faculty)	Total Hours (Students)	Faculty level
1	LGIS (9). 1hrs each session (half class sessions)	2 x 9= 18 hrs.	9	Professor, associate, and assistant professors
2	SGD (5) approx. 1hrs each session. 1/4th class	5 x 4= 20hrs.	5	Assistant professors Senior demonstrators
3	CBL (3) approx. 1hrs per session. (4 small group sessions. 1session per day)	3x 4 = 12hrs.	3	Demos (subject specialists) supervised by professional faculties
4	SDL (7)	1 x 7 = 7 hrs.	7	Demos (subject specialists)
Total: 57hrs			24hrs	

Categorization of Modular Content of Pathology Department

Category A*	Category B**	Category C***		
LGIS	LGIS	SGDS	SDL	CBL
Malignant diseases of cervix,	Benign Diseases of Uterus	Pathology of early pregnancy complications & Non neoplastic placental pathology	Pathogenesis & morphology of primary Glomerular diseases	Rh Incompatibility, Anemia & Diseases in Pregnancy

Malignant diseases of Uterus		GTD &, Choriocarcinoma	Pathogenesis & morphology of secondary Glomerular diseases	Pathology of vulva & vagina
Benign diseases of ovary		Dysfunctional uterine bleeding	Diabetic Nephropathy	Rh Incompatibility, Anemia & Diseases in Pregnancy
Malignant diseases of Ovary.		STD	Causes of Hematuria and related investigations	Testicular atrophy cryptorchidism
Malignant neoplasm of breast		Benign and Premalignant Lesions of Cervix		
Testicular tumors		BPH, prostatic cancer, testicular atrophy, seminoma		

Section – V Learning Management System (LMS)

Theme Based LMS Assessment 4th year
MBBS 2026

Vision

To enhance competency-based learning and clinical reasoning skills among Fourth-year medical students by leveraging a robust Learning Management System (LMS) to implement weekly, clinically-oriented assessments in Medicine and Allied specialties.

Introduction:

A Learning Management System (LMS) is a software application or platform used to deliver, manage, and track educational content and training programs. It helps organizations, institutions, or businesses deliver learning experiences to learners in an organized, scalable, and accessible way.

1. Course Creation & Management:

- Allows instructors or administrators to create and organize courses, modules, lessons, and assessments.
- Supports multimedia content such as videos, quizzes, PDFs, and presentations.

2. User Management: Facilitates the creation of user profiles for learners, instructors, and administrators. Allows tracking of individual progress, achievements, and performance.

3. Assessment & Testing:

Includes features for creating and administering quizzes, assignments, and exams. Provides automated grading and feedback to learners.

4. Reporting & Analytics:

•Tracks learner performance, course completion rates, and engagement levels.

•Provides insights to instructors and administrators for informed decision-making.

5.Communication Tools:

•Integrates discussion boards, chat features, and email to facilitate communication between learners and instructors.

•Supports notifications and announcements.

6.Scalability & Flexibility:

•Can accommodate a growing number of learners or users.

•Supports a variety of learning styles, including synchronous (live) and asynchronous (self-paced) learning.

7.Mobile Access:

Many LMS platforms are mobile-friendly or offer mobile apps to support learning on the go.

An effective Learning Management System (LMS) assessment framework for undergraduate medical students should be structured to evaluate knowledge, skills, and attitudes systematically. It should also align with educational objectives, regulatory standards, and the specific needs of medical education. Below is a comprehensive framework:

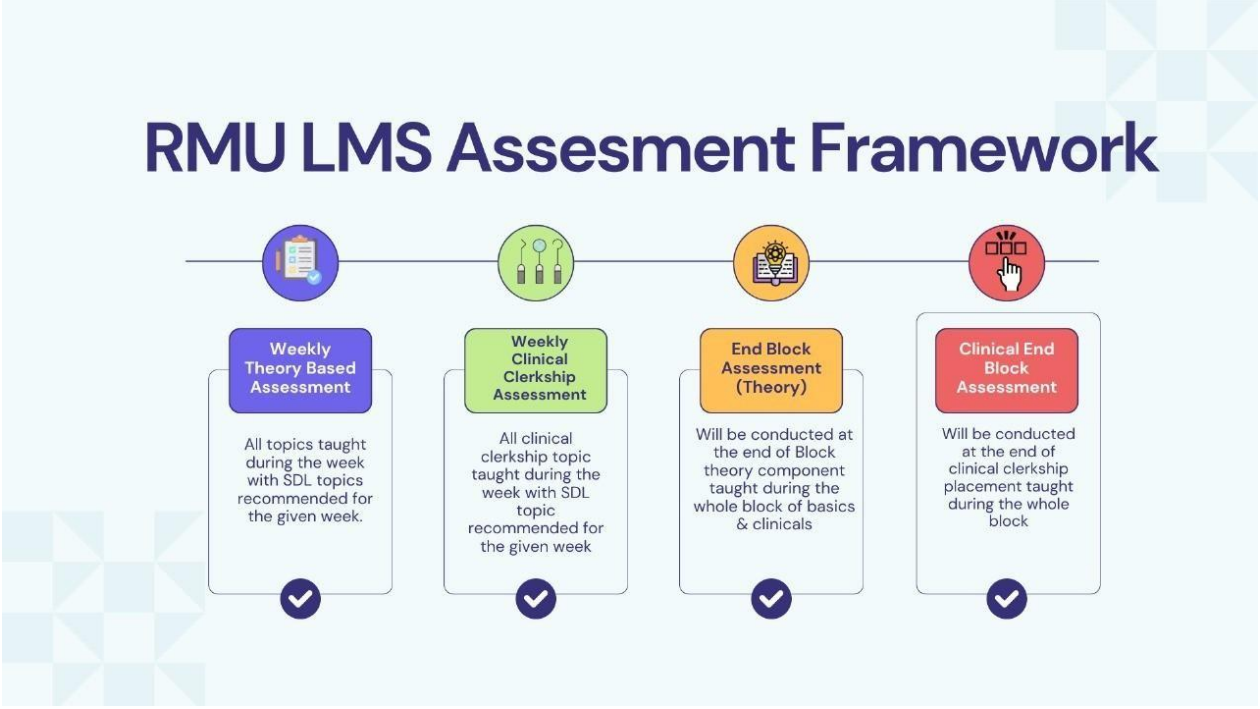


Figure 27: Framework for LMS Assessment for Undergraduate Medical Students

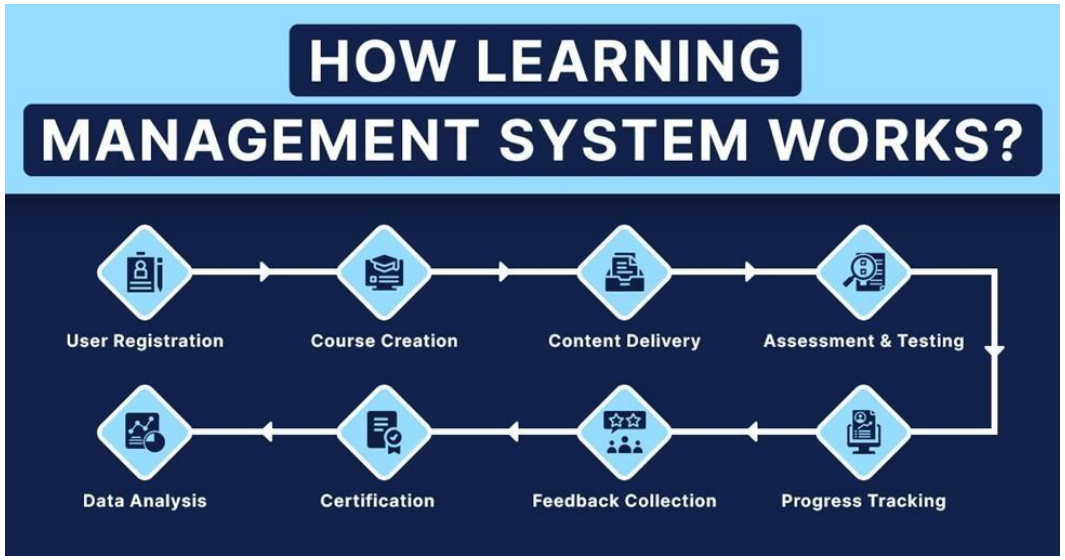


Figure 28: How learning management system works

Implementation of LMS

Table of Specification of weekly LMS of 3rd, 4th & Final Year MBBS

Table 1: Frequency 1.	During module (Weekly)	LMS Test	Every Tuesday evening	8:00 to 10:00 pm	Summative	100

Table 2: Distribution of Questions According to Level of Cognition:

Sr.#	Level of Cognition	%age Distribution of Questions	Type of Integration
1.	C1(Recall)	20%	Horizontal
2.	C2(Interpretation)	60%	Core Concept & Vertical
3.	C3(Problem Solving)	20%	Vertical(Purely Clinical Concepts)

Table 3: Implementation of Calgary Model of Categorization of Questions for LMS assessments:

Sr. No	Type of Assessment	Calgary Model		
		Must Know (A)	Should know (B)	Nice to know (C) (C)
1.	Summative	50%		50%
2.	Summative	100%		----------

Implementation of LMS:

To ensure the effective implementation of the Learning Management System (LMS), the following steps will be

undertaken: 1.Infrastructure Setup:

The LMS will be hosted on a well-equipped platform capable of handling multiple users simultaneously, ensuring reliability and performance during peak usage times.

2. IT Department Support:

A dedicated IT department will be responsible for managing the system, providing technical support, and ensuring smooth operation.

3. User Credentials:

Unique IDs and passwords will be issued to each student by the IT department, granting secure access to the LMS. Students will be guided on how to use the platform effectively.

4. Exam Scheduling:

Dates and times for exams will be pre-set within the LMS, allowing students to prepare accordingly. The scheduling system will ensure timely availability of test materials and instructions.

5. Automated Notifications:

Automated messages will be sent to students to inform them of upcoming exams, deadlines, or important updates. These notifications will ensure students remain informed and prepared.

6. Test Notices:

Detailed test notices, including exam guidelines, formats, and schedules, will be shared with students through the LMS to ensure clarity and readiness.

This structured implementation plan will enable the LMS to function effectively, fostering a productive and organized learning environment for both students and faculty.

LEARNING MANAGEMENT SYSTEM RMU

- A campus management system is being utilized as a learning resource.
- Faculty members from all disciplines, both basic and clinical, have been actively involved and trained in using these systems to deliver lectures effectively.
- The faculty is responsible for uploading lectures, assignments, and weekly assessments.
- Each student has been provided with a unique login to access the lectures and resources on the LMS.
- Attendance for each academic activity—lectures, interactive sessions, quizzes, and assignments—is recorded separately.
- Faculty members are required to mark attendance immediately after each lecture

Objectives of a Learning Management System (LMS) for Undergraduate Medical Students

The primary objective of a Learning Management System (LMS) for undergraduate medical students is to enhance the quality of medical education by providing a comprehensive, interactive, and accessible digital platform that facilitates:

- *Efficient Delivery of Educational Content:*

To enable faculty to upload and organize lectures, assignments, assessments, and other learning resources systematically.

- *Student-Centered Learning:*

To promote self-paced, flexible learning by granting students 24/7 access to educational materials tailored to their curriculum.

- *Interactive and Engaging Learning:*

To foster active engagement through features like discussion forums, quizzes, and virtual interactive sessions.

- *Streamlined Academic Monitoring:*

To track student attendance, performance, and progress through automated attendance marking, assessments, and progress dashboards. ◆ **Standardization and Quality Assurance:**

To ensure uniformity in educational delivery across various disciplines and compliance with institutional and accreditation standards. ◆ **Feedback and Continuous Improvement:**

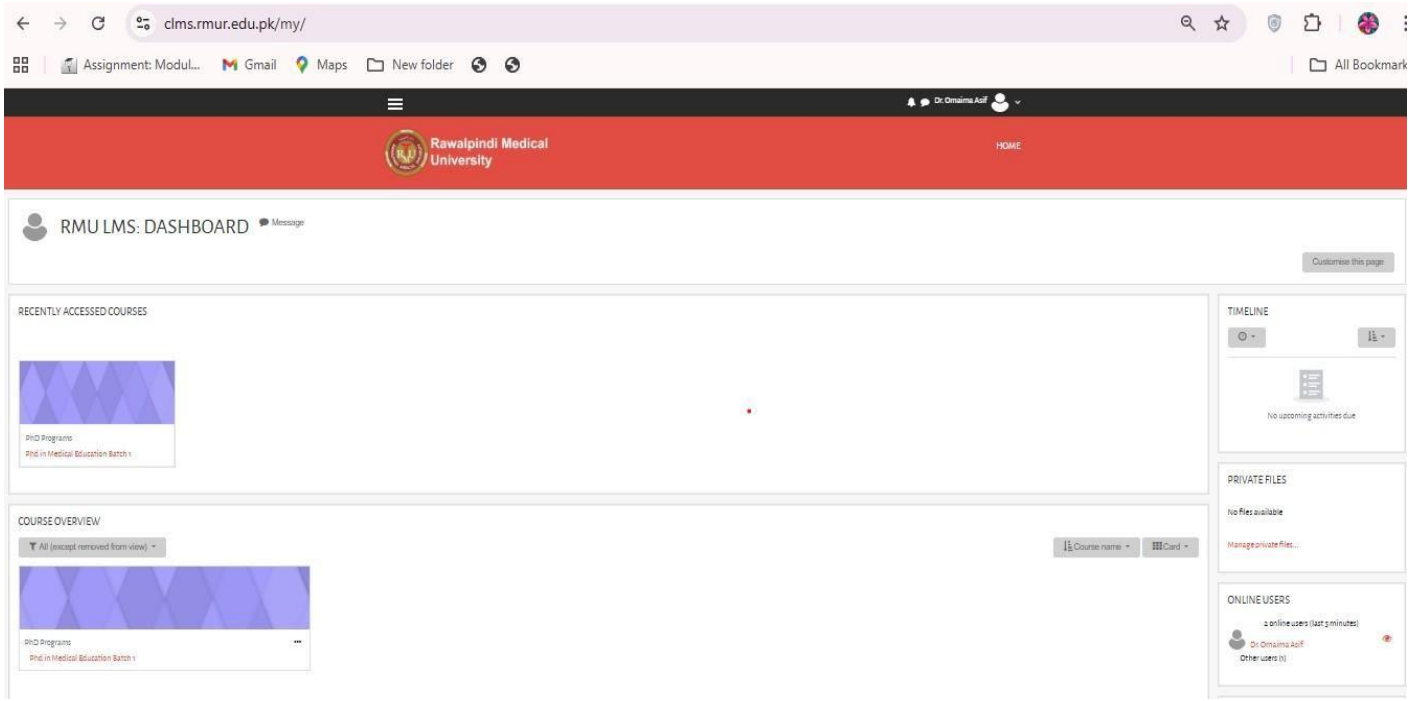
To integrate feedback mechanisms that involve students, faculty, and other stakeholders, driving continuous quality improvement.

- *Integration of Technology in Medical Education:*

To familiarize students with digital tools and resources essential for modern medical practice and research.

By achieving these objectives, the LMS supports the holistic development of medical students, ensuring they are well-prepared for clinical practice and lifelong learning.

RMU LMS Website



Weblink: https://clms.rmur.edu.pk/

1. **Goals and Objectives of Assessment**

- **Knowledge:** Evaluate understanding of basic and clinical sciences.
- **Skills:** Assess critical thinking, clinical reasoning, and procedural skills.
- **Attitudes:** Foster professionalism, ethical decision-making, and communication skills.
- **Feedback:** Provide timely, constructive feedback to support learning and growth.

- **2. Components of LMS-Based Assessment**

a. *Formative Assessments*

- **Purpose:** Monitor ongoing learning and identify areas needing improvement. It includes
  - Online quizzes (MCQs, EMQs)
  - Short assignments or reflections
  - Case-based discussions

Its purpose is to encourage consistent engagement in academic activities. Student's attendance is actively monitored through LMS via

- Attendance tracking for lectures, discussions, and interactive sessions.
- Participation metrics (e.g., activity in discussion forums, live Q&A sessions).

b. Feedback Mechanisms: Its purpose is to enhance learning and improve course delivery. Feedback monitoring can be done by following mechanisms:

3. Assessment Tools and Formats

- **MCQs/EMQs:** Test foundational knowledge and application.
- **OSCE Simulations:** Evaluate clinical reasoning and procedural skills.
- **Interactive Tools:** Use polls, chat, and breakout rooms for real-time engagement.
- **Assignments:** Assess understanding through essays, case reports, or reflections.
- **Group Projects:** Foster teamwork and problem-solving skills.

4. Implementation Strategies

- **Faculty Training:** Equip faculty with skills to design and deliver online assessments.
- **Student Orientation:** Familiarize students with LMS tools and expectations.
- **Tech Infrastructure:** Ensure robust LMS functionality and technical support.
- **Accessibility:** Provide accommodations for students with disabilities or limited resources

5. Quality Assurance and Continuous Improvement

- **Evaluation Proformas:** Gather periodic feedback from students and faculty.
- **Data Analytics:** Use LMS analytics to track student performance and participation.
- **Audit Mechanisms:** Regularly review and update the assessment framework.
- **Stakeholder Input:** Incorporate suggestions from students, faculty, and external reviewers.

6. Compliance with Regulatory Standards

Launching of LMS in RMU is in alignment with regulatory bodies . Digital learning at RMU aims at

- Alignment assessments with accreditation and medical council guidelines (e.g., HEC, WFME).
- Ensure assessments address core competencies, including knowledge, skills, and professionalism.

This LMS assessment framework integrates diverse evaluation methods to ensure holistic learning and competency development in undergraduate medical students. It fosters an interactive, adaptive, and equitable learning environment, preparing students for the demands of modern medical practice.

Importance of LMS

A Central Pillar of Continuous Internal Assessment (CIA)

In today's rapidly evolving educational landscape, digital learning isn't just an add-on it's the new backbone of academic progress. Our Learning Management System (LMS) stands at the heart of this transformation, bringing structure, consistency, and accessibility to the way students learn and the way faculty deliver content.

By integrating LMS into the Continuous Internal Assessment (CIA) framework, our institution takes a major step forward in aligning with global best practices. LMS-based assessments now officially hold **10% weightage** in the overall evaluation, making regular participation not just beneficial but essential for every student.

Why LMS Matters

1. *Streamlined Access to Learning*

   The LMS gives students a single, organized digital space where lectures, notes, assignments, quizzes, and announcements are available anytime, anywhere. No missed updates, no lost handouts everything stays just a click away.

2. *Consistent, Transparent Assessment*

With weekly formative and summative assessments conducted through LMS, students get a clear picture of their academic standing. The system ensures fairness, automated scoring where appropriate, and immediate feedback so learners can identify strengths and areas needing improvement.

3. *Builds Stronger Learning Habits*

Regular LMS assessments encourage students to stay engaged throughout the semester instead of relying on last-minute preparation. This continuous learning approach improves retention, confidence, and performance in final exams.

4. *Enhances Interaction and Engagement*

Through discussion forums, digital assignments, and interactive features, the LMS promotes active learning. Students participate more, collaborate more, and take greater responsibility for their progress.

5. *Professional Readiness*

Modern healthcare requires tech-savvy professionals who can adapt to digital tools. Using LMS throughout their training prepares students for the technologically advanced clinical and administrative environments they will soon enter.

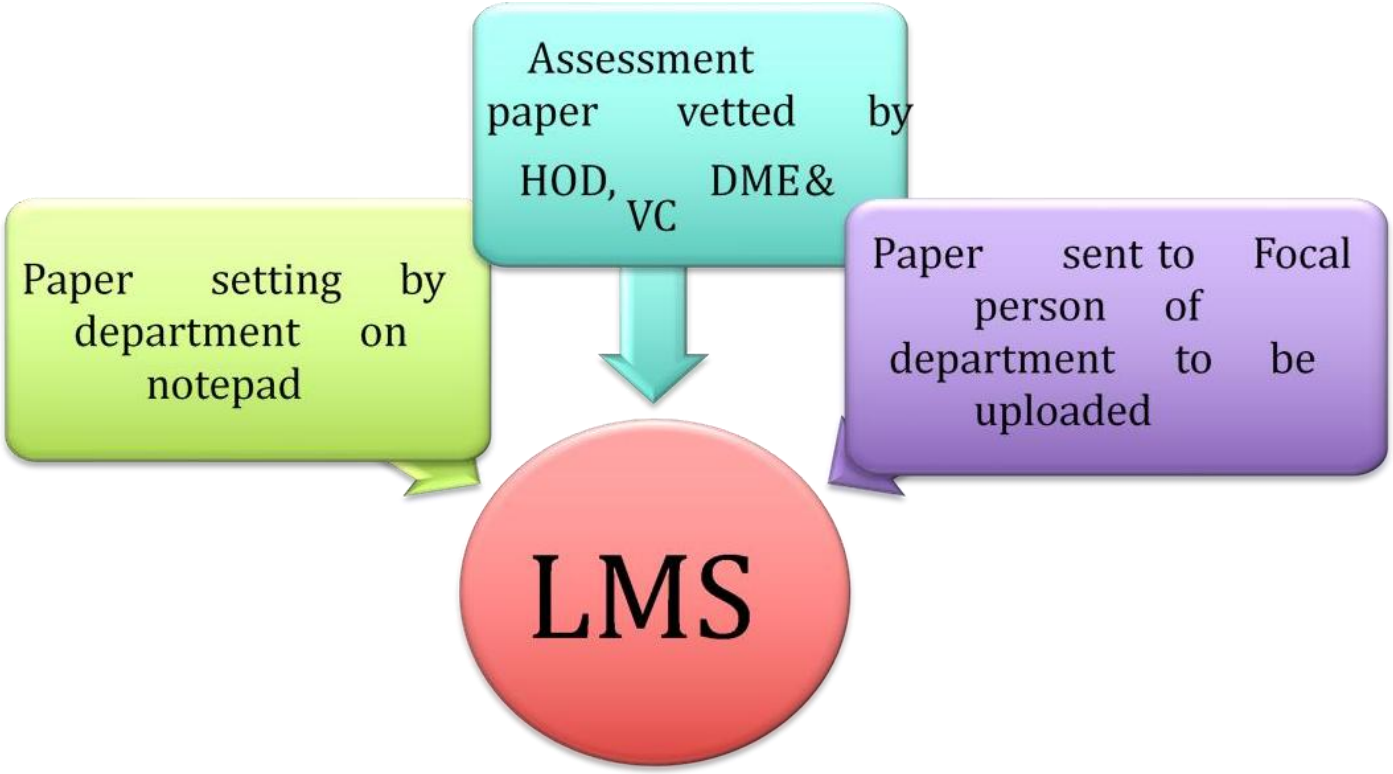
LMS as Part of CIA: What It Means for Students

With LMS contributing **10% to the CIA**, students are encouraged to take weekly assessments seriously. Consistent participation directly boosts overall grades while also strengthening core concepts. This system rewards discipline, regular study habits, and active involvement qualities that are essential in medical education.

A Collective Step Toward Better Learning The adoption of LMS-based CIA reflects our institution's commitment to innovation and excellence. We're not just keeping up with global standards; we're moving ahead of the curve by ensuring that every student gets a modern, interactive, and meaningful learning experience.

LMS Assessment Paper Hierarchy of conducting LMS

Figure 29: LMS Assessment paper setting, vetting, uploading



Sample paper

Papers attached as Annexure

PATHOLOGY

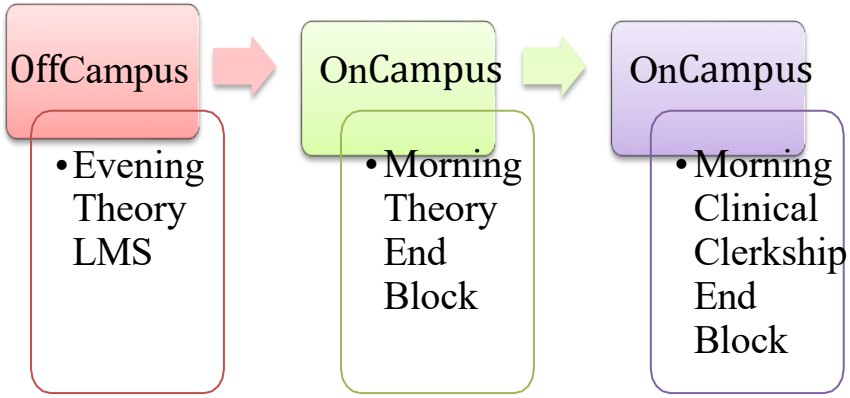
Q: A 7-year-old child develops fever and a vesicular rash that starts on the trunk and spreads to the face and limbs. What is the most likely causative agent?
A. Herpes Simplex Virus-1
B. Epstein-Barr Virus
C. Cytomegalovirus
D. Varicella-Zoster Virus
E. Parvovirus B19
ANSWER: D

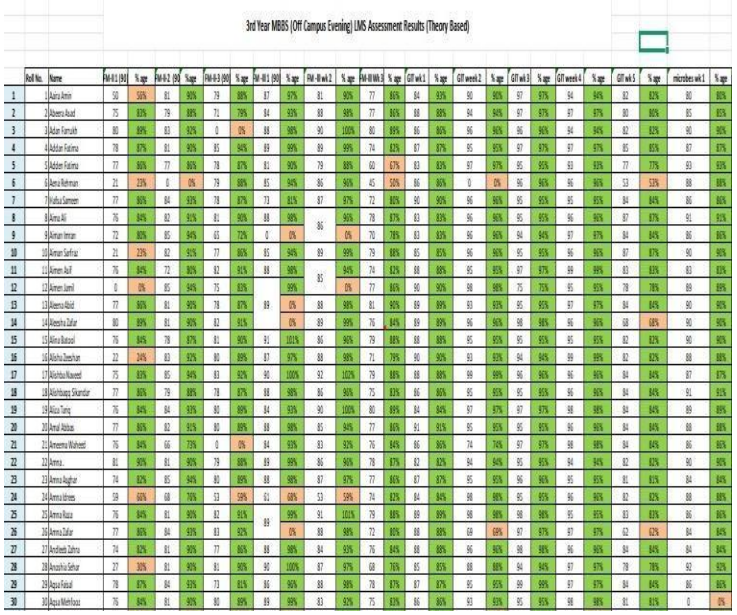
Q: In immunocompromised patients, CMV most commonly causes which of the following complications?
A. Hemorrhagic cystitis
B. Retinitis and colitis
C. Meningitis
D. Skin rash and arthralgia
E. Hepatic abscess
ANSWER: B

Q: What is the characteristic histologic finding in tissues infected by cytomegalovirus?
A. Multinucleated giant cells with Cowdry type A inclusions
B. Intracytoplasmic eosinophilic inclusions
C. Owl's eye intranuclear inclusions
D. Councilman bodies
E. Granulomas with caseation
ANSWER: C

Q: A 68-year-old man presents with a painful vesicular rash in a dermatomal distribution. What is the most likely diagnosis?
A. Primary varicella infection
B. Herpes labialis
C. Cytomegalovirus infection
D. Herpes zoster (shingles)
E. Kaposi's sarcoma
ANSWER: D

Assessment Results of LMS MBBS





3rd Year MBBS (Off Campus Evening) LMS Assessment Results (Theory Based)

	Roll No.	Name	FM-II.1 (30)	% age	FM-II.2 (30)	% age	FM-II.3 (100)	% age	FM-III.1 (30)	% age	FM-III.wk 2	% age	FM-III Wk 3	% age	GT wk 1	% age	GT week 2	% age	GT wk 3	% age	GT week 4	% age	GT wk 5	% age	microtest wk 1	% age
1		Aaira Amin	30	100%	81	90%	79	88%	87	97%	81	90%	77	86%	84	93%	90	90%	97	97%	94	94%	82	82%	80	80%
2		Aleena Asad	75	83%	79	88%	71	79%	84	93%	88	98%	77	86%	88	88%	84	84%	97	97%	97	97%	80	80%	85	85%
3		Aslan Farrukh	80	89%	83	92%	0	0%	88	98%	90	100%	80	89%	86	86%	96	96%	96	96%	94	94%	82	82%	90	90%
4		Asfaar Fatima	78	87%	81	90%	85	94%	89	99%	89	99%	74	82%	87	87%	95	95%	97	97%	97	97%	85	85%	87	87%
5		Azeen Fatima	77	86%	77	86%	78	87%	81	90%	79	88%	60	67%	83	83%	97	97%	95	95%	93	93%	77	77%	83	93%
6		Bina Rehman	21	23%	0	0%	79	88%	85	94%	86	96%	45	50%	86	86%	0	0%	96	96%	96	96%	53	53%	88	88%
7		Fiza Sameen	77	86%	84	93%	78	87%	73	81%	87	97%	72	80%	90	90%	96	96%	95	95%	95	95%	84	84%	86	86%
8		Hina Ali	76	84%	82	91%	81	90%	88	98%	86	96%	78	87%	83	83%	96	96%	95	95%	96	96%	87	87%	91	91%
9		Iqrash Imran	72	80%	85	94%	63	72%	0	0%		0%	70	78%	83	83%	96	96%	94	94%	97	97%	84	84%	86	86%
10		Iqrash Sarfraz	21	23%	82	91%	77	86%	85	94%	89	99%	79	88%	85	85%	96	96%	95	95%	96	96%	87	87%	90	90%
11		Kimen Asif	76	84%	72	80%	82	91%	88	98%	85	94%	74	82%	88	88%	95	95%	97	97%	99	99%	83	83%	83	83%
12		Kimen Jamil	0	0%	85	94%	75	83%		99%		0%	77	86%	90	90%	98	98%	75	75%	95	95%	78	78%	89	89%
13		Meena Abid	77	86%	81	90%	78	87%	89	0%	88	98%	81	90%	89	89%	93	93%	95	95%	97	97%	84	84%	90	90%
14		Meesha Zafar	80	89%	81	90%	82	91%		0%	89	99%	76	84%	89	89%	96	96%	98	98%	96	96%	58	58%	90	90%
15		Mina Batool	76	84%	78	87%	81	90%	91	101%	86	96%	79	88%	88	88%	95	95%	95	95%	95	95%	82	82%	90	90%
16		Nisha Zeeshan	32	34%	83	92%	80	89%	87	97%	88	98%	71	79%	90	90%	93	93%	94	94%	99	99%	82	82%	88	88%
17		Nisha Naveed	75	83%	85	94%	83	92%	90	100%	92	102%	79	88%	88	88%	99	99%	96	96%	96	96%	84	84%	87	87%
18		Nishbaaq Sikandar	77	86%	79	88%	78	87%	88	98%	84	94%	75	83%	86	86%	95	95%	95	95%	96	96%	84	84%	91	91%
19		Nisa Tariq	76	84%	84	93%	80	89%	84	93%	90	100%	80	89%	84	84%	97	97%	97	97%	98	98%	84	84%	89	89%
20		Nimal Abbas	77	86%	82	91%	80	89%	88	98%	85	94%	77	86%	91	91%	95	95%	95	95%	96	96%	84	84%	88	88%
21		Nmeena Waheed	76	84%	66	73%	0	0%	84	93%	83	92%	76	84%	86	86%	74	74%	97	97%	98	98%	84	84%	86	86%
22		Nma...	81	90%	81	90%	79	88%	89	99%	86	96%	78	87%	82	82%	94	94%	95	95%	94	94%	82	82%	90	90%
23		Nmra Asghar	74	82%	85	94%	80	89%	88	98%	87	97%	77	86%	87	87%	95	95%	96	96%	95	95%	81	81%	84	84%
24		Nmra Idrees	59	66%	68	76%	53	59%	61	68%	53	59%	74	82%	84	84%	98	98%	95	95%	96	96%	82	82%	88	88%
25		Nmra Raza	76	84%	81	90%	82	91%	89	99%	91	101%	79	88%	89	89%	98	98%	98	98%	95	95%	83	83%	86	86%
26		Nmra Zafar	77	86%	84	93%	83	92%		0%	88	98%	72	80%	88	88%	69	69%	97	97%	97	97%	62	62%	84	84%
27		Nosheeb Zahra	74	82%	81	90%	77	86%	88	98%	84	93%	76	84%	88	88%	96	96%	98	98%	96	96%	84	84%	84	84%
28		Nsrasha Sarfraz	27	30%	81	90%	81	90%	90	100%	87	97%	68	76%	85	85%	88	88%	94	94%	97	97%	78	78%	92	92%
29		Nzwa Faisal	78	87%	84	93%	73	81%	86	96%	88	98%	78	87%	87	87%	95	95%	99	99%	97	97%	84	84%	86	86%
30		Nzwa Mehfooz	76	84%	81	90%	80	89%	89	99%	83	92%	75	83%	86	86%	93	93%	95	95%	98	98%	91	91%	0	0%

Theory Based Off Campus Module wise weekly LMS results

Analysis of results:

Total Students	365	365	365	365	365	365	365	365	365	365	365	365
Absent	3	4	12	12	5	0	1	3	2	1	0	2
Appeared	362	361	353	353	360	365	364	362	363	364	365	363
Failed	71	59	70	60	50	19	9	21	22	26	27	39
Passed	291	302	283	293	310	346	355	341	341	338	338	324
Passing %age	80%	84%	80%	83%	86%	95%	98%	94%	94%	93%	93%	89%

Detailed analysis:

This data set represents the results of 365 students across 28 different theory-based assessments. The overall performance is good to very good, with a significant number of students consistently scoring high percentages. However, the data reveals patterns of inconsistent attendance/participation, with many students missing one or more assessments, and a few students showing signs of significant academic difficulty.

1. Overall Performance Overview

Total Students: 365

Total Assessments: 28

Assessment Format: Most assessments are out of 90 marks, with an adjacent column calculating the percentage (`=Score/90`).

General Observation: The majority of students are performing well. The distribution of scores is skewed towards the higher end, suggesting the cohort is generally diligent and/or the assessments are well within their grasp

2. Analysis of Performance by Subject/Module

The assessments are grouped into several modules. The average performance can be inferred by looking at the percentage columns.

Top Performing Modules:

1. CVS (Cardiovascular System): Consistently high scores. A large number of students scored above 90% in CVS-3 and CVS-4. This appears to be the strongest subject for the cohort.
2. Microbes (Microbiology): Very strong performance across all 6 weeks, with a high frequency of scores in the 90-100% range.
3. GIT (Gastrointestinal Tract): Generally high performance, especially in GIT weeks 2, 3, and 4.

Moderate Performing Modules:

a) FM-II & FM-III (Forensic Medicine): Shows a wider spread of scores. While many students scored highly, there are also several instances of very low scores and zeros, indicating variability in preparation or attendance for these specific tests.
b) Heam (Haematology): Performance is good, but slightly more varied than in CVS or Microbes.

3. Analysis of Individual Student Performance

Students can be broadly categorized into three groups:

Consistently High Achievers:

These students maintain a high percentage (typically >85%) across almost all assessments with very few, if any, zeros.

Examples: Addan **Fatima (Roll #4), Alishba Naveed (Roll #17), Amna Raza (Roll #25), Mohammad Ali Shayan (Roll #150).** They demonstrate remarkable consistency and mastery of the material.

The Inconsistent Performers (Largest Group):

These students have a mix of high scores but also have several low scores, zeros, or missing assignments. This is the most common pattern and suggests issues with:

Selective Preparation: Excelling in some subjects but not others.

Inconsistent Attendance: The numerous "0" scores are more likely due to absence than a score of zero, as they are often paired with high scores in other tests.

Example: Aiman Imran (Roll #9) has several high scores but also zeros in FM-III 1 and CVS 1, pulling down their cumulative performance.

Students Needing Academic Support:

These students have a high frequency of low scores (e.g., below 50%) and zeros across multiple modules.

Examples:

Ayesha Iqbal (Roll #45): Multiple zeros and low scores.

Abdullah Zeeshan (Roll #125): Multiple very low scores and zeros.

Fatima Saleem (Roll #85): Numerous zeros and missing data.

Maira Nasir (Roll #189): Has zeros in every single assessment, indicating a potential case of non-participation or withdrawal.

The dataset is filled with "0" scores. Given the context and the fact that these zeros are often adjacent to very high scores (e.g., 90/90), it is highly probable that a "0" represents an absence or a non-attempt rather than a score of zero. This is a major factor affecting the cumulative performance of many students.

Data Inconsistencies and Errors:

Formula Display: Many percentage cells display the formula itself (e.g., `=D6/90`) instead of the calculated value. This makes automated analysis difficult and suggests the file was not saved properly after calculation or was exported incorrectly.

Possible Grading Errors: Some scores seem anomalous.

Hina Fatima (Roll #107): Has extremely low scores in FM-II-3 (36), FM-III-1 (26), and FM-III wk 2 (21), which are stark outliers compared to her other high scores. This warrants verification.

Scores >90: While most tests are out of 90, a few scores (e.g., 115, 116) appear in later columns (e.g., CVS-3). This suggests either those specific tests had a different total mark (e.g., 120) or there is a data entry error.

Incomplete Records:

Many cells are entirely blank (e.g., in rows for Eman Safdar - Roll #66). It is unclear if this means the student was not enrolled for that test, the score is missing, or it was another absence.

Conclusion

The 3rd Year MBBS (Evening) cohort demonstrates a strong grasp of the curriculum, particularly in CVS, Microbes, and GIT. The main challenge is not a lack of capability but rather **inconsistency in assessment participation and performance**. Addressing the issues of absences and providing targeted support to a small group of struggling students could significantly improve the overall academic outcomes of the batch. The reliability of these insights is contingent upon first cleaning and verifying the underlying data.

Theory Based on Campus End of Block LMS results

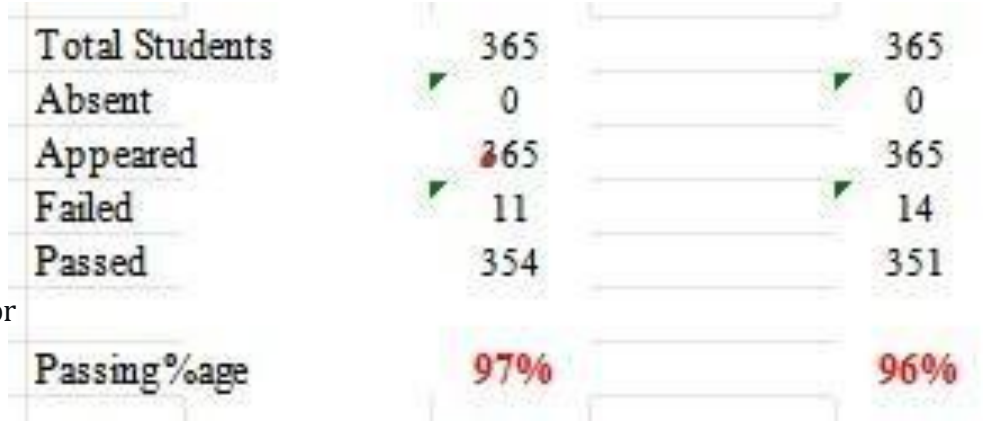
3rd Year LMS Assessment Results (On Campus Morning) Theory

Roll No.	Name	End Block VII	% age	End block VIII	% age
1	Aaira Amin	97	81%	92	92%
2	Abeera Asad	107	89%	95	95%
3	Adan Farrukh	107	89%	97	97%
4	Addan Fatima	106	88%	94	94%
5	Adden Fatima	102	85%	92	92%
6	Aena Rehman	107	89%	97	97%
7	Hafsa Sameen	105	88%	93	93%
8	Aima Ali	104	87%	97	97%
9	Aiman Imran	106	88%	96	96%
10	Aiman Sarfraz	103	86%	97	97%
11	Aimen Asif	99	83%	94	94%
12	Aimen Jamil	106	88%	95	95%
13	Aleena Abid	103	86%	95	95%
14	Aleesha Zafar	106	88%	92	92%
15	Alina Batool	104	87%	96	96%
16	Alisha Zeeshan	107	89%	92	92%
17	Alishba Naveed	104	87%	96	96%
18	Alishbaqq Sikandar	108	90%	92	92%
19	Aliza Tariq	106	88%	96	96%
20	Amal Abbas	108	90%	95	95%
21	Ameema Waheed	104	87%	92	92%
22	Amna .	103	86%	93	93%
23	Amna Asghar	103	86%	91	91%
24	Amna Idrees	102	85%	92	92%
25	Amna Raza	108	90%	95	95%
26	Amna Zafar	73	61%	65	65%

Complete result is attached as Annexure B

Analysis:

Detailed Analysis:



Total Students	365	365
Absent	0	0
Appeared	365	365
Failed	11	14
Passed	354	351
Passing%age	97%	96%

This spreadsheet contains the theoretical assessment results for a 3rd Year On-Campus Morning program, spanning two examination blocks (Block VII and Block VIII). The data tracks the performance of 366 students, showing a cohort that is generally high-achieving. However, a detailed analysis reveals critical patterns, including a significant number of students with zero scores (likely absentees), a small group at risk of failing, and a noticeable, though not universal, drop in performance from Block VII to Block VIII.

Data Summary

Total Students:

366

Block VII: 366 students listed.

Block VIII: 366 students
listed.

2. *Key Findings & Detailed Analysis*

2.1. Overall Performance & Pass/Fail Rates

The summary statistics at the bottom of the sheet are designed to calculate pass/fail rates, but the formulas are partially incorrect, leading to misleading results.

Corrected Analysis (Manual Calculation based on full dataset):

Block VII:

Absent/Zero: 10 students (e.g., Roll #189, 232, 352, 3710R, etc.).

Appeared: 356 students.

Failed (<70%): 1 student (Roll #26, Amna Zafar, 61%).

Passed (≥70%): 355 students.

Passing Percentage: ~99.7% (355/356) - An exceptionally high pass rate.

Block VIII:

Absent/Zero: 9 students (e.g., Roll #189, 352, 3710R, etc.).

Appeared: 357 students.

Failed (<70%): 8 students (e.g., Roll #84: 58%, #292: 50%, #321: 59%, #329: 63%, #270: 75%, etc.).

Passed (≥70%): 349 students.

Passing Percentage: ~97.8% (349/357) - Still very high, but a noticeable drop from Block VII.

2.2.*Comparative Analysis: Block VII vs. Block VIII*

Performance Decline: There is a clear trend of declining scores for a portion of the cohort. While many students maintained or improved their scores, a significant number saw a decrease. For example, Roll #292 dropped from 90% to 50%, and Roll #84 dropped from 81% to 58%.

Increased Failure Rate: The number of failing students increased from 1 in Block VII to 8 in Block VIII.

Consistency at the Top: High-performing students (e.g., those scoring above 90%) generally remained high performers, indicating the material or exam difficulty might have increased in a way that disproportionately affected mid-to-lower performing students.

2.3.*Identification of At-Risk Students*

Students can be categorized based on their performance across both blocks:

Consistently High Performers: A large group of students scoring above 85% in both blocks (e.g., Roll #100, #128, #207, #341).

Significant Decliners: Students whose performance dropped substantially (e.g., by more than 15 percentage points).

Examples:

Roll #292: 90% → 50% (-40%)

Roll #84: 81% → 58% (-23%)

Consistently Low/At-Risk: Students who passed but scored in the 70-75% range in both blocks, or who failed one block. These students may need support to prevent future failure.

Absentees: A group of ~10 students who scored zero in one or both blocks. This requires administrative follow-up to distinguish between absence, withdrawal, and data entry issues.

3. Recommendations

Academic & Administrative Actions:

Intervene with At-Risk Students:

Priority 1: Contact the 8 students who failed Block VIII to offer remedial support.

Priority 2: Reach out to the "Significant Decliners" group to understand the reasons for their performance drop (e.g., personal issues, topic difficulty) and provide guidance.

Follow-up on Absentees: Determine the status of students with zero scores. Were they absent, have they withdrawn, or is this a data entry error?

Theory Based on Campus End of Clinical Block LMS results

3rd Year LMS Assessment Results (On Campus Morning) Clinical End Blocks

Roll No.	Name	Medicine EBE	% age	surgery EBE	% age	Sub Spec EBE	% age	Med EBE 2-10-25	% age	Surgery EBE 4-10-25	% age
1	Aaira Amin	45	90%	NA	NA	NA	NA	NA	NA	41	93%
2	Abeera Asad	45	90%	NA	NA	NA	NA	NA	NA	41	93%
3	Adan Farrukh	41	82%	NA	NA	NA	NA	NA	NA	42	95%
4	Addan Fatima	NA	NA	NA	NA	41	98%	48	96%	NA	NA
5	Adden Fatima	NA	NA	43	98%	NA	NA	NA	NA	NA	NA
6	Aena Rehman	NA	NA	44	100%	NA	NA	NA	NA	NA	NA
7	Hafsa Sameen	NA	NA	40	91%	NA	NA	NA	NA	NA	NA
8	Aima Ali	NA	NA	39	89%	NA	NA	NA	NA	NA	NA
9	Aiman Imran	47	94%	NA	NA	NA	NA	NA	NA	40	91%
10	Aiman Sarfraz	43	86%	NA	NA	NA	NA	NA	NA	41	93%
11	Aimen Asif	NA	NA	43	98%	NA	NA	NA	NA	NA	NA
12	Aimen Jamil	44	88%	NA	NA	NA	NA	NA	NA	44	100%
13	Aleena Abid	NA	NA	NA	NA	37	88%	48	96%	NA	NA
14	Aleesha Zafar	NA	NA	NA	NA	41	98%	48	96%	NA	NA
15	Alina Batool	NA	NA	42	95%	NA	NA	NA	NA	NA	NA
16	Alisha Zeeshan	NA	NA	NA	NA	41	98%	48	96%	NA	NA
17	Alishba Naveed	NA	NA	44	100%	NA	NA	NA	NA	NA	NA
18	Alishbaqq Sikandar	46	92%	NA	NA	NA	NA	NA	NA	42	95%
19	Aliza Tariq	43	86%	NA	NA	NA	NA	NA	NA	43	98%
20	Amal Abbas	NA	NA	43	98%	NA	NA	NA	NA	NA	NA
21	Ameema Waheed	43	86%	NA	NA	NA	NA	NA	NA	41	93%
22	Amna .	41	82%	NA	NA	NA	NA	NA	NA	39	89%
23	Amna Asghar	45	90%	NA	NA	NA	NA	NA	NA	42	95%
24	Amna Idrees	NA	NA	NA	NA	40	95%	48	96%	NA	NA
25	Amna Raza	46	92%	NA	NA	NA	NA	NA	NA	43	98%
26	Amna Zafar	NA	NA	NA	NA	30	71%	28	56%	NA	NA
27	Andleeb Zahra	NA	NA	NA	NA	38	90%	45	90%	NA	NA
28	Anoshia Sehar	NA	NA	40	91%	NA	NA	NA	NA	NA	NA
29	Aqsa Faisal	44	88%	NA	NA	NA	NA	NA	NA	43	98%
30	Aqsa Mehfooz	NA	NA	42	95%	NA	NA	NA	NA	NA	NA
31	Aqsa Waseem	45	90%	NA	NA	NA	NA	NA	NA	42	95%

Complete results attached as Annexure C

Detailed Analysis:

This spreadsheet details the clinical assessment results for the same 3rd-year cohort from the theory analysis. The data reveals a sophisticated, rotation-based

examination system where students are assessed in different clinical specialties. The overall performance is strong, with a high concentration of scores above 85%. However, the analysis uncovers critical patterns, including a highly specific and

effective grading system, a small number of significant outliers requiring intervention, and a complete absence of aggregate statistics to monitor the program's health.

1. Data Structure & Examination System

Purpose: To record clinical exam scores for students rotating through different medical wards.

Examination Model: The data suggests a Objective Structured Clinical Examination (OSCE) or ward-based clinical exam (EBE) format, where students rotate through stations or postings.

Key Columns & Interpretation:

G. Medicine EBE / H. Surgery EBE / K. Sub Spec EBE: These appear to be the primary clinical rotations. The "Sub Spec" likely refers to sub-specialties like Gynecology, Pediatrics, Psychiatry, etc.

M. Med EBE 2-10-25 / P. Surgery EBE 4-10-25: These are re-sit or repeat examinations for the respective blocks. The naming convention (`2-10-25`, `4-10-25`) likely refers to specific dates, indicating these were offered later for students who failed or missed the first attempt.

Grading System:

The raw scores are out of 50 points (e.g., a score of 45 equals 90%).

The passing benchmark is 70% (a raw score of 35/50). This is consistent with the theory sheet and standard medical education practices.

2. Key Findings & Detailed Analysis

2.1. *Overall Performance & Pass/Fail Rates*

Unlike the theory sheet, this clinical sheet lacks any summary statistics. Therefore, all analyses are derived from a manual review of the 366-student cohort.

Overall Pass Rate: Extremely high. The vast majority of students who attempted an exam passed it. The number of failing scores (<35/50) is minimal.

Performance Distribution: The data is heavily skewed towards high performance. It is common to see scores of 40+/50 (80%+), with a significant cluster at 44/50 (88%) and 45/50 (90%). This suggests the exams are well-aligned with the taught curriculum or the grading is competency-based, expecting high performance.

2.2. *Analysis of the "Re-sit" Columns (Critical Insight)*

The presence of the "Med EBE 2-10-25" and "Surgery EBE 4-10-25" columns is the most revealing aspect of this dataset.

Purpose: These columns exclusively contain scores for students who failed or were absent for the primary exam. Evidence:

Roll #26 (Amna Zafar): A consistent at-risk student. Scored 30/50 (60%) in Sub Spec, and a very low 28/50 (56%) in the primary Medicine EBE. She then re-attempted Medicine (Med EBE 2-10-25) and scored 48/50 (96%).

Roll #67 (Eman Fatima): Scored 39/50 (78%) in Medicine but failed the Surgery re-sit with 28/50 (64%). Roll #232 (Roumman Ashraf): Failed Sub Spec with 27/50 (64%) but passed the other re-sits.

Conclusion: The system effectively identifies struggling students and gives them a second opportunity to demonstrate competence, which is a best practice in medical education. **2.3. Identification of At-Risk & Outstanding Students**

A. Consistently Outstanding Performers:

A large group of students scored highly (≥43/50 or 86%) across all their attempted clinical exams. Examples include Roll #6, #17, #35, #36, #111.

B. Students Requiring Immediate Intervention:

This is a critical category. These students have failing grades and may be in academic jeopardy.

Roll #303 (Muhammad Umar Khalid): Scored 1/50 (2%) in "Surgery EBE 4-10-25". This is a massive outlier and suggests absence, a data entry error, or a serious issue that needs urgent investigation.

Roll #194 (Manahil Amjad): Scored 15/50 (30%) in "Med EBE 2-10-25". A very low score on a re-sit exam is a significant concern.

Roll #26 (Amna Zafar): As noted, failed two primary clinical exams (Medicine and Sub Spec). While she passed the Medicine re-sit, her initial performance flags her as at-risk.

Roll #67 (Eman Fatima): Failed the Surgery re-sit (64%).

Roll #341 (Habiba Samar): Scored 34/50 (68%)

in the primary Medicine EBE, just below the pass

mark. C. Students with Significant Performance

Gaps:

Roll #162 (Javeria Irshad): Scored 35/50 (80%) in Surgery, which is a pass but is notably lower than the cohort's average, potentially indicating a weakness in that discipline.

2.4. Data Quality and Logistical Notes

"NA" Meaning: The footnote explains "NA* = Not Attempted as the student was not in that ward." This is crucial—it means "NA" is not a missing data point, but a valid status indicating the student was not scheduled for that rotation.

This explains why most students have scores in only 2-3 columns.

Missing Roll #s: The sequence jumps from 139 to 141, and 350 to 352. This, combined with the "r" and "pending" codes, suggests a dynamic student list with additions, removals, or repeats, similar to the theory sheet.

No Summary Statistics: The lack of a summary table (Total, Appeared, Passed, Failed, %) is a major deficiency for administrative oversight.

3. Scientific & Educational Implications

Competency-Based Education (CBE): The high concentration of excellent scores suggests the program successfully brings most students to a high level of clinical competency.

The assessment appears to be measuring essential skills that have been effectively taught.

Effective Remediation System: The existence and utilization of re-sit exams demonstrate a structured approach to remediation. This allows students a safety net and the program to ensure minimum competencies are met before progression.

Reliability of Assessment: The fact that most students perform consistently well across different clinical domains (e.g., a student who does well in Medicine also does well in Surgery) suggests the assessments are measuring a underlying general clinical aptitude reliably.

Section – VII Assessment

9-Assessment Policies:

CONTENTS:

1. Assessment Plan
2. Types of Assessment
3. Modular Examinations
4. Block examinations

Assessment Plan

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

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

3. *Forms of assessments*

Formative Assessment

Formative assessment refers to low-stakes evaluation methods that usually do not contribute to the student's final grade. These assessments are designed to monitor learning progress and provide feedback to improve understanding. Examples include summarizing key points of a lecture, short quizzes, or other activities used to assess comprehension of recently covered material.

Formative assessment, also known as assessment for learning, is conducted throughout modules and clinical clerkships using various strategies determined by module coordinators and clerkship directors. Continuous feedback is an essential component, and in some cases, performance in formative activities may contribute to continuous assessment records.

Summative Assessment

Summative assessment refers to **evaluation conducted at the end of a learning unit** to measure a student's achievement against predetermined standards. It represents **assessment of learning** and is typically carried out at the **end of modules, blocks, or clerkships**.

Summative assessment consists of two main components:

1. Written Assessment (50%)

- Multiple Choice Questions (MCQs) – 40% (USMLE-style format)
- Extended Matching Questions (EMQs) – 10%
- Short Answer Questions (SAQs) – 50%

2. Performance / Practical Assessment (50%)

- Objective Structured Practical Examination (OSPE) – conducted in Years I, II, and III
- Objective Structured Clinical Examination (OSCE) – conducted in Years IV and V
- Short clinical cases are included as part of the OSCE.

Assessment and their timings

- The module/ clerkship teams will be responsible for their assessment plan mentioning assessment strategies, timings, and other essentials (please refer to the individual plans).
- Students will be briefed about the pattern and scoring of the assessments before the examination.
- Professional examination will be taken by RMU.

5. Weekly LMS (learning management system) assessment of LGIS and SDL

- There will be weekly assessment of LGIS and SDL of whole week at end of week through LMS.

- The LMS result will be shared by module coordinator and DME through vice chancellor on weekly basis.

6. Eligibility to appear in End Block Assessment (EBA)

- This will be applicable to all the blocks of undergraduate program
- 80% attendance in each subject will be mandatory
- Student must pass in all LMS, mid module assessments to appear in EBA
- There will be no remedial classes for attendance compensation
- There will be no remedial of assessment after poor performance

7. Eligibility to appear in Pre-Annual Assessment (PAA)

- 80% attendance in each block is required to appear in PAA
- It is mandatory to appear in all EBA to appear in PAA
- Appraisal letter from head of departments will be needed to appear in pre-annual assessment.

8. Attendance policy

- 90% attendance in each block is required to appear in PAA
- There will be extra marks given as per rules.
- Attendance of the students will be shared by coordinator of module and DME through vice chancellor RMU on weekly basis.
- These marks will be counted in annual professional assessment.

9. Eligibility to appear in annual professional assessment

- Minimum 60% score in pre-annual assessment is required to appear in annual professional examination.
- Written and practical /OSPE/OSCE should be passed separately.

10. Passing criteria in annual professional examination

- 50% marks will be needed to pass annual professional examination.

11. Total break up of assessment score

- Annual professional exam weightage 60%
- Continuous internal assessment weightage 40%

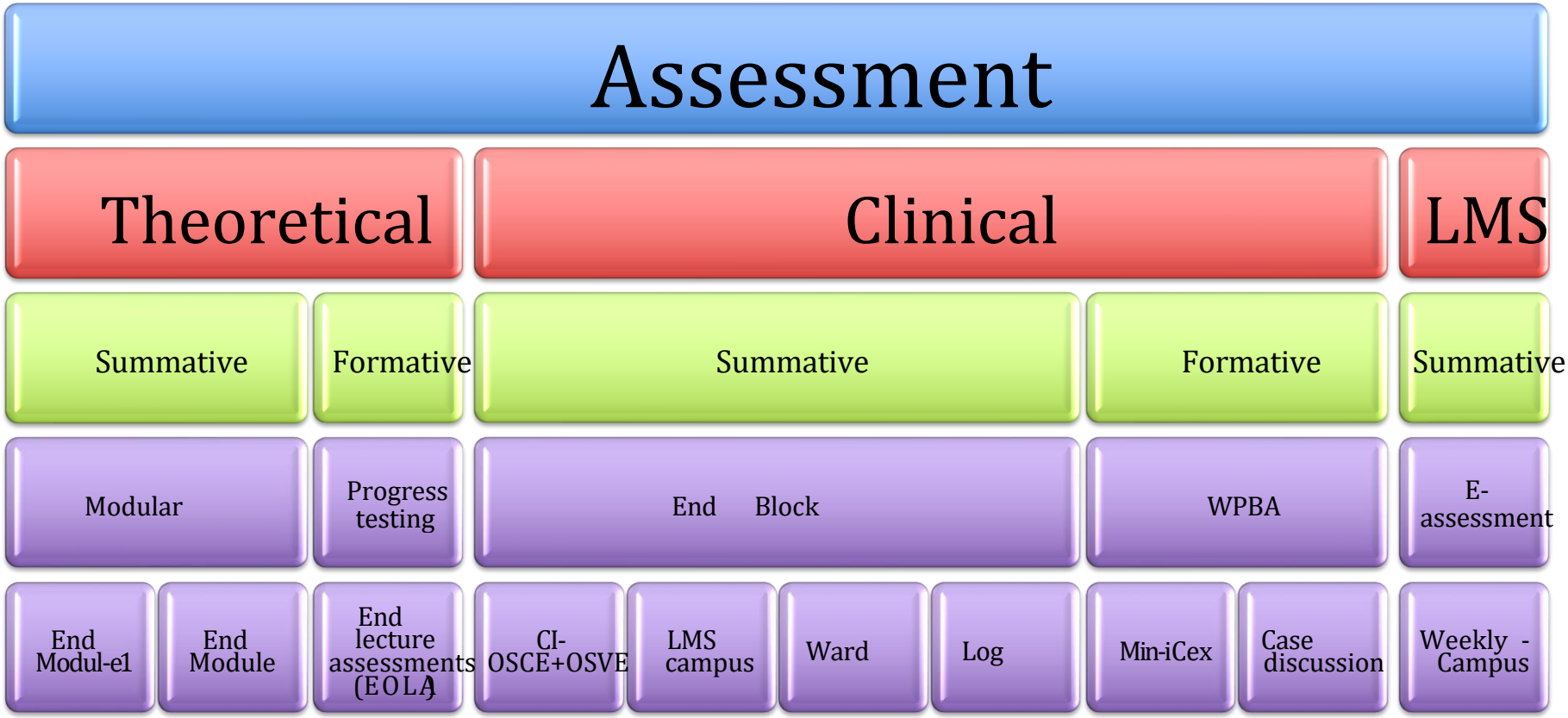

Assessment
Theoretical
Clinical
LMS
Summative
Formative
Summative
Formative
Summative
Modular
Progress testing
End Block
WPBA
E-assessment
End Modul-e1
End Module
End lecture assessments (EOLA)
CI-OSCE+OSVE
LMS campus
Ward
Log
Min-iCex
Case discussion
Weekly - Campus

Table of Specifications

Department of Medical Education Rawalpindi Medical University/Allied Hospitals Preamble

The Table of Specifications (TOS) is a detailed framework that describes how assessment items are distributed in terms of content among modules in our prestigious medical university's curriculum. The TOS was created with great care to ensure that educational objectives, instructional content, and evaluation criteria are all in line with one other. This allows us to guarantee the validity, integrity, and reliability of assessments while supporting our students' overall growth. This paper offers clarity and transparency by outlining the cognitive levels, domains, and weightings of assessment items. This helps faculty members create tests that appropriately measure students' understanding of critical competencies and knowledge areas. The TOS, which is based on pedagogical ideas and evidence-based practices, symbolizes our dedication to provide our graduates with the necessary skills, knowledge, and professionalism in medical education to achieve success in their chosen industries and contribute significantly to the medical community and society at large.

Components of TOS:

The following elements are usually included in a Table of Specifications (TOS):

Content Domains or Areas: The assessment's broad categories or content domains are described in this section. These domains have to match the course or module's curriculum and learning objectives.

Weightings or Percentages: Gives each topic area or cognitive level a certain amount of weight or proportional value. This makes it easier to guarantee that the evaluation accurately captures the importance that the curriculum places on certain subjects or abilities.

Assessment Items: Describes the many kinds of assessment items that will be used in the assessment, such as essays, multiple choice questions, short answer questions, and practical tests. The number of items assigned to each content area and cognitive level may also be stated in this section.

Blueprint: A graphic depiction of the TOS that outlines how assessment items are distributed throughout curriculum categories. It frequently takes the shape of a table or matrix.

Modules in 4th Year MBBS

Block	Module Name	Duration
(Block I)	Otorhinolaryngology I	3 weeks
	Otorhinolaryngology II	3 weeks
(Block II)	Ophthalmology I	3 weeks
	Ophthalmology II	3 weeks
(Block III)	Endocrinology I	3 weeks
	Population medicine& reproduction II	7 weeks
(Block IV)	Renal I	3 weeks
	CNS & Psychiatry II	6 weeks

Assessment strategies to assess module:

Formative: Formative assessment is a process used by teachers during instruction that provides feedback to adjust ongoing teaching and learning to improve students' achievement of intended instructional outcomes.

LMS (Learning Management System): Weekly LMS based assessment will be carried out in all the modules from the topics already provided in the study guide.(TOS sample annexure 1)

End Modular: End Modular Assessment will be carried out at the end of the module from the course taught till that day. (TOS Sample Annexure 2) **Summative**: summative assessment evaluates student learning at the end of a block/ professional year.

MCQs: Multiple-choice questions (MCQs) are a type of assessment item commonly used in educational settings to evaluate a person's knowledge or understanding of a topic. In a multiple-choice question, the respondent is presented with a question or statement, known as the stem, along with several options, one of which is the correct answer (the key), while the others are incorrect (distractors). The respondent selects the option they believe to be the correct answer.

SAQs: Short answer questions are a type of assessment item used to evaluate a person's understanding of a topic or concept. Unlike multiple- choice questions, which provide a list of options for respondents to choose from, short answer questions require respondents to generate their own answers without the aid of options provided by the question.

Assessment tools & strategies

Tools of assessments:

Theory assessment

a. MCQs

b. SAQs & SEQs

c. EMQs

d. AV-OSPE

Clinical Assessment

a. Objectively Structured Viva Examination (OSVE).

b. Ci-OSCE (Clinically Integrated-OSCE)

c. Ward test

d. Log book

LMS

1. Off campus
2. On-Campus

Proposed TOS of on campus Assessments during whole Academic Year 2026 (RMU)

Block Name & Order	Modules Names & Numbers	Theory			Scheme of Integration							Practical Assessment										
		25 MCQs (1 mark each)	5+1 SAQ +EMQ (5 marks each)	5 SEQs (9marks each)	Core Subject. 70%		Hori- & Verti-Integ. 20%		*Spiral Integ. 10%		Total marks Theory	OSVE				OSPE (05 marks each)			Total marks Practical	End Block LMS (MCQs Based)	Total Block marks
												Module I		Module 2		Observed	Unobserved	Video assisted			
I Otorhinolaryngology	ENT I & II	Total marks	Total marks	Total marks	MCQs (19)	SAQ/SEQ +EMQ (7+1)	MCQs (4)	SAQ /SEQs (2)	MCQs (2)	SAQ (1)	100	Viva marks	**Book marks	Viva marks	Book marks	5 stations	5 stations	10 stations	150	30	270
		25	25+5	45	19	46	4	12	2	7		45	5	45	5	25 marks	25 marks	50 Marks			
II Ophthalmology	EYE I & II	25	25 +5	45	19	46	4	12	2	7	100	45	5	45	5	5 stations 25 marks	5 stations 25 marks	10 stations 50 marks	150	30	270
	Endocrinology	25	25 +5	45	19	46	4	12	2	7	100	-									

III Population medicine & Reproduction	**Pop Med & Reproduction**	25	25+5	45	19	46	4	12	2	7	100	Viva marks 45	Book marks 5	Viva marks 45	Book marks 5	10 stations 50 marks	10 stations 50 marks	20 stations 100 marks	250	30	460
	Renal	25	25+5	45	19	46	4	12	2	7	100									30	

IV CNS & Psychiatry	**CNS & Psychiatry**		25+5	45	19	46	4	12	2	7	100	Viva marks 45	Book marks 5	Viva marks 45	Book marks 5	10 OPSEs 50 marks	10 OPSEs 50 marks	20 OSPEs 100 marks	250		460

**Spiral Integration*

1. Biomedical Ethics & Professionalism
2. Family Medicine
3. Integrated Undergraduate Research Curriculum (IUGRC)

Artificial Intelligence **** "Log Book marks"** will be credited according to evidence of reading relevant subjects from the recommended books presented at the time of viva examination

In theory assessment SEQs and SAQs both tools may be used according to need and scope of assessment in the subject. - **Time** allocated to 1 MCQ: 1min and 1SEQ/SAQ: 10min.

Proposed Pre-Annual Assessment TOS 4th Year MBBS (batch 50)

Blocks	Subjects	MCQs 1mark each	SAQs 5 marks each	Core Subject	Horizontal & Vertical Integration	Spiral Integration	OSCE 5 marks each	VIVA 75 marks	
								Attendance	Core subject
Block 1 * **	ENT	45	10	70%	20%	10%	10	5	40
	Community Medicine	30	5	70%	20%	10%	05	5	25
Total Marks		**75**	**75**	**100%**			**75**	**75**	
Block II* **	Eye	45	10	70%	20%	10%	10	5	40
	Community Medicine	30	5	70%	20%	10%	05	5	25
Total Marks		**75**	**75**	**100%**			**75**	**75**	
	Pharmacology	25	4	70%	20%	10%	5	5	20
	Pathology	25	5	70%	20%	10%	5	5	20

Block III ***	Community Medicine	15	4	70%	20%	10%	5	5	20
Total Marks		**75**	75	**100%**				75	
	Pharmacology	25	4	70%	20%	10%	5	5	20

Block IV*	Pathology Community Medicine	25 15	5 4	70% 70%	20% 20%	10% 10%	5 5	5 5	20 20
Total Marks		**75**	**75**	**100%**			**75**	**75**	

***Total marks of each Block = 300 marks, Grand Total = 1200 marks**

Assessment Frequency & Time in population medicine & Reproductive Health Block

(80% pass criteria and 80% attendance for appearing in end block exam)

	Population Medicine & Reproductive health Block	Type of Assessments	Total Assessment Time			No. of Assessments	
Sr #	Types of Assessments		Assessment Time	Summative Assessme	Formative Assessment	Formative	Summative
1	**Weekly LMS based assessments** (Pathology 20, Community Medicine 20, Pharmacology 20, Surgery &allied 20, Medicine& allied 20) **Total 100 MCQs (100 marks)**	Summative	60 Minutes /WK =6hrs	20:30 hours	10 Minutes (pretest before each LGIS)	According to number of LGIS	07
2	**End Module Examinations**	Summative	Detailed below				
Breakup of EOM Assessment							

➢ **Community medicine** (5SEQs,5 SAQs, 1 EMQ & 25 MCQs) 100 marks		Summative	3 Hrs.
➢ **Pathology (**5SEQs,5 SAQs, 1 EMQ and 25 MCQs) 100 marks		Summative	3 Hrs.
➢ P**harmacology** (5SEQs,5 SAQs, 1 EMQ and 25 MCQs) 100 marks		Summative	3 Hrs.
➢ (video assisted OSPE) for each subject 10 stations (50 marks)		Summative	50 minutes
➢ Ward test at the end of two weeks rotation in clinical subjects & End of Clerkship Community medicine.			1 hr. 40 min
5.	**End Block** 1. Practical OSPE.20 stations=100 marks, Structured viva. 100 marks 2. LMS based MCQs (100 MCQs) 100 marks	Summative	3 hrs.

Table of specifications (TOS) Weekly Assessment (LMS) For Reproduction Block

S. No	Discipline	Type of Assessment	Number of MCQs	Cognitive domains			Marks
				C1	C2	C3	
1.	Community medicine	Summative	20	4	5	11	20
2.	Pathology	Summative	20	4	5	11	20
3.	Pharmacology	Summative	20	3	5	12	20
4.	Medicine & Allied	Summative	20	4	6	10	20
5.	Gynae & Obstetrics	Summative	20	4	6	10	20
	Total		100	19	27	54	100

Mode & Schedule of Assessment
Community Medicine

S. No	Mode	Type	Schedule	Venue	Frequency
1.	End of wk. LMS based Test	Summative	Weekly	Off campus	01 x no. of weeks
2.	Theory (MCQ+SEQ+ SAQs + EMQ)	Summative	End of module	On campus	01
3.	AV OSPE	Summative	End of module	On campus	01
4.	Practical Ci OSPE	Summative	End of block	On campus	01
5.	Structured VIVA	Summative	End of block	On campus	01
6.	LMS MCQs test	Summative	End of block	On campus LMS	01
7.	End of clerkship Exam MCQs, OSCE	Summative	End of clerkship batch	On campus	01 x 2 wks.

Pharmacology

S. No	Mode	Type	Schedule	Venue	Frequency
1.	End of wk. LMS based Test	Summative	Weekly	Off campus	01 x no. of weeks

2.	Theory (MCQ+SEQ+ SAQs + EMQ)	Summative	End of module	On campus	01
3.	AV OSPE	Summative	End of module	On campus	01
4.	structured VIVA& practical OSPE	Summative	End of block	On campus	01
5.	LMS MCQs test	Summative	End of block	On campus	01
6.	End of Skill lab Exam, MCQs	summative	End of module	On campus	01

Pathology

S. No	Mode	Type	Schedule	Venue	Remarks
1.	End of wk. MCQ based Test	Summative	Weekly	LMS	01 x no. of weeks
2.	Theory (MCQ+SEQ+ SAQs + EMQ)	Summative	End of module	On campus	01
3.	AV OSPE	Summative	End of module	On campus	01
4.	Structured VIVA & practical OSPE	Summative	End of block	On campus	01
5.	LMS MCQs test	Summative	End of block	LMS	01
6.	End of Skill lab Exam, MCQs	Summative	End of module	On campus	01

Table of Specification for Assessment

		FOR EACH MODULE ASSESSMENT												FOR BLOCK ASSESSMENT									
			Theory											Practical									
						Scheme of Integration								OSVE				OSPE (05 marks each)		Total marks Practical	Total Block mark		
Block Name	Modules Names	Subject	25 MCQs (1 mark	5+1 SAQ +EMQ (5	5 SEQs (9marks each)	Core Subject . 70%		Hori- & Verti- Integ. 20%		Spiral Integ. 10%		Video assisted OSPE 10		Module I syllabus		Module 2		Observed	Unobserve				
														Viva mark	Book mark	Viva mark	Book mark	10 stations	10 stations				
														45	5	45	5	50	50				
Population Medicine & reproduction	Endocrinology	Community medicine	25	25+5	45	Mcq 19	Seq 50	Mcq 4	Seqs 15	Mcq 2	Seq 10		150										
		Pharmacology	25	25+5	45	19	50	4	15	2	10	50	150										
		Pathology	25		45	19	50	4	15	2	10	50	150										
	Population Med & Reproduction	Community medicine	25	25+5	45	19	50	4	15	2	10	50	150								300	30	
		Pharmacology	25	25+5	45	19	50	4	15	2	10	50	150	45	5	45	5	50	50	200	300	30	
		Pathology	25	25+5	45	19	50	4	15	2	10	50	150	45	5	45	5	50	50	200	300	30	

End of Module Exam						
Modules	**Subject**	**Theory**				**Total**
		MCQs (25) (1 mark each)	**SAQ+EMQ 5+1 (5 marks each)**	**5 SEQs 05 (9marks each)**	**AV OSPE 10 stations (5 marks each)**	
Population Medicine & Reproductive Health	Community medicine	25	25+5	45	50	150
	Pharmacology	25	25+5	45	50	150
	Pathology	25	25+5	45	50	150

End of Block Exam						
Subjects	**OSPE**		**Viva 90 marks**	**Book 10 marks**	**On Campus LMS**	**Total**
	Observed 10 stations (05 marks each)	**Unobserved 10 stations (05 marks each)**				
Community Medicine	50	50	90	10	100	300
Pharmacology	50	50	90	10	100	300
Pathology	50	50	90	10	100	300

11- Time Table

12- sREMOVE TIMETABLES

Rawalpindi Medical University Rawalpindi

Tentative Time Table 4th year MBBS-Endocrinology Module 2026 (1st week)

THEME 1: Metabolic Homeostasis s Diabetes Care Continuum

DATE / DAY	8:00 AM - G:00 AM		0G:00am - 10:00am		BREAK 10:00AM – 10:30 AM	10:30am - 12:00pm	12:00pm - 02:00pm
Monday 13.07.26	Quran Class		COMMUNITY MEDICINE (LGIS)			CLINICAL CLERKSHIP of community medicine attached as annexures at the end of document Community oriented clerkship and other rotations will remain same. These will be completed at end of yr.	
	Combine Class		Non-Communicable, (Diabetes C Obesity)				
	CPC Hall		(odd) lec hall 1	(Even) lec hall 2			
	Qari Abdul Wahid		Dr Mehwish	Dr. Mehjabeen			
Tuesday 14.07.26	MEDICINE		PHARMACOLOGY (CBL)				
	Diabetes Insipidus		Diabetes Mellitus				
	(odd) lec hall 1	(Even) lec hall 2	(odd) lec hall 1	(Even) lec hall 2			
	Dr Saima Ambreen	Dr Madiha Nazar	Dr Haseeba	Dr. Arsheen			
Wednesday 15.07.26	PATHOLOGY (SGD)		SURGERY (LGIS)				
	Pancreatic tumors		Surgical Intervention of Pancreatic tumors				
	(odd) lec hall 1,3	(Even) lec hall 2,6	(odd) lec hall 1	(Even) lec hall 2			

	Dr Shabih Haider Dr Kiran Fatima	Dr Mahjabeen Dr Rubab Fatima	Dr Arif Khan	Dr. Asifa Dian	
Thursday 16.07.26	**PATHOLOGY (LGIS)**		**PHARMACOLOGY (LGIS)**		
	Diabates Mellitus		Anti-Diabetic drugs (Classification)		

	(odd) lec hall 1	(Even) lec hall 2	(odd) lec hall 1	(Even) lec hall 2						
	Dr Kiran Fatima	Dr Mehreen Fatima	Dr Zunera	Dr. uzma						
Friday 17.07.26	**08:00AM - 0G:45AM**		**0G:45AM - 10:30**		**10:30AM - 11:15AM**		**11:15AM - 12:00PM**			
	PAL / Skill lab		**PHARMACOLOGY (LGIS)**		**MEDICINE (LGIS)**		**PEDIATRICS (LGIS)**			
	Community Medicine / Pathology IUGRC Session / Chronic Pancreatitis, Pancreatic Carcinoma		Anti-Diabetic Drugs (Parenteral)		Diabetes and Hypoglycemia		Diabetes Mellitus C Its Complications			
	Batch A-H	**I-P**	**(odd) lec hall 4**	**(Even) lec hall 5**	**(odd) lec hall 4**	**(Even) lec hall 5**	**(odd) lec hall 4**	**(Even) lec hall 5**		
	All Faculty Members	Dr Mahjabeen	Dr Zunera	Dr. uzma	Dr Nida	Dr. Mujeeb	Dr Verda Imtiaz	Dr. Sonia Fazal		
Saturday SEMINAR DAY 18.07.26	**08:00AM - 0G:45AM**		**0G:45AM - 11:15AM**		**BREAK 11:15AM - 11:45 AM**		**11:45AM - 12:30PM**		**12:30PM - 01:15PM**	**01:15PM - 02:00PM**
	PAL / Skill lab		**TCRF-1 Joint Session**				**MEDICINE(LGIS)**		**FAMILY MEDICINE (LGIS)**	**PATHOLOGY (CBL)**
	Community Medicine / Pathology IUGRC Session / Chronic Pancreatitis, Pancreatic Carcinoma		**Uncontrolled diabetes with acute metabolic complications**				Diabetes Ketoacidosis		Care concepts of FM in NCDs (diabetes, Obesity)	Complications of Diabetes Mellitus
	A-H	**I-P**	**CPC Hall**				**(odd) lec hall 4**	**(Even) lec hall 5**	CPC Hall (combine class)	**(odd) lec hall 3,4**	**(Even) lec hall 5 toxi lab**

	All faculty members	Dr Mahjabeen	**Dr Mehjabeen Qureshi**		Dr Nida	Dr Mujeeb	Dr Sadia	Dr Syed Iqbal Dr Rubab	Dr Mehreen Fatima Dr Shabih Haider

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Tentative Time Table 4thyear MBBS-Endocrinology Module 2026 (2nd week)

THEME 2: Regulation of Thyroid s Parathyroid Hormones

DATE / DAY	8:00 AM - G:00 AM		0G:00am - 10:00am		BREAK 10:00AM – 10:30 AM	10:30am - 12:00pm	12:00pm - 02:00pm
Monday 20.07.26	PHARMACOLOGY		PATHOLOGY			CLINICAL CLERKSHIP of community medicine attached as annexures at the end of document Community oriented clerkship and other rotations will remain same. These will be completed at end of yr.	
	Drugs that affect bone mineral C Homeostasis		Parathyroid disorders				
	(odd) lec hall 1	(Even)lec hall 2	(odd) lec hall 1	(Even) lec hall 2			
	Dr Attiya	Dr. Zari	DR Fatima tuz Zahra, Dr Mahjabeen	Dr Mehreen Fatima, Dr Shabih Haider			
Tuesday 21.07.26	PHARMACOLOGY (LGIS)		COMMUNITY MEDICINE				
	Hypothyroidism		Non- Communicable, HTN, CHD				
	(odd) lec hall 1	(Even)lec hall 2	(odd) lec hall 1	(Even) lec hall 2			
	Dr Attiya	Dr. Zari	Dr Sana Bilal	Dr Imrana Saeed			
Wednesday 22.07.26	PATHOLOGY (SGD)		COMMUNITY MEDICINE				
	Parathyroid Adenoma/ carcinoma		Non- Communicable, cancers				
	(odd) lec hall 1	(even) lec hall 2	(Even) lec hall 1	(Even)lec hall 2			
	DR Fatima tuz Zahra,	Dr Mahjabeen	Dr Imrana Saeed	Dr. Sana Bilal			
	PATHOLOGY (LGIS)		SURGERY (LGIS)				

Thursday 23.07.26	Hypothyroidism and Thyroid Tumors		Surgical intervention of parathyroid gland				
	(odd) lec hall 1	Lec hall 2	(odd) lec hall 1	(Even) lec hall 2			
	Dr Fatima tuz Zahra	Dr Mehreen Fatima	Dr Gohar Rasheed	Dr. Huma Sabir			
	08:00AM – 0G:45AM		**0G:45AM – 10:30**		**10:30AM – 11:15AM**	**11:15AM – 12:00PM**	

Friday 24.07.26	**Skill lab**		**PATHOLOGY (LGIS)**		**PHARMACOLOGY (LGIS)**		**MEDICINE (LGIS)**											
	Pharmacology / Pathology P-Drugs C Prescription writing / Thyroiditis, Multinodular goiter -I		Hyperthyroidism		Anti-thyroid Drugs classification		Thyroid Disorders 1 hypothyroidism											
	Batch A-H	**Batch I-P**	**(odd) lec hall 4**	**(Even)lec hall 5**	**(odd) lec hall 4**	**(Even)lec hall 5**	**(odd) lec hall 4**	**(Even)lec hall 5**										
	Dr Zoefeshan Dr Zaheer Dr Uzma	Dr Syed Iqbal Haider	Dr. Kiran Fatima	Dr. Fatima Zahra	Dr Attiya	Dr. Zari	Dr Mojeeb	Dr Nida										
Saturday SEMINAR THYROID	**08:00AM - 0G:45AM**		**0G:45AM - 10:30**		**10:30AM - 11:15AM**		**BREAK**	**11:45AM - 12:30PM**		**12:30PM - 01:15PM**		**01:15PM - 02:00PM**						
	skill lab Pharmacology / Pathology		**PHARMACOLOGY (LGIS)**		**PEDIATRICS (LGIS**			**MEDICINE (LGIS)**		**GYNAE (LGIS)**		**SURGERY (LGIS)**						
25.07.26	P-Drugs C Prescription writing/ Thyroiditis, Multinodular goiter - II		Anti-thyroid Drugs (Mechanism of Action C Adverse Effects)		Hypothyroidism			Thyroid disorder 2 hyperthyroidism		Thyroid in Pregnancy		Surgical Intervention of Thyroid Gland						
	Batch I-P	**Batch A-H**	**(odd) lec hall 4**	**(Even) lec hall 5**	**(odd) lec hall 4**	**(Even) lec hall 5**		**(odd) lec hall 4**	**(Even) lec hall 5**	**(odd) lec hall 4**	**(Even) lec hall 5**	**(odd) lec hall 4**	**(Even) lec hall 5**					

	Dr Zoefeshan Dr Zaheer Dr Uzma	Dr. Syed Iqbal Haider	Dr Attiya	Dr. Zari Salahudin	Dr Hina Sattar	Dr Samra Javed		Dr Nida	Dr Mujeeb	Dr Ammara	Dr. Saima Khan	Dr Gohar Rasheed	Dr. Huma Sabir

Rawalpindi Medical University Rawalpindi

Tentative Time Table 4th year MBBS-Endocrinology Module 2026 (3rd week)

THEME 3: The HPA Axis in Health and Disease

DATE / DAY	8:00 AM - G:00 AM		0G:00am - 10:00am		BREAK 10:00AM – 10:30 AM	10:30am - 12:00pm	12:00pm - 02:00pm
Monday 27.07.26	**COMMUNITY MEDICINE (LGIS)**		**PHARMACOLOGY (CBL)**			**CLINICAL CLERKSHIP of community medicine attached as annexures at the end of document** **Community oriented clerkship and other rotations will remain same. These will be completed at end of yr.**	
	Health Programs (Vertical)		Corticosteroids				
	(odd) lec hall 1	**(Even) lec hall 2**	**lec hall 1 s 2**	**lec hall 6 s pharmacy lab**			
	Dr Khola Noreen	Dr Mehwish	Dr Zoefeshan Dr Zaheer Dr Purwa	Dr Saba Dr Memuna Dr Arsheen Dr Ayesha			
Tuesday 28.07.26	**PHARMACOLOGY (SGD)**		**MEDICINE (LGIS)**				
	Mineralocorticoid Antagonist		**Acromegaly**				
	lec hall 1,3	**lec hall 2,toxi lab**	**(odd) lec hall 1**	**(Even) lec hall 2**			
	Dr Zoefeshan Dr Zaheer Dr Uzma Dr Ayesha	Dr Saba Dr Memuna Dr Arsheen	Dr Nida	Dr Madiha Nazar			
Wednesday 2G.07.26	**PATHOLOGY (SGD)**		**SURGERY (LGIS)**				
	Disorders of Adrenal medulla C MEN Syndrome		Surgical intervention of Adrenal Gland				
	lec hall 1,3	**lec hall 2,6**	**(odd) lec hall 1**	**(Even) lec hall 2**			
	Dr Shabih Haider	Dr Rubab Dr Mehreen Fatima	Dr M. Iqbal	Dr Syed Rahat Hassan			

	Dr Syed Iqbal				
Thursday 30.07.26	**MEDICINE (LGIS)**		**PATHOLOGY (LGIS)**		
	Hyperaldosteronism		Adrenal Gland/Hyperadrenalism		
	(odd) lec hall 1	**(Even) lec hall 2**	**(odd) lec hall 1**	**(Even) lec hall 2**	

	Dr Nida	Dr Mujeeb	Dr Kiran Fatima	Dr. Fatimatu Zahra								
	08:00AM - 0G:45AM		**0G:45AM - 10:30**		**10:30AM - 11:15AM**		**11:15AM - 12:00PM**					
	PAL/ skill lab		**MEDICINE (LGIS)**		**PATHOLOGY (LGIS)**		**PHARMACOLOGY(LGIS)**					
Friday 31.07.26	**Community medicine / Pharmacology**		Cushing's Syndrome and Addison Disease		Hypoadrenalism and adrenal tumors		Corticosteroids (Classification)					
	IUGRC Session/P-Drug C Prescription writing											
	Batch A-H	**I-P**	**(odd) lec hall 4**	**(Even) lec hall 5**	**(odd) lec hall 4**	**(Even) lec hall 5**	**(odd) lec hall 4**	**(Even) lec hall 5**				
	All demonstrators	Dr Zoefeshan Dr Zaheer Dr Uzma	Dr Saima Ambreen	Dr Mujeeb	Dr. Kiran Fatima	Dr Ayesha	Dr Attiya	Dr Haseeba				
	08:00AM - 0G:45AM		**0G:45AM - 11:15AM**				**BREAK**	**11:45AM - 12:30PM**	**12:30PM - 01:15PM**	**01:15PM - 02:00PM**		
	PAL/skill lab COMMUNITY MEDICINE / PHARMACOLOGY		**TCRF-2 Joint Session**					**SURGERY (LGIS)**	**PATHOLOGY (CBL)**	**PHARMACOLOGY (SGD)**		
	IUGRC Session/P-Drug C Prescription writing		Cushing syndrome due to prolonged use of steroids					Neuroendocrine Disorders	Pineal Gland Pathologies	Glucocorticoids Antagonist		

	I-P	**Batch A-H**	**CPC Hall**		**(odd) lec hall 4**	**(Even) lec hall 5**	**(Even) lec hall 5.6**	**(odd) lec hall 3,4**	**lec hall 5 s 6**	**lec hall 3 s 4**
Saturday 01.08.26	All demonstratorsC senior faculty	Dr Saba Dr Memuna Dr Arsheen Dr Ayesha	Dr Mehjabeen Qureshi		Dr. Zafar Iqbal	Dr. Qasim Ali	DrMehreen Dr Mahjabeen	Dr Rubab Dr Syed Iqbal	Dr Saba Dr Memuna Dr Arsheen Dr Ayesha	Dr Zoefeshan Dr Zaheer Dr Uzma

Rawalpindi Medical University Rawalpindi

Tentative Time Table 4th year MBBS-Endocrinology Module 202 (4rth week)

THEME 3: The HPA Axis in Health and Disease

DATE / DAY	8:00 AM - G:00 AM		0G:00am - 10:00am		BREAK 10AM-10:30AM	10:30am - 12:00pm	12:00pm - 02:00pm
Monday 03.08.26	COMMUNITY MEDICINE (LGIS)		PHARMACOLOGY (CBL)			CLINICAL CLERKSHIP of community medicine attached as annexure Community oriented clerkship and other rotations will remain same. These will be completed at end of yr.	Res at the end of document
	Healthcare delivery system of Pakistan		Corticosteroids (Clinical Pharmacology)				
	lec hall 1	lec hall 2	(odd) lec hall 1	(Even) lec hall 2			
	Prof. Dr. Rozina Shahadat Khan	Dr Khola Noreen	Dr Zoefeshan Dr Zaheer Dr Uzma Dr Ayesha	Dr Saba, Dr. Memuna Dr. Arsheen			
Tuesday 04.08.26	COMMUNITY MEDICINE (LGIS)		PHARMACOLOGY (LGIS)				
	Health systems		Corticosteroids (Mechanism of Action C Adverse effects)				
	lec hall 1	lec hall 2	lec hall 1	lec hall 2			
	Prof. Dr. Rozina Shahadat Khan	Dr Khola Noreen	Dr Attiya	Dr. Haseeba			
Wednesday 05.08.26	SDL/Prep Leave						
Thursday 06.08.26	Module Exam Community Medicine						

Friday **07.08.26**	**Module Exam Pathology**
Saturday **08.08.26**	**Module Exam Pharmacology**

Theme 1. Maternal health

Tentative Timetable 4th year MBBS-Population Medicine & Reproductive Health Block 2026 (1st week)

Date / Day	8:00 Am – 9:00 Am		09:00am – 10:00am		Break 10:00am – 10:30am	10:30am – 12:00pm	12:00pm - 02:00pm
Monday 4.8.25	**QURAN CLASS**		**MEDICINE (LGIS)**			**CLINICAL CLERKSHIP of community medicine attached as annexures at the end of document Community oriented clerkship and other rotations will remain same. These will be completed at end of yr.**	
	Combined class Lec hall 1		Hypertension in pregnancy				
	Qari Abdul Wahid		**(odd) lec hall 1**	**Even lec hall 2**			
			Dr Muhammad Arif	Dr Arsalan			
Tuesday 5.8.25	**OBS (LGIS)**		**COMMUNITY MEDICINE (LGIS)**				
	Basic terminology in Obstetrics, Basic anetnatlcare		Preventive obs antenatal care				
	(odd) lec hall 1	**(Even) lec hall 2**	**(odd) lec hall 1**	**(Even) lec hall 2**			
	Gynae Unit I Dr. Humaira Bilqis	Gynae Unit I Dr. Ammarh	Assoc Prof Dr. Khola	Prof. Dr. Rozina Shahadat Khan			
Wednesday 6.8.25.	**OBS (LGIS)**		**COMMUNITY MEDICINE (LGIS)**				
	Diagnosis of 1st stage of labor, its management andabnormalities		Preventive medicine in obstetric (natal care)				
	(odd) lec hall 1	**(Even) lec hall 2**	**(odd) lec hall 1**	**(Even) lec hall 2**			
	Gynae Unit-II Dr Khansa	Gynae Unit-II Dr. sabeen	Assoc Prof Dr. Khola	Prof. Dr. Rozina Shahadat Khan			
	PHARMACOLOGY (LGIS)		**PHARMACOLOGY (LGIS)**				

Thursday 7.8.25.	Gonadal Hormones 1		Oxytocin & Uterine Relaxants					
	(odd) Lec hall 1	**(odd) Lec hall 1**	**(odd) lec hall 1**	**(odd) lec hall 2**				
			Dr. Haseeba	Dr. Zari Salahudin				
Friday 8.8.25	**08:00AM – 09:45AM**		**09:45AM – 10:30**		**10:30AM – 11:15AM**	**11:15AM – 12:00PM**		
	PAL(IUGRC Session) /skill lab Community Medicine / Pathology		**OBS (LGIS)**		**PHARMACOLOGY (LGIS)**	**PATHOLOGY (SGD)**		

	Research viva/ Cervical Carcinoma & Screening Through Cervical Smears		3rd stage of labor & its complications (retained placenta/ uterine inversion		Gonadal Hormone 2		Pathology of early pregnancy complication & non neoplastic placental pathologies							
	Batch A-H	**I-P**	**Lec hall 4 (Odd)**	**Lec hall 5 (even)**	**Lec hall 4 (Odd)**	**Lec hall 5 (even)**	**Lec hall 3 & 4**	**Lec hall 5 & 6**						
	Faculty of community medicine	**Dr. Rubab Fatima**	Dr Rubaba DHQ	Dr Ruqyya DHQ	Dr Aysha	Dr Zunaira	Dr Fatima Tuz Zahra Dr Kiran	Dr Iqbal, Dr Shabih						
Saturday 9.8.25.	**08:00AM – 09:45AM**		**09:45AM – 10:30**		**10:30AM – 11:15AM**		**BREAK 11:15AM – 11:45AM**	**11:45AM – 12:30PM**		**12:30PM – 01:15PM**		**01:15PM – 02:00PM**		
	PAL(IUGRC Session) /skill lab Community Medicine / Pathology		**PHARMACOLOGY (LGIS)**		**MEDICINE (LGIS)**			**MEDICINE (LGIS)**		**Gynae (LGIS)**		**Anesthesia (LGIS)**		
	Research viva/ Cervical Carcinoma & Screening Through Cervical Smears		Gonadal Hormone 3		Liver disorders & thrombocytopenia in Pregnancy			Infections in pregnancy, RTI, GIT, Eye, ENT		Minor disorders in pregnancy		Regional Anesthesia (Spinal & Epidural		
	Batch A-H	**I-P**	**(odd) lec hall 1**	**(odd) lec hall 1**	**Lec hall 4 (Odd)**	**Lec hall 5 (even)**		**Lec hall 4 (Odd)**	**Lec hall 5 (even)**			**Lec hall 4 (Odd)**	**Lec hall 5 (even)**	
	Dr. Rubab Fatima	Faculty of community medicine	Dr. Arif	Dr. Arif	Dr. Arif	Dr Faran		Dr Muhammad Arif	Dr Nida Anjum	Dr Aqsa DHQ	Dr Shehla DHQ	Dr.Anum AP-BBH	Dr.Fahad.SR-BBH	

Rawalpindi Medical University Rawalpindi

Tentative Time Table 4th year MBBS- Population Medicine & Reproductive Health Block 2025 (2nd Week)

DATE / DAY	8:00 AM – 9:00 AM		09:00am – 10:00am		BREAK 10:00AM – 10:30AM	10:30am – 12:00pm	12:00pm - 02:00pm
Monday 11.8.25.	**OBS (SGD)**		**OBS (LGIS)**			CLINICAL CLERKSHIP of community medicine attached as annexures at the end of document Community oriented clerkship and other rotations will remain same. These will be completed at end of yr.	
	. Prolonged Pregnancy / IOL		Early pregnancy complications (miscarriages & Ectopic pregnancy)				
	(Odd) lec hall 1	**(Even) lec hall 2**	**(odd) lec hall 1**	**(Even) lec hall 2**			
	Dr Humaira Bilqees	Dr Tahira	Dr. Shama DHQ	Dr. Tabinda DHQ			
Tuesday 12.8.25.	**OBS (LGIS)**		**MEDICINE (LGIS)**				
	Episiotomy/ instrumental delivery		Diabetes in pregnancy				
	(odd) lec hall 1	**(odd) lec hall 1**	**(odd) lec hall 1**	**Even lec hall 2**			
			Dr. Arif	Dr Arsalan			
Wednesday 13.8.25.	**OBS (LGIS)**		**PATHOLOGY (LGIS)**				
	Abdominal Delivery		Benign & premalignant conditions of cervix				
	(odd) lec hall 1	**(Even) lec hall 2**	**(odd) lec hall 1**	**(Even) lec hall 2**			
	Dr Hina gul BBH	Dr Humaira Masood BBH	Prof Dr Mobina	Dr. Fatima			
Thursday 14.8.25	**Holiday**						

	08:00AM – 09:45AM	09:45AM – 10:30	10:30AM – 11:15AM	11:15AM – 12:00PM	
	Skill Lab Pharmacology Pathology	**COMMUNITY MEDICINE (LGIS)**	**OBS (LGIS)**	**OBS (LGIS)**	

Friday 15.8.25.	Drugs used in pregnancy & lactation+ P drug & Prescription writing for infertility and preterm labour benign & malignant diseases of uterus		Preventive medicine in obstetrics (Postnatal care)-III		Puerperium & its complications		Postpartum Hemorrhage and its management.			
	Batch A-H	**I-P**	**(odd) lec hall 4**	**(Even) lec hall 5**	**(odd) lec hall 4**	**(Even) lec hall 5**	**(odd) lec hall 4**	**(Even) lec hall 5**		
	Dr Memona Dr Uzma	Dr. Rubab fatima	Dr. Khola Assoc Prof	Prof. DR. Rozina Shahadat Khan	Gynae Unit II Dr. Khansa Iqbal	Gynae Unit II Dr. Saira Ahmed	Gynae Unit I Dr. Tallat Farkhanda	Gynae Unit I Dr.Ammara		
	08:00AM – 09:45AM		**09:45AM – 10:30**		**10:30AM – 11:15AM**		**BREAK**	**11:45AM – 12:30PM**	**12:30PM – 01:15PM**	**01:15PM – 02:00PM**

Saturday 16.8.25.	**SGD Community Medicine/ Skill Lab Pathology**		**TRANSDISCIPLINARY CLINICAL REASONING FORUM(TCRF1)**			**MEDICINE (LGIS)**		**PATHOLOGY (SGD)**		**OBS(L G I S)**	
	/ Drugs used in pregnancy & lactation+ P drug & Prescription writing for infertility and preterm labour / benign & malignant diseases of uterus		**Managing a Pregnant Woman with Severe Pre-eclampsia**			Anemia in pregnancy		Rhincompatibility,a n emia, diseases in preg.		Oligohydramnios/polyhydramnios	
	A-H	**I-P**	**CPC hall joint session**			**(odd) lec hall 4**	**(Even) lec hall 5**	**(odd) lec hall 3 & 4**	**(Even) lec hall 5 & 6**	**(odd) lec hall 4**	**(Even) lec hall 5**
	Dr. Rubab Fatima	Dr Memona Dr Uzma						Dr Iqbal Haider Dr Mahjabeen	Dr Rubab Fatima Dr Mehreen Fatima	Dr. Aqsa DHQ	Dr. Naila

Rawalpindi Medical University Rawalpindi

Tentative Time Table 4th year MBBS- Population Medicine & Reproductive Health Block 2025 (3rd Week)

DATE / DAY	8:00 AM – 9:00 AM		09:00am – 10:00am		10:30am – 12:00pm	12:00pm - 02:00pm
Monday 25.8.25.	**OBS (LGIS)**		**PATHOLOGY (LGIS)**		BREAK 10:00AM – 10:30AM	**CLINICAL CLERKSHIP of community medicine attached as annexures at the end of document** **Community oriented clerkship and other rotations will remain same. These will be completed at end of yr.**
	Malpresentations		Benign diseases of uterus			
	(odd)lec hall 1	**(odd) lec hall 1**	**(odd) lec hall 1**	**(Even) lec hall 2**		
	Dr Aqsa DHQ	Dr Ismat Batool	Dr. Fatima Tuz Zahra	Dr. Kiran		
Tuesday 26.8.25.	**PHARMACOLOGY (LGIS)**		**OBS (LGIS)**			
	Drugs used in treatment of infertility		Hypertension in pregnancy			
	(odd)lec hall 1	**(even) lec hall 2**	**(odd) lec hall 1**	**(Even) lec hall 2**		
	Dr. Memona	Dr. saba	Dr. Shama DHQ	Dr. Ruqaiyah DHQ		
Wednesday 27.8.25.	**OBS (SGD)**		**MEDICINE (LGIS)**			
	Partogram, CTG		Rheumatological disorders in pregnancy			
	lec hall 1	**lec hall 2**	**(odd) lec hall 1**	**(Even) lec hall 2**		
	Gynae unit II Dr Farah	Gynae unit II Dr Khansa	Dr. Arif	Dr Arsalan		
Thursday 28.8.25.	**PATHOLOGY (LGIS)**		**OBS (LGIS)**			
	Benign diseases of Breast		Preterm labour /P PROM			
	(odd) lec hall 1	**(Even) lec hall 2**	**(odd) lec hall 1**	**(Even) lec hall 2**		
	Dr. Fatima Tuz Zahra	Dr. Kiran	Dr.Humaira Bilqees	Gynae Unit -I Dr Saima Anwar		
	08:00AM – 09:45AM		**09:45AM – 10:30**		**10:30AM – 11:15AM**	**11:15AM – 12:00PM**

Friday 29.8.25.	**Skill lab Pharmacology / Pathology**		**PATHOLOGY (LGIS)**		**MEDICINE (LGIS)**		**OBS (LGIS)**					
	PK Calculation I/ Tumors of Breast		Malignant neoplasm of breast		Asthma in pregnancy		Antepartum hemorrhage APH					
	Batch A-H	**I-P**	(odd) lec hall 4	lec hall 1	**lec hall 1**	**(Even) lec hall 5**	**(odd) lec hall 4**	**(Even) lec hall 5**				
	Dr Ayisha Dr Zaheer	Dr. Mehreen Fatims	Dr Mahreen Fatima	Dr. Saima Bibi	Dr. Saima Bibi	Dr Faran	Dr Sima Bibi	Dr.Saima Anwar				
Saturday 30.8.25.	**08:00AM – 09:45AM**		**09:45AM – 10:30**		**10:30AM – 11:15AM**		**BREAK**	**11:45AM – 12:30PM**		**12:30PM – 01:15PM**		**01:15PM – 02:00PM**
	Skill lab Pathology / pharmacology		**RADIOLOGY (LGIS)**		**OBS (SGD)**			**PATHOLOGY(LGIS)**		**MEDICINE (LGIS)**		**OBS (LGIS)**

	Benign Tumors of Breast /PK Calculation I		Imaging in obstetrics & anomaly scan		COVID, Dengue and HIV in pregnancy			GTD & Choriocarcinoma		Epilepsy in Pregnancy		Medical disorders in pregnancy	
	A-H	**Batch I-P**	**(odd) lec hall 4**	**(odd) lec hall 4**	**(odd)l e c hall 4**	**(even) lec hall 5**		**(odd) lec hall 4**	**(Even) lec hall 5**	**(odd) lec hall 4**	**(Even) lec hall 5**	**(Odd) hall 4**	**(Even) lec hall 5**
	Dr. Syeda Aisha	Dr Ayisha Dr Zaheer	Gynae unit II Dr Humera Noreen	Gynae unit II Dr Humera Noreen	Dr Sara Liaqat	Dr Muneeb a		Dr Fatima Tuz Zuhra	Dr. Mahree n Fatima	Dr. Arif	Dr Faran	Dr Aysha Zulifquar	Dr Maryam Zaheer

Theme 2 Maternal Gynecological Problems

Tentative Time Table 4th year MBBS- Population Medicine & Reproductive Health Block 2025 (4th WEEK)

DATE / DAY	8:00 AM – 9:00 AM		09:00am – 10:00am		BREAK 10:00AM – 10:30AM	10:30am – 12:00pm	12:00pm - 02:00pm
Monday 18.8.25.	**PATHOLOGY (LGIS)**		**OBS (SGD)**			**CLINICAL CLERKSHIP of community medicine attached as annexures at the end of document** **Community oriented clerkship and other rotations will remain same. These will be completed at end of yr.**	
	Benign Diseases of ovary		Management of Benign and malignant ovarian tumors				
	(odd) lec hall 1	**(Even) lec hall 2**	**(odd) lec hall 1**	**(Even) lec hall 2**			
	Dr Fatima Tuz Zahra	Dr Kiran Fatima	Dr Rubaba (DHQ)	Dr Ruqaiyah			
Tuesday 19.8.25.	**PHARMACOLOGY (LGIS)**		**PATHOLOGY (CBL)**				
	Prolactin Antagonists		Pathology of Vulva & Vagina				
	(odd) lec hall 1	**(odd) lec hall 4**	**(odd) lec hall 4**	**(Even) lec hall 2**			
	Dr Attiya	Dr Mahreen Fatima	Dr. Rubab Dr. Mahjabeen	Dr. Iqbal Haider Dr. Mehreen Fatima			
Wednesday 20.8.25.	**PATHOLOGY (LGIS)**		**OBS (LGIS)**				
	Malignant diseases of cervix		Management premalignant& malignant disease of cervix				
	Professor Dr Mobina	**(odd)lec hall 1**	**(odd)lec hall 1**	**(Even) lec hall 2**			
	Malignant diseases of cervix	Dr Aqsa DHQ	Gynae-unit 1 Dr. Amara	Gynae-unit 1Dr. Saima Bibi			
Thursday 21.8.25.	**OBS (LGIS)**		**PATHOLOGY (LGIS)**				
	Perineal infections		Diseases of lower urinary tract				

	(odd) lec hall 1	**(Even) lec hall 2**	**(odd) lec hall 1**	**(Even) lec hall 2**			
	Dr Aqsa DHQ	**Dr Shahla DHQ**	Professor Dr Mobina	Dr Fatima Tuz Zuhra			
Friday 22.8.25 .	**08:00AM – 09:45AM**		**09:45AM – 10:30**		**10:30AM – 11:15AM**	**11:15AM – 12:00PM**	
	SGD Community Medicine/ Skill Lab Pathology		**OBS (LGIS)**		**GYNAE (LGIS)**	**PATHOLOGY (SGD)**	
	Research presentations/ Benign		Induced / septic abortions		Menstrual cycle	Dysfunctional Uterine Bleeding	

	and Malignant Disease of Uterus											
	Batch A-H	**(odd) lec hall 4**	**(odd) lec hall 4**	**(odd) lec hall 5**	**(odd) lec hall 4**	**(odd) lec hall 5**	**(odd) lec hall 3 & 4**	**(Even) lec hall 5 & 6/Pharma lab**				
	Faculty of community medicine	Dr Nighat Naheed BBH	Dr Hina Gul BBH	Dr Asma Khan BBH	BBH Dr Sadia BIBI	BBH Dr Humera Masood	Dr. Fatima tuz Zahra, Dr. Kiran Fatima	Dr. Sarah Rafi, Dr. Shabih Haider				
Saturday 23.8.25.	**08:00AM – 09:45AM**		**09:45AM – 10:30AM**		**10:30AM – 11:15AM**		**BREAK 11:15AM – 11:45AM**	**11:45AM – 12:30PM**		**12:30PM – 01:15PM**		**01:15PM – 02:00PM**
	PAL Community Medicine/ Skill Lab Pathology		**TRANSDISCIPLINARY CLINICAL–REASONING FORUM (TCRF-2)**					**PATHOLOGY (LGIS)**		**GYNAE(LGIS)**		**PATHOLOGY(CBL)**
	Research presentations/ Benign and Malignant Disease of Uterus		**Evaluating a Woman with Post-Coital Bleeding"**					Malignant Diseases of ovary		Management of benign & malignant Disease of vulva& vagina		Testicular Atrophy, Cryptorchidism
	A-H	**(odd) lec hall 4**	**CPC Hall joint session**					**lec hall 4,**	**(Even) lec hall 5**	**(odd) lec hall 4**	**(odd) lec hall 5**	**lec hall 3 & 4**	**Lec hall 5&6**
	Dr. Rubab Fatima	Dr Mahreen Fatima						Dr Fatima Tuz Zahra	Dr Kiran Fatima	Gynae Unit II Dr Humera Noreen	Gynae Unit II Dr Farah	Dr. Faiza Zafar Dr. Mah Jabeen	Dr. Syed Iqbal Haider Dr. Rubab Fatima

Theme 3 Child Health

Tentative Timetable 4th year MBBS- Population Medicine & Reproductive Health Block 2025 (5th Week)

DATE / DAY	8:00 AM – 9:00 AM		09:00am – 10:00am		BREAK 10:00AM – 10:30AM	10:30am – 12:00pm	12:00pm - 02:00pm
Monday	**PEADIATRICS (LGIS)**		**COMMUNITY MEDICINE (LGIS)**				
	Neonatal resuscitation		Growth Monitoring (growth chart)				
	lec hall 1	**lec hall 2**	**(odd) lec hall 1**	**(Even) lec hall 2**			
	Dr Bushra	Dr Sana Mubashar	Dr. Asif	Dr Mehjabeen			
Tuesday	**OBS (LGIS)**		**PEDIATRICS (LGIS)**				
	Intra-uterine fetal death		Breast Feeding				
	(odd) lec hall 1	**(Even) lec hall**	**(odd) lec hall 1**	**(Even) lec hall 2**			
	Dr Sima Bibi	Dr.Saima	Dr Maryam Amjad	Dr Javeria Zia			
Wednesday 3.9.25.	**PEDIATRICS (LGIS)**		**COMMUNITY MEDICINE (LGIS)**				
	Neonatal seizures		Preventive aspects of neonatal care (PreventivePediatrics)-I				
	(odd) lec hall 1	**(odd) lec hall 1**	**(odd) lec hall 1**	**(Even) lec hall 2**			
	Dr Huma Asghar	Dr. Sana Assoc Prof	Dr. Sana Assoc Prof	Dr Arsalan			
Thursday 4.9.25.	**MEDICINE (LGIS**		**COMMUNITY MEDICINE (LGIS)**			**CLINICAL CLERKSHIP of community medicine attached as annexures at the end of document**	
	Rheumatological illness		Preventive pediatrics			**Community oriented clerkship and other rotations will remain same. These will be completed at end of yr.**	
	(odd) lec hall 1	**(odd) lec hall 1**	**(odd) lec hall 1**	**(Even) lec hall 2**			
	Dr. faran	**Dr. Shumaila**	Assos Prof Dr Sana Bilal	Dr Imrana APWMO			

Friday 5.9.25.	08:00AM – 09:45AM		09:45AM – 10:30		10:30AM – 11:15AM		11:15AM – 12:00PM	
	Skill lab Pharmacology/		**PEDIATRICS (LGIS)**		**PEADIATRICS (LGIS))**		**GYNAE (LGIS)**	
	PK Calculation-II/ malignant Tumors of breast		Low birth weight & Prematurity		Neonatal Jaundice		Management of GTD	
	Batch A-H	**I-P**	**(Odd) lec hall 4**	**(even) lec hall 5**	**(odd) lec hall 4**	**Even lec hall 5**	**(odd) lec hall 4**	**(Even) lec hall 5**

	Dr Saba Dr Arsheen	Dr. Iqbal Haider	Dr Sumbal Ghazi	Dr Kaneez Fatima	Dr Sara Liaqat	Dr Muneeba	Gynae Unit-II Dr. Maliha Sadaf	Gynae Unit-II Dr. sabeen		
Saturday 6.9.25.	**08:00AM – 09:45AM**		**09:45AM – 10:30**		**10:30AM – 11:15AM**		BREAK	**11:45AM – 12:30PM**	**12:30PM – 01:15PM**	**01:15PM – 02:00PM**
	Skill lab Pharmacology/ Pathology		**PEDIATRICS (LGIS)**		**COMMUNITY MEDICINE (LGIS)**			**PATHOLOGY (SGD)**	**Anesthesia (LGIS)**	**COMMUNITY MEDICINE (LGIS)**
	PK Calculation-II/ malignant Tumors of breast		Infant of diabetic mother		School health			Testicular tumors	General Anesthesia And Monitering	Handicap
	Batch A-H	**Batch I-P**	**(odd) lec hall 4**	**(Even) lec hall 5**	**(odd) lec hall 4**	**(Even) lec hall 5**		**(odd) lec hall 3 & 4**	**(Even) lec hall 5 & 6/Pharma lab**	**(odd) &(Even)lec hall 3,4**	(odd) lec hall 4 (Even) lec hall 5
	Dr.Iqbal Haider	Dr Saba Dr Arsheen	Dr Anam asif,	Dr Muhammad Asim	Dr. Asif Butt Sr Demo	Dr. Mehjabeen Sr Demo		Dr. Fatima tuz Zahra, Dr. Kiran Fatima	Dr. Sarah Rafi, Dr. Shabih Haider	Dr Anum(BBH) Dr AyeshaBBH	Dr. Asif Butt Sr. Demo Dr. Mehjabeen Sr Demo

Theme 4 Population Health

Tentative Time Table 4th year MBBS- Population Medicine & Reproductive Health Block 2025 (6th Week)

DATE / DAY	8:00 AM – 9:00 AM		09:00am – 10:00am		BREAK 10:00AM – 10:30AM	10:30am – 12:00pm	12:00pm - 02:00pm
Monday 8.9.25.	**COMMUNITY MEDICINE**		**PATHOLOGY (SGD)**				
	Family planning & Population control approach & practices		BPH, prostatic cancer, testicular atrophy, seminoma				
	(odd) lec hall 1	**(Even) lec hall 2**	**(odd) Lec hall 1 & 3**	**(Even) Lec hall**			
	Dr Mehwish AP	Dr Narjis APWMO	Dr. Fatima tuz Zahra Dr. Rabbiya Khalid	Dr. Kiran Fatima Dr. Mehreen Fatima			
Tuesday 9.9.25.	**COMMUNITY MEDICINE (LGIS)**		**COMMUNITY MEDICINE (LGIS)**				
	NGOS & Agencies		Demography (Introduction , measures of mortality and fertility)				
	(odd) lec hall 1	**(Even) lec hall 2**	**(odd) lec hall 1**	**(Even) lec hall 2**			
	Dr Mehjabe	Dr. Asif	Dr Afifa Kalsoom (AP)	Prof. Dr. Rozina Shahadat Khan			
Wednesday 10.9.25	**PHARMACOLOGY (CBL)**		**COMMUNITY MEDICINE (LGIS)**			**CLINICAL CLERKSHIP of community medicine attached as annexures at the end of document** **Community oriented clerkship and other rotations will remain same. These will be completed at end of yr.**	
	PCOs and SARMs		Demography (demographic momentum, transition & dividend)				
	(odd) lec hall 1 &	**(Even) lec hall 2 & pharma lab**	**(odd) lec hall 1**	**(Even) lec hall 2**			
	Dr Memuna Dr uzma	Dr Zaheer Dr Arsheen	Dr Affifa Kalsoom (AP)	Prof. Dr. Rozina Shahadat Khan			
Thursday 11.9.25.	**COMMUNITY MEDICINE (LGIS)**		**COMMUNITY MEDICINE (LGIS)**				
	Health economics framework and structure		Demography (Migration & Urbanization)				

	(odd) lec hall 1	**Even lec hall 2**	**(odd) lec hall 1**	**(Even) lec hall 2**								
	Assoc prof Dr Sana Bilal	Dr Imrana Saeed APWMO	Dr Affifa Kalsoom (AP)	Prof Dr Rozina Shahadat Khan								
Friday 12.9.25.	**08:00AM – 09:45AM**		**09:45AM – 10:30**		**10:30AM – 11:15AM**		**11:15AM – 12:00PM**					
	Skill lab Pharmacology/ Pathology		**COMMUNITY MEDICINE (LGIS)**		**COMMUNITY MEDICINE (LGIS)**		**PHARMACOLOGY (CBL)**					
	Evaluation of contraceptive methods Preventive aspects of breast feeding / Testicular Tumors		Family planning & national Population policy (FP-II)		Discussion on (population pyramids) & other transitions graphics		Hormonal contraceptives					
	Batch A-H	**I-P**	**(odd) lec hall 4**	**(Even) lec hall 5**	**(odd) lec hall 4**	**(Even) lec hall 5**	**(odd) lec hall 3 & 4**	**(Even) lec hall 5 & pharma lab**				
	Dr. Maria, Dr. Mahreen PGT Dr Mehjabeen sr demo	Dr.Shabih Haider	Dr Mehwish AP	Dr Narjis APWMO	Dr Affifa Kalsoom	Prof Dr Rozina Shahadat Khan	Dr Zaheer Dr Aysha	Dr Uzma Dr Arsheen				
	08:00AM – 09:45AM		**09:45AM – 10:30**		**10:30AM – 11:15AM**		**11:45AM – 12:30PM**		**12:30PM – 01:15PM**		**01:15PM – 02:00PM**	
	Skill lab Pathology/Pharmacology		**TRANSDISCIPLINARY CLINICAL–REASONING FORUM (TCRF-3)**				**BREAK**	**ANESTHESIA(LGIS)**	**ANESTHESIA(LG IS)**		**PATHOLOGY(SGD)**	

Saturday 13.9.25.	Testicular Tumors		**Counseling a Couple for Family Planning**		Perioperative Complications		Post-Operative Care and Pain Management		Endometritis, Adenomyosis, Endometriosis	
	A-H	**Batch I-P**	**CPC Hall joint session**		**(odd) lec hall 4**	**(even) lec hall 5**	**(odd) lec hall 4**	**(even) lec hall 5**	**(odd) lec hall 4 & 3**	**(even) lec hall 5 &6**
	Dr.Shabih Haider	Dr. Maria, Dr. Mahreen PGT Dr Mehjabe en sr dem o			Dr. Asma SR HFH	Dr NarILSR HFH	Dr. Iqra SR HFH	Dr Aiman SR HFH	Dr. Syeda Ayesha Dr. Kiran Fatim a	Dr. Sarah Rafi Dr. Shabih Haider

Theme 4 Population health

Tentative Time Table 4th year MBBS- Population Medicine & Reproductive Health Block 2025 (7th Week)

DATE / DAY				
Monday 13-04-26	**Pharmacology End Module-exam Theory MCQ+EMQ+SEQ+SAQ 08.30 am to 11.30 am AV OSPE – 11.30 am to 01 pm**			
Tuesday 14-04-26	**Community Medicine Theory and AV-OSPE**			
Wednesday 15-04-26	**Pathology Theory and AV-OSPE**			
Thursday 16-04-26	**Practical OSPE& OSVE**			
Friday 17-04-				

26		--
Saturday 18-04-26		--
		--

Date Sheet Block Exam

Sr#	subjects	Dates/days	Venues
1	Pathology	20.9.25. Saturday	Lec Hall 1,2,3,SGTR,CPC Hall
2	Community medicine	22.9.25 Monday	Lec Hall 1,2,3,SGTR,CPC Hall
3	Pharmacology	23.9.25 Tuesday	Lec Hall 1,2,3,SGTR,CPC Hall
4	Practical Ci-OSPE/OSVE horizontally integrated subjects	24.9.25-26.9.25 Wednesday-Friday	Respective departments
5	On campus LMS	27.9.25 Saturday	Lec Hall 1,2,3,SGTR,CPC Hall
6	Obstetrics	29.9.25 Monday	Lec Hall 1,2,3,SGTR,CPC Hall

Schedule of IUGRC session, 2025

Sr#	Batch	Batch Incharge	Senior faculty	Venues
1	A	Dr. Mahreen	Dr. Khola	Museum
2	B	Dr. Bushra	Dr. Sana	SGTR
3	C	Dr. Maria	Dr. Affifa	Lec hall 3
4	D (1st batch)	Dr. Narjis	Dr. Mehwish	Female demo room
5	E	Dr. Asif	Dr. Asif	Male demo room
6	F	Dr. Saba	Dr. Farha	SGTR
7	G	Dr. Imrana	Dr. Sana	Museum
8	H	Dr. Mehrish	Dr. Mehwish	Lec hall 3
9	I	Dr. Mehjabeen	Dr. Sana	Female demo room
10	J	Dr. Mehreen	Dr. Mehwish	Museum
11	K	Dr. Maria	Dr. Khaula	Museum
12	L	Dr. Asif	Dr. Asif	Lec hall 3
13	M	Dr. Zaira/Abdul Qudoos	Dr. Abdul Qudoos	Lec hall 3
14	N	Dr. Bushra	Dr. Farha	SGTR
15	O	Dr. Saba	Dr. Rizwana	SGTR
16	P	Dr. Mehrish	Dr. Affifa	Male demo room

Community Oriented Clerkship Module (annexure I)

Theme (Aim):

The primary purpose of this module is to educate students in those areas of the subject of CM&PH which are learnt better by onsite presence of the students at certain sites, processes, agencies which have public health relevance and in general community setting. Moreover some, areas of the subject which demands close interactive teachings in small group like HHS data analysis & report writing skills, contraceptive use skills, vaccination skills, etc are also covered during this rotation. All opportunities available within and outside the institution within affordable logistics, time, are focused for this purpose. A short time of this batch rotation is dedicated for health education communication practices as Health awareness work and other social work.

Learning Outcomes (LOs):

At the end of this learning module students are expected to achieve following Public health Competencies as will be able to:

1. Appreciate working of First level Care Facility (Public Sector)
2. Perform Community Immunization / EPI vaccinations.
3. Develop Hospital waste management plans.
4. Develop Community based health awareness message.
5. Communicate for Health awareness in community settings.
6. Commemorate International public health days.
7. Undertake Preventive healthcare inquiries and NCDs Risk Factors Surveillance
8. Counsel for the contraceptive devices to the community

Module Outline:

- A batch comprising 20-22 students is posted in the department of CM & PH for a period of 2weeks **(Monday to Thursday-04 hrs. /day & for 32hrs in total**). This schedule is run over the whole academic year, till all students of 4th year MBBS class passes through this rotation.
- Batch formation and schedules of rotation for whole class as notified by the DME / Student's section will be followed accordingly.

- At commencement of the academic year overall batch learning module coordinator, nomination of batch in-charges, senior faculty in charges and calendar schedule of batch rotation for all batches over the whole academic year will be notified by the Department of CM & PH.

Domains of learning: learning will occur in all the three domains C, A & P

SOPs Of Learning & Assessments:

- Active participation will be graded by the batch in charge **(under a check list)** during the activity / session and grades/marks will be entered in the practical manual as out of 05 (Max marks 05) by the batch in charge. O5 Max Marks are reserved for CHC (HMDTD and Health awareness work.
- Assessment will be done by **OSPE / MCQs Exam / Viva voce** at the end of each module and credit will be objectively recorded for the purpose of internal assessment. (Max mark 10)
- General assessment of the subject learning will be through MCQs, SEQs & OSPE on the relevant subjects in the relevant end of modules, block exams and Send up Exams.
- **Students are required to report / write the relevant work in Practical Journal, House Hold Survey Report Book and log all the clerkship activities in the Logbook on daily basis.**

Day	Activity I 10.30 –11.00	Activity II 11.00- 11.30am	Activity III 11.30- 01.00pm	Activity IV 01.00 – 2.00pm	Sites of teaching-learning	Assessment	Session outcome (level of learning)

1st	1. Instructing / Demonstration on Practical Manual based Assignments	1. Visit to CHC, 2. SGIS on Health days commemoration work, 3. Display material , PPT.	1. SGIS on HM-DTD practicum. 2. Topic finalization, 3. CHC-Message draft outlines finalization .	1. PPT based Demo on how to conduct & report HHS. 2. Guidelines on PHI work to be done during Clinical rotations/ward duties	1. Demonstration on lec. Hall 3 2. CHC Dept. CM NTB, RMU.	1. 1-2 OSPE in end of clerkship exam (credit will part of IA)	1. Construct a health message. (C6) 2. Prepare Health days commemoration stuff, 3. Display material, PPT, (P)

2nd	1. Follow up session on. HM-DTD work 2. Health days commemoration work	1. SGIS/ Briefing/ PPT based guidelines on field visit of the day (EPI services center HFH)	1. FV to the EPI center HFH	1. Health awareness work (HAW)	1. Demo Room, EPI Center, HFH, OPD, 2. Hospital shelters sites for health awareness work (HAW)	1. OSPE in end of clerkship exam (credit will part of IA) 2. Grade of performance in EPI visit reporting. 3. Credit of HAW	1. Explain cold chain component at EPI center 2. Vaccinate (EPI) vaccines to the clients. 3. Comprehend EPI system
3rd	1. Follow up session on 2. HM- DTD work & HHS	1. SGIS/ Briefing/ PPT based guidelines on FV to MCH & FP Services Center HFH	1. FV to the MCH services & FP center HFH	1. Health awareness work (HAW)	1. FP Center HFH OPD, 2. Hospital shelters sites for HAW	1. OSPE in end of clerkship exam (credit will part of IA) 2. Grade of performance in EPI visit reporting. 3. Credit of HAW	1. Identify CP devices available at MHC FP center 2. Counsel clients for use of a contraception method 3. Place CP devices to client (P)

4th	1. Follow up session on HM- DTD work	1. Briefing/ guidelines on FV Hospital waste disposal system in hospitals	1. FV to the hospital waste disposal system & relevant sites/ Incinerator	1. Health awareness work (HAW)	1. FP center HFH OPD, 2. Hospital shelters sites for HAW	1. End of module OSPE 2. Grade of performanc e in visits to sites	1. Explain hospital waste disposal system 2. Develop a hospital waste management plan

5th	1. SGIS/ PPT based briefing on Hospital Management & Administration	1. Visit to Hospital management & administration (HFH) office	1. Health awareness work (HAW)	1. HHF	1. End of module OSPE 2. Grade of performanc e in visits to sites	3. Explain various domains of hospital management (C2)
6th	1. SGIS/ PPT based briefing on visit to First level of health care facility (FLFC) BHU/ RHC	1. Field visit to RHC Khayaban-e- Sir Syed (RHC) or BHU	1. Demo room/ lec hall 3 NTB/ CPC hall 2. RHC/ BHU	1. Health awareness work (HAW at site visited)	1. End of module OSPE 2. Report credit in PJ	1. Explain working of FLCF 2. Appreciate PHC elements at FLCF (C2)
7th	10:30 to 12:00pm 1. Health days commemoration (walk/ seminar/ presentation/ CHC-message dissemination work	12:00 to 2:00pm 1. Completion & assessment of relevant Practical Journal work, Logbook etc. 2. Feedback discussion on PHI	1. Communication skills 2. Comprehend frequency Preventable RFs of NCDs in the real population (RF surveillance) 3. Undertake a preventive Healthcare Inquiry			

CLINICAL TRAINING ROTATIONS 4TH YEAR MBBS

Class Batch 49 (Session 2021-2022) Rawalpindi Medical University, Rawalpindi
Starting w.e.f. 24-02-2025 ending 07-12-2025.

In Continuation of this letter No. T-9/1101/RMU, RWP Dated: 22-02-2025

Date	Nephrology-HFH-/ Dermatology-BBH	Urology BBH	Ortho-+ Trauma BBH	C.MED	E.N.T. H F H	E.N.T	E.N.T	PATHO	EYE H.F.H	EYE B.B.H	EYE DHQ	PEADS H.F.H	PEADS B.B.H.	Psychiatry BBH	Family Medicine-HFH / Psychiatry-BBH	NEUROSURGERY
24-02-25 To 09-03-25	A1 A2	B	C 1 C 2	D	E	F	G	H	I	J	K	L	M	N	O 1 O 2	P
10-03-25 to 23-03-25	B1 B2	C	D1 D2	E	F	G	H	I	J	K	L	N		O	P 1 P 2	A
24-03-25 To 20-04-25	C1 C2	D	E1 E2	F	G	H	I	J	K	L	M		O	P	A 1 A 2	B
21-04-25 To 11-05-25	D1 D2	E	F1 F2	G	H	I	J	K	L	M	N			A	B 1 B 2	C

12-05-25 To 25-05-	E1 E2	F	G1 G2	H	I	J	K	L	M	N	O	P	A	B	C 1 C 2	D

26-05-25 To 20-07-25	F1 F2	G	H1 H2	I	J	K	L	M	N	O	P	B		C	D 1 D 2	E
21-07-25 To 03-08-	G1 G2	H	I1 I2	J	K	L	M	N	O	P	A		C	D	E 1 E 2	F
04-08-25 To 17-	H1 H2	I	J1 J2	K	L	M	N	O	P	A	B	D		E	F 1 F2	G
18-08-25 To 31-08-	I1 I2	J	K1 K2	L	M	N	O	P	A	B	C		E	F	G 1 G 2	H
01-09-25 To 14-09-	J1 J2	K	L1 L2	M	N	O	P	A	B	C	D	F		G	H 1 H 2	I
15-09-25 To 28-09-	K1 K2	L	M1 M2	N	O	P	A	B	C	D	E		G	H	I 1 I 2	J
29-09-25 To 12-10-	L1 L2	M	N1 N2	O	P	A	B	C	D	E	F	H		I	G 1 G 2	K
13-10-25 To 26-10-	M1 M2	N	O1 O2	P	A	B	C	D	E	F	G			J	K 1 K 2	L

27-10-25 To 09-11-	**N1 N2**	**O**	**P1 P2**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**I**	**K**	**L 1 L 2**	**M**

10-11-25 To	O1 O2	P	A1 A2	B	C	D	E	F	G	H	I		K	L	M 1 M 2	N
24-11-25 TO 07-12-25	P1 P2	A	B1 B2	C	D	E	F	G	H	I	J	L		M	N 1 N 2	O

Vice Chancellor
Rawalpindi Medical University
Rawalpindi
No.T-9/_____/RMU, RWP. Dated_____2025.
Copy to all concerned Departments. You are also informing to send revised lecture schedule.

12- RESEARCH

Cultivating the culture of Research has always been envisioned as one of the main pillars of Rawalpindi Medical University, as a means to develop healthcare professionals capable of contributing to the development of their country and the world. For the purpose thereof, right from the inception of Rawalpindi Medical University, efforts were concentrated to establish a comprehensive framework for research in Rawalpindi Medical University, as a matter of prime importance. With team efforts of specialists in the field of research, framework was made during the first year of the RMU, for the development and promotion of Research activities in RMU, called the Research Model of

RMU, giving clear scheme and plan for establishment of required components for not only promoting, facilitating and monitoring the research activities but also to promote entrepreneurship through research for future development of RMU itself.

13- Biomedical Ethics

Ethical choices, both minor and major, confront us every day in the provision of health care for persons with diverse values living in a pluralistic and multicultural society. This curriculum will be taught under GEC. Four commonly accepted principles of health care ethics, excerpted from Beauchamp and Childress (2008), include the:

1. Principle of respect for autonomy,
2. Principle of no maleficence,
3. Principle of beneficence, and

4. Principle of justice.

14- Family Medicine

Family Medicine is the primary care medical specialty concerned with provision of comprehensive health care to the individual and the family regardless of sex, age or type of problem. It is the specialty of breadth that integrates the biological, clinical and behavioral sciences. Family physicians can themselves provide care for the majority of conditions encountered in the ambulatory setting and integrate all necessary health care services.

15- Artificial Intelligence

Artificial intelligence in medicine is the use of machine learning models to search medical data and uncover insights to help improve health outcomes and patient experiences. Artificial intelligence (AI) is quickly becoming an integral part of modern healthcare. AI algorithms and other applications powered by AI are being used to support medical professionals in clinical settings and in ongoing research. Currently, the most common roles for AI in medical settings are clinical decision support and imaging analysis.

SECTION VIII

Clinical Clerkship

Rawalpindi Medical University Rawalpindi

Clinical Clerkship and study guide
Oto Rhino Laryngology
Module 1-2-3

Clinical Clerkship and study guide Oto Rhino Laryngology

Module 1-2-3

Title of Clerkship:	Otolaryngology Clerkship 4th year MBBS Rawalpindi Medical University
Elective Type	Fourth year elective
Department:	Otorhinolaryngology
Clerkship Site:	Ear, Nose, Throat department, Holy Family Hospital Benazir Bhutto Hospital Rawalpindi Teaching Hospital
Course Number:	ENT-C 181
Number of students per block:	30
Faculty:	SR, AP, Associate Professor, Professors of Ear, Nose and Throat
Elective Description/ Requirements:	Designed for students of 4th year MBBS RMU. This clerkship is designed to expose medical students to common ear, nose and throat problems such as recurrent tonsillitis, otitis media, hearing loss, swallowing problems, hoarseness, dizziness, chronic ear disease, sinusitis, maxilla facial trauma, snoring, sleep apnea, head and neck cancer. Will spend time in Audiology, have a reading list and be expected to give a 15-20 minute presentation.
Length of Clerkship:	Total 6 weeks 2 weeks in Holy Family Hospital 2 weeks in Benazir Bhutto Hospital 2 weeks in Rawalpindi Teaching Hospital
Educational Course Objectives: At the end of the rotation the student will be able to:	

	Demonstrate a surgical history and physical examination focusing on otolaryngology problems. Manage patients with basic otolaryngology problems. Interpret audiogram, tympanogram, and sinus CT. Write a complete patient order including interpretation of laboratory and radiographic/imaging studies. Assist in minor procedures and in the operating room. Demonstrate an understanding on the treatment of common otolaryngology problems. Manage and monitor the pre- and post- operative otolaryngology problems. Accurately present patient information concerning the patient's condition, progress and results of laboratory and radiographic/imaging studies.

Professionalism:	UT/COM students will meet or exceed the institutional standards for professionalism as stated in the current Educational Program Objectives and the Educational Course Objectives for the Sponsoring Department.
Instructional Methods:	Small group discussion (SGD) • Case based learning (CBL) • Out patient visits • Operation theatre visits • Emergency visits • Clinical competency evaluations • Professional assessments • Presentation • Attendance • Histories
Evaluation methods employed:	
Prerequisites:	Successful completion of required third year clerkships.

Clerkship Director:	Dr Ashar Alamgir
Clerkship Coordinator: Phone Number: **Email:**	Dr Farhat ashar_alamgir@hotmail.com
Special Requirements:	Rotation requires approval from clerkship director through the coordinator. On call and other special requirements will be at the discretion of the preceptor and clerkship director. The student will be required to be in the physician's office during office hours each day unless otherwise specified by the preceptor.

Otorhinolaryngology Clerkship

Duration:

6 weeks (2 weeks in each hospital)

Clerkship Overview:

Organization and Delivery strategies

- Objectives and Competencies
- Themes and scenarios
- Table of Specifications
- Assessment and feedback

Clerkship Overview:

ENT diseases form a major component of patients presenting to the family physician clinic.

Main aim of ENT clerkship is to:

- Enable the student to diagnose and treat common ENT diseases.
- Identify diseases that need urgent referral to specialist
- Generate interest about the ENT specialty which might help students in choosing their career in future.

Delivery strategies

The various modes of content delivery are as below:

- OPD Case based and IPD bedside learning activities
- Scenario based Small group discussions (According to identified themes)

ORGANIZATION COMPETENCIES AND ASSESSMENT BLUEPRINTING

	Competencies	Assessment
1	ENT Diseases Seen in general practice Sore throat, nasal obstruction, nose and ear discharge, decrease hearing, hoarseness, dysphagia, epistaxis	MCQ's, SAQ,
2	Require referral to specialist Vertigo with ear discharge, altered conscious level. dysphagia, hoarseness, Neck swelling, stridor, epistaxis	MCQ's, SAQ,
3	ENT procedures Knowledge of basic ENT Instruments Common OPD Procedures: wax removal, FB ear/ nose removal, nasal packing, cautery of bleeding point, flexible/rigid endoscopies Life saving procedures : tracheostomy, cricothyrotomy Diagnostic procedures: nasopharyngolayngoscopy, nasal endoscopy Operative procedures: tonsillectomy, septoplasty, nasal polypectomy, mastoidectomy, laryngoscopy, head and neck procedures.	OSCE MCQ's, SAQs
4	History: integrate and interpret relevant clinical knowledge about ENT problems	Mini CEX,
5	Examination Ear, Nose, Throat: to diagnose disease, Neurological examination	Mini CEX, OSCE
6	Order and interpret relevant investigations	OSCE, SEQ,
7	Formulate a treatment plan Perform procedures: IDL, wax removal	SEQ, Mini CEX, OSCE
8		
9	Communication and Counseling skills	Mini CEX, OSCE

10	Professionalism	Mini CEX, Attendance
11	ENT Diseases seen in general practice Sore throat, nasal obstruction, nose and ear discharge, decrease hearing, hoarseness, dysphagia, epistaxis	MCQ's, SAQ,

6 Assessment strategies

Assessment

- MCQ
- SEQ/SAQ
- OSCE

Assessment and feedback

- Rotation period: 2 weeks per hospital

Theory Assessment

Activities	Number	Marks
MCQs	20 x 1 mark = 20 marks	40
SAQs	5 x 4 marks = 20 marks	
Histories	10	10
Total		50

Clinical Assessment

Activities	Marks
OSCE stations	10x5
Total	50

Table of Specifications
Theory component
5 SAQ (20 marks – 40 minutes) – 20 MCQ (20 marks - 20 minutes)Total = 40 marks (60 minutes)

Sr. No.	Topic	Domain of assessment as per curriculum	Weightage %	SEQ/SAQ/ EMQ 5	MCQ 20	Level of cognition (MCQs)
1	Anatomy	Anatomy of ear, nose, throat	9		2	1 = C2 1 = C3
2	External ear	Otitis externa, auricular hematoma, foreign body	9	0.5	2	1 = C2 1 = C3
3	Middle ear	Otitis media, otomycosis,	9	0.5	2	1 = C2 1 = C3
4	Internal ear	Meniere's disease, otosclerosis, vestibular schwannoma	9	0.5	2	1 = C2 1 = C3
5	Nasal cavity	DNS, nasal polyps, rhinitis, rhinolith, foreign body, septal hematoma, septal abscess	9	0.5	2	1 = C2 1 = C3
6	Paranasal sinuses	Acute and chronic Rhinosinusitis,	9	0.5	2	1 = C2 1 = C3
7	Nasopharynx	Adenoids, angiofibroma	5	0.5	2	1 = C2 1 = C3
8	Oropharynx	Tonsillitis, peritonsillar abscess, pharyngitis	5	0.5	1	1 = C2
9	Hypopharynx	Dysphagia, odynophagia	5	0.5	1	1 = C2

10	Oral cavity	Oral ulcers, mucocele, candidiasis, tongue tumors	5	0.5	1	1 = C2
11	Larynx	Laryngitis, laryngeal nodule and polyp, laryngeal web, laryngeal paralysis	6	0.5	1	1 = C2
12	Esophagus	Plummer vinson syndrome, dysphagia, carcinoma	5		1	1 = C2
13	Audiology	Hearing loss, audiometry, tympanometry, BERA	6		1	1 = C2
			100%	**05 (20 marks)**	**20 MCQ (20 marks)**	**Total marks = 40**

Table of Specifications
OSCE Component
10 OSCE stations x 5 marks = 50 marks

	Content	Station No.	Level of cognition	Marks
1	Ear examination	1	1 = C3	5
2	Nose examination	1	1 = C3	5
3	Throat / Head and neck	1	1 = C3	5
4	Audiology	1	1 = C2	5
5	Instrument	1	1 = C2	5
6	Radiology	1	1 = C2	5
7	Artificial intelligence	1	1 = C2	5
8	Research	1	1 = C2	5
9	Bioethics	1	1 = C2	5
10	Family Medicine	1	1 = C2	5
		10		**50**

Attendance

- For all students 90% attendance is mandatory for First annual eligibility. Students with combined attendance between 75 to 90 % can appear in Second Annual. Students with less than 75 % attendance will have to repeat the year.
- There is no compensation for physical absence however compensation, for learning only, will be offered to students who have missed their academic activities. This will not be a compensation for physical attendance.
- The attendance of 3rd and 4th year will be combined for 3rd Professional while 4th year and final year will be combined for 4th Professional examination
- In all emergent situations the approved leaves should fall into the allowed 10% absence under all circumstances regardless of the reason. No extra leaves will be allowed in any other instances.

NOTE:

- All ENT examinations require use of headlight without which ENT examination is not possible. For that reason it is mandatory for the students to bring

headlights with them to morning classes and evening clinic otherwise they will not be marked present.

- Topics for morning and evening classes will be assigned to the students a day before the class. Students will make 7 minutes power point presentation including pictures related to the assigned topic.
- If a student fails to present he/she will be marked absent for 2 days. One day prior notification is mandatory in case of absence or mutual exchange of assigned topic with other student. Only those students presenting the topic will be marked on log books.
- Access will be given to google drive where students can upload their power point presentation.
- Attendance for morning session from 8 to 10am will be marked from 8:00 am to 8:10am. Students who join class after 8:10am will not be marked present for morning session.

Study guide

Themes and scenarios

Following themes will be used for the delivery of the learning objectives Patient presenting with:

1. Oral Ulcers
2. Sore Throat
3. Snoring and decreased hearing
4. Nasal obstruction and discharge
5. Nasal trauma
6. Epistaxis
7. Change in Voice and breathing difficulty
8. Hoarseness of voice
9. Hoarseness and nasal regurgitation
10. Child with Stridor
11. Hoarseness of voice and stridor
12. Difficulty in swallowing
13. Neck swelling
14. Ear ache
15. Ear discharge and decreased hearing
16. Mucoid bilateral Ear discharge
17. Foul smelling ear discharge
18. Facial Nerve
19. Sensorineural hearing loss and tinnitus
20. Vertigo

1. **Patient with Oral Ulcers**

Scenario 1a

A 55 year old male, known diabetic and a businessman presented with complaint of an ulcer on the left side of oral cavity for the past 6 weeks not getting better with conservative treatment and multiple recurrent ulcers for the past 2 years which get better with conservative treatment. There is history of GERD for the past 2 years for which he has been taking off and on treatment.

Examination of oral cavity

:

Multiple small ulcers on left side of oral cavity involving the inner surfaces of lips, buccal mucosa and floor of mouth. One of the ulcer is 2 x 2cm with a central necrotic area and a red halo. Rest of ENT examination is unremarkable.

Scenario 1b

A 60 years old male presented in ENT OPD with a non healing ulcer on right lateral border of tongue for last 2 months. He gives history of recurrent small ulcers in the cheek area which heal within 1-2 weeks. He is also being treated for acid peptic disease. This patient is using Niswar regularly for last 30 years.

Examination:

- G.P.E.: Old man, looking anxious but well oriented in time place and person
- B.P: 140/90 Temp.: 98F Pulse: 80/min R/R: 16/min

Oral Cavity:

- Poor orodental hygiene
- Tongue is coated
- 2×2 cm ulcer on right lateral border of tongue with slough in its base, having irregular margins.

Nose:

- Mild deflected nasal septum with normal nasal patency.

Ear:

- Both External auditory canals are normal
- Both tympanic membranes are normal looking
- Rinne's test bilateral Positive
- Weber's test is central

Neck:

- 2×2 cm right level III non tender lymph node

Objectives

- Formulate the Differential diagnosis of oral ulcers
- Describe the lymphatic drainage of head and neck and correlate with spread of infection and malignancy
- Select and interpret appropriate investigations for diagnosis of diseases presenting with oral ulcers
- Select appropriate treatment option for the patient (medical/ surgical) based on history, examination and investigations.
- do relevant literature search on effects of environmental factors (pollution, smoking, tobacco, alcohol and Niswar) on diseases of oral cavity

Background Knowledge:

Ulcerative conditions of oral cavity and pharynx: Aphthous ulcers, tuberculous ulcers, malignant ulcer, Oral candidiasis. Vincent's angina, Herpangina, viral mouth ulcers, Behcet's disease, Leukoplakia,Tumors of oral cavity and oropharynx.

2. Patient with Sore Throat

Scenario 2a:

A 6 year old girl from a rural area in KPK presented in ENT OPD with complaints of sore throat, odynophagia, breathing difficulty and low grade fever for the past few days. Prior vaccination record is no available. There is also history of recurrent sore throat for the past 2 years.

Examination:

GPE: Child sitting in mother's lap looking visibility anxious and in distress with temperature of 38 C, RR 28/min, pulse 100/min and bilateral cervical lymph nodes are palpable and tender.

Oral cavity: Tongue is coated

Throat: Dirty grey membrane seen on the left tonsil extending to the palate and uvula.Nose and ear examination is unremarkable

Scenario 2b

A 20 year old male presented in ENT OPD with painful swallowing and fever for last 3 days. He has been using Cap Amoxicillin 250 mg BID as self-medication. For last 1 day pain in throat increased markedly. It is continuous and on right side. Patient has history of repeated attacks of sore throat with fever for last 3 years. Frequency of episodes is about four attacks per year.

Examination:

G.P.E.: young man, looking ill and saliva dribbling form right corner of his mouth, but is well oriented in time place and person

- B.P: 110/70 Temp.: 102F Pulse: 100/min R/R: 24/min

Oral Cavity:

- Restricted mouth opening. (trismus)
- Both tonsils are congested and white spots are visible on both tonsils.
- Right tonsil is pushed medially.

Nose:

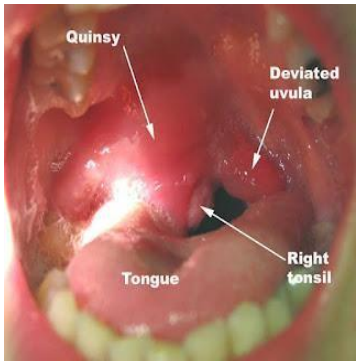
- Midline nasal septum with normal turbinates

Ear:

- Unremarkable

Neck:

- Jugulodigastric lymph node bilaterally palpable and tender



Objectives

- Formulate the differential diagnosis of sore throat based on history and examination.
- Select and interpret an appropriate investigation for diagnosis of diseases presenting with sore throat.
- Select appropriate treatment option (medical/ surgical) for patient presenting with sore throat
- Identify complications of untreated or poorly treated oral cavity/oropharyngeal infections
- Do relevant literature search on diseases of oral cavity

Background Knowledge

- Applied anatomy of oral cavity and pharynx including tonsils
- Infective conditions of oral cavity and pharynx:
- Acute and chronic tonsillitis,
- Acute and chronic pharyngitis
- Diphtheria
- Ludwig's angina
- Abscesses in relation to pharynx – Peritonsillar, para pharyngeal, retropharyngeal.

3. Patient with snoring and decreased hearing

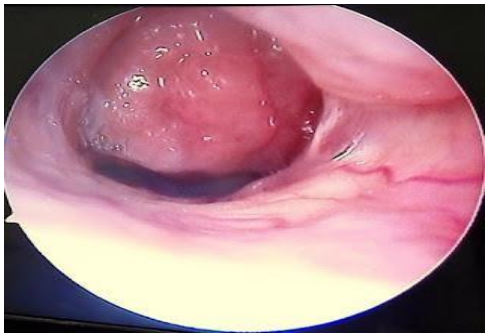
Scenario 3a

A 10 year old boy presented to the ENT OPD with complains of bilateral nasal obstruction, snoring and difficulty breathing especially at night since childhood. Problem is more towards the left side. There is also history of recurrent episodes of sore throat since childhood.

Adenoid Facies

X-Ray post nasal space

Endoscopic view of nasopharynx



Examination:

- GPE: A vitally stable young boy with an open mouth.

Nose:

- Nasal patency is decreased bilaterally, more on the left side.
- Anterior rhinoscopy. Left sided septal deviation and right inferior turbinate hypertrophy is seen.
- Osterior rhinoscopy was not possible due to gag reflex.
- Throat: bilaterally grade III hypertrophic tonsils

Ear:

Dull retracted tympanic membrane

Tuning fork tests: Rinne’s is bilaterally positive and weber's lateralized to left

Scenario 3b

An 8 year old child presented with history of snoring at night for last 5 years. According to the mother, his school teacher complains that he does not participate well in class activities and she frequently has to repeat the words whenever she asks him to do something.

Examination

Child was very cooperative although his mouth remained open during examination and had dull facial expression.

Nose:

Normal nasal mucosa with mucoid discharge. Nasal patency is decreased bilaterally.

Oral cavity:

Tonsils are enlarged. (Grade III). Mucoid discharge is seen on posterior pharyngeal wall.

Ears:

Both tympanic membranes are dull. Cone of light is absent. Handle of malleus is more in horizontal position.

Tuning fork tests:

Rinne’s test is bilaterally positive and Weber's test is lateralized to the right ear.

Neck:

No neck node is palpable.

Objectives

- Describe the mechanism of sleep apnea

- Formulate the differential diagnosis of snoring in children & adults
- Select and interpret appropriate investigations for diagnosis of snoring in children & adults
- Select appropriate treatment option for the patient with snoring (medical/ surgical)
- Identify complications of obstructive sleep apnea if not treated
- Identify the effects of nasopharyngeal pathologies on Eustachian tube and middle ear.

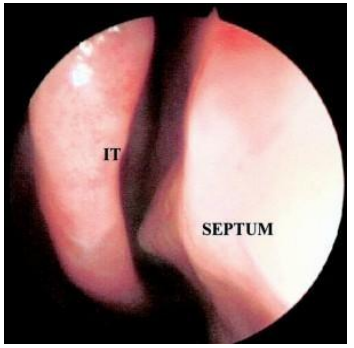
Background Knowledge

- Applied anatomy of nose and nasopharynx
- Sleep apnea syndrome

- Adenoids hypertrophy
- Hypertrophied tonsils.
- Serous otitis media
- Deflected Nasal septum
- Turbinate hypertrophy

4. Patient with Nasal obstruction and Discharge

Scenario 4a

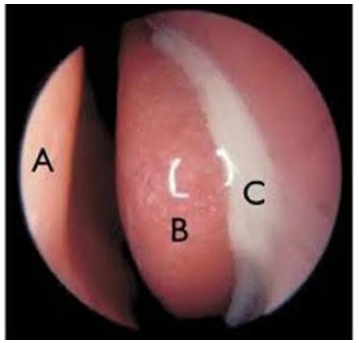


A 40 year old male presented with history of on and off headache, PND, nasal obstruction which is more severe on the left side for the last two years. It is associated with thick mucoid nasal discharge which is occasionally blood stained. There is no history of hypertension, diabetes or asthma.

- Nasal septum
- Middle turbinate
- Mucopurulent discharge in middle meatus

Examination

G.P.E.: A middle aged man and is well oriented in time, place and person
B.P: 130/80 Temp.: 98 F Pulse: 78/min R/R: 22/min



Nose

- External nasal appearance is normal.
- Endoscopic view of nasal cavity
- Nasal patency is decreased on left side. The left nasal cavity is full of yellowish thick mucoid discharge. On left side there is septal spur. Inferior turbinates are bilaterally hypertrophied. Thick mucoid discharge was seen in nasopharynx on posterior rhinoscopy.

Throat:

- Oral cavity is normal. Pharynx is congested and mucoid post nasal drip is seen on the posterior pharyngeal wall.

Ears:

- Both tympanic membranes are retracted and dull.
- Rinne's test is negative in both ears and Weber's test is central.

Scenario 4b

A 60 year old diabetic male presented to emergency with complaints of swelling of right eye, blurring of vision and continuous severe headache for the past 1 day. There is history of nasal discharge and fever for the last 2 weeks for which the patient took tablet augmentin 625mg BD for 4 days. There is also history of dull aching frontal headache, nasal obstruction and PND for the past 5 years.

Eye examination:

- Left eyelid swelling
- Left proptosis

- Restricted extra-occular movements
- Decreased visual acuity

Nose:
- Left DNS and Left ITH
- Mucopurulent discharge is seen in left nasal cavity

Throat:
- Thick PND on posterior pharyngeal wall
- Granules on posterior pharyngeal wall

Ear examination is unremarkable

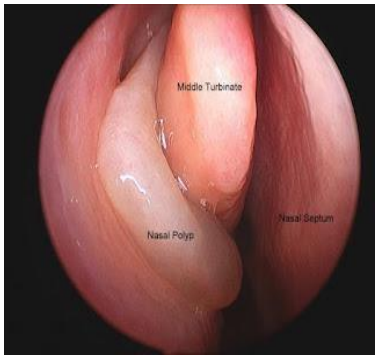
Objectives
- Formulate the differential diagnosis of nasal obstruction with and without nasal discharge based on history and examination
- Select and interpret appropriate investigations for diagnosis of nasal obstruction and discharge.
- Select appropriate treatment option (medical/surgical) for the patient with nasal obstruction and discharge.

Background knowledge
- Applied anatomy of nose and paranasal sinuses
- Acute sinusitis
- Chronic sinusitis
- Complications of sinusitis

5. Patient with nasal obstruction, sneezing and proptosis

Scenario 5a

A 25 year old female presented with history of on and off bilateral nasal obstruction for last 4 years more severe on right side from last 1 year. She has history of sneezing, itching and watery rhinorrhea along with watering of eyes especially in months of March and April and also on exposure to dust and with change in temperature. She had mild attacks of asthma in her childhood.



Examination
- G.P.E.: A young female well oriented in time, place and person
- B.P: 130/80 Temp.: 98 F Pulse: 78/min R/R: 22/min

Nose
- External nasal appearance is normal.
- Nasal patency is decreased on right side. There is pale pedunculated swelling covered with mucoid discharge in right nasal cavity

almost reaching the nasal vestibule. On left side there is pale nasal mucosa with inferior turbinate hypertrophy. Multiple small swellings are also seen in the left nasal cavity in the region of middle meatus.

Throat:

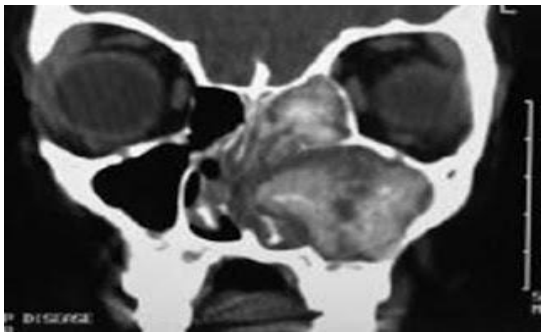
- Oral cavity is normal. Pharynx is congested and mucoid post nasal drip is seen on the posterior pharyngeal wall.
- IDL: showed normal vocal cords

Ears:

- Right tympanic membrane is retracted and dull.
- Rinne's test is positive in both ears and Weber's is lateralized to right.

Scenario 5b

A 60 year old diabetic, female presented to OPD with complaints of bilateral nasal obstruction, off and on sneezing and decreased sense of smell for the last 1 year. There is history of decreased vision and left eye swelling for the last 1 month.



Examination:

GPE:

- A vitally stable old lady with left proptosis.

NOSE:

- nasal patency is decreased on the left side
- Sense of smell is decreased on right side and absent on left side.
- Anterior rhinoscopy: bilateral left sided multiple pale, polypoidal masses and right sided inferior turbinate hypertrophy
- Posterior rhinoscopy: unremarkable
- Throat: post nasal drip on posterior pharyngeal wall
- Rest of ENT examination is unremarkable

Objectives

- Formulate the differential diagnosis of nasal obstruction with and without nasal discharge based on history and examination
- Select and interpret appropriate investigations for diagnosis of nasal obstruction and discharge.
- Select appropriate treatment option (medical/surgical) for the patient with nasal obstruction and discharge.

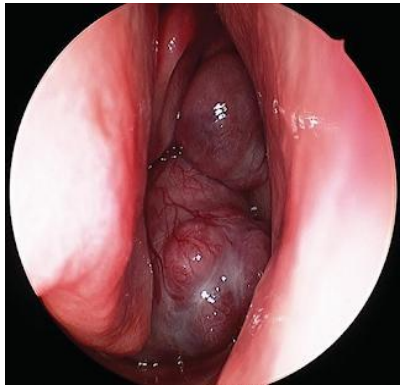
Background knowledge

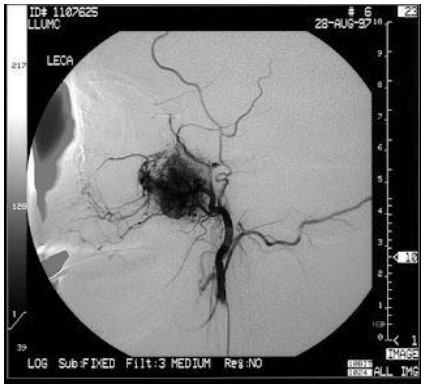
- Allergic rhinitis
- Vasomotor rhinitis

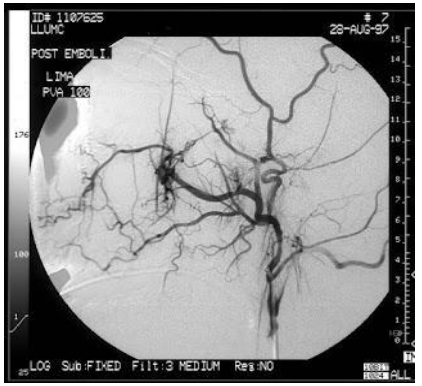
- Nasal polypi
- Foreign body nose, rhinolith
- Granulomatous diseases, including the fungal diseases of nose and paranasal sinuses

6. Patient with nasal bleed and nasal trauma

Scenario 6a
Patient with Epistaxis15 years old boy presented in ENT OPD with complaint of recurrent epistaxis for the last 1 year. Bleeding starts suddenly and it takes about 10 minutes to stop. For the last 2 months he also complains of right nasal blockage.







Pre Embolism After Embolism

Examination
- G.P.E.: A young boy well oriented and looks pale on general physical examination.
- B.P: 110/70 Temp.: 98 F Pulse: 100/min R/R: 22/min

Nose:
- External nasal appearance is normal.
- Nasal patency is decreased on right side. There is septal spur with a bleeding point on right side. Posterior rhinoscopy could not show the complete view of Nasopharynx however thick mucoid discharge is seen.

Throat:
- Oral cavity is normal. Pharynx is congested and post nasal drip is seen, which is mucoid and thick and mild bulging is seen on soft palate on right side.
- IDL: showed normal vocal cords

Ears:
- Right tympanic membrane is retracted and dull. Rinne’s test is positive in both ears and Weber's test is lateralized to right ear.

Scenario 6b

A 17 years old boy presented with history of nasal trauma with cricket ball while playing one day back. Patient gave history of profuse nasal bleeding at the time of injury. But there is no history of unconsciousness.

Examination

- GPE: young boy well oriented in time place and person

Nose:

- Nasal bridge deviated on right side with swelling on perinasal area.
- No active bleeding
- Nasal crepitus present
- Tenderness + +
- Nasal patency reduced on right side
- Anterior Rhinoscopy shows fluctuant swelling on septum on right side along with blood stained crusts while left side is clear
- Posterior rhinoscopy is unremarkable.

Throat:

- Oral cavity and oropharynx are normal.
- IDL: showed normal mobile vocal cords

Ears:

- Bilaterally intact normal tympanic membranes.

Objectives

- Identify nasal bone fractures based on history and examination
- Describe early and delayed management of nasal bone fractures
- Identify complications of nasal bone fractures

Background Knowledge

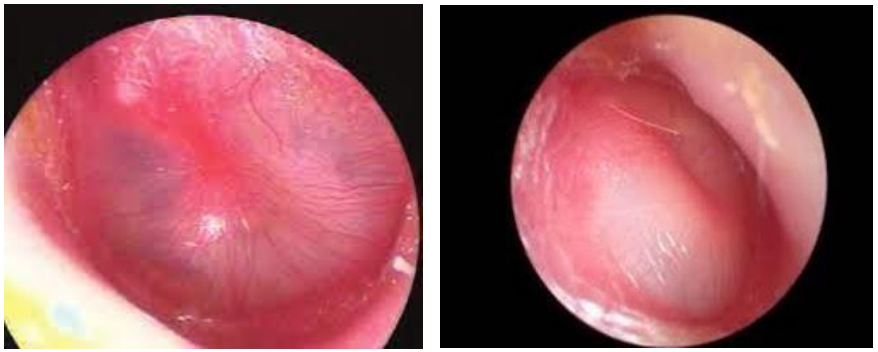
Blood supply of nose Epistaxis

- Bleeding disorders.
- Benign and malignant neoplasms of nose and paranasal sinuses (including Angiofibroma)
- Nasal trauma & fracture nasal bone
- Septal haematoma
- Septal abscess
- CSF Rhinorrhea

7. Patient with earache

Scenario 7a

A 7 year old girl presented in emergency department with severe left earache for the last one day. She had an attack of sore throat and flu two weeks back for which she took antibiotics for 3 days.



Ear:

· There is a small pit in front of left tragus. On pressing, white scanty discharge came out of this pit. Left tympanic membrane is congested, with some discharge in external auditory canal. Right tympanic membrane is also dull but not congested. Rinnes test is negative in left ear and positive in right ear, Weber's test is lateralized to left ear.

Nose:

- Nasal examination is unremarkable

Throat:

- Throat examination is normal

Scenario 7b:

A 22 year old girl presented with complaints of left sided painful swelling of ear for the last 2 days after ear piercing. There is also history of right sided ear itching and bilateral decreased hearing for the past 1 month.

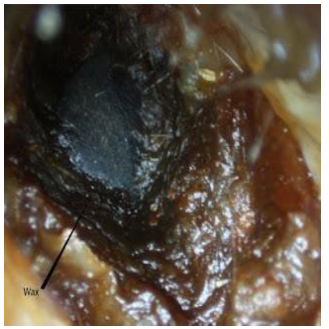
Examination

Perichondritis infected

Preauricular sinus

Subperichondrial abscess

Hard impacted wax



GPE:

- A vitally stable young lady wit swelling of left pinna.

EARS:

- Tender swelling of left pinna
- Otoscopy: bilateral hard impacted wax
- Tympanic membranes couldnot be visualised bilaterally
- Rinne: bilaterally negetive
- Weber: lateralised to the left
- Rest of ENT examination is unremarkable

Objective

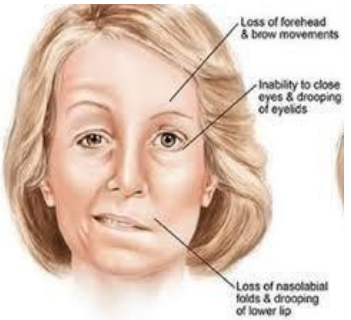
- Formulate differential diagnosis of ear ache with and without ear discharge based on history and examination.
- Describe congenital abnormalities of ear
- Select and interpret an appropriate investigations for diagnosis of ear ache with and without ear discharge.
- Select appropriate treatment option for the patient (medical/ surgical) based on diagnosis of ear ache

Background Knowledge:

- Applied anatomy and physiology of ear
- Acute otitis media
- Diseases of tympanic membrane
- Otitis externa (bacterial, viral, fungal, granulomatous, seborrhic, chemical,eczematous),
- Wax and foreign body ear
- Infected pre auricular and collaural fistula and sinus,
- Trauma external ear

- Perichondritis of pinna

8. Patient with facial paralysis:



Scenario 8a:

A 34 year old female presented in ENT OPD with complaints of left earache followed by left facial weakness 2 days ago.

Examination

GPE:

- Young female well oriented in time place and person
- Otoscopic examination: Mild congestion of right tympanic membrane.
- Left tympanic membrane was normal looking.
- Examination of face: right sided facial weakness
- Rest of ENT examination is unremarkable

Scenario 8b:

A 45 year old female presented with complaints of left sided, pulsatile tinnitus and hearing loss for the last 6 months.

Examination:

EAR:

GPE:

- middle aged female well oriented in time place and person

Otoscopic examination:

- Right tympanic membrane is normal
- Left tympanic membrane: redness can be seen behind the intact tympanic membrane
- Rinne's test: positive in right and negative in left ear
- Weber's test: lateralized to left
- Rest of ENT examination is unremarkable

Objectives

- Formulate differential diagnosis of facial paralysis and tumors of external and middle ear
- Select and interpret an appropriate investigations for diagnosis of facial nerve paralysis and tumors of external and middle ear
- Select appropriate treatment option for the patient (medical/ surgical) based on diagnosis of facial paralysis and tumors of external and middle ear

Background knowledge

- Facial nerve and its diseases.

- Benign and Malignant tumors of external and middle ear

9. Patient with ear discharge:

Scenario 9a:

A 20 year old male presented with bilateral ear discharge for the last 10 years. Discharge is mucoid, copious and odourless. It starts usually after an attack of upper respiratory tract infection. Ear gets dried when he use some ear drops. He also complains of decreased hearing in both ears.

Examination:

Ear:

- Mucoid discharge in both external auditory canals
- Otoscopy: central perforations in tympanic membranes bilaterally.
- Rinne's test is bilaterally negative with
- Weber's test is lateralized to right ear.

Nose:

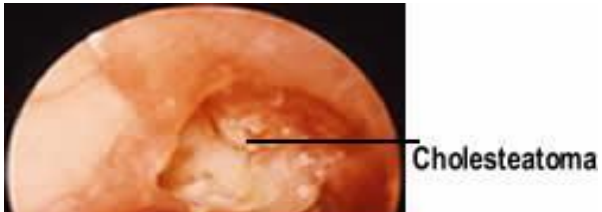
- Deflected nasal septum towards right side with left inferior turbinate hypertrophy and congested mucosa.

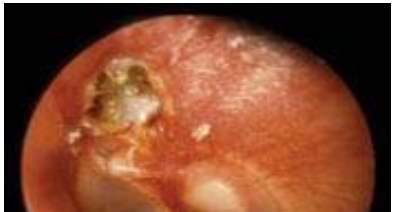
Throat:

- Mild granular pharyngitis. Rest of throat examination is unremarkable

Scenario 9b:

A 25 year old male presented in OPD with history of right ear discharge and progressively decreased hearing for the last ten years. The discharge is purulent, scanty and foul smelling.





Examination:

- G.P.E: young man well oriented in time place and person
- Pulse: 90/min BP: 110/70 Temp: 98.6 F R/R: 20/min

Ear:

- Otoscopy: Purulent discharge in right external auditory canals with attic perforation in tympanic membrane and whitish debris in middle ear cavity is visible.
- Rinne's test is negative in right ear
- Weber's test is lateralized to right ear.

Nose:

- Mild DNS on right side. Nasal patency is normal.

Throat:

- Throat examination is unremarkable

Objectives

- Formulate the differential diagnosis of chronic ear discharge based on history and examination.
- Identify the type of hearing loss in a patient with discharging ear according to clinical examination
- Select and interpret an appropriate investigation for diagnosis
- Select appropriate treatment option for the patient (medical/ surgical) based on diagnosis
- Recognize a complicated ear disease based on history and examination

Background Knowledge:

- Chronic otitis media and its types

Resource Material:

- Diseases of Ear Nose and Throat by P.L. Dhingra
- Lecture notes on Diseases of Ear Nose and Throat by P.D. Bull
- Journal articles
- ABC of otolaryngology by Harold Ludman
- Clinical ENT: an illustrated textbook by Gerard M
- Scott Brown (Reference book)
- Cummings otolaryngology Head and Neck Surgery (Reference book)

10. Patient with earache:

Scenario 10a

Patient with painful swelling behind ear and hearing loss

A 20 year old female came with the complaint of severe pain and swelling behind the left ear along with fever from last 3 days. She had a history of ear discharge and hearing loss for 5 years. The discharge was scanty in amount, foul smelling, thick in consistency and occasionally blood stained. There was no history of recurrent upper respiratory tract infections.

Examination:

G.P.E:

Ear: A young female, well oriented and vitally stable.

There was a fluctuant swelling and tenderness over the left mastoid area. On otoscopy, there was crusting in the pars flaccida region. Suctioning of crusts showed retracted pars flaccida region of tympanic membrane.

Oral cavity:

Adequate mouth opening and normal oral mucosa. No ulcers or growth could be seen.

Oropharynx:

Unremarkable with intact gag reflex.

IDL:

Bilateral vocal cords were intact and mobile. Bilateral pyriform fossae and posterior pharyngeal wall were normal.

Neck:

No swelling was palpable.

Nose:

Examination was unremarkable.

Objectives (Scenarios a and b):

- Formulate the differential diagnosis of chronic ear discharge based on history and examination.
- Identify the type of hearing loss in a patient with discharging ear according to clinical examination.
- Select and interpret an appropriate investigation for diagnosis.

- Select appropriate treatment option for the patient (medical/ surgical) based on diagnosis.
- Recognize a complicated ear disease based on history and examination.

Otologic history for:

- Ear discharge
- Hearing loss

- Associated symptoms indicating complications
- Associated nose and throat problems
- Pain in a discharging ear
- Otoscopy and Valsalva maneuver
- Tuning fork tests and their interpretation
- Facial nerve examination
- Nystagmus
- Fistula test
- Nose and throat examination (targeted)
- Interpretation of basic audiogram (hearing test)
- Otoneurologic examination
- Cranial nerve examination
- Cerebellar function evaluation
- Identify land marks on X ray Mastoid
- Take informed consent for examination of patient
- Communicate effectively with patients & peers.
- Perform and complete the given task, effectively and efficiently
- Shows empathy towards patients
- Otoscopy including Valsalva maneuver
- Tuning fork tests and their interpretations
- Take ear swab for culture and sensitivity
- Interpretation of basic audiogram (hearing test) and tympanogram

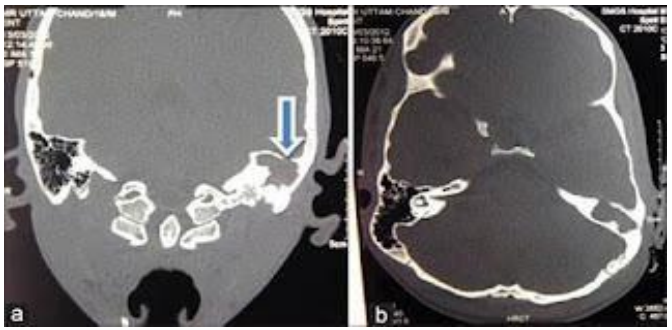
Background Knowledge:

- Chronic otitis media and its types
- Complications of otitis media
- Intratemporal and intracranial complications of CSOM.
- Facial nerve and its diseases

Scenario 10b

Patient with ear discharge, headache, neck stiffness

A 30 year old female presented in emergency room with drowsiness for 1 day. There was preceding history of headache, fever and vomiting for 2 days. The attendant of the patient also gave history of left sided ear discharge. As an ENT consultant you were called in ER.



Examination:

G.P.E:

A young female who was febrile and has decreased GCS level.

Ear:

Thick discharge was present in the external auditory canal of the left ear while the right external auditory canal was clear and tympanic membrane was intact.

Neck:

Neck rigidity was positive.

Oral cavity:

Adequate mouth opening and normal oral mucosa. No ulcers or growth could be seen.

Oropharynx:

Unremarkable with intact gag reflex.

IDL:

Bilateral vocal cords were intact and mobile. Bilateral pyriform fossae and posterior pharyngeal wall were normal.

Nasal:

Examination was unremarkable.

Background Knowledge:

- Chronic otitis media and its types
- Complications of otitis media
- Intratemporal and intracranial complications of CSOM.
- Facial nerve and its diseases
- Neoplasm of external and middle ear
-

Objectives:

- Formulate the differential diagnosis of chronic ear discharge based on history and examination.
- Identify the type of hearing loss in a patient with discharging ear according to clinical examination.
- Describe the other neurological signs would you like to perform?
- Select and interpret an appropriate investigation for diagnosis.
- Select appropriate treatment option for the patient (medical/ surgical) based on diagnosis.
- Recognize a complicated ear disease based on history and examination.
- Discuss the route of spread of intra cranial infection from middle ear.

Otologic history for:

- Ear discharge
- Hearing loss
- Associated symptoms indicating complication(vertigo)
- Associated nose and throat problems
- Pain in a discharging ear
- Otoscopy and Valsalva maneuver
- Tuning fork tests and their interpretation
- Facial nerve examination
- Nystagmus.
- Fistula test
- Nose and throat examination (targeted)
- Interpretation of basic audiogram (hearing test)
- Otoneurologic examination
- Cranial nerve examination
- Cerebellar function evaluation
- Identify land marks on X ray Mastoid
- Take informed consent for examination of patient
- Communicate effectively with patients & peers.
- Perform and complete the given task, effectively and efficiently.
- Shows empathy towards patients

Scenario 11a

Patient with hearing loss and tinnitus

A 55 year old factory worker presented in ENT OPD with bilateral progressive hearing loss for the last 7 years. He also complained of tinnitus in both ears that got worse at night. There was no history of ear discharge.

Examination:

Ear:

Bilateral intact and normal looking tympanic membranes and external auditory canals.

Rinne’s bilaterally positive and Weber's test is centralized. Absolute bone conduction test was decreased in both ears.

Nose:

Bilaterally normal looking mucosa and patency.

Throat:

Throat examination was unremarkable.

Objectives:

- Formulate the differential diagnosis of sensorineural hearing loss (sudden vs gradual).
- Recognize the need for preventive measures in the workplace (noise reduction).
- Describe the devises available for rehabilitation (hearing aids/assistive devices).
- Provide a working knowledge of tinnitus (subjective and objective).
- Distinguish between cochlear and retro cochlear lesions based on Audiological tests.
- Outline the management of patient with Sensorineural hearing loss (including tests like pure tone audiometry and tympanometry).

Take detailed history for:

- Adult hearing loss
- Associated symptoms like vertigo and tinnitus
- Occupational hazards
- Otoscopy and Valsalva maneuver
- Tuning fork tests
- Interpretation of basic audiogram (hearing test)
- Trigeminal and facial nerve examination
- Take informed consent for examination of patient
- Communicate effectively with patients & peers
- Perform and complete the given task, effectively and efficiently
- Shows empathy towards patients

Background Knowledge:

- Applied anatomy and physiology of ear
- Clinical presentation of ear diseases
- Presbycusis
- Noise trauma
- Ototoxicity
- Meniere’s disease
- Cochlear Otosclerosis
- Acoustic Neuroma
- Hearing assessment and rehabilitation

Scenario 11b

Child with hearing loss

A 2 month baby was brought to ENT OPD by his parents who were worried that he was not responding to sounds. His other milestones were normal. There was no other sibling who had hearing loss. His birth history was although significant. There was cord around his neck when he was delivered.

Examination:

G.P.E:

A young baby who was vitally stable.

Ear: Normally developed pinna and external auditory meati. Tympanic membranes couldn't be seen due to debris.

Nose:

Bilaterally patent.

Neck:

Unremarkable.

Oral cavity:

Adequate mouth opening and normal oral mucosa.

Oropharynx:

Unremarkable with intact gag reflex.

Objectives:

- Formulate the differential diagnosis of hearing loss in a child.
- Identify the type of hearing loss in an infant.
- Recognize the need for preventive measures in the prenatal period (Infant and maternal factors).
- Discuss the perinatal causes of hearing loss in a child.
- Select and interpret appropriate investigations for diagnosis.
- Describe the devises available for rehabilitation (hearing aids/assistive devices).
- Outline the management plan of an infant with sensorineural hearing loss.

Take detailed history for:

- Infant hearing loss
- Consult pediatric department for mental assessment
- Take informed consent for examination of patient
- Ear examination

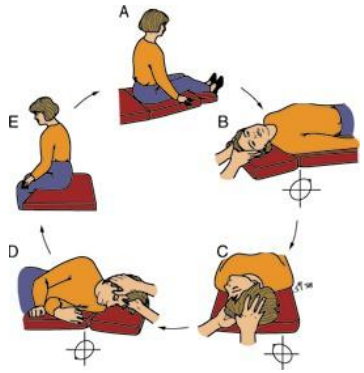
- Communicate effectively with patients & peers.
- Perform and complete the given task, effectively and efficiently.
- Shows empathy towards parents

Background Knowledge:

- Applied anatomy and physiology of ear

- Clinical presentation of ear diseases
- Congenital diseases of ear
- Hearing assessment and rehabilitation

Scenario 12a



Patient with positional vertigo

A 40 year old male presented in OPD with complaints of vertigo when he turned his head towards right. The vertigo lasted less than a minute. There was no associated hearing loss.

Examination:

G.P.E:

A middle aged male vitally stable and well oriented with person, pace and time.Ear: Bilateral tympanic membranes were intact. Tuning forks tests were normal.

Oral cavity:

Adequate mouth opening and normal oral mucosa. No ulcers or growth could be seen.

Oropharynx:

Unremarkable with intact gag reflex.

IDL:

Bilateral vocal cords were intact and mobile. Bilateral pyriform fossae and posterior pharyngeal wall were normal.

Neck:

No swelling was palpable.

Nose:

Examination was unremarkable.

Objectives:

- Formulate the differential diagnosis of vertigo with and without hearing loss based on history and examination
- Distinguish peripheral vs. central vertigo
- Select and interpret an appropriate investigation for diagnosis of cause of vertigo.
- Select appropriate treatment option for the patient (medical/ surgical) based on diagnosis of patient with vertigo

- Explain the pathophysiology behind the condition.

Take detailed history of:

- Hearing loss
- Dizziness/vertigo

- Tinnitus
- Otoscopy including Valsalva maneuver
- Tuning fork tests
- Perform Dix-Hallpike and Epley's maneuver

Scenario 12b

Patient with Vertigo

A 50 year old female presents with history of episodes of vertigo and right sided tinnitus for the last 6 months. Vertigo is sudden in onset and lasts for hours. Patient also complains of severe tinnitus during the episode of vertigo. Initially such episodes were once a week but now frequency has increased to once every day. She is also experiencing right sided hearing loss for the last 3 months which is gradually worsening.

Examination:

Ear:

Bilateral intact and normal looking tympanic membranes and external auditory canals. Rinne's bilaterally positive and Weber's is lateralized to the left ear. Absolute bone conduction test is shortened in right ear.

Nose:

Bilaterally normal looking mucosa and adequate patency.

Throat:

Throat examination is unremarkable

Objectives:

- Formulate a differential diagnosis of vertigo with and without hearing loss based on history and examination.
- Distinguish peripheral vs. central vertigo.
- Select and interpret an appropriate investigation for diagnosis of cause of vertigo.
- Select appropriate treatment option for the patient (medical/ surgical) based on diagnosis of patient with vertigo.

History taking for:

- Hearing loss
- Dizziness/vertigo

- Tinnitus
- Otoscopy and Valsalva maneuver
- Tuning fork tests
- Interpretation of basic audiogram (hearing test)

- Otoneurologic examination
- Dix-Hallpike maneuver and the Particle Repositioning Maneuver
- Cranial nerve examination
- Cerebellar function testing
- Take informed consent for examination of patient
- Communicate effectively with patients & peers.
- Perform and complete the given task, effectively and efficiently.
- Shows empathy towards patients

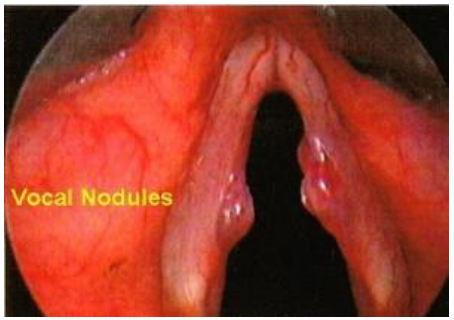
Background Knowledge:

- Applied anatomy and physiology of inner ear
- Assessment of vestibular functions
- Meniere's disease
- Cochlear Otosclerosis
- Labyrinthitis / fistula
- BPPV
- Vestibular neuronitis
- Vertebro basilar insufficiency
- Cerebellar diseases
- Tumors of ear/ Acoustic Neuroma

Scenario 13a

Patient with hoarseness of voice

A 27 year old male presented with hoarseness of voice off and on for last 3 years for which he had been taking medications. He was a school teacher by profession and also a smoker (one pack a day).



Examination:

G.P.E.

A healthy looking young male well oriented in time place and person.
Pulse: 80/min, B.P: 120/80 mm Hg, Temp: 98.6 F, RR 18/min.

Oral cavity:

Good orodental hygiene, granular posterior pharyngeal wall.

IDL:

Small rounded smooth masses were seen bilaterally on vocal cords at the junction of anterior one third and posterior two third. Vocal cords appeared congested.

Nose:

Pale mucosa with bilateral inferior turbinate hypertrophy.

Ears:

Both external auditory canals and Tympanic membranes were normal.

Objectives:

- Formulate the differential diagnosis for hoarseness based on history and clinical examination.
- Select and interpret appropriate investigations (Lab, radiological, endoscopic biopsy) for diagnosis of these diseases.
- Select appropriate treatment option for the patient (medical/ surgical) based on diagnosis.
- Describe the pathophysiology of formation of laryngeal nodules.

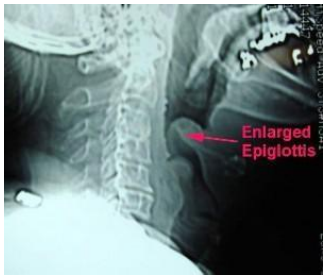
Take detailed history for:

- Sore throat
- Hoarseness
- Relation of smoking and vocal abuse.
- Dysphagia
- Neck mass
- Stridor
- Suspected foreign body inhalation.
- Laryngotracheal trauma including thermal injuries.
- Examination of the pharynx and larynx via mirror as well as endoscopic examination of these anatomical areas
- Examination of neck nodes or mass in neck.
- Take informed consent for examination of patient
- Communicate effectively with patients & peers.
- Perform and complete the given task, effectively and efficiently.
- Shows empathy towards patients

Background Knowledge:

- Applied anatomy and physiology of inner ear
- Assessment of vestibular functions
- Meniere's disease
- Cochlear Otosclerosis
- Labyrinthitis / fistula
- BPPV
- Vestibular neuronitis
- Vertebro basilar insufficiency
- Cerebellar diseases
- Tumors of ear/ Acoustic Neuroma

Scenario 13b



Patient with stridor

A 6 year old child was brought in by her mother, in emergency department, with fever and stridor for the last one day. There was history of sore throat and cough for last three days.

Examination

The child had inspiratory stridor with signs of respiratory distress (suprasternal and intercostal recession)

G.P.E:

- Pulse: 150/min.
- BP=100/70 mm Hg
- Temp: 100F
- R.R:40/min

Oral Cavity:

Oral cavity examination was unremarkable. Posterior pharyngeal wall appeared congested however tonsils were normal looking.

IDL :

was not attempted. examination of nose and ears was unremarkable.

Objectives:

- Formulate the differential diagnosis for dysphonia, hoarseness and stridor, in children and adults, based on history and clinical examination.
- Select and interpret appropriate investigations (Lab, radiological, endoscopic biopsy) for diagnosis of these diseases.
- Select appropriate treatment option for the patient (medical/ surgical) based on diagnosis
- Describe approach to patient with stridor (adult and child).
- Identify different types of stridor (Inspiratory, Expiratory stridor, Biphasic), their sites of origin in airway and likely causes.
- Describe the lymphatic drainage of larynx and pharynx and correlate with spread of malignancy.
- Correlate vocal abuse and smoking to laryngeal disorders and describe risk factors in developing pharyngeal and laryngeal malignancies.
- Recognize the role of speech therapy in treatment of hoarseness and dysphonia.
- Describe quality of life issues inherent in choosing or not choosing different treatment modalities for laryngeal cancers

Take detailed history for:

- Sore throat
- Hoarseness
- Relation of smoking and vocal abuse.
- Dysphagia

- Neck mass
- Stridor

Examination:

- Suspected foreign body inhalation.
- Laryngotracheal trauma including thermal injuries.

- Examination of the pharynx and larynx via mirror as well as endoscopic examination of these anatomical areas
- Examination of neck nodes or mass in neck.
- Take informed consent for examination of patient
- Communicate effectively with patients & peers.
- Perform and complete the given task, effectively and efficiently.
- Shows empathy towards patients

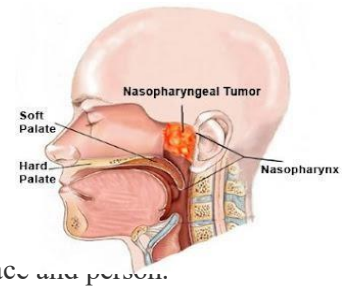
Background Knowledge:

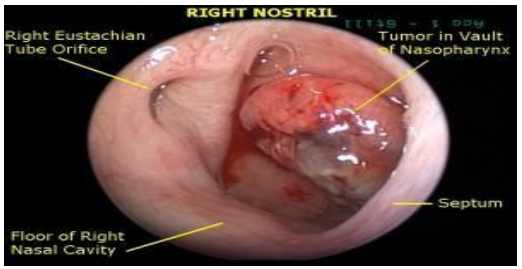
- Infective conditions of larynx (Epiglottitis, Laryngotracheobronchitis, Laryngeal diphtheria, Odema of larynx)
- Foreign body in airway
- Laryngotracheal trauma.

Scenario 14a

Patient with hoarseness of voice, unilateral hearing loss and neck swellings

A 50 year old male presented in ENT OPD with complaints of left sided nasal obstruction for the last 6 months associated with occasional blood stained nasal discharge. He also complained of left sided decreased hearing for the last 2 months. From the last 1 month, there was a change of voice along with nasal regurgitation of ingested food specially liquids.





G.P.E:

Middle aged man well oriented in time, place and person.
B.P: 110/70 mm Hg, Pulse: 88/min, Temp. 98 F, R/R: 22/min.

Nose:

- External nasal appearance was normal.
- Nasal patency was decreased on left side.

- Anterior rhinoscopy showed deflected nasal septum towards right and mucopurulent thick nasal discharge in both nasal fossae.
- Posterior rhinoscopy showed mass in nasopharynx covered with mucopurulent discharge.

Throat:

- Oral cavity was normal.
- Posterior pharyngeal wall was normal.
- Uvula moved towards right side when the patient was asked to say Ah.

IDL:

Showed immobility of left vocal cord.

Ears:

- On Otoscopy, left tympanic membrane was retracted and dull and right tympanic membrane was normal.
- Rinne’s test was negative in left ear and Weber's is lateralized to left ear.

Neck:

Multiple enlarged lymph nodes at level II and III on both sides of neck.

Objectives:

- Identify different presentations of nerve palsies, primary or secondary to lesion in head and neck and chest.
- Correlate the metastatic neck disease, with the possible sites of primary disease, in the head and neck region.
- Select and interpret an appropriate investigation (Laboratory, radiological, endoscopic biopsy) in cases presenting with nerve palsies for diagnosis
- Select appropriate treatment option for the patient with nerve palsies and head and neck malignancies.

Take detailed history of:

- Nasal obstruction.
- Nasal discharge.
- Hoarseness of voice.
- Nasal regurgitation of food.
- Decreased hearing
- Neck masses
- Symptoms related to cranial nerve palsies
- Detail ENT examination
- Cranial nerves examination in relation to nasopharynx (5; 8, 9, 10, 11, 12)
- Take informed consent for examination of patient
- Communicate effectively with patients & peers.
- Perform and complete the given task, effectively and efficiently.
- Shows empathy towards patients

Background Knowledge:

- Anatomy of nasopharynx and skull base
- Nasopharyngeal cancer
- Secretory otitis media.
- Cranial nerve palsies.
- Vocal cord paralysis.

Scenario 14b

Child with stridor

A 6 month old, afebrile child was brought in OPD with history of repeated inspiratory stridor, which got aggravated on crying and relieved in prone position.

Examination:

G.P.E:

A young baby who had noisy breathing on inspiration.

Ear:

Normally developed pinna and external auditory meati. Tympanic membranes couldn't be seen due to debris.

Nose:

Bilaterally patent.

Neck:

Unremarkable.

Oral cavity:

Adequate mouth opening and normal oral mucosa.

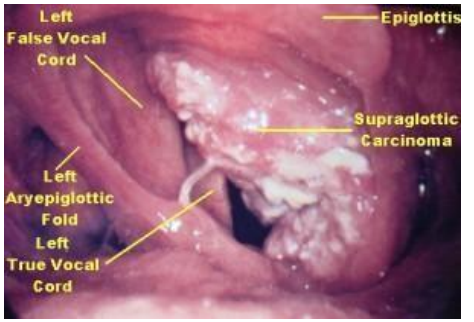
Oropharynx:

Unremarkable.

Objectives:

- Formulate the differential diagnosis for stridor in children and adults, based on history and clinical examination.
- Select and interpret appropriate investigations (radiological, endoscopic) for diagnosis of these diseases.
- Describe the endoscopic findings.
- Select appropriate treatment option for the patient (medical/ surgical) based on diagnosis
- Describe approach to patient with stridor (adult and child).
- Identify different types of stridor (Inspiratory, Expiratory stridor, Biphasic), their sites of origin in airway and likely causes.
- Discuss the counselling with the parents.

Scenario15a



Patient with hoarseness of voice and breathing difficulty

A 55 year old male presented in OPD with history of hoarseness of voice for last 2 months. Hoarseness was gradually worsening. Now for last 2 days, he had developed stridor. There was history of tuberculosis 2 years back for which he took treatment for 4 months. He had been smoking 1 pack of cigarettes per day for last 30 years.

Examination:

An anxious patient with mild inspiratory stridor.
Emaciated but well oriented in time, place and person.

G.P.E:

Pulse: 110/min, BP: 160/95 mm Hg, Temp: 98.6 F, R/R: 30/min.

Oral cavity:

Bad orodental hygiene. Otherwise no positive finding in oral cavity.

IDL:

An exophytic growth was seen in Supraglottis. Vocal cords were not visible.

Neck:

Right level II non tender neck node palpable.

Nose:

Mucosa was normal. Right sided DNS.

Ears:

Both tympanic membranes showed tympanosclerosis. Rinne's test bilaterally positive and Weber's test was central.

Objectives:

- Formulate the differential diagnosis for dysphonia, hoarseness and stridor, in children and adults, based on history and clinical examination.
- Select and interpret appropriate investigations (Lab, radiological, endoscopic biopsy) for diagnosis of these diseases.
- Select appropriate treatment option for the patient (medical/ surgical) based on diagnosis.
- Describe approach to patient with stridor (adult and child).
- Identify different types of stridor (Inspiratory, Expiratory stridor, Biphasic), their sites of origin in airway and likely causes.
- Describe the lymphatic drainage of larynx and pharynx and correlate with spread of malignancy.

- Correlate vocal abuse and smoking to laryngeal disorders and describe risk factors in developing pharyngeal and laryngeal malignancies.
- Recognize the role of speech therapy in treatment of hoarseness and dysphonia.
- Describe quality of life issues inherent in choosing or not choosing different treatment modalities for laryngeal cancers.

Take detailed history of:

- Hoarseness
- Relation of smoking and vocal abuse.
- Difficulty in breathing and Stridor
- Neck mass
- Examination of the larynx via mirror as well as endoscopic examination of these anatomical areas
- Examination of neck nodes or mass in neck.
- Take informed consent for examination of patient
- Communicate effectively with patients & peers.
- Perform and complete the given task, effectively and efficiently.
- Shows empathy towards patients

Background Knowledge:

- Granulomatous diseases (specific and nonspecific.)
- Tumors (benign and malignant) of the larynx.

Scenario 15b

Patient with stridor

A 25 year old female patient presented with stridor in the emergency department. She underwent total thyroidectomy for a multinodular goiter few hours back.

Examination:

A young female with stridor.

G.P.E:

- Pulse: 90/min, BP: 140/90 mm Hg, Temp: 98.6 F, R/R: 32/min.
- Rest of the ENT examination couldn't be performed.

Objectives:

- Formulate the differential diagnosis for dysphonia, hoarseness and stridor, in children and adults, based on history and clinical examination.
- Select and interpret appropriate investigations (Lab, radiological, endoscopic biopsy) for diagnosis of these diseases.
- Select appropriate treatment option for the patient (medical/ surgical) based on diagnosis.
- Describe approach to patient with stridor (adult and child).
- Identify different types of stridor (Inspiratory, Expiratory stridor, Biphasic), their sites of origin in airway and likely causes.
- Describe the pathology behind this condition.
- Describe the position of the vocal cords.
- Discuss the long term management for the patient.

- Discuss the complications of tracheostomy.
- Discuss the post-operative care of a patient with tracheostomy.

Take detailed history of:

- Difficulty in breathing and Stridor
- Examination of the larynx via mirror as well as endoscopic examination of these anatomical areas
- Take informed consent for examination of patient
- Communicate effectively with patients & peers.
- Perform and complete the given task, effectively and efficiently.
- Shows empathy towards patients.

Background Knowledge:

Indications and complications of Tracheostomy.

Scenario 16a

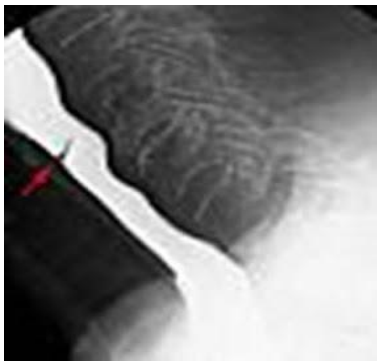
Patient with difficulty in swallowing

A 45 year old female presented in ENT OPD with difficulty in swallowing for last 4 months. Initially, she used to experience pain during swallowing which gradually progressed to dysphagia for solids.

Examination:

G.P.E:

- Pale looking, emaciated lady, well oriented in time, place and person.
- Pulse: 100/min, BP: 90/60 mm Hg, Temp: 98.6 F, R/R: 22/min.



Oral cavity:

Bad orodental hygiene. Oral cavity mucosa was pale.

IDL:

Neck: Pooling of saliva in both pyriform sinuses. Vocal cords were mobile and normal looking.

Solitary, non-tender right level III neck node was palpable.

Nose:

Unremarkable.

Ears:

Tympanic membranes were normal. Rinne's test was bilaterally positive and Weber's test central.

Objectives:

- Formulate the differential diagnosis of dysphagia based on history and clinical examination.
- Select and interpret appropriate investigations (Lab, radiological, endoscopic biopsy) for diagnosis of dysphagia
- Select appropriate treatment option for the patient with dysphagia (medical/ surgical) based on diagnosis

History taking for common throat problems:

- Sore throat
- Dysphagia
- Foreign body sensation (globus)
- Hoarseness
- Gastroesophageal reflux
- Examination of the pharynx and larynx
- Observe endoscopic examination of these anatomical areas via flexible nasopharyngolaryngoscope.
- Identify land marks and common pathologies on x ray Neck and Barium swallow.
- Take informed consent for examination of patient
- Communicate effectively with patients & peers.
- Perform and complete the given task, effectively and efficiently.
- Shows empathy towards patients

Background knowledge:

- Applied anatomy and physiology of hypopharynx and oesophagus
- Plummer Vinson syndrome, cardia achalasia
- Pharyngeal pouch
- Foreign body in digestive tract
- Hypopharyngeal carcinoma
- Corrosive intake

Scenario 16b

Patient with corrosive intake

A 10 year old girl was brought in the emergency department with difficulty in breathing and chest pain. The family was unaware of the preceding event.

Examination:

G.P.E:

Her blood pressure was low and pulse was feeble but rapid.

Oral cavity:

Examination showed burn marks on lips and buccal mucosa.

Nose and **Ear** examination was unremarkable.

Objectives:

- Formulate the diagnosis of a patient with severe burn marks in the oral cavity.
- Select and interpret appropriate investigations (Lab, radiological, endoscopic biopsy) for diagnosis of dysphagia.

- Select appropriate management plan for the patient.
- Discuss the complications that can arise in long term.

History taking for common throat problems:

- Sore throat
- Dysphagia
- Foreign body sensation (globus)
- Hoarseness
- Gastroesophageal reflux
- Examination of the pharynx and larynx

Observe endoscopic examination of these anatomical areas via flexible nasopha- ryngolaryngoscope.

- Identify land marks and common pathologies on x ray Neck and Barium swallow.
- Take informed consent for examination of patient
- Communicate effectively with patients & peers.
- Perform and complete the given task, effectively and efficiently.
- Shows empathy towards patients

Background knowledge:

- Applied anatomy and physiology of hypopharynx and oesophagus.
- Plummer Vinson syndrome, Cardia achalasia.
- Pharyngeal pouch.
- Foreign body in digestive tract.
- Hypopharyngeal carcinoma.
- Corrosive intake.

Scenario 17a

Patient with swelling below and behind ear lobule

A 45 year old male presented to ENT OPD with complaints of swelling at the right parotid region for the last 3 months. The mass was slowly increasing in size. The patient also complained of right sided facial weakness for the last 1 week.

Examination:

G.P.E:

Neck:

A middle aged male, well oriented	and vitally stable. A 3 x 2 cm mass at the right parotid region which was immobile, overlying skin could not be elevated and ill-defined margins. Facial nerve was also paralyzed.

Oral cavity:

Adequate mouth opening and normal oral mucosa. No ulcers or growth could be seen.

Oropharynx:

Unremarkable with intact gag reflex.

Bilateral vocal cords were intact and mobile. Bilateral pyriform fossae and posterior pharyngeal wall were normal.

Nose and **Ear:**

Examinations were unremarkable.

Objectives:

- Formulate the differential diagnosis of patient with a hard and fixed parotid mass based on history and examination.
- What is your most probable diagnosis?
- Select and interpret an appropriate investigation for diagnosis of diseases presenting with a hard and fixed mass.
- Select appropriate treatment option for the patient.
- Discuss counselling of a patient with hard and fixed mass.
- Enumerate different complications that can arise from surgery?

Take detailed history for:

- Neck mass
- Salivary glands swelling
- Examination of cervical lymph nodes
- Examination of neck swelling, Examination of oral cavity and salivary glands including bimanual palpation
- Take informed consent for examination of patient
- Communicate effectively with patients & peers
- Perform and complete the given task, effectively and efficiently
- Shows empathy towards patients

Background knowledge:

- Anatomy of the 3 major salivary glands.
- Congenital neck masses (Thyroglossal duct cyst, Dermoid cyst, Branchial cysts, Branchial sinuses, Cystic hygroma) of head and neck.
- Diseases of salivary glands (Sialadenitis, Sialolithiasis, Sialectasis, benign and malignant diseases).
- Metastatic lymph nodes.

Scenario 17b

Patient with neck swelling

A 50 year old woman presented in ENT OPD with a painful swelling in right submandibular region associated with high grade fever for last 4 days.

Examination:

A middle age woman well oriented in time, place and person.

G.P.E:

B.P: 100/70 mm Hg, Pulse: 90/min, Temp. 101F, R/R: 24/min.

Neck examination:

There was 3 x 3 cm firm, tender, non-reducible swelling in right submandibular region at level I. There were no other swellings in the neck.

Oral examination:

- Showed congestion around opening of right Warthen's duct. However no stone was palpable in the duct.
- Rest of ENT examination is unremarkable.

Objectives:

- Formulate the differential diagnosis of swelling in the neck
- Select and interpret appropriate investigations (Lab, radiological, FNAC) for diagnosis of neck swellings
- Select appropriate treatment option for the patient (medical/ surgical) based on diagnosis

Take detailed history for:

- Neck mass
- Salivary gland swelling
- Examination of cervical lymph nodes
- Examination of neck swelling, Examination of oral cavity and salivary glands including bimanual palpation.
- Take informed consent for examination of patient
- Communicate effectively with patients & peers.
- Perform and complete the given task, effectively and efficiently.
- Shows empathy towards patients

Background knowledge:

- Anatomy of the 3 major salivary glands
- Congenital neck masses (Hypoglossal duct cyst, Dermoid cyst, branchial cysts, branchial sinuses, cystic hygroma) of head and neck.
- Diseases of salivary glands (sialadenitis, sialolithiasis, sialectasis, benign and malignant diseases).
- Metastatic lymph nodes.

Resource Material:

- Diseases of Ear Nose and Throat by P.L. Dhingra.

- Lecture notes on Diseases of Ear Nose and Throat by P.D. Bull.
- Journal articles.

ABC of otolaryngology by Harold Ludman.

- Clinical ENT: an illustrated textbook by Gerard M.
- Scott Brown (Reference book).
- Cumming’s otolaryngology Head and Neck Surgery (Reference book).

Harold Ludman.

Rawalpindi Medical University Rawalpindi

Department of Ophthalmology

Clinical curriculum

4th year MBBS

Introduction

The Ophthalmology clerkship offers a focused and immersive learning experience that integrates theoretical knowledge with clinical practice. It provides a comprehensive understanding of core concepts that form the foundation of basic sciences and their application in clinical medicine, fostering critical thinking and enabling the practical use of foundational knowledge in clinical settings.

Spanning six weeks of mandatory rotation, the clerkship is divided into three modules, each lasting two weeks, conducted across three teaching hospitals: Holy Family Hospital, Benazir Bhutto Hospital, and Rawalpindi General Hospital. Clinical training involves a minimum of 84 hours, with students attending the Ophthalmology Outpatient Department and wards for at least three and a half hours daily, four days a week.

The three modules are designed around specific themes. The first module focuses on conditions causing gradual loss of vision, such as cataracts, glaucoma, and diabetic retinopathy, emphasizing their pathophysiology, progression, diagnosis, management, preventive strategies, and patient education. The second module addresses red eye conditions, including conjunctivitis, keratitis, uveitis, and ocular trauma, focusing on their causes and differentiation. The third module deals with sudden loss of vision due to conditions like retinal detachment, central retinal artery occlusion, optic neuritis, and ocular trauma, emphasizing rapid assessment, differential diagnosis, emergency management, and referral.

Active and experiential learning is emphasized through bedside teaching, clinical exposure in diabetic clinics and eye OPDs, simulated communication and patient counselling scenarios, observation of live surgeries, recorded videos of ophthalmology procedures, guided pre-reading, and small group discussions to encourage collaborative learning and critical thinking.

Assessment methods combine formative and summative approaches to ensure thorough learning. These include ward tests contributing to continuous internal assessment, logbook maintenance for documenting clinical exposure and skill acquisition, MCQs and SAQs to test knowledge and application, OSCEs to evaluate clinical and communication skills, faculty feedback and logbook reviews, case presentations for analytical skill development, portfolio assessments for reflecting on the learning journey, and formative quizzes to reinforce knowledge and identify areas for improvement.

RMU Competency Framework:

The focus of this curriculum is on the roles of a general physician, as identified by the PMDC. These roles include being skillful, knowledgeable, a community health promoter, a critical thinker, a professional and role model, a researcher, and a leader.

RMU Competency Framework

RMU Undergraduate Competency Model:

The Rawalpindi Medical University (RMU) Undergraduate Competency Model is designed to prepare medical students to meet the evolving challenges of modern healthcare. Grounded in the principles of patient-centered care, ethical practice, and community engagement, this model outlines the core competencies that every RMU graduate must attain. These competencies are carefully aligned with the needs of Pakistan's healthcare system and the broader global context, ensuring that RMU graduates are not only skilled clinicians but also ethical leaders, compassionate caregivers, and innovative problem-solvers.

The RMU Undergraduate Competency Model emphasizes a holistic approach to medical education, integrating scientific knowledge with practical skills, critical thinking, and a deep commitment to lifelong learning. Each competency is complemented by specific sub competencies that provide a clear roadmap for students' development, guiding them from foundational knowledge to advanced clinical practice.

Through this competency-based framework, RMU aims to cultivate graduates who are capable of delivering high-quality, safe, and effective care, while also advancing the health and well-being of the communities they serve. By adhering to these competencies, RMU students will be equipped to excel in diverse medical environments, adapt to the rapidly changing landscape of healthcare, and contribute positively to the society they serve.

Competency 1: Patient Care Deliverer:

The "Patient Care Deliverer" competency focuses on the practical aspects of delivering patient care. It emphasizes the importance of applying clinical skills, knowledge, and compassion in providing high-quality healthcare to patients. Students are expected to develop a strong foundation in patient-centered care, practice-based learning, and a commitment to continuous improvement in their clinical practice.

Practice-Based Learning:

Students should engage in continuous learning through practical experience, applying evidence-based medicine and reflecting on their clinical practice to improve patient care.

- Apply evidence-based medicine in clinical practice.
- Reflect on clinical experiences to improve patient care.
- Engage in self-directed learning to enhance clinical skills.

Service Orientation:

A commitment to serving others is fundamental to the practice of medicine. Students should prioritize the well-being of patients and the community, demonstrating a strong dedication to providing compassionate and effective care.

- Demonstrate a commitment to patient-centered care.
- Engage in community service activities.
- Reflect on the role of service in medical practice.
- Explain ethical frameworks in medical decision-making.
- Apply legal standards in patient care.
- Demonstrate professionalism in all interactions.

Competency 2: Ethical & Professional:

The "Ethical & Professional" competency encompasses the foundational principles of medical ethics and professional behavior. It requires students to uphold the highest standards of legal and ethical responsibility in their practice. They must demonstrate empathy, integrity, and accountability, treating all individuals with respect and maintaining a commitment to continuous improvement.

Professional & Ethical & Legal Responsibility:

Students are expected to understand and apply ethical principles and legal requirements in medical practice. They should be able to identify and analyze ethical dilemmas in healthcare settings and make decisions that prioritize patient well-being.

- Explain ethical frameworks in medical decision-making.
- Apply legal standards in patient care.

- Demonstrate professionalism in all interactions.

Capacity for Improvement:

Students should continuously strive to improve their clinical skills, knowledge, and patient care practices through self-assessment and reflective learning.

Assess personal strengths and weaknesses.
Implement strategies for self-improvement.
Seek feedback from peers and mentors.

Empathy:

Understanding and **sharing** the feelings of patients is crucial for building trust and providing compassionate care. Students must develop the ability to empathize with patients from diverse backgrounds.

Demonstrate empathy in patient interactions.
Reflect on the emotional and psychological aspects of patient care.
Integrate empathy into clinical practice.

Integrity:

Students must practice medicine with honesty and adhere to moral and ethical principles, ensuring that their actions align with the values of the medical profession.

- Maintain honesty in patient interactions.
- Uphold ethical standards in clinical decision-making.
- Demonstrate transparency in communication with patients and colleagues.

Accountability:

Medical students must be accountable for their actions, taking responsibility for their decisions and outcomes in patient care.

- Take responsibility for clinical decisions.
- Reflect on the outcomes of patient care.
- Ensure accountability in teamwork.

Respect:

Respect for patients, colleagues, and the broader healthcare team is fundamental. Students should treat everyone with dignity and consideration, regardless of differences in background or beliefs.

- Demonstrate respect in patient interactions.
- Collaborate respectfully with team members.
- Address cultural differences in a respectful manner.
- Explain the principles of living systems.
- Apply knowledge of living systems to clinical practice.
- Evaluate the impact of living systems on health and disease.

Competency 3: Scholar & Life-Long Learner:

The "Scholar & Life-Long Learner" competency highlights the importance of continuous learning and scholarly inquiry in medical practice. Students are encouraged to engage in scientific research, develop critical thinking skills, and commit to lifelong learning to stay current in their field and contribute to the advancement of medical

knowledge.

Living Systems:

Students should have a deep understanding of living systems and their functions, enabling them to apply this knowledge to patient care.

Human Behavior:

Understanding human behavior is crucial for effective patient care and communication. Students should be able to analyze behavioral factors that influence health and apply this understanding in clinical settings.

- Analyze the impact of behavior on health outcomes.
- Apply behavioral principles in patient care.
- Reflect on the role of behavior in health and disease.

Diagnose and Manage:

Students must be proficient in diagnosing and managing medical conditions, using evidence-based approaches to ensure the best possible outcomes for patients.

- Diagnose medical conditions accurately.
- Develop management plans for patient care.
- Evaluate the effectiveness of treatment interventions.

Scientific Inquiry:

Engaging in scientific inquiry is essential for advancing medical knowledge. Students should be able to conduct research, critically appraise evidence, and contribute to the scientific community.

Conduct research on medical topics.

Critically appraise scientific literature.

Disseminate research findings effectively.

Quantitative Reasoning:

Quantitative reasoning skills are necessary for interpreting data and making informed **decisions** in medical practice. Students should be able to analyze and apply quantitative data in clinical settings.

Interpret quantitative data in clinical practice.

Apply statistical methods to medical research.

Reflect on the role of quantitative reasoning in decision-making.

Critical Thinker:

Developing critical thinking skills is vital for solving complex medical problems. Students should be able to analyze information, evaluate evidence, and make reasoned decisions in patient care.

Analyze clinical scenarios critically.

Evaluate evidence in medical practice.

Make informed decisions based on critical thinking.

Competency 4: Team Worker & Communicator:

The "Team Worker & Communicator" competency emphasizes the importance of effective communication and teamwork in healthcare settings. Students are expected to develop strong oral and written communication skills, work collaboratively as part of a healthcare team, and demonstrate leadership when necessary. Reliability, adaptability, and resilience are key qualities that support their ability to function effectively in diverse and dynamic clinical environments.

Oral and Written Communication:

Students must be able to convey medical information clearly and effectively, both verbally and in writing, to patients, families, and colleagues.

Communicate medical information clearly.

Develop patient-centered communication strategies.

Write accurate and comprehensive patient records.

Team Member:

Students should actively participate as members of the healthcare team, contributing to collective problem-solving and decision-making processes.

Collaborate effectively with team members.

Participate in interdisciplinary case discussions.

Contribute to team-based patient care.

Team Leader:

When required, students should be able to take on leadership roles within the healthcare team, guiding and coordinating the efforts of others.

Lead a healthcare team in clinical settings.

Make decisions as a team leader.

Facilitate effective team communication.

Reliability and Dependability:

Students must consistently demonstrate reliability and dependability in fulfilling their clinical responsibilities, ensuring that they are trusted members of the healthcare team.

Fulfill clinical duties reliably.

Demonstrate dependability in patient care.

Maintain consistency in performance under pressure.

Resilience & Adaptability:

Students need to develop resilience to cope with the challenges of medical practice and adapt to changes in clinical settings.

Demonstrate resilience in stressful situations.

Adapt to changes in clinical practice.

Reflect on challenges and adapt strategies accordingly.

Competency 5: Community Health Promoter:

The "Community Health Promoter" competency focuses on the role of medical students in promoting health within the community. It involves educating and empowering communities, conducting assessments, and engaging with diverse populations to address public health challenges. Cultural competence and advocacy are essential in promoting health equity and improving community health outcomes.

Health Education and Promotion:

Students should be able to design and implement health education programs that address the specific needs of the community.

Develop health education materials.

Implement community health promotion activities.

Evaluate the effectiveness of health education programs.

Community Assessment and Engagement:

Students must be capable of assessing **the** health needs of communities and engaging with community members to identify and address public health issues.

Conduct community health assessments.

Engage with community stakeholders.

Identify public health priorities based on community needs.

Cultural Competence:

Understanding and respecting cultural differences is crucial in providing effective community health promotion. Students should be able to work with diverse populations and tailor health interventions accordingly.

Demonstrate cultural sensitivity in community interactions.

Adapt health interventions to cultural contexts.

Reflect on cultural influences in health behaviors.

Advocacy and Empowerment:

Students should advocate for policies and practices that promote community health and empower individuals and communities to take control of their health.

Advocate for community health initiatives.

Empower individuals to make informed health decisions.

Promote policies that address social determinants of health.

Competency 6: Quality & Safety Practitioner:

The "Quality & Safety Practitioner" competency emphasizes the importance of patient safety and quality improvement in healthcare. Students are trained to understand and apply patient safety principles, comply with regulatory requirements, and collaborate with interdisciplinary teams to ensure the highest standards of care.

Patient Safety Principles:

Students must understand and apply patient safety principles to prevent medical errors and enhance the quality of care.

Identify potential safety risks in clinical practice.
Implement strategies to prevent medical errors.
Evaluate the effectiveness of patient safety interventions.

Regulatory Compliance:

Knowledge of and adherence to regulatory standards is essential in **maintaining** patient safety and quality care. Students must be familiar with relevant regulations and ensure compliance in their practice.

Understand and apply healthcare regulations.
Ensure compliance with legal and regulatory standards.
Reflect on the impact of regulations on patient safety.

Interdisciplinary Collaboration:

Effective collaboration with professionals from various disciplines is necessary to achieve optimal patient outcomes. Students should develop skills in working within interdisciplinary teams to enhance patient care.

Collaborate with interdisciplinary teams in patient care.
Contribute to interdisciplinary case discussions.
Reflect on the impact of interdisciplinary collaboration on patient outcomes.

Competency 7: Digital & Artificial Intelligence Literate:

The "Digital & Artificial Intelligence Literate" competency prepares students to navigate the rapidly evolving landscape of digital health and artificial intelligence. Students are trained to use AI-based systems ethically and effectively in diagnosis and decision-making, ensuring that technological advancements are integrated into patient care responsibly.

Technology and AI-Based Diagnosis and Decision-Based Systems:

Students should be proficient in using technology and AI tools for diagnosis and decision-making, ensuring that these tools enhance patient care.

Use AI-based tools for diagnosis.

Evaluate the effectiveness of technology in clinical decision-making.
Integrate digital tools into patient care responsibly.

Ethical Usage of AI:

Ethical considerations are paramount when using AI in healthcare. Students **must** understand the ethical implications of AI and ensure that its application respects patient rights and autonomy.

Identify ethical issues in AI usage.
Apply ethical principles to AI-based decisions.
Reflect on the impact of AI on patient care.

This framework ensures that undergraduate medical students at Rawalpindi Medical University are well-prepared to excel as competent, ethical, and compassionate healthcare professionals. By meeting these competencies and their corresponding learning objectives, students will be equipped to navigate the complexities of modern medical practice and contribute meaningfully to patient care and community health.

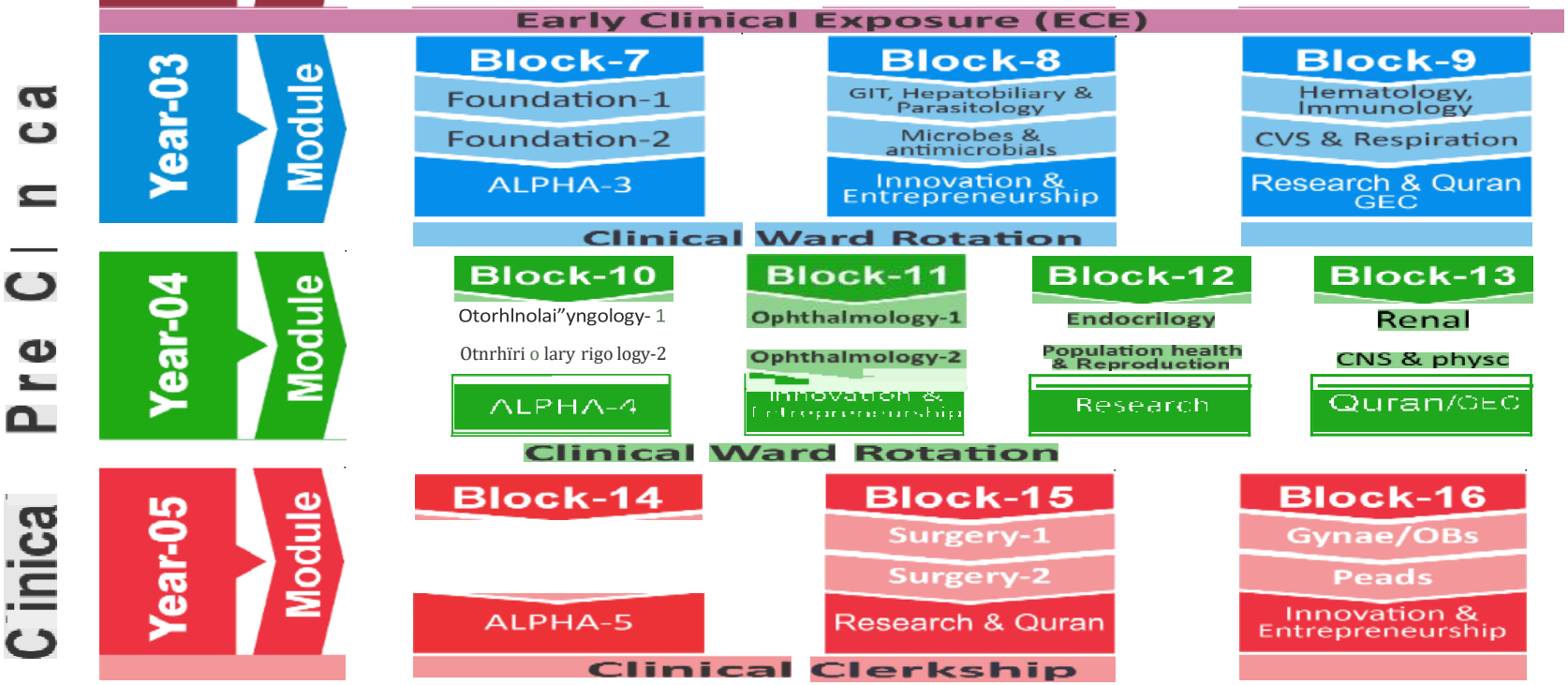
Basic

Block-1
Foundation-1

MSK-1

Block-2
MSK-2

Blood Immunity Respiration


Pre Clinica
Clinical
Early Clinical Exposure (ECE)
Year-03
Module
Block-7
Foundation-1
Foundation-2
ALPHA-3
Block-8
GIT, Hepatobiliary & Parasitology
Microbes & antimicrobials
Innovation & Entrepreneurship
Block-9
Hematology, Immunology
CVS & Respiration
Research & Quran GEC
Clinical Ward Rotation
Year-04
Module
Block-10
Otorhlnolai”yngology- 1
Otnrhïri o lary rigo logy-2
ALPHA-4
Block-11
Ophthalmology-1
Ophthalmology-2
Innovation & Entrepreneurship
Block-12
Endocrilogy
Population health & Reproduction
Research
Block-13
Renal
CNS & physc
Quran/GEC
Clinical Ward Rotation
Year-05
Module
Block-14
ALPHA-5
Block-15
Surgery-1
Surgery-2
Research & Quran
Block-16
Gynae/OBs
Peads
Innovation & Entrepreneurship
Clinical Clerkship

Clinical curriculum

Duration: 06 weeks

Rationale:

Eyes are one of the highly developed sensory organs of human body. Although disorders of eye are commonly encountered in medical practice woefully it is neglected very badly in our undergraduate teaching system. Millions of people are permanently losing their eyesight due to poor diagnosis and inappropriate treatment. Integrated modular system will help to produce a 7 star PM&DC doctor.

Comprehend the importance of vision as the most important of special senses

Elicit proper history from patients with ocular ailments

Conduct basic ophthalmic examination

Familiarize him/herself with commonly used ophthalmic instruments

Acquaint him/herself with commonly performed ophthalmic procedures

Participate in formulating patient management plans under supervision for common ocular diseases.

Apply basic principles of medical ethics

Apply basic principles of medical research and evidence-based practice to ophthalmology

Our aim of teaching this module is to have a medical graduate who is aware of the community eye health problems, has a sound knowledge and is able to understand and solve the common problems of eye such as conjunctivitis, cataract, glaucoma, retinal diseases, and errors of refraction and involvement of eyes in systemic disorders. These are some conditions that can be reduce morbidity if properly diagnosed and timely managed.

Educational environment:

Medical school is a habitat with many components, complex dynamics and interactions, inevitable conflicts and is constantly evolving. To facilitate healthy educational environment for 4th year medical students peer to peer interaction of students and with the faculty will be encouraged. Transfer of knowledge, skills and attitude will be in Wards, operation theatres and clinics. All these measures will enhance the learning capacity of students.

Learning Outcomes:

To equip them with essential knowledge, skill and attitude In order to enable them to

Learning Outcomes

By the end of 06 weeks clinical rotation the Students will be able to:

Competencies:

Learning objectives of every theme will be divided according to seven competencies.

1. Communication skills (History taking skill)

2. Clinical Examination skill
3. Critical Thinking
4. Clinical Reasoning
5. Clinical decision making / research
6. Problem solving
7. Communication skill (Counseling skill)

Entrustable Professional Activities (EPA) Framework for Undergraduate Ophthalmology Clinical Clerkship

EPA	Description	Key Competencies	Assessment Methods	Expected Level of Entrustment
1. Perform a Basic Ophthalmic Assessment	Obtain a focused history and perform essential eye examinations, including visual acuity, pupil reflexes, and anterior segment examination.	- Communication skills for history taking - Psychomotor skills for examinations - Basic knowledge of normal/abnormal findings	- OSCE (history taking, torchlight exam) - Faculty feedback - Logbook review	Supervised with direct guidance for performing a complete ophthalmic evaluation
2. Perform Direct Ophthalmoscopy	Conduct direct ophthalmoscopy to examine the fundus, identify abnormalities (e.g., optic disc changes, diabetic retinopathy), and correlate findings with patient symptoms.	- Psychomotor skills for handling the ophthalmoscope - Knowledge of normal and pathological fundus features	- OSCE (direct ophthalmoscopy station) - Faculty feedback - Logbook entries	Supervised with minimal guidance for identifying basic fundus abnormalities
3. Recognize and Manage Red Eye Conditions	Identify common causes of red eye, such as conjunctivitis, keratitis, and uveitis, and propose initial management strategies, including patient education.	- Critical thinking for differential diagnosis - Clinical reasoning for management - Patient communication skills	- OSCE (red eye management station) - Case-based discussions - Ward tests	Indirect supervision; can manage common red eye conditions independently but consult for complex cases
4. Counsel Patients About Cataracts	Educate patients about cataracts, including disease progression, treatment options, and postoperative care, addressing patient concerns empathetically.	- Communication skills for patient-centered counseling - Professionalism and empathy	- OSCE (counseling station) - Faculty feedback - Reflective portfolios	Supervised with minimal guidance for structured counseling sessions

5. Identify Ophthalmic emergencies	Recognize critical conditions such as chemical burn, trauma, retinal detachment or central retinal artery occlusion and escalate appropriately for urgent management.	- Clinical acumen in identifying emergencies - Effective communication with the healthcare team	- Emergency simulation OSCE - Logbook review - Case-based discussions	Supervised with direct guidance in escalating emergencies and initiating appropriate referrals
6. Assist in Common Ophthalmic Procedures	Observe or assist in procedures like cataract surgery or laser therapies,	- Familiarity with instruments - Teamwork in the surgical	- Logbook of observed/assisted procedures	Supervised with direct guidance for assisting in

	understanding procedural steps and ensuring aseptic techniques.	setting - Adherence to aseptic protocols	- Video interpretation of surgical steps - Supervisor feedback	procedures; independently perform pre- and post-procedure patient preparation tasks

Modules:03

Duration: 06 Weeks, (2 weeks each)

MODULE I	MODULE II	MODULE III
• **WEEK 1:** GRADUAL PAINLESS LOSS OF VISION • **WEEK 2:** OCULAR MISALLIGNMENT	• **WEEK 3 AND 4:** • RED EYE	• **WEEK 5:** SUDDEN PAINLESS LOSS OF VISION **WEEK 6:** ORBIT ADNEXA TRAUMA

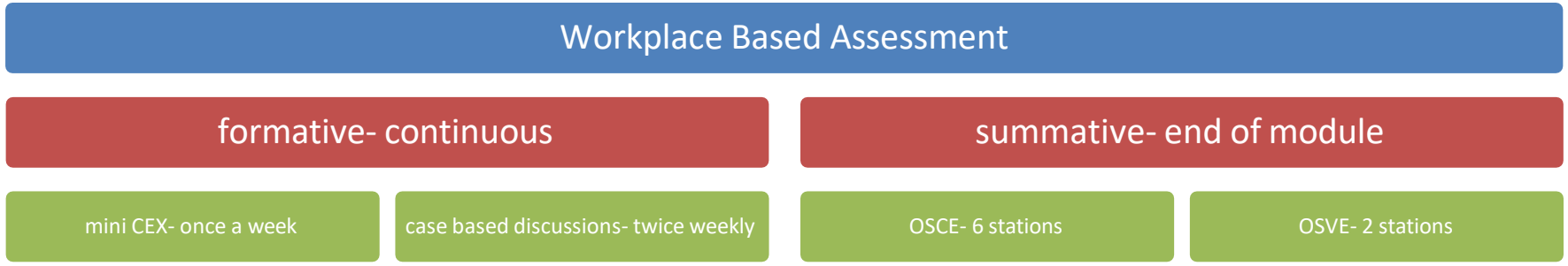
Ophthalmology Clerkship Framework

Modules	Week	Theme	Learning Outcomes	Competencies	Teaching Strategies	Learning Resources	Assessment Methods
Module I	Week1	Gradual Loss of Vision	Establish rapport with patients while taking history and explaining disease progression. - Assess vision and examine the anterior segment. - Perform pupillary reflex examination. - Conduct basic fundus examination using a direct ophthalmoscope. - Enlist common ophthalmic instruments like those used in cataract and glaucoma surgeries. - Participate in formulating management plans for cataracts, glaucoma, and diabetic retinopathy under supervision	- C**ommunication Skill**: Establish rapport with patients. - **Clinical Examination Skill**: Assess vision, anterior segment, pupils, and fundus. - **Clinical Reasoning/Problem Solving**: Identify common ophthalmic instruments and their applications. - **Decision Making/Problem Solving**: Formulate management plans	- Bedside teaching - Clinical exposure in OPD - Pre-reading - Recorded videos - Small group discussions (SGD)	- Textbooks: *Clinical Ophthalmology: A Systematic Approach* by Jack J. Kanski. - Videos: Recorded surgical procedures. - Clinical tools: Direct ophthalmoscope, visual acuity charts.	- MCQs and SAQs - OSCE station on direct ophthalmoscopy and counseling - Faculty feedback - Logbook review
	Week 2	Ocular Misalignment	Establish rapport with patients while explaining alignment disorders. - Conduct basic assessment of ocular alignment. - Differentiate types of strabismus (e.g., esotropia, exotropia). - Participate in discussing treatment options for ocular misalignment.	**Communication Skill**: Patient interaction and education. - **Clinical Examination Skill**: Assessment of ocular alignment. - **Clinical Reasoning/Problem Solving**: Differentiate and manage alignment disorders.	Bedside teaching - Clinical exposure - Recorded videos - scenarios	Textbooks: *Strabismus and Ocular Motility* by Gunter K. von Noorden. - Clinical tools: Prism bars, synoptophore.	Case presentations - OSCE station for alignment assessment - Logbook review

Module II	Week 3	Red Eye	- Differentiate between types of red eye (e.g., conjunctivitis, keratitis, uveitis). - Examine the anterior segment and assess ocular damage. - Understand management principles for red eye conditions.	- **Clinical Examination Skill**: Examine anterior segment and assess red eye. - **Clinical Reasoning/Problem Solving**: Differentiate and manage red eye conditions.	- Clinical exposure in OPD and ward settings - Pre-reading - Small group discussions	- Textbooks: *Basic Ophthalmology for Medical Students and Primary Care Residents* by American Academy of Ophthalmology. - Videos: Red eye clinical cases. - Clinical tools: Slit-lamp, fluorescein strips.	- MCQs and SAQs on red eye - OSCE station for slit-lamp examination - Logbook review
	Week 4	Red Eye	- Establish rapport with patients and educate them about red eye prevention. - Examine the anterior segment for signs of trauma-related damage. - Understand the role of medical ethics in managing red eye conditions.	-**Communication Skill**: Patient education and ethical practice. - **Clinical Examination Skill**: Assess trauma-related damage.	- for patient counseling - Recorded videos - Clinical exposure	- Articles: Case studies on red eye management. - Clinical tools: Slit-lamp, tonometer.	- Ward test - Case presentations - Faculty feedback
Module III	Week 5	Sudden Loss of Vision	- Rapidly assess visual acuity and visual fields by confrontation. - Differentiate between conditions like retinal detachment and optic neuritis. - Participate in emergency management under supervision.	- **Clinical Examination Skill**: Perform rapid visual assessments. - **Clinical Reasoning/Problem Solving**: Differentiate and manage acute vision loss.	- Bedside teaching - Emergency clinical exposure - Small group discussions	- Textbooks: *Ophthalmology Secrets in Color* by James Vander. - Videos: Emergency case simulations.	- OSCE station for emergency triage and management - Portfolio assessment
	Week 6	Trauma	- Examine ocular trauma and assess associated damage. - Observe common surgical procedures for ocular trauma. - Understand ethical considerations in trauma management.	- **Clinical Examination Skill**: Assess ocular trauma. - **Professionalism**: Ethical practice in trauma care.	- Clinical exposure in trauma settings - Recorded surgical videos - Pre-reading	- Textbooks: Trauma-focused clinical guides. - Videos: Trauma surgery cases.	- Case presentations - Logbook review - Faculty feedback

Workplace Based Assessment:

Framework



Continuous Formative Assessment

Assessment Method	Description	Timing
Case-Based discussions	Discussions involving clinical scenarios to assess clinical reasoning and decision making.	Twice a week
Mini CEX	Focused observation of clinical encounters with immediate feedback	Once a week
Feedback sessions	Dedicated time for discussing performance and identifying learning gaps.	Once a week

1. Log book and Reflective Learning

Logbook entries	Mandatory recording of key procedures (e.g., tonometry, visual acuity testing, slit lamp exam) with supervisor sign-off.
Record of patient interaction	Details of patient encounters, including history, examination, and learning outcomes.

2. End of Module Assessment

4th year MBBS students have to complete 6 weeks clinical curriculum in Ophthalmology which includes 2 weeks rotation individually in HFH, BBH and DHQ. Assessment of Psychomotor and Affective skill will be taken at the end of each fortnightly rotation in respective hospital.

Total Marks: 50

I.	Ci-OSCE:	30 Marks
II.	OSVE:	20 Marks
III.	Ci-OSCE Station:	06 (5 Marks each)
IV.	OSVE Station:	02 (10 Marks each)

A. OSCE

Station No	Content	Task Description	No. of Stations	Cognitive Level (KSA)	Skills to be Assessed	Assessment Focus
1	History Taking Red EyeLoss of vision(sudden/ gradual)Abnormal appearance of eye	Take a focused history from a patient.	1	Knowledge, Skills, Attitude (KSA)	History-taking, logical reasoning	Identification of cause and associated risk factors.
2	Direct Ophthalmoscopy	Perform direct ophthalmoscopy on a dummy or model to identify fundus features.	1	Knowledge, Skills	Examination technique, interpretation	Accuracy in identifying fundus abnormalities (e.g., optic disc changes).
3	Counseling Cataract Surgery Ocular tumors	Counsel a patient about the risks, benefits, and postoperative care for cataract surgery	1	Knowledge, Attitude	Communication, patient education	Empathy, clarity, and structured counseling.

4	Examination skills: Visual Fields by Confrontation Pupil Examination Extraocular movements Cover/ uncover test Torchlight Examination	Perform **assigned skill** based on the examiner's instruction	1	Knowledge, Skills	Examination technique, perform and interpretation	Accuracy in performing the assigned technique and identifying any abnormalities.

5	Ophthalmic Instruments	Identify and explain the use of common ophthalmic instruments (e.g., slit lamp, tonometer).	1	Knowledge	Instrument identification, application	Accuracy in naming instruments and explaining their clinical use.
6	Surgical Video Interpretation	Watch a short surgical video (e.g., phacoemulsification) and describe the steps involved.	1	Knowledge, Skills	Identification, procedural knowledge	Recognition of surgical steps and their relevance.

B. OSVE

Station No.	Skill Assessed	Station Type	Marks Distribution **(10 marks each)**	Time (Minutes)	Key Competencies/Skills	Domain
1	Diagnosis and Management of anterior segment disorders	Case-Based Viva (Anterior Segment)	Diagnosis (3), Investigation (3), Management (4)	10	Discuss the diagnosis, appropriate investigations, and management plan.	C3
2	Interpretation of Fundus images/ videos	Image/ video Based Viva (Posterior Segment)	Identification (3), Interpretation (4), Management approach (3)	10	Identify key findings from a given fundus photograph (e.g., diabetic retinopathy) and suggest management options.	C3

4TH Year Ophthalmology Clinical curriculum
Holy Family Hospital

Duration two weeks
Morning: 10.30 am to 02.00 pm

WEEK 1 Gradual painless loss of vision

Day	Topic	Specific Learning Objectives	Station	MOT/MIT	Level of Cognition			Psychomotor	Affective	MOA
					C1	C2	C3			
Monday	Cataract Glaucoma Refractive erro Diabetic retino Age related ma degeneration	Take history of a patient with gradu painless loss of vision Perform visual acuity, torch examinati and fundoscopy, visual field plotting a identify clinical signs of a patient wi gradual painless loss of vision List a differential diagnosis on the basis history and examination Propose a mechanism responsible f cataract, open angle glaucoma, refracti errors, diabetic retinopathy a agerelated macular degeneration Suggest appropriate treatment for a patie with gradual painless loss of vision	Eye ward	• Bedside teaching • Clinical exposurei			**C3**	P2	A3	OSCE, Mini CEX , Faculty feedback Evidence from logbook

Tuesday	• Extracapsul cataract extract • Phacoemuls on	• Identify the surgical procedures and instruments used during surgery with the uses • Identify the drugs and propose their mechanism of action • Identify potential complications of dise and its management	Eye OT	• Live surgeries • Recorded videos • Pre-reading • SGD					A2	MCQS SAQ OSCE Quiz Discussion form

Wednesday	• Torch exami • Slit lamp examinatio n • Auto refracto • Keratomete r • Biometry • Fundus photograph s	• Record visual acuity • Perform torch examination, pupillary reflexes and fundoscopy • Identify clinical signs of a patient • Perform fundoscopy via fundal camer • Observe laser treatment • Suggest different treatment options fo patient with diabetic retinopathy	Diabetic clinic/ eye OPD	• Bedside teaching • Clinical exposurein g • Patient simulation Videos						OSCE, Mini CEX Self and peer assessment of the skill Evide from logbook
Thursday	• Myopia • Hyperopia • astigmatism	• Snellen's chart, Autorefraction, Retinoscopy • Goldmann applanation tonometry	Refractio r	• Bedside teaching • Clinical exposurein g					A3	MCQS SAQ OSCE Quiz Discussio form

4TH Year Ophthalmology Clinical curriculum
Holy Family Hospital

Duration two weeks
Morning: 10.30 am to 02.00 pm

WEEK 2

Days	Topics	Specific Learning Objectives	Station	MOT/MIT	Level of cognition			Psychomotor	Affective	MOA
					C1	C2	C3			

Monday	• Retinal detachment • Retinal vascular occlusion • Vitreous hemorrhage hyphema • Optic neuritis	Take history of a patient with sudden painless loss of vision Record visual acuity Perform torch examination, pupillary light reflexes and fundoscopy Identify clinical signs of a patient with sudden painless loss of vision List a differential diagnosis on the basis of history and examination Propose a mechanism responsible for Retinal detachment, Retinal Vascular occlusion, Vitreous hemorrhage, hyphema and Optic Neuritis Suggest emergency treatment and appropriate referral for a patient with sudden painless loss of vision Identify potential complications of disease and its management Identify the role of lasers in eye Describes the impact of disease on individual, family and society and demonstrate empathic attitude towards patient	Eye ward	Bedside teaching Clinical exposuring Patient simulation Videos Discussion group PBL, CBD			**C3**		A2	MCQS SAQ OSCE, MiniCEX Facultyfeedback Evidence from logbook

Tuesday	• Minor procedure instruments • Cataract Surgery instruments • Viteroretinal Instruments	● Identify the surgical procedures and instruments used during surgery with their uses	Eye OT	• Ambulatory teaching		**2**			2	MCQS OSCE, MiniCEX Faculty feedback Evidence from logbook
Wednesday	• PRP • Macular grid • Focal macular laser • Laser retinopexy	• Memorize different types of ophthalmic lasers • Cite their uses • Observe laser treatment • Suggest different treatment options for a patient with diabetic retinopathy • Describe principles of ophthalmic lasers	Diabetic clinic/ eye OPD	• Clinical exposure • Live lasers • simulation • Videos • Discussion group • PBL, CBD		**2**			2	MCQS OSCE, MiniCEX Faculty feedback Evidence from logbook
Thursday	• Scleral buckling • Pars plana vitrect**W**omy	• Identify different posterior segment surgical procedures and instruments used during surgery with their uses • Describe the basic principles of Parsplana Vitrectomy, Silicon oil injection, Air/Gas Tamponade, Endolaser/Cryotherapy	E Eye OT	• Live surgeries • Recorded videos • Pre-reading • SGD		**2**			2	MCQS OSCE, Mini CEX

Thursday (12-2pm)	**Ward Test: (10 Mcq=10) (Osce 6 Stations 6x5=30) (Osve 2 Station 10x2=20)**

Module I

Topic	**I X F**	**Weightage (%)**	**Marks (Out Of 30)**	**No. Of Stations**
Cataract	3 x 3	23	7	2
Glaucoma	3 x 3	23	7	1
Diabetic Retinopathy	3 x 3	23	7	1
Optic Nerve Disorders	2 x 2	10	3	1
Cranial Nerve Palsies	2 x 1	05	2	
Squint	2 x 3	15	5	1
Total	**39**	**100**	**30**	**6**

4TH Year Ophthalmology Clinical curriculum
Benazir Bhutto Hospital

Duration two weeks
Morning: 10.30 am to 02.00 pm

WEEK 1

Days	Topics	Specific Learning Objectives	Station	Mot / Mit	Level of cognition			Potor	Affective	MOA
					C1	C2	C3			
Monday	● Record visual acuity ● Perform torch examination, pupillary light reflexes and fundoscopy ● Identify gross Visual Field defects ● Observe Nd Yag laser capsulotomy ● Suggest different treatment options for a patient with retinal detachment	● Laser room/ Eye OPD	● Bedside teaching ● Clinical exposurein g ● Patient simulatio n Videos		**C2**			P,A	OSCE, Mini CEX Self and peer Assessment of the skill Evidence Rom logbook	Torch examination Slit slamp examination Visual Fields Nd Yag Laser B scan LVA
Tuesday	● Minor procedure instruments ● Cataract Surgery instruments	Identify the surgical procedures and instruments used during surgery with their uses	Eye OT	ambulatory teaching					P,A	MCQ SOSCE, MiniCEX Faculty feedback idence from logbook

Wednesday	• Visual acuity, Pin hole, BCVA • Lid Eversion • Regurgitation test, • EOM, Cover/ Uncover Test	● Perform Visual acuity, Pin hole, BCVA ● Lid Eversion ● Regurgitation test ● EOM, Cover/ Uncover Test	Eye OPD						P,A	OSCE, MiniCEX Self and pre assessment of the skill Evidence from logbook

Thursday	• Antibiotic, Steroids • IOP Lowering Drugs, Dyes • Miotics, Mydraiactics, Cycloplegics, Anesthetics	Identify indications, MOA, systemic/local side effects)	Eye OPD							

4TH Year Ophthalmology Clinical curriculum
Benazir Bhutto Hospital

Duration two weeks
Morning: 10.30 am to 02.00 pm

WEEK 2

Days	Topic	Specific Learning Objectives	Station	MOT/MIT	Level of cognition			Psycho motor	Affective	MOA
					C1	C2	C3			
Monday	• Identification of surgical instruments History taking • Pre-op preparation of Patient	• Able to Identify surgical procedures • Able to Identify instruments and their uses • Able to take History of patient of cataract • Able to Identify Chalazion and give treatment options	Eye Ward / Eye OT	Ambulatory teaching		**C2**			P,A	OSCE, MiniCEX Self and peer assessment of the skill Evidence from logbook
Tuesday	• History taking • Causes • Bacterial Conjunctivitis • Viral Conjunctivitis	Identify the red eye conditions Management of Bacterial and vir conjunctivitis	Eye OPD	Bedside teaching Clinical exposure Role playing Patient		**C2**			P,A	MCQS OSCE, MiniCEX Faculty feedback Evidence from logbook

Wednesday	• Sterilization techniques • Phacoemulsificatio n Machine	• Identify phacoemulsification machine • Sterilization of OT and Instruments	Eye Ward / Eye OT	ambulatory teaching		**C2**			P,A	OSCE, MiniCEX Self and peer assessment of the

										skill Evidence from logbook
Thursday	Allergic Conjunctivitis Trauma Acute and Chron Dacryocystitis	identify the red eye conditions Able to take History of trauma patient Able to demonstrate approach to patient wi trauma Able to take History, examine and descri management of dacyocystitis	Eye OPD	Bedside teaching Clinical exposure Discussion		**C2**				MCQS SAQ OSCE Quiz Discussion form

Thursday (12-2pm)	Ward test (10 MCQ = 10 marks) (OSCE 6 stations = 6X5 = 30 marks) (OSVE 2 station= 10x 2=20)

Topic	**I × F**	**Weightage (%)**	**Marks (Out of 30)**	**No. of Stations**
Conjunctivitis	9	22	7	1
Keratitis	9	22	7	1
Endophthalmitis	3	7.5	2	1
Episcleritis / Scleritis	4	10	3	
Acute Anterior Uveitis	6	15	4.5	1
Foreign Body	6	15	4.5	1

	Acute Angle-Closure Glaucoma	6	15	4.5	1
	Total	**43**	**100**	**30**	**6**

4TH Year Ophthalmology Clinical curriculum
District Headquarter Hospital

Duration two weeks
Morning: 10.30 am to 02.00 pm

WEEK 1

Days	Topics	Specific Learning Objectives	Station	MOT/MIT	Level of Cognition			Psychomotor	Affective	MOA
					C1	C2	C3			
Monday	• Identification of surgical instruments History taking • Pre-op preparation of Patient	• Able to Identify surgical procedures • Able to Identify instruments and their uses • Able to take History of patient of cataract • Able to Identify Chalazion and give treatment options	Eye Ward / Eye OT	Ambulatory teaching		**C2**			P,A	OSCE, MiniCEX Self and peer assessment of the skill Evidence from logbook
Tuesday	• History taking • Causes • Bacterial Conjunctivitis • Viral Conjunctivitis	• Identify the red eye conditions • Management of Bacterial and viral conjunctivitis	Eye OPD	Bedside teaching Clinical exposure Role playing Patient		**C2**			P,A	MCQS OSCE, MiniCEX Faculty feedback Evidence from logbook
Wednesday	• Sterilization techniques • Phacoemulsification Machine	• Identify phacoemulsification machine Sterilization of OT and Instruments	Eye Ward / Eye OT	ambulatory teaching		**C2**			P,A	OSCE,MiniCEX Self and peer assessment of the skill Evidence from logbook
Thursday	• Allergic Conjunctivitis • Trauma • Acute and Chronic Dacryocyctitis	Identify the red eye conditions Able to take History of trauma patient Able to demonstrate approach to patient with trauma Able to take History, examine and describe management of dacyocystitis	Eye OPD	Bedside teaching Clinical exposure Discussion		**C2**				MCQS,SAQ OSCE,Quiz Discussion form

4TH Year Ophthalmology Clinical curriculum
District Headquarter Hospital

Duration two weeks
Morning: 10.30 am to 02.00 pm

WEEK 2

Days	Topics	Specific Learning Objectives	Station	MOT/MIT	Level of Cognition			Psychomotor	Affective	MOA
					C1	C2	C3			
Monday	• DCR instruments • DCR Procedure • Pterygium and its management	• Able to state the principle of DCR surgery. • Able to outline the steps of DCR surgery • Able to identify and grade pterygium • Able to give treatment options for pterygium	Eye ward / Eye OT	• Bedside teaching • Clinical exposure • Role playing • Patient simulation • Videos • Discussion group • PBL, CBD		**C2**			P,A	MCQS SAQ ,OSCE, MiniCEX ,Faculty feedback Evidence from logbook

Tuesday	• Anterior Uveitis • Posterior Uveitis	• Take history of a patient with Uveitis • Record visual acuity • Perform torch examination, pupillary light reflexes and fundoscopy • Identify clinical signs • List a differential diagnosis on the basis of history and examination • Suggest treatment and appropriate referral for a patient with Uveitis • Identify potential complications of disease and its management	Eye OPD	• Bedside teaching • Clinical exposure • Discussion		**C2**				MCQS SAQ OSCE Quiz Discussion form
Wednesday	• Eye lid repair • Manual Small incision cataract surgery	• Able to describe principle of eye lid repair • Able to Identify procedure MSICS • Able to identify crescent knife and describe steps of procedure	Eye ward / Eye OT	• Ambulatory teaching		**C2**				OSCE, MiniCEX Self and peer assessment of the skill Evidence from logbook
Thursday	• Blepharitis • Benign and malignant adenexal masses • Ptosis	• Perform eye lid examination • Perform ptosis examination • Able to identify eyelid pathologies and able to give treatment options	Eye OPD	• Bedside teaching • Clinical exposure • Role playing			**C3**		3	MCQS SAQ OSCE Quiz Discussion form

Thursday (12-2pm)	**Ward test (10 MCQ = 10 marks) (OSCE 6 stations = 6X5 = 30 marks) (OSVE 2 station= 10x 2=20)**				
	Topic	**I × F**	**Weightage (%)**	**Marks (Out of 30)**	**No. of Stations**
	Retinal artery/vein occlusion	6	16	5	1
	Retinal detachment/Vitreous hemorrhage	6	16	5	1
	Orbital Cellulitis/Dacryocystitis/Proptosis	6	16	5	1
	Trauma	9	24	7.5	1
	Eye lid Abnormalities	9	24	7.5	2

Rawalpindi Medical University Rawalpindi

Community Oriented Clerkship Module

4th Year MBBS (Rev-2024)

Pre-Requisite: Prior knowledge of first 03 years of MBBS

Duration: 02 weeks

Chairperson: Assoc Prof. Dr. Khola Noreen
Department of Community Medicine & Public Health RMU

Rationale:

The primary purpose of this module is to educate students in those areas of the subject which are learnt better by onsite presence of the students at certain sites, processes, agencies which have public health relevance and in general community setting. Moreover some, areas of the subject which demands close interactive teachings in small group like HHS data analysis & report writing skills, contraceptive use skills, vaccination skills, etc are also covered during this rotation. All opportunities available within and outside the institution within affordable logistics, time, are focused for this purpose. A short time of this batch rotation is dedicated for health education communication practices as Health awareness work and other social work.

Competencies:

Learning objectives of every theme will be divided according to seven competencies.

- Appraisal of hospital management system
- Critical Thinking & Appraisal of Community based health problems
- Appraisal of MSDS
- Clinical research
- Problem solving
- Communication skill (Counseling skill)

Learning outcomes (LOs):

At the end of this learning module students are expected to achieve following Public health Competencies as will be able to;

- Appreciate working of First level Care Facility (Public Sector)
- Perform Community Immunization / EPI vaccinations.
- Develop Hospital waste management plans.
- Develop Community based health awareness message.
- Communicate for Health awareness in community settings.
- Commemorate International public health days.
- Develop Hospital administration Plans.
- Undertake Preventive healthcare inquiries and NCDs Risk Factors Surveillance
- Counsel for the contraceptive devices to the community

Domains of learning:

Learning will occur in all the three domains C, A & P

Mode Of Teachings

SGD (Small group discussion)
Community based Field visit

Community Medicine Practical (Psychomotor Skill)			
Modules	**Title of the section Learning Objective**	**Colour C**	**Miller's Pyramid Level Reflected**
I	**Field visits to places of Public Health importance.** to perform visits to places of Public Health importance and report writing under uniform guidelines	Yellow	Does
II	**"Preventive Healthcare Inquiry" (PHI).** An Approach to educate the students towards common health problems, appraisal of preventive healthcare scope & practices in the community and to provide window of social work.	Pink	Does
III	**Health Message Development to dissemination (HMDTD) (Social work plus)** To train learners in developing community need based health education messages and practicing its deliverance	Orange	Does
IV	**Tour to Hospital Administration**: Approach to update students towards various domains of hospital administration in real hospital settings and by interacting with working hospital mangers.	Red	Does
V	**World Public Health Days:** Commemoration of learning international public health work approaches	Grey	Does
VI	**Calculations in Community Medicine.** Exercise of important calculations of Epidemiology, Biostatistics, Demography	Sky blue	Does

VII	**Integrated Undergraduate Research Curriculum** Experiential Learning Module Research to Publication	Purple	Does

Hospital Administration Observation Checklist			
Annex-I	**Checklist For hospital Waste Management**		Knows how
Annex-II	**Checklist for Family Planning center**		Knows how
Annex- III	**Checklist For EPI Vaccination Center**		Knows how
Annex-IV	**Health of the Nation** Millennium Development Goals Sustainable Development Goals		Knows how
Core Planner of Community Oriented Clerkship in the subject of Community Medicine			

Module – I

Field visits to places of Public Health importance
Learning Objectives

At the end of the Field visit students would be able to;

Topic of Practical	Objectives	Skill	Miller's Pyramid Level Reflected
EPI Center of the Hospital	**Skill based Learning Objectives** • Perform Proper Vaccination Techniques • Conduct a Pre-Vaccination Assessment • Manage Adverse Events Following Immunizatio (AEFI)	**The student will be able to** Conduct pre vaccination assessment and patient histor to screen for contraindications to vaccination. Demonstrate aseptic techniques for vaccin administration (intramuscular, subcutaneous an oral routes). Identify, report, and manage common adverse even and complications post-immunization	Shows

	Attitude based Learning Objectives • Promote Vaccine Advocacy • Maintain Ethical Standards in Immunization Practic • Collaborate in a Multidisciplinary Team	The student will be able to • Understand the importance of vaccin advocacy and address commo misconceptions regarding vaccines. • Adhere to principles of informed consent an confidentiality during vaccination delivery. • Work with nurses, healthcare workers, an families to ensure efficient immunizatio delivery.	Shows

Field Visits (Field) Training Program

Field visits are essential component of teaching & training of the medical students in the subject of community medicine. These visits are performed to certain selected places where something of public health relevance is present like;

- **Organization** (like NGO, Social security institutions)
- **Process/System** (like sewage treatment plant, incinerator)
- **Personnel** (persons in certain occupations like industrial workers & lab workers, prisoners,)
- **Product** (like factory waste, dust, Hospital waste, sewage treatment plant etc)
- **Services & facilities** (like, Hospitals, BHU, MCH Centre, Rehabilitation center, EPI District Vaccine store, eating places)
- **Living / Environmental conditions** (like Kachi Abadies,) etc.

Field visits are scheduled over the span of whole academic session such that subject of sites of visit correlate with class-room teachings. However the implementation of the schedule is subject to availability of time space, readiness of the custodian of the desired sites and approvals of institutional head.

Aim & Objectives of Field visits training program

Field visits are PMDC curriculum requirement and aim to provide an opportunity to the student.

- To personally observe, analyze and collect firsthand information relevant to public health
- To the site visited".
- To be familiarize with public health potential, needs and aspects of the community to whom he/she is going to serve in future.
- to appraise applied aspects of the subject of Community Medicine.

Tasks

During field visits student are expected to perform following tasks

- To observe, record & inquire the subject related information to the site visited.. (work conditions and health of the workers, health risks, services etc)
- To observe and inquire the role of public health being played or can be played at the place visited. (NGOs, Rehab-institutions, Kachi-Abadies etc).
- To observe& inquire the health risks can occur to the people living around the site visited.(XRays plant & Lab workers, industrial waste sites, sewage disposal sites).
- To observe and think critically about prevailing conditions that what is present and what was optimally required. If disparities exist, what could be the reasons and how things can be improved in the given resources.¬(Kachi-Abadies or urban slums, industry workers, healthcare in hospitals, healthcare waste management system etc) V. To write report of the visit under the given protocol.

Protocol of Field Visit (General Guidelines)

Following steps are required to be undertaken to conduct a field visit to a given site;

I. Scheduling of the visit (Department's responsibility).
II. Pre-visit briefing to the students by the teacher in-charge. Include;
   a. Clarifying aims & objective of the particular visit
   b. Detailing important things to be observed, inquired or noted by the student during visit.
   c. Discussing particular Performa of that visit and clearing students' queries if any.
III. Students are bound to wear white coat and college ID card throughout the visit.
IV. Students will not interfere with the place/system in any way. And will also take care of their own security and of others.
V. Girl students are not allowed to wear high heel shoes for their walking safety during visits. VI. Students should observe ethics and manners of medical profession.
VII. Every Field Visit will be followed by an assessment of the student of his/her enthusiasm in visit and gain of related knowledge. Credit will be directly added to internal assessment. (OSPE)
VIII. Each student is required to make entries in FV Performa/check list if provided, sign it and get it supervised by the teacher in charge.

Structured Proforma of Practical Skill

Standard Reporting Form for Adverse Events Following Immunization (AEFI)
AEFI reporting ID number:

***Patient name or initials*:**)	***Reporter's Name*:**
***Patient's full Address*:**	Institution:
Telephone:	Designation &Department:
Sex: ☐ M ☐ F (Pregnant - Trimester ☐ I ☐ II ☐ III	Address:
***Date of birth (DD/MM/YYYY)*:** _ _/_ _/_ _ _ _	
OR Age at onset : *Years* ☐☐☐ *Months OR Age* ☐☐ ☐☐ /Lactating*Days*	
Group: 0 < 1 year ☐ 1- 5 years ☐ ☐ ☐ ☐ > 18 years – 60 years > 60 years	Telephone & e-mail:

years - 18 years	Date patient notified event to health system (DD/MM/YYYY): _ _/_ _/_ _ _ _ Today's date (DD/MM/YYYY): _ _/_ _/_ _ _ _

Health facility (or vaccination centre) name:									
Vaccine							***Diluent***		
Name of vaccine (Generic)	****Brand Name incl. Name of Manufacturer***	****Date of vaccination***	****Time of vaccination***	Dose (1st, 2nd, etc.)	****Batch/ Lot number***	Expiry date	****Batch/ Lot number***	Expiry date	Time of reconstitution

****Adverse event (s):***	**Describe AEFI (Signs and symptoms):**
☐ Severe local reaction ☐ *>3 days* ☐ *beyond* ☐ *nearest* ☐ *joint* Seizures ☐ *febrile* ☐ *afebrile* Abscess ☐ Sepsis ☐ Encephalopathy ☐ Toxic shock syndrome ☐ Thrombocytopenia ☐ Anaphylaxis Fever≥38°C Other (specify).....	

Date & Time AEFI started (DD/MM/YYYY): _____/ _____/ _____ ☐☐ Hr ☐☐Min	

		Life threatening				

Serious: Yes / No ; ➔ If Yes Death _____ Recovere ☐ Recovered with seque Disabilit y ☐ Hospitalizati on ☐ Congenital anomaly Other U Unknown

Unknown

Outcome: ☐

Recovering ☐

☐ Died If died, (DD/MM/YYYY

_ ___ / _ ___

Not Recovered

Autopsy don

Yes ☐ ☐ ☐

No

Past medical history (including history of similar reaction or other allergies), concomitant medication and dates of administration (exclude those used to treat reaction) other relevant information (e.g. other cases). *Use additional sheet if needed :*

First Decision making level to complete: National level to complete:

Investigation needed: ☐Yes ☐No	If yes, date investigation planned (DD/MM/YYYY): _____ / _____ / _____
Date report received at national level (DD/MM/YYYY): _____ / _____ / _____	AEFI worldwide unique ID :

*Compulsory field

Structured Proforma of Practical Skill

Demonstrate aseptic techniques for vaccine administration (Intramuscular routes)

Place a "✓" in relevant boxes of yes and no

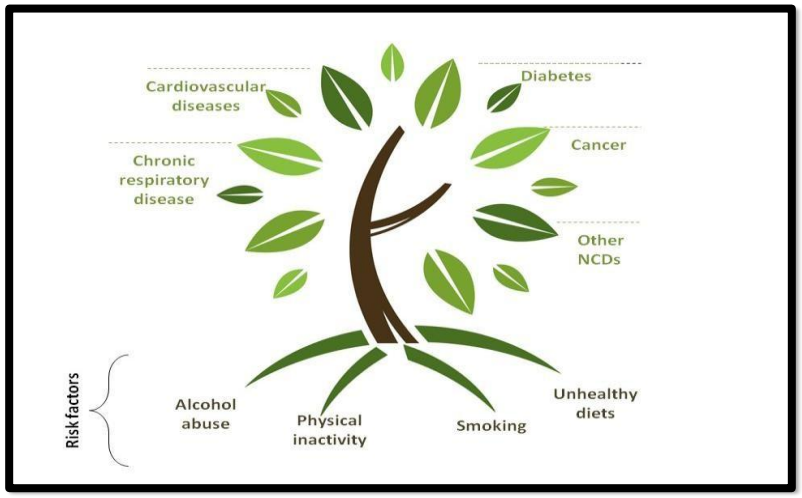
Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure

PRACTICAL SKILL		SKILL/ACTIVITY PERFORMED	
STEP/TASK	**DESCRIPTION**	**SATISFACTORILY**	**UNSATISFACTORILY**
1. Patient Selection	Ensure the patient has no contraindications (e.g., pregnancy, history of clotting disorders, liver issues).		
2. Counseling and Consent	Explain the procedure, benefits, risks, and potential side effects (e.g., spotting, weight changes); obtain informed consent.		
3. Patient Positioning	Make patient sit/lie in a comfortable position with muscle to be injected relaxed.		
4. Injection Site Selection	Identify the injection site (e.g., gluteal muscle or deltoid) and ensure the area is free of infections or abnormalities.		
5. Preparation of Equipment	Gather all necessary materials: sterile syringe, hormonal injection vial, antiseptic solution, and sterile gloves.		

PRACTICAL SKILL		SKILL/ACTIVITY PERFORMED	
STEP/TASK	**DESCRIPTION**	**SATISFACTORILY**	**UNSATISFACTORILY**
6. Aseptic Technique	Wash hands, wear sterile gloves, and clean the injection site with an antiseptic solution (e.g., alcohol).		
7. Preparation of Injection	Draw the correct dosage of the hormone into the syringe, ensuring no air bubbles are present.		
8. Injection Administration	Administer the injection intramuscularly or subcutaneously deeply making sure whole dosage is given.		
9. Post-Injection Care	Place an adhesive bandage if needed. Do not massage the area as medicine will be absorbed too quickly.		
10. Patient Advice and Instructions	Instruct the patient about possible side effects, what to expect, and when to seek medical attention (e.g., severe pain or swelling).		
11. Follow Up	Schedule a follow-up to monitor the patient's response and address any concerns.		
12. Documentation	Record the date, type of hormonal injection, dosage, batch number, injection site, and any patient concerns or complications.		

Module - II
“Preventive Healthcare Inquiry” PHI
Appraisal of Community Preventive Health Care Practices
(Social Work Window)



This learning module is influenced by **WHO STEPwise approach** to surveillance of NCDs. It is included to educate students in international public health perspectives

World Health Organization

Theme:

Ill health in a population in addition to geo-epidemiological reasons talks about level of healthcare available and also informs people's behaviors in matters of health. Hospitals are hub of delivery of available healthcare services to man in any society. Influx of the patients into hospitals is an indicator of volume, nature & variety of health problems present in peoples of its region. Hospitals indoors are occupied by patients with relatively serious & with other justified conditions. Analysis of clinical, epidemiological, and behavioural information obtained by patients coming to hospitals may serves as a valuable resource for medical students to learn the subject of community medicine in real life scene. Being a student of preventive medicine, it is good to have orientation towards such common health condition (especially non-communicable chronic disorders) of the community which have enough space of prevention. And at the same time, there is need to appraise these people's preventive healthcare attitudes & practices towards these conditions and also to realize the missed preventive opportunities if any, at individual, family, community, or state level. Appraisal & analysis of information relating to roll played by known risk factors, self-medication practices, people's responses towards incurable conditions, treatment compliance, ages of onset & periods to development of complications, and of factors which would influence aforementioned elements provide excellent opportunity for community diagnosis and learning health trends of the people concerned. Such workup enables to appraise individual's, community, and state roles in maintaining, protecting and promoting health of the people in the local community.

Additionally, this encounter with patients may provoke community-based ideas for epidemiological, & health system research. Moreover the suggested interaction with patient has window for face-to-face preventive health communication (Social work).

Scheme of work:

Considering above idea following model is devised to supplement community oriented medical education under curriculum needs. Whole class of 4thyear MBBS will rotate in the form of batches. Each batch will be posted for at least 01 day in OPD or indoor of anyone of the following clinical departments of the attached Hospitals.

- Medicine & Allied Depts. Oncology ,Surgery & Allied Depts.
- Gynae& Obstetrics
- Paediatrics
- Others.. Infectious diseases, nephrology, eye, stroke care unit etc With learnt medical ethics, interviewing & history taking skills, students are expected to record the required information on the given Performa.

Objectives of this exercise can be enlisted as under:

- To orientate students towards common health problems of the community.
- To enable students to appreciate the level preventive healthcare practices in local community context.
- To train students in preventive health inquiries skills
- To provide avenues which have space to instigate research thinking in learners.
- To train students in deliverance of face-to-face health education (social work)

Work Protocol:

with prior permission of the healthcare provider in position, initiate "Preventive Health Inquiry" (PHI) as under:

- Indoors / wards should be preferred sites over OPDs.
- Activity preferably be conducted under supervision of the doctor batch in charge

- Select the patient which can best fulfill to purpose of the PHI. (Patients with conditions which have space for prevention like DM, CHD, Stroke, blindness, vaccine preventable infectious diseases)
- Patients in relatively stable conditions should be talked.
- Do inquiry aafter you get patient's /attendant's informed consent.
- Fill the responses according to / in the Performa below

(Preferred cases: DM with complications, CVDs, Stroke, Uncontrolled Hypertension, Respiratory failure, Cancers, and like)

Module – II

Appraisal of Community Preventive Health Care Practices
Learning Objectives

At the end of the visit students would be able to;			
Topic of Practical	**Objectives**	**Skill**	**Miller's Pyramid Level Reflected**
WHO Steps Framework	Introduction to WHO STEPS Framework	Familiarize with the three key components of the STEPS approach: Step 1 (questionnaire-based data collection), Step 2 (physical measurements), and Step 3 (biochemical measurements).	Knows how
Data collection using STEPS Tool	Data Collection Using the STEPS Questionnaire	• Demonstrate the ability to administer the STEPS questionnaire effectively in a community or clinical setting. • Collect data on behavioral risk factors for NCDs (e.g., tobacco use, alcohol consumption, dietary habits, and physical activity). • Record physical measurements (e.g., weight, height, blood pressure) accurately. • Collect and document biochemical data (e.g., blood glucose, cholesterol) following ethical and procedural guidelines (if applicable).	Shows
Data Analysis	Data Management and Analysis Preparation	• Develop skills in organizing and managing collected data for further analysis.	Shows

WHO STEPS Instrument Question -by-Question Guide (Core and expanded)

The WHO STEP-wise approach to Non-communicable disease risk factor surveillance (STEPS)

World Health Organization
20 Avenue Appia, 1211 Geneva 27, Switzerland

For further information:
Noncommunicable Disease Surveillance, Monitoring and Reporting (who.int)

TEPS Question-by-Question (Q-by-Q) Guide

Overview

Introduction The Question-by-Question Guide presents the STEPS Instrument with a brief explanation for each of the questions.

Purpose The purpose of the Question-by-Question Guide is to provide background information to the interviewers and supervisors as to what is intended by each question.

Interviewers can use this information when participants request clarification about specific questions or they do not know the answer.

Interviewers and supervisors should refrain from offering their own interpretations.

Guide to the columns The table below is a brief guide to each of the columns in the Q-by-Q Guide.

Column	Description	Site Tailoring
Question	Each question is to be read to the participants	Select sections to use. Add expanded and optional questions as desired.
Response	This column lists the available response options which the interviewer will be circling or filling in the text boxes. The skip instructions are shown on the right hand side of the responses and should be carefully followed during interviews.	Add site specific responses for demographic responses (e.g. C6). Change skip question identifiers where necessary.
Code	The column is designed to match data from the instrument into the data entry tool, data analysis syntax, data book, and fact sheet.	This should never be changed or removed. The code is used as a general identifier for the data entry and analysis.

WHO STEPS Q-by-Q Guide
Non-communicable Disease
Risk Factor Surveillance

<insert country/site name>

Survey Information

Location and Date	Response	Code
Cluster/Centre/Village ID *Enter Cluster, Centre or Village ID from list provided.*	⌊_⌊_⌊_⌊_⌊_⌊_⌊_⌋	I1
Cluster/Centre/Village name *Enter Cluster, Centre or Village name as appropriate.*		I2
Interviewer ID *Enter interviewer's identification.*	⌊_⌊_⌊_⌋	I3
Date of completion of the instrument *Enter date when instrument actually completed.*	⌊_⌊_⌋ ⌊_⌊_⌋ ⌊_⌊_⌊_⌊_⌋ dd mm year	I4

Consent, Interview Language and Name	Response	Code
Consent has been read and obtained *Select relevant response.*	Yes 1 No 2 **If NO, END**	I5
	English 1	

Interview Language *[Insert Language]* *Select relevant response.*	*[Add others]* 2 *[Add others]* 3 *[Add others]* 4	I6
Time of interview (24 hour clock) *Enter time interview started.*	⌊_⌋⌊_⌋ : ⌊_⌋⌊_⌋ hrs mins	I7

Family Surname *Enter family surname (reassure the participant on the confidential nature of this information and that this is only needed for follow up).*		I8
First Name *Enter first name of respondent (reassure the participant on the confidential nature of this information and that this is only needed for follow up).*		I9
Additional Information that may be helpful		
Contact phone number where possible *Enter phone number (reassure the participant on the confidential nature of this information and that this is only needed for follow up).*		I10

Step 1 Demographic Information

CORE: Demographic Information		
Question	**Response**	**Code**
Sex (*Record Male / Female as observed)* *Select Male / Female as observed.*	Male 1 Female 2	C1
What is your date of birth? *Don't Know 77 77 7777* *Enter date of birth of participant. If unknown, select "don't know".*	⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋ *If known, Go to C4* dd mm year	C2

How old are you? *If the age is unknown, help participant estimate their age by interviewing them about their recollection of widely known major events.*	Years ⌊_⌋⌊_⌋	C3
In total, how many years have you spent at school and in full-time study (excluding pre-school)? *Enter total number of years of education (excluding pre-school and kindergarten).*	Years ⌊_⌋⌊_⌋	C4

EXPANDED: Demographic Information		
What is the **highest level of education** you have completed? *[INSERT COUNTRY-SPECIFIC CATEGORIES]* *If a person attended a few months of the first year of secondary school but did not complete the year, select "primary school completed". If a person only attended a few years of primary school, select "less than primary school".* *Select appropriate response.*	No formal schooling 1 Less than primary school 2 Primary school completed 3 Secondary school completed 4 High school completed 5 College/University completed 6 Post graduate degree 7 Refused 88	C5
What is your *[insert relevant ethnic group / racial group / cultural subgroup / others]* **background**? *Select the relevant ethnic/cultural group to which the participant belongs.*	*[Locally defined]* 1 *[Locally defined]* 2 *[Locally defined]* 3 Refused 88	C6
What is your **marital status**? *Select the appropriate response.*	Never married 1 Currently married 2 Separated 3 Divorced 4 Widowed 5 Cohabitating 6 Refused 88	C7
Which of the following best describes your **main work** status over the past 12 months?	Government employee 1 Non-government 2 Self-employed 3	

[INSERT COUNTRY-SPECIFIC CATEGORIES] (*USE SHOWCARD)* *The purpose of this question is to help answer other questions such as whether people in different kinds of occupations may be confronted with different risk factors.* *Select appropriate response.*	Non-paid 4 Student 5 Homemaker 6 Retired 7 Unemployed (able to 8 Unemployed (unable to 9 Refused 88	C8
How many people older than 18 years, including yourself, live in your household? *Enter the total number of people living in the household who are 18 years or older.*	Number of people ⌊_⌋⌊_⌋ *If Not Known, Go to C11*	C9

EXPANDED: Demographic Information, Continued		
Question	**Response**	**Code**
Taking **the past year**, can you tell me what the average earnings of the household have been? *(RECORD ONLY ONE, NOT ALL 3)* *Enter the average earnings of the household by week, month, or year. If refused to answer, skip to C11.*	Per week |_|_|_|_|_|_|_| *Go to T1*	C10a
	OR per month |_|_|_|_|_|_|_| *Go to T1*	C10b
	OR per year |_|_|_|_|_|_|_| *Go to T1*	C10c
	Refused 88	C10d
Can you give an **estimate** of the annual household income if I read some options to you? Is it *[INSERT QUINTILE VALUES IN LOCAL CURRENCY]* *(READ OPTIONS)* *Select the appropriate quintile value for the annual household income.*	≤ Quintile (Q) 1 1 More than Q 1, ≤ Q 2 2 More than Q 2, ≤ Q 3 3 More than Q 3, ≤ Q 4 4 More than Q 4 5 Don't Know 77 Refused 88	C11

Step 1 Behavioural Measurements

CORE: Tobacco Use		
Now I am going to ask you some questions about tobacco use.		
Question	**Response**	**Code**

Do you **currently** smoke any **tobacco** products, such as cigarettes, cigars or pipes? *(USE SHOWCARD)* *Ask the participant to think of any tobacco products he/she is smoking currently.*	Yes 1 No 2 *If No, go to T8*	T1
Do you currently smoke tobacco products **daily**? *This question is only for current smokers of tobacco products.*	Yes 1 No 2	T2
How old were you when you **first started** smoking? *For current smokers only. Ask the participant to think of the time when he/she started to smoke any tobacco products.*	Age (years) Don't know 77 └─┴─┘ *If Known, go to T5a/T5aw*	T3

Do you remember how long ago it was? *(RECORD ONLY 1, NOT ALL 3)* *Don't know 77* *If the participant doesn't remember his/her age when started smoking, then record the time in years, months or weeks as appropriate.*	In Years ⌊_⌋⌊_⌋ *If Known, go to T5a/T5aw*	T4a
	OR in Months ⌊_⌋⌊_⌋ *If Known, go to T5a/T5aw*	T4b
	OR in Weeks ⌊_⌋⌊_⌋	T4c
On average, **how many** of the following products do you smoke **each day/week?** *(IF LESS THAN DAILY, RECORD WEEKLY)* *(RECORD FOR EACH TYPE, USE SHOWCARD)* *Don't Know 7777* *For current smokers only.* *Specify zero if no products were used in each category instead of leaving categories blank.* *Record daily consumption for daily smokers. If products are smoked less than daily by daily smokers, enter weekly consumption. Also enter weekly consumption for current, non-daily smokers.*	DAILY↓ WEEKLY↓	
	Manufactured cigarettes ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌟	T5a/T5aw
	Hand-rolled cigarettes ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌟	T5b/T5bw
	Pipes full of tobacco ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌟	T5c/T5cw
	Cigars, cheroots, cigarillos ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌟	T5d/T5dw
	Number of Shisha sessions ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌟	T5e/T5ew
	Other ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋	T5f/T5fw

	⌋ *If Other, go to T5other, else go to T6*	
	Other (please specify): ⌊_____⌋	T5other/ T5other w
During the past 12 months, have you tried to **stop smoking**? *For current smokers only. Ask the participant to think of any quit attempt during the past 12 months.*	Yes 1 No 2	T6
During any visit to a doctor or other health worker in the past 12 months, were you advised to quit smoking tobacco? *For current smokers only. Ask the participant to think of visits to a doctor or other health worker during the past 12 months. If no visit, select "no visit during the past 12 months".*	Yes 1 *If T2=Yes, go to T12; if T2=No, go to T9* No 2 *If T2=Yes, go to T12; if T2=No,* No visit during the past 12 months 3 *If T2=Yes, go to T12; if T2=No, go to T9*	T7
In the past, did you **ever smoke** any tobacco products? *(USE*	Yes 1	T8

SHOWCARD) *Ask the participant to think of the time when he/she may have been smoking tobacco products.*	No 2 *If No, go to T12*	
In the past, did you **ever** smoke **daily**? *Ask the participant to think of the time when he/she may have been smoking tobacco products on a daily basis.*	Yes 1 *If T1=Yes, go to T12, else go to T10* No 2 *If T1=Yes, go to T12, else go to T10*	T9

EXPANDED: Tobacco Use		
Question	**Response**	**Code**
How old were you when you **stopped** smoking? *Ask the participant to think of the time when he/she stopped smoking tobacco products.*	Age (years) Don't Know 77 ⌊_⌋⌊_⌋ *If Known, go to T12*	T10
How **long ago** did you stop smoking? *(RECORD ONLY 1, NOT ALL 3)* *Don't Know 77* *If the participant doesn't remember his/her age when they stopped smoking, then record the time in weeks, months or years as appropriate.*	Years ago ⌊_⌋⌊_⌋ *If Known, go to T12*	T11a
	OR Months ago ⌊_⌋⌊_⌋ *If Known, go to T12*	T11b
	OR Weeks ago ⌊_⌋⌊_⌋	T11c
Do you **currently use** any **smokeless tobacco** products such as *[snuff, chewing tobacco, betel]*? *(USE SHOWCARD)* *Ask the participant to think of any smokeless tobacco products that he/she is using currently.*	Yes 1 No 2 *If No, go to T15*	T12
	Yes 1	

Do you **currently use smokeless tobacco** products **daily?** *For current users of smokeless tobacco products only.*	No 2 *If No, go to T14aw*	T13
On average, how many **times a day/week** do you use …. *(IF LESS THAN DAILY, RECORD WEEKLY)* *(RECORD FOR EACH TYPE, USE SHOWCARD)* *Don't Know 7777* *For current users of smokeless tobacco only.* *Record for each type of smokeless tobacco products.*	DAILY↓ WEEKLY↓	
	Snuff, by mouth ⌊_⌊_⌊_⌊_⌊_⌋_⌋ ⌊_⌊_⌊_⌋	T14a/ T14aw
	Snuff, by nose ⌊_⌊_⌊_⌊_⌊_⌋_⌋ ⌊_⌊_⌊_⌋	T14b/ T14bw
	Chewing tobacco ⌊_⌊_⌊_⌊_⌊_⌋_⌋ ⌊_⌊_⌊_⌋	T14c/ T14cw

Specify zero if no products were used in each category instead of leaving categories blank. *Record daily consumption for daily users. If products are used less than daily by daily users, enter weekly consumption. Also enter weekly consumption for current, non-daily users.*	Betel, quid ⌊⌋⌊⌋⌊⌋⌊⌋⌊⌋⌊⌋ ⌊⌋⌊⌋⌊⌋⌊⌋	T14d/ T14dw
	Other ⌊⌋⌊⌋⌊⌋⌊⌋⌊⌋⌊⌋ ⌊⌋⌊⌋⌊⌋⌊⌋ *If Other, go to T14other, if T13=No, go to T16, else go to T17*	T14e/ T14ew
	Other (please specify): ⌊⌋⌊⌋⌊⌋⌊⌋⌊⌋⌊⌋ ⌊⌋ *If T13=No, go to T16, else go to T17*	T14other/ T14otherw
In the **past**, did you **ever use** smokeless tobacco products such as *[snuff, chewing tobacco, or betel]*? *Ask the participant to think of the time when he/she may have been using smokeless tobacco products.*	Yes 1 No 2 *If No, go to T17*	T15
In the **past**, did you **ever use** smokeless tobacco products such as *[snuff, chewing tobacco, or betel]* **daily**? *Ask the participant to think of the time when he/she may have been using smokeless tobacco products on a daily*	Yes 1 No 2	T16
During the past 30 days, did someone smoke **in your home**? *The participant should only think about other people, not about him-/herself. Smokers should exclude themselves.* *The question is asking about inside the participant's home. This only includes fully enclosed areas of the*	Yes 1 No 2	T17

During the past 30 days, did someone smoke in closed areas **in your workplace** (in the building, in a work area or a specific office)? *For those not working in a closed area, record "don't work in a closed area".* *Ask the participant to think of seeing somebody smoke or smelling the smoke in indoor areas at work during the past 30 days.*	Yes 1 No 2 Don't work in a closed area 3	T18

CORE: Alcohol Consumption

The next questions ask about the consumption of alcohol.

Question	Response	Code
Have you **ever** consumed any alcohol such as beer, wine, spirits or *[add other local examples]*? *(USE SHOWCARD OR SHOW EXAMPLES)* *Ask the participant to think of any alcohol, with the exception of alcohol-based medication that is taken due to health reasons. Even if the participant has only consumed a few sips of alcohol, the response should be "Yes".*	Yes 1 No 2 *If No, go to A16*	A1
Have you consumed any alcohol within the **past 12 months**? *Ask the participant to think of any alcohol, with the exception of alcohol-based medication that is taken due to health reasons. Even if the participant has only consumed a few sips of alcohol in the past 12 months, the response should be "Yes".*	Yes 1 *If Yes, go to A4* No 2	A2
Have you stopped drinking due to health reasons, such as a negative impact on your health or on the advice of your doctor or other health worker? *This question is for those participants that did not drink during the past 12 months, but that have drunk in their lifetime.*	Yes 1 *If Yes, go to A16* No 2 *If No, go to A16*	A3
During the past 12 months, **how frequently** have you had at least one **standard alcoholic drink**? *(READ RESPONSES, USE SHOWCARD)* *For those that have consumed alcohol in the past 12 months. A "standard drink" is the amount of ethanol contained in standard glasses of beer, wine, fortified wine such as sherry, and spirits. Depending on the country, these amounts will vary between 8 and 13 grams of ethanol. See showcard. For those participants that only consumed a few sips of alcohol during the past 12 months, the answer should be "Never".*	Daily 1 5-6 days per week 2 3-4 days per week 3 1-2 days per week 4 1-3 days per month 5 Less than once a month 6 Never 7	A4

Have you consumed any alcohol within the **past 30 days**? *Select the appropriate response. Even if the participant has only consumed a few sips of alcohol in the past 30 days, the response should be "Yes".*	Yes 1 No 2 *If No, go to A13*	A5
During the past 30 days, on how many **occasions** did you have at least one standard alcoholic drink? *Ask the participant to think of the past 30 days only. Record the number of occasions. Note that there can be more than one occasion in which alcohol is consumed in a given day. For those participants that only drank a few sips of alcohol during the past 30 days, the answer should be "Zero" occasions.*	Number Don't know 77 └_└_┘ *If Zero, go to A13*	A6

During the past 30 days, when you drank alcohol, how many **standard drinks on average** did you have during one drinking occasion? *(USE SHOWCARD)* *Help the participant to average out the total number of drinks by using the showcard that shows standard alcoholic drinks.*	Number Don't know 77 ⌊_⌋⌊_⌋	A7
During the past 30 days, what was the **largest number** of standard drinks you had on a single occasion, counting all types of alcoholic drinks together? *Ask the participant to think of the past 30 days only. This question is about the largest number of drinks that the participant had on one single occasion.*	Largest number Don't Know 77 ⌊_⌋⌊_⌋	A8
During the past 30 days, how many times did you have **six or more** standard drinks in a single drinking occasion? *Ask the participant to think of the past 30 days only, and to report the number of occasions when he/she had six or more standard drinks.*	Number of times Don't Know 77 ⌊_⌋⌊_⌋	A9

CORE: Alcohol Consumption, continued		
Question	**Response**	**Code**
During each of the **past 7 days**, how many standard drinks did you have each day? *(USE SHOWCARD)* *Don't Know 77* *Ask the participant to think of each of the past 7 days. Use the showcard that shows standard alcoholic drinks to help the*	Monday ⌊_⌋⌊_⌋	A10a
	Tuesday ⌊_⌋⌊_⌋	A10b
	Wednesday ⌊_⌋⌊_⌋	A10c
	Thursday ⌊_⌋⌊_⌋	A10d

participant report the number of standard drinks for each of the past 7 days. *Record for each day the number of standard drinks. If no drinks record 0.*	Friday ⌊_⌋⌊_⌋	A10e
	Saturday ⌊_⌋⌊_⌋	A10f
	Sunday ⌊_⌋⌊_⌋	A10g
I have just asked you about your consumption of alcohol during the past 7 days. The questions were about alcohol in general, while the next questions refer to your consumption of homebrewed alcohol, alcohol brought over the border/from another country, any alcohol not intended for drinking or other untaxed alcohol. Please only think about these types of alcohol when		
During the **past 7 days**, did you consume any **homebrewed** alcohol, any alcohol **brought over the border/from another country**, any alcohol **not intended for drinking** or other **untaxed** alcohol? *(USE SHOWCARD)*	Yes 1	A11
[AMEND ACCORDING TO LOCAL CONTEXT] *Ask the participant to only think of homebrewed alcohol, any alcohol brought over the border/from another country, any alcohol not intended for drinking or other untaxed alcohol.*	No 2 *If No, go to A13*	
On average, **how many standard drinks** of the following did you consume **during the past 7 days**? *[INSERT COUNTRY-SPECIFIC EXAMPLES]* *(USE SHOWCARD)* *Don't Know 77* *Ask the participant to think of the past 7 days.* *Use the showcard that specifies what standard drinks are for each type of alcohol. Alcohol not intended for drinking should be treated like spirits.*	Homebrewed spirits, e.g. moonshine ⌊_⌋⌊_⌋	A12a
	Homebrewed beer or wine, e.g. beer, palm or fruit wine ⌊_⌋⌊_⌋	A12b
	Alcohol brought over the border/from another country ⌊_⌋⌊_⌋	A12c
	Alcohol not intended for drinking, e.g. alcohol-based medicines, perfumes, after shaves ⌊_⌋⌊_⌋	A12d

Record for each type of alcohol the number of standard drinks. If no drinks record 0.	Other untaxed alcohol in the country ⌊__⌋	A12e
EXPANDED: Alcohol Consumption		
During the **past 12 months,** how often have you found that you were not able to stop drinking once you had started? *Ask the participant to think of the past 12 months. Read out all the answer options.*	Daily or almost daily 1 Weekly 2 Monthly 3 Less than monthly 4 Never 5	A13
During the **past 12 months,** how often have you failed to do what was normally expected from you because of drinking? *Ask the participant to think of the past 12 months. Read out all the answer options.*	Daily or almost daily 1 Weekly 2 Monthly 3 Less than monthly 4 Never 5	A14
During the **past 12 months,** how often have you needed a first drink in the morning to get yourself going after a heavy drinking session? *Ask the participant to think of the past 12 months. Read out all the answer options.*	Daily or almost daily 1 Weekly 2 Monthly 3 Less than monthly 4 Never 5	A15
During the **past 12 months**, have you had family problems or problems with your partner due to **someone else's** drinking? *Ask the participant to think of the past 12 months. Read out all the answer options.* *The participant should not think of his/her own drinking, but of someone else's drinking.*	Yes, more than monthly 1 Yes, monthly 2 Yes, several times but less than 3 Yes, once or twice 4 No 5	A16

CORE: Diet		
The next questions ask about the fruits and vegetables that you usually eat. I have a nutrition card here that shows you some examples of local fruits and vegetables. Each picture represents the size of a serving. As you answer these questions please think of a typical week in the last year.		
Question	**Response**	**Code**
In a typical week, on how many days do you **eat fruit**? *(USE SHOWCARD)* *Ask the participant to think of any fruit on the showcard. A typical week means a "normal" week when the diet is not affected by cultural, religious, or other events. Ask the participant to not report an average over a period.*	Number of days Don't Know 77 └__┘__┘ *If Zero days, go to D3*	D1
How many **servings** of fruit do you eat on **one** of those days? (*USE SHOWCARD)* *Ask the participant to think of one day he/she can recall easily. Refer to the showcard for serving sizes.*	Number of servings Don't Know 77 └__┘__┘	D2
In a typical week, on how many days do you **eat vegetables**? *(USE SHOWCARD)* *Ask the participant to think of any vegetable on the showcard. A typical week means a "normal" week when the diet is not affected by cultural, religious, or other events. Ask the participant to not report an average over a period.*	Number of days Don't Know 77 └__┘__┘ *If Zero days, go to D5*	D3
How many **servings** of vegetables do you eat on one of those days? *(USE SHOWCARD)* *Ask the participant to think of one day he/she can recall easily. Refer to the showcard for serving sizes.*	Number of servings Don't know 77 └__┘__┘	D4

Dietary salt		
With the next questions, we would like to learn more about salt in your diet. Dietary salt includes ordinary table salt, unrefined salt such as sea salt, iodized salt, salty stock cubes and powders, and salty sauces such as soy sauce or fish sauce (see showcard). The following questions are on adding salt to the food right before you eat it, on how food is prepared in your home, on eating processed foods that are high in salt such as *[insert country specific examples]*, and questions on controlling your salt intake. Please answer the questions even if you consider yourself to eat a diet low in salt. *Read this opening statement out loud. Don't forget to use the showcard which will help the respondent when answering to the questions.*		
How often do you **add salt or a salty sauce such as soy sauce** to your food right before you eat it or as you are eating it? *(SELECT ONLY ONE)* *(USE SHOWCARD)* *Read out all the answer options. Use the showcard that shows salt and salty sauces.*	Always 1 Often 2 Sometimes 3 Rarely 4 Never 5 Don't know 77	D5

How often is **salt, salty seasoning or a salty sauce added** in cooking or preparing foods in your household? *Read out all the answer options. Select the appropriate response.*	Always 1 Often 2 Sometimes 3 Rarely 4 Never 5 Don't know 77	D6
How often do you eat **processed food high in salt**? By processed food high in salt, I mean foods that have been altered from their natural state, such as packaged salty snacks, canned salty food including pickles and preserves, salty food prepared at a fast food restaurant, cheese, bacon and processed meat *[add country specific examples].* *[INSERT EXAMPLES] (USE SHOWCARD)* *Read out all the answer options. Use the showcard that shows processed food high in salt.*	Always 1 Often 2 Sometimes 3 Rarely 4 Never 5 Don't know 77	D7
How much salt or salty sauce do you think you consume? *Read out all the answer options and select the appropriate response.*	Far too much 1 Too much 2 Just the right amount 3 Too little 4 Far too little 5 Don't know 77	D8

EXPANDED: Diet		
Question	**Response**	**Code**
	Very important 1 Somewhat important 2	

How important to you is **lowering the salt** in your diet? *Select the appropriate response.*	Not at all important 3 Don't know 77	D9
Do you think that too much salt or salty sauce in your diet could cause a **health problem**? *Select the appropriate response.*	Yes 1 No 2 Don't know 77	D10

Do you do any of the following on a regular basis to **control your salt intake**?

(RECORD FOR EACH)

Select the appropriate response for each option. Ask the participant to only consider actions that he/she undertakes specifically to control salt intake, and not for any other purpose.

Limit consumption of processed foods	Yes 1 No 2	D11a
Look at the salt or sodium content on food labels	Yes 1	D11b

	No 2	
Buy low salt/sodium alternatives	Yes 1 No 2	D11c
Use spices other than salt when cooking	Yes 1 No 2	D11d
Avoid eating foods prepared outside of a home	Yes 1 No 2	D11e
Do other things specifically to control your salt intake	Yes 1 No 2	D11f
Other (please specify)	_____	D11other

CORE: Physical Activity

Next I am going to ask you about the time you spend doing different types of physical activity in a typical week. Please answer these questions even if you do not consider yourself to be a physically active person.

Think first about the time you spend doing work. Think of work as the things that you have to do such as paid or unpaid work, study/training, household chores, harvesting food/crops, fishing or hunting for food, seeking employment. *[Insert other examples if needed].* In answering the following questions 'vigorous-intensity activities' are activities that require hard physical effort and cause large increases in breathing or heart rate, 'moderate-intensity activities' are activities that require moderate physical effort and cause small increases in breathing or heart rate.

Read this opening statement out loud. It should not be omitted. The respondent will have to think first about the time he/she spends doing work (paid or unpaid work, household chores, harvesting food, fishing or hunting for food, seeking employment [Insert other examples if needed]), then about the time he/she travels from place to place, and finally about the time spent in vigorous as well as moderate physical activity during leisure time.

Remind the respondent when he/she answers the following questions that 'vigorous-intensity activities' are activities that require hard physical effort and cause large increases in breathing or heart rate, 'moderate-intensity activities' are activities that require moderate physical effort and cause small increases in breathing or heart rate. Don't forget to use the showcard which will help the respondent

when answering to the questions.

Question	Response	Code
Work		
Does your work involve vigorous-intensity activity that causes large increases in breathing or heart rate like *[carrying or lifting heavy loads, digging or construction work]*? *[INSERT EXAMPLES] (USE SHOWCARD)* *Ask the participant to think about vigorous-intensity activities at work only. Activities are regarded as vigorous intensity if they cause large increases in breathing and/or heart rate.*	Yes 1 No 2 *If No, go to P 4*	P1

In a typical week, on how many days do you do vigorous-intensity activities as part of your work? *"Typical week" means a week when the participant is engaged in his/her usual activities. Valid responses range from 1-7.*	Number of days └─┘	P2
How much time do you spend doing vigorous-intensity activities at work on a typical day? *Ask the participant to think of a typical day he/she can recall easily in which he/she engaged in vigorous-intensity activities at work. The participant should only consider those activities undertaken continuously. Probe very high responses (over 4 hrs) to verify.*	Hours : minutes └─┴─┘ : └─┴─┘ hrs mins	P3 (a-b)
Does your work involve moderate-intensity activity, that causes small increases in breathing or heart rate such as brisk walking *[or carrying light loads]*? *[INSERT EXAMPLES] (USE SHOWCARD)* *Ask the participant to think about moderate-intensity activities at work only. Activities are regarded as moderate intensity if they cause small increases in breathing and/or heart rate.*	Yes 1 No 2 *If No, go to P 7*	P4
In a typical week, on how many days do you do moderate-intensity activities as part of your work? *"Typical week" means a week when the participant is engaged in his/her usual activities. Valid responses range from 1-7.*	Number of days └─┘	P5
How much time do you spend doing moderate-intensity activities at work on a typical day? *Ask the participant to think of a typical day he/she can recall easily in which he/she engaged in moderate-intensity activities at work. The participant should only consider those activities undertaken continuously. Probe very high responses (over 4 hrs) to verify.*	Hours : minutes └─┴─┘ : └─┴─┘ hrs mins	P6 (a-b)
Travel to and from places		

The next questions exclude the physical activities at work that you have already mentioned. Now I would like to ask you about the usual way you travel to and from places. For example to work, for shopping, to market, to place of worship. *[Insert other examples if needed]* *The introductory statement to the following questions on transport-related physical activity is very important. It asks and helps the participant to now think about how they travel around getting from place-to-place. This statement should not be omitted.*		
Do you walk or use a bicycle *(pedal cycle)* to get to and from places? *Select the appropriate response.*	Yes 1 No 2 *If No, go to P 10*	P7
In a typical week, on how many days do you walk or bicycle to get to and from places? *"Typical week" means a week when the participant is engaged in his/her usual activities. Valid responses range from 1-7.*	Number of days └─┘	P8

CORE: Physical Activity, Continued		
Question	**Response**	**Code**
How much time do you spend walking or bicycling for travel on a typical day? *Ask the participant to think of a typical day he/she can recall easily in which he/she engaged in transport-related activities. The participant should only consider those activities undertaken continuously. Probe very high responses (over 4 hrs) to verify.*	Hours : minutes ⌊_⌊_⌋ : ⌊_⌊_⌋ hrs mins	P9 (a-b)
Recreational activities		
The next questions exclude the work and transport activities that you have already mentioned. Now I would like to ask you about sports, fitness and recreational activities (leisure) *[Insert relevant terms]*. *This introductory statement directs the participant to think about recreational activities. This can also be called discretionary or leisure time. It includes sports and exercise but is not limited to participation in competitions. Activities reported should be done regularly and not just occasionally. It is important to focus on only recreational activities and not to include any activities already mentioned. This statement should not be omitted.*		
Do you do any vigorous-intensity sports, fitness or recreational *(leisure)* activities that cause large increases in breathing or heart rate like *[running or football]*? *[INSERT EXAMPLES] (USE SHOWCARD)* *Ask the participant to think about recreational vigorous-intensity activities only. Activities are regarded as vigorous intensity if they cause large increases in breathing and/or heart rate.*	Yes 1 No 2 *If No, go to P 13*	P10
In a typical week, on how many days do you do vigorous-intensity sports, fitness or recreational *(leisure)* activities? *"Typical week" means a week when the participant is engaged in his/her usual activities. Valid responses range from 1-7.*	Number of days ⌊_⌋	P11

How much time do you spend doing vigorous-intensity sports, fitness or recreational activities on a typical day? *Ask the participant to think of a typical day he/she can recall easily in which he/she engaged in recreational vigorous-intensity activities. The participant should only consider those activities undertaken continuously. Probe very high responses (over 4 hrs) to verify.*	Hours : minutes ⌊_⌊_⌋ : ⌊_⌊_⌋ hrs mins	P12 (a-b)
Do you do any moderate-intensity sports, fitness or recreational *(leisure)* activities that cause a small increase in breathing or heart rate such as brisk walking, *[cycling, swimming, volleyball]*? *[INSERT EXAMPLES] (USE SHOWCARD)* *Ask the participant to think about recreational moderate-intensity activities only. Activities are regarded as moderate intensity if they cause small increases in breathing and/or heart rate.*	Yes 1 No 2 *If No, go to P16*	P13

In a typical week, on how many days do you do moderate-intensity sports, fitness or recreational *(leisure)* activities? *"Typical week" means a week when the participant is engaged in his/her usual activities. Valid responses range from 1-7.*	Number of days ⌊__⌋	P14
How much time do you spend doing moderate-intensity sports, fitness or recreational *(leisure)* activities on a typical day? *Ask the participant to think of a typical day he/she can recall easily in which he/she engaged in recreational moderate-intensity activities. The participant should only consider those activities undertaken continuously. Probe very high responses (over 4 hrs) to verify.*	Hours : minutes ⌊__⌋ : ⌊__⌋ hrs mins	P15 (a-b)

EXPANDED: Physical Activity		
Sedentary behaviour		
The following question is about sitting or reclining at work, at home, getting to and from places, or with friends including time spent sitting at a desk, sitting with friends, traveling in car, bus, train, reading, playing cards or watching television, but do not include time spent sleeping. *[INSERT EXAMPLES] (USE SHOWCARD)*		
How much time do you usually spend sitting or reclining on a typical day? *Ask the participant to consider total time spent sitting at work, in an office, reading, watching television, using a computer, doing hand craft like knitting, resting etc. The participant should not include time spent sleeping.*	Hours : minutes ⌊__⌋ : ⌊__⌋ hrs mins	P16 (a-b)

CORE: History of Raised Blood Pressure		
Question	**Response**	**Code**
Have you ever had your blood pressure measured by a doctor or other health worker? *Ask the participant to only consider measurements done by a doctor or other health worker.*	Yes 1 No 2 *If No, go to H6*	H1
Have you ever been told by a doctor or other health worker that you have raised blood pressure or hypertension? *Select the appropriate response.*	Yes 1 No 2 *If No, go to H6*	H2a
Were you first told in the past 12 months? *Only for those that have previously been diagnosed with raised blood pressure.*	Yes 1 No 2	H2b
In the past two weeks, have you taken any drugs (medication) for raised blood pressure prescribed by a doctor or other health worker? *Ask the participant to only consider drugs for raised blood pressure prescribed by a doctor or other health worker.*	Yes 1 No 2	H3
Have you ever seen a traditional healer for raised blood pressure or hypertension? *Select the appropriate response.*	Yes 1 No 2	H4
Are you currently taking any herbal or traditional remedy for your raised blood pressure? *Select the appropriate response.*	Yes 1 No 2	H5

CORE: History of Diabetes		
Have you ever had your blood sugar measured by a doctor or other health worker? *Ask the participant to only consider measurements done by a doctor or other health worker.*	Yes 1 No 2 *If No, go to H12*	H6
Have you ever been told by a doctor or other health worker that you have raised blood sugar or diabetes? *Select the appropriate response.*	Yes 1 No 2 *If No, go to H12*	H7a
Were you first told in the past 12 months? *Only for those that have previously been diagnosed with diabetes.*	Yes 1 No 2	H7b
In the past two weeks, have you taken any drugs (medication) for diabetes prescribed by a doctor or other health worker? *Ask the participant to only consider drugs for diabetes prescribed by a doctor or other health worker.*	Yes 1 No 2	H8
Are you currently taking insulin for diabetes prescribed by a doctor or other health worker? *Ask the participant to only consider insulin that was prescribed by a doctor or other health worker.*	Yes 1 No 2	H9
Have you ever seen a traditional healer for diabetes or raised blood sugar? *Select the appropriate response.*	Yes 1 No 2	H10

CORE: History of Raised Total Cholesterol		
Questions	**Response**	**Code**
Have you ever had your cholesterol (fat levels in your blood) measured by a doctor or other health worker? *Ask the participant to only consider measurements done by a doctor or other health worker.*	Yes 1 No 2 *If No, go to H17*	H12
Have you ever been told by a doctor or other health worker that you have raised cholesterol? *Select the appropriate response.*	Yes 1 No 2 *If No, go to H17*	H13a
Were you first told in the past 12 months? *Only for those that have previously been diagnosed with raised total cholesterol.*	Yes 1 No 2	H13b
In the past two weeks, have you taken any oral treatment (medication) for raised total cholesterol prescribed by a doctor or other health worker? *Ask the participant to only consider drugs for raised total cholesterol prescribed by a doctor or other health worker.*	Yes 1 No 2	H14
Have you ever seen a traditional healer for raised cholesterol? *Select the appropriate response.*	Yes 1 No 2	H15
Are you currently taking any herbal or traditional remedy for your raised cholesterol? *Select the appropriate response.*	Yes 1 No 2	H16

CORE: History of Cardiovascular Diseases		
Have you ever had a heart attack or chest pain from heart disease (angina) or a stroke (cerebrovascular accident or incident)?	Yes 1 No 2	H17

Select the appropriate response.		
Are you currently taking aspirin regularly to prevent or treat heart disease? *"Regularly" means on a daily or almost daily basis.*	Yes 1 No 2	H18
Are you currently taking statins (Lovastatin/Simvastatin/Atorvastatin or any other statin) regularly to prevent or treat heart disease? *"Regularly" means on a daily or almost daily basis.*	Yes 1 No 2	H19

CORE: Lifestyle Advice		
Question	**Response**	**Code**

During the past 12 months, have you visited a doctor or other health worker?	Yes 1 No 2 *If No and C1=1, go to M1*	H20
During any of your visits to a doctor or other health worker in the past 12 months, were you advised to do any of the following? *(RECORD FOR EACH)* *Select the appropriate response. Ask the participant to only consider advice from a doctor or other health worker.*		
Quit using tobacco or don't start	Yes 1 No 2	H20a
Reduce salt in your diet	Yes 1 No 2	H20b
Eat at least five servings of fruit and/or vegetables each day	Yes 1 No 2	H20c
Reduce fat in your diet	Yes 1 No 2	H20d
Start or do more physical activity	Yes 1 No 2	H20e
Maintain a healthy body weight or lose weight	Yes 1 No 2	H20f
Reduce sugary beverages in your diet	Yes 1 *If C1=1 go to M1* No 2 *If C1=1 go to M1*	H20g

CORE (for women only): Cervical Cancer Screening

The next question asks about cervical cancer prevention. Screening tests for cervical cancer prevention can be done in different ways, including Visual Inspection with Acetic Acid/vinegar (VIA), pap smear and Human Papillomavirus (HPV) test. VIA is an inspection of the surface of the uterine cervix after acetic acid (or vinegar) has been applied to it. For both pap smear and HPV test, a doctor or nurse uses a swab to wipe from inside your vagina, take a sample and send it to a laboratory. It is even possible that you were given the swab yourself and asked to swab the inside of your vagina. The laboratory checks for abnormal cell changes if a pap smear is done, and for the HP virus if an HPV test is done.

Read this opening statement out loud. It should not be omitted.

Have you ever had a screening test for cervical cancer, using any of these methods described above? *Select the appropriate response.*	Yes 1 No 2 Don't know 77	CX1

Step 2 Physical Measurements

CORE: Blood Pressure		
Interviewer ID *Record interviewer ID (in most cases interviewer would be the same as for behavioural measurements).*	└┘└┘└┘	M1
Device ID for blood pressure *Record device ID.*	└┘└┘	M2
Cuff size used *Select cuff size used.*	Small 1 Medium 2 Large 3	M3
Reading 1 *Record first measurement after the participant has rested for 15 minutes. Wait 3 minutes before taking second measurement.*	Systolic (mmHg) └┘└┘└┘	M4a
	Diastolic (mmHg) └┘└┘└┘	M4b
Reading 2 *Record second measurement. Ask the participant to rest for another 3 minutes before taking the third measurement.*	Systolic (mmHg) └┘└┘└┘	M5a
	Diastolic (mmHg) └┘└┘└┘	M5b
Reading 3 *Record third measurement.*	Systolic (mmHg) └┘└┘└┘	M6a
	Diastolic (mmHg) └┘└┘└┘	M6b
During the past two weeks, have you been treated for raised blood pressure with drugs (medication) prescribed by a doctor or other health worker? *Select appropriate response.*	Yes 1 No 2	M7
CORE: Height and Weight		

Question	Response	Code
For women: Are you pregnant? *Pregnant women skip over height, weight, waist and hip measurements.*	Yes 1 *If Yes, go to M16* No 2	M8
Interviewer ID *Record interviewer ID (in most cases interviewer would be the same as for behavioural and blood pressure measurements).*	⌊__⌋__⌋__⌋	M9
Device IDs for height and weight *Record device IDs.*	Height ⌊__⌋__⌋ Weight ⌊__⌋__⌋	M10a M10b

Height *Record participant's height in cm with one decimal point.*	in Centimetres (cm) ⌊⌊⌊.⌋	M11
Weight *If too large for scale 666.6* *Record participant's weight in kg with one decimal point.*	in Kilograms (kg) ⌊⌊⌊.⌋	M12
CORE: Waist		
Device ID for waist		M13

EXPANDED: Hip Circumference and Heart Rate		
Hip circumference *Record participant's hip circumference in centimetres with one decimal point.*	in Centimeters (cm) ⌊⌊⌊.⌋	M15
Heart Rate *Record the three heart rate readings.*		M16a
Reading 1	Beats per minute ⌊⌊⌊	

Reading 2	Beats per minute ⌊__⌋⌊__⌋⌊__⌋	M16b
Reading 3	Beats per minute ⌊__⌋⌊__⌋⌊__⌋	M16c

Step 3 Biochemical Measurements

CORE: Blood Glucose		
Question	**Response**	**Code**
During the past 12 hours have you had anything to eat or drink, other than water? *It is essential that the participant has fasted.*	Yes 1 No 2	B1
Technician ID *Record ID of the person taking the measurement.*	⌊__⌋⌊__⌋⌊__⌋	B2

Device ID *Record device ID.*	⌊_⌊_⌋	B3
Time of day blood specimen taken (24 hour clock) *Enter time measurement started.*	Hours : minutes ⌊_⌊_⌋ : ⌊_⌊_⌋ hrs mins	B4
Fasting blood glucose *[CHOOSE ACCORDINGLY: MMOL/L OR MG/DL]* *Double check that the participant has fasted.*	mmol/l ⌊_⌊_⌋ . ⌊_⌊_⌋ mg/dl ⌊_⌊_⌊_⌋ . ⌊_⌋	B5
Today, have you taken insulin or other drugs (medication) that have been prescribed by a doctor or other health worker for raised blood glucose? *Select appropriate response.*	Yes 1 No 2	B6
CORE: Blood Lipids		
Device ID *Record device ID.*	⌊_⌊_⌋	B7
Total cholesterol *[CHOOSE ACCORDINGLY: MMOL/L OR MG/DL]* *Record value for total cholesterol.*	mmol/l ⌊_⌊_⌋ . ⌊_⌊_⌋ mg/dl ⌊_⌊_⌊_⌋ . ⌊_⌋	B8
During the past two weeks, have you been treated for raised cholesterol with drugs (medication) prescribed by a doctor or other health worker? *Select appropriate response.*	Yes 1 No 2	B9
CORE: Urinary sodium and creatinine		
Had you been fasting prior to the urine collection?	Yes 1	

It is essential that the participant did not fast prior to urine collection.	No 2	B10
Technician ID *Record technician ID.*	⌊_⌋⌊_⌋⌊_⌋	B11
Device ID *Record device ID.*	⌊_⌋⌊_⌋	B12
Time of day urine sample taken (24 hour clock) *Record time of day urine sample taken as reported by the participant.*	Hours : minutes ⌊_⌋⌊_⌋ : ⌊_⌋⌊_⌋ hrs mins	B13
Urinary sodium *Record value for urinary sodium.*	mmol/l ⌊_⌋⌊_⌋⌊_⌋ . ⌊_⌋	B14
Urinary creatinine *Record value for urinary creatinine.*	mmol/l ⌊_⌋⌊_⌋ . ⌊_⌋⌊_⌋	B15

EXPANDED: Triglycerides and HDL Cholesterol		
Triglycerides *[CHOOSE ACCORDINGLY: MMOL/L OR MG/DL]*	mmol/l ⌊_⌋⌊_⌋ . ⌊_⌋⌊_⌋	B16
	mg/dl ⌊_⌋⌊_⌋⌊_⌋ . ⌊_⌋	
HDL Cholesterol *[CHOOSE ACCORDINGLY: MMOL/L OR MG/DL]*	mmol/l ⌊_⌋ . ⌊_⌋⌊_⌋	B17
	mg/dl ⌊_⌋⌊_⌋⌊_⌋ . ⌊_⌋	

Structured Proforma of Practical Skill Preventive Health Inquiry (PHI) Performa

Appreciating preventive healthcare practices and identifying the missed links if any.

Patient profile	**Dept/Unit:**		**Date**		**Pt. Reg #**				
Age in Yrs. …… … ……..	Gender M ….. F……	Profession …… …… ……	Living place …… …… ……	Edu. Level. …… ……..…… ……		Skin Colour …….. ……	Blood group……	Family H/O of same disease. Y / N	Others…… …
i. Health problem (diagnosis): tailor your inquiry according to diagnosed condition.									
II. Is admitted with some complication of the disease if so, describe.									
ii. preventive aspects of the problem									Enlist problem specific preventive options possible at individual, family, community or state level . • . • . • .
iii. do ability aspects of the PH-care practices									Briefly describe, whether /how preventive measures were doable in the patient context…. • . • . • . • .

iv. individual PH care -practices level	If answer to III, is yes, briefly describe (after inquiring) whether & how available doable measures were taken by the patient / caretaker if patient was a child . • . • . • .
v. if Ans to Qs iii & iv were yes,	comment on the occurrence of the problem despite preventive measures were taken (PH-care practices were inadequate, insufficient, or other reasons etc). describe with little explanation • . • . • . • .
If prev. measures were not available or not possible	comment on the missing aspects of preventive measures with fixing the responsibility and suggest possible options / solutions in your view point .. • . • . • . • .
Health education (Social work)	Enlist points upon which relevant health education to the patient & attendant was delivered by you .

Other relevant information	For all any condition after due inquiry, fill in following information relevant to the case. Tick relevant (may be multiple)						
Pt. initial response to disease	gnored initial signs & symptoms of disease, even noticed	initial signs & symptoms of disease, were not noticed	Selftreatm e nt was practice d	First treatment was from qualified (MBBS) doctor	Fully complied with doctor's treatment	Fully complie d with dietary restricti ons of the disease	Fully complied with lifestyle requirement of the disease
Important information to note (describe accordingly)	Age of onset of disease ……. ……..	Period in years since disease onset if this was the case ……	Tobacco Smokin g prior to disease onset Y / N if yes, describe type…	Dedicated physical activity (exercise/sports) prior to disease onset. Y/N	Food preferences prior to disease onset. Meat Vegetarian II. Mixed		
	Use oral contraception (if relevant) • Present	High fat diet preference • Present • Not present	Low fruit diet • Present • Not present • Not judged	low water intake • Present • Not present • Not judged	Low fiber intake • Present • Not present Not judged		

	• Not present	• Not judged					
Quack- / nonqualified treatment	If yes , Briefly describe; 1. Quack / Herbal (Hikmet) / Homeopathic / other …… 2. If 1 was yes, then how long (years), the treatment was taken…… 3. Any other information relevant to disease / complication development …… ……						

Obesity Was the patient generally called obese before onset of disease. If yes, briefly describe its level……. ……. …….. ……. ……. …… ……. ……..	Dietary salt intake, prior to disease onset: (tick relevant) • Preferred high salt in food (or frequently added extra salt in cooked food) Normal salt intake	Sleeping style prior to disease onset: (tick relevant) • Regular 6-8hrs night sleep • Irregular / less than 6-8hrs sleep					

Roll No & Signature of the Student: **……**

Treating Doctor / MO In charge note*: (how student complied with ward ethics)* ……

Signature :……

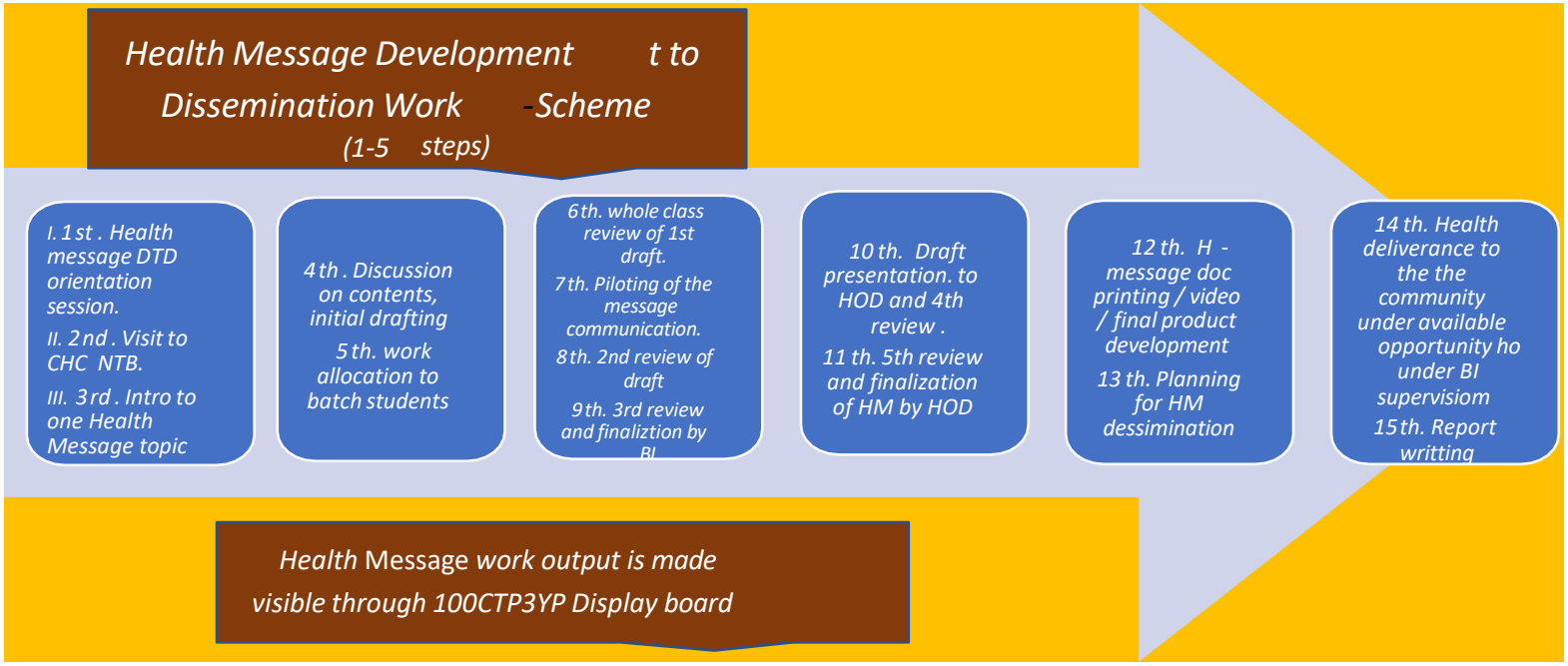
Batch in charge note: *(how student complied with PHI protocol)* **……**

Grade / Score*: (out of 10 marks):* ---------- *BI signature with date:……..*

Health message "Development to Dissemination" (DTD)

Health education is the universally accepted powerful tool to improve the health people. It is most cost effective public health intervention for the purpose. Medical students are supposed to learn and practice behavior change communication techniques. This module was specially designed to educate 4thyear medical students in ways & skills of developing a community need based health message and to deliver the same to community concerned.
After the core teachings on Health "Information-education & Communication" are undertaken in 4th year MBBS under integrated MBBS university curriculum through classroom-based teachings. This module is run as a part of students batch training program.

Health message (audio, video, written) development and dissemination work structure:
preferably, the batch of students, posted in the community medicine department on rotation will experience health message- DTD training according to as a scheduled work.



Module – III

Health message "Development to Dissemination" (DTD)

Learning Objectives

At the end of the visit students would be able to;

Topic of Practical	Objectives	Skill	Miller's Pyramid Level Reflected
Development of Health Education Message Dissemination of Health Education Message	• Demonstrate a patient-centered approach to health educatio respecting individuals' beliefs, values, and choices. • Recognize the importance of empowering individuals an communities to take responsibility for their health. • Appreciate the role of interdisciplinary teamwork in designin and implementing health education programs. • Commit to continuous learning and adapting health educatio strategies based on emerging evidence and community feedbac	Development of Health Education message Dissemination of Health Education message Exhibit teamwork and leadership skills	Show Show Show
	• Demonstrate the ability to observe and assess communication skills using the Kalamazoo scale in clinical scenarios. • Provide constructive, evidence-based feedback to peers on their communication performance. • Identify specific strengths and areas for improvement in communication based on the Kalamazoo framework.	Apply the Kalamazoo scale to self-assess and improve personal communication skills in clinical interactions	Show

Attitudes based Learning Objectives	• Appreciate the use of structured assessment tools like the Kalamazoo scale in fostering professional growth and patient-centered care.	Assessing communication skill of peer using Kalamazoo scale	Show

Report of Health Message Development to Dissemination Work

a. Write down title of the health message developed in Urdu.

---

b. Write down the part of health message developed by you (write in Urdu)

---

c. Write down health message dissemination site / community where you performed health communication ----------

d. Write down your experience of this work / Reflection on this work.

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e. Attach copy of the health message developed by the batch.

f. Paste 1 pic of the health message deliverance work.

A learning encounter with hospital administrators

Doctor being the leader of healthcare team, sometimes work as manager or administrator of healthcare facility. This module is deigned to reinforce theoretical teachings of health planning, management & administration by exposing to actual work scene and a learning encounter with working hospital administrators. It is to learn POSD CORB (planning, organizing, staffing, directing, coordinating, & budgeting) practices in hospital management.

The interactive learning Performa used, includes inputs on minimum service delivery standards (MSDS) recommended by the Punjab Healthcare commission to appraise the standards of performance by a healthcare facility. This is added to educate students in healthcare facility performance needs and to update with Govt. sector approaches to improve healthcare delivery to its masses. (https://www.phc.org.pk/home.aspx)

Govt. Healthcare facilities are an objective and highly dedicated element of healthcare delivery system employed to serve health needs of the people. People contribute funds through taxes and hence expect optimized working of the health care facilities. According to WHO “Hospital is an integral part of a social and medical organization the function of which is to provide for the population complete healthcare, both curative & preventive and whose outpatient services reach out of the family and its home environment.” Hospitals consume most of health budget and hence are major performance field of the country health system. A wide & varied spectrum of functions relate to the working of the hospitals and a scientific approach is required to govern the hospitals. A doctor should have a good knowledge of hospital organization and management for better service delivery to

the people. Learning principles & policies employed to govern hospitals in real work settings would be an effective way of introducing the science of Hospital administration to 4thyear medical students.

Purpose of the visit:

This assignment based one day rotation of 4th MBBS students is designed so that students could actively learn various domains of hospital administration by visiting real site & scenes, appraising challenges , learning chain of command, division of work & responsible circles, examining various tools of management, sources of data needed for hospital management, mechanisms & arrangements made for aligning the various service deliveries, preparedness for unforeseen situations and by questioning to hospital managers for unresolved queries.

Visit Sops:

After due information and permission of hospital administrator a batch of students will visit administrative sites of the given hospital under supervision of the batch in charge doctor. Students are supposed to observe following disciplines as students will; wear white coats observe covid-19 preventive measures in no way will disturb hospital admin work observe due confidentiality of govt. / hospital information behave well-mannered and observe medical profession's ethics

Module – IV

Appraisal of Hospital Administration & Management System

Learning Objectives

At the end of the visit students would be able to;

Topic of Practical	Objectives	Skill	Miller's Pyramid Level Reflected
Hospital Administration	Introduction to Hospital Administration Framework	**Understand Organizational Structure** • Describe the organizational hierarchy and functioning of a hospital. • Identify the roles and responsibilities of key hospital administrative staff **Comprehend Hospital Management Systems** • Explain the principles of hospital management, including planning, organizing, and controlling healthcare services. • Discuss the importance of human resource management in a hospital setting. **Learn about Financial Management** • Understand the basics of hospital budgetin financial planning, and cost control. • Discuss the impact of insurance and billing	Knows how

		system on hospital operation	
Quality Assurance and Patient Safety	Analyze Quality Assurance and Patient Safety	**Understand the mechanism of Quality Assurance and Patient Safety** • Identify measures taken to ensure quality care and patient safety.	Knows How

		• Understand accreditation processes and their role in hospital administration	
Health Information Systems	Appreciate the Role of Technology	• Explore the use of health information system electronic medical records, and other digital too in hospital administration.	Knows How
Hospital Statistics	Calculation Methods for Key Indicators	**Learn Calculation Methods for Key Indicators** • Calculate bed occupancy rate, average length of stay (ALOS), bed turnover rate, and admission rate. • Determine mortality, morbidity, and infection rates.	Does
Hospital Turnover	Utilization and Resource Efficiency	**Analyze Utilization and Resource Efficiency** • Understand the calculation of resource utilization metrics, including healthcare provider productivity and facility utilization. • Interpret the implications of these indicators for hospital resource management.	Knows how

Hospital Administration Learning & Reporting Performa

#	Area of Inquiry	Guide: Do an inquisitive discussion with the nominated Hospital Manager and fill in the following items accordingly
1	Hospital management Planning (how setting goals, mission, objectives & targets, courses of action) Planning	Briefly describe, what is known and reflect on it.

2	Administration: Chain of command, levels of subadministrations / tiers… (Planning & organising, Coordinating & reporting)	Briefly describe, what is known and reflect on it.
3	Mechanism followed for Human resource administration. (HR Induction, trainings, work-schedules, monitoring etc (STAFFING)	Briefly describe, what is known and reflect on it.

4	Mechanism followed for financial management (BUDGETING)	Briefly describe, what is known and reflect on it.

5	Other services delivery administration ▪ E&A ▪ OPD ▪ Indoor services ▪ Labs & Diagnostics ▪ Preventive (EPI, MCH etc) ▪ Blood bank	Briefly describe, what is known and reflect on it.
6	Mechanisms followed for ▪ Hospital supplies ▪ Pharmacy & others ▪ Building management ▪ Ambulator y services ▪ Community services / social services	Briefly describe, what is known and reflect on it.
7	Mechanism for Hospital Data collection, transfer, archiving, etc (HMIS)	Briefly describe, what is known and reflect on it.
8	Hospital safety & security management	Briefly describe, what is known and reflect on it .
9	Hospital management in crisis, Plans / teams ..	Briefly describe, what is known and reflect on it .

10	Hospital waste management	Briefly describe, what is known and reflect on it .

Calculation of Hospital performance & other related indicators (Calculate based on real time hospital data available on the day)	
Bed occupancy rate (BOR)	= ABOx100 / ABA = Comment:
Average length of stay (ALOS)	= ABO / Separation = Comment:
Turnover period (TOP)	= ABA – ABO / (S) = Comment:
Throughput (THROP)	= S / ABA/DAY = Comment
Admission rate / Hospital frequentation rate (F_h)	F_h = A/P x1000 = Comment:
Hospitalization rate Per Person (H_c)	H_c = H/P = Comment:
Bed Occupancy Ration (B_c)	B_c = N x 1000/ P = Comment

Students signature & date of visit. ……..

BI remarks & signature……..

Module – IV

Appraisal of Minimum Service Delivery Standards
Learning Objectives

At the end of the visit students would be able to;

Topic of Practical	Objectives	Skill	Miller's Pyramid Level Reflected
Minimum Service Delivery Standards	Concept of MSDS	**Understand the Concept of MSDS** • Define Minimum Service Delivery Standards (MSDS) in the context of healthcare facilities. • Explain the importance of MSDS in ensuring quality, equity, and accessibility of healthcare services	Knows How
Key Components of MSDS	**Components of MSDS**	**Identify Key Components of MSDS** • Describe the essential elements of MSDS, including patient care, infection control, infrastructure, and staff competency. • Understand the role of standard operating procedures (SOPs) in meeting MSDS requirements.	Knows How
Quality Assurance	**Assessment and Monitoring Techniques**	**Learn Assessment and Monitoring Techniques** • Discuss tools and methodologies for assessing compliance with MSDS. • Understand the use of checklists and audits to monitor service delivery standards	Knows How

Punjab Healthcare commission Minimum Service Standards (MSDS)

The MSDS define a set of the benchmarks for minimum level of mandatory services that a Health care Establishment (HCE) is responsible to achieve and patients have

a right to expect. It entails a package of yardsticks essential for all types and Categories of the Healthcare Establishments i.e. Category I, Category II and Category III and encompasses all the disciplines of healthcare and focuses on ensuring Quality Healthcare Services. The standards prescribed in the MSDS cover the following functional areas for assuring quality healthcare services delivery:

S.#	**MSDSs**	**Status of this Hospital (brief & precise note as updated by the Hospital manager)**
1	Access, Assessment and Continuity of Care (AAC)	
2	Care of Patients (COP)	
3	Management of Medication (MOM)	
4	Patient Rights and Education (PRE)	
5	Hospital Infection Control (HIC)	
6	Continuous Quality Improvement (CQI)	
7	Responsibilities of Management (ROM)	
	Facility Management and Safety (FMS)	
9	Human Resource Management (HRM)	
10	Information Management System (IMS)	

Module-V Update Yourself

With

International & National Public Health days & events

VACCINENATION

STRATEGY & INNOVATION IN VACCINES

Theme :

National or international awareness day is a date usually set by a major organization or government to commemorate a public health or ethical cause of importance on a national or International level .

In Public health such activities are observed on a certain aspect of people's health to highlight its importance in promotion, maintenance, and protection of health. Its purpose is to create awareness and to mobilize for needed action. There is great potential for developing healthier attitudes and behaviors in our masses by this approach.

This work updates with global public health efforts to deal with major health challenges of present age. This section is added with objectives to educate students in international public health work on health issues of international significance. And to realize these issues in local community perspectives.

Task:

Student is required to write down themes the given health days or events and reflect on it in local community perspectives. Moreover, some of public health days may be commemorated in whole class, institution or community settings by the students under available opportunities.

Module – V

International & National Public Health days & events

Learning Objectives

At the end of the visit students would be able to;

Topic of Practical	Objectives	Skill	Miller's Pyramid Level Reflected
Public Health Days	**Importance of Public Health Days**	**Understand the Importance of Public Health Days** • Explain the purpose of commemorating international and national public health days. • Recognize the role of public health days in raising awareness about global and local health issues.	Knows How
Themes	**Key Themes and Focus Areas**	**Explore Key Themes and Focus Areas** • Identify the themes and focus areas of various public health days (e.g., Polio Day, NIDs, World AIDS Day, World Cancer Day, World Immunization Week). • Understand the relevance of these themes to community health challenges.	Show
Advocacy	**Advocacy and Awareness Campaigns**	**Learn About Advocacy and Awareness Campaigns** • Understand the role of advocacy in public health day events. • Plan and evaluate awareness campaigns aimed at promoting health education and behavior change.	Knows How

Health Education & Promotion	**Health Promotion Activities**	**Participate in Health Promotion Activities** • Engage in activities such as organizing health camps, conducting seminars, or participating in community outreach programs. • Collaborate with healthcare teams to implement public health initiatives.	

Participation in Selected Public Health Days/Events

Polio Eradication Initiative

- Pakistan, along with Afghanistan, remains the last polio-endemic countries in the world. WHO, with UNICEF and other key partners of the Global Polio Eradication Initiative, supports the Government of Pakistan in polio eradication efforts to ensure that Pakistan achieves polio-free status

Aim:

To eliminate polio from Pakistan and protect children from the disease

Goal:

Administered polio drops to children, expressing the resolute resolve to protect every child from paralytic polio and eliminate this terrible disease from

Methods:

The program will uses a combination of:

- Training by polio workers
- Understanding of large surveillance network
- Quality data collection and analysis
- Behavioral change communication
- Role of Epidemiologists and public health experts
- Knowledge Subnational immunization in high-risk areas

#	*Day/Week/event*	*Write down Theme of the year in given all days or event*	*Your interpretation / Remarks*
1.	World TB Day, 24 March:		
2.	World Health Day, 7 April:		
3.	World Immunization Week, last week of April:		
4.	World Malaria Day, 25 April		
5.	World No Tobacco Day, 31 May		
6.	World Blood Donor Day, 14 June		
7.	World Hepatitis Day, 28 July		
8.	World Polio Day, October 24		
9.	World AIDS Day, 1 December		
10.	World Cancer Day 4th February		
11.	Earth Day22nd April		
12.	World Population Day11th July		
13.	World Heart Day24th September		
14.	Violence Against Women Day25 November		
. 15.	Participation in National Polio Immunization Campaign		

MODULE –VI
Hands on exercise
Calculations commonly used in Community Medicine

This section contains an exercise of mathematical calculations commonly used in Epidemiology, Biostatistics, Demography etc. it will serve the purpose of C-2 level of learning in community medicine.

- Statistics empower medical students to critically appraise research studies, enabling them to make informed, evidence-based clinical decisions.
- Understanding statistical calculations helps interpret data from clinical trials, systematic reviews, and meta-analyses.
- Statistical tools are essential for studying disease distribution, prevalence, and incidence.
- They help identify risk factors, track disease outbreaks, and plan public health interventions.
- Statistics allow students to assess the accuracy and reliability of diagnostic tests by calculating sensitivity, specificity, and predictive values.
- These calculations are critical for selecting appropriate diagnostic and screening methods.
- Statistical calculations are used to evaluate patient outcomes, treatment efficacy, and healthcare system performance.
- They enable students to assess quality indicators such as hospital infection rates, mortality rates, and patient s

Module – VI

Hands on Calculations commonly used in Community Medicine

Learning Objectives

At the end of the visit students would be able to;

Topic of Practical	Objectives	Skill	Miller's Pyramid Level Reflected
Basic epidemiological Measures	**Knowledge of Basic Epidemiological Measures**	**Understand Basic Epidemiological Measures** • Define and explain commonly used epidemiological measures, including incidence, prevalence, morbidity, and mortality rates. • Differentiate between cumulative incidence and incidence rate.	Knows How
Basic Calculations	**Mortality & Morbidity Indicators**	**Master Disease Frequency Calculations** • Calculate measures such as crude, specific, and adjusted rates (e.g., age-specific mortality rate). • Apply concepts like standardized mortality ratios (SMR) and proportional mortality ratios (PMR).	Show
Public Health Program Indicators	**Indicators of Public Health Program Performance**	**Learn Indicators of Public Health Program Performance** • Calculate indicators like vaccine coverage, contraceptive prevalence, and unmet need for family planning. • Understand program impact measures such as cost-effectiveness and cost-benefit ratios.	KNOWS HOW

Demographic Indicators	**Demographic Calculations**	**Perform Demographic Calculations** • Calculate fertility rates (e.g., total fertility rate, crude birth rate). • Compute population growth rate and life expectancy	Show

An exercise of Calculations Commonly used in Community Medicine

C-1- : “

Human Development Index”, is a composite index that uses three dimensions of health status of the population of a given country which are longevity, knowledge and income. Using the respective statistics available in Annexure, calculate HDI for Pakistan.

C-2:

A retrospective- prospective cohort study conducted to analyze association between early onset of menarche and Hormone loaded poultry food intake. It was found that in Hormone loaded poultry food intake group 35 out of 1000 Harmon loaded food intake group had early menarche while 10 female in non-Hormone loaded poultry food intake had it. While incidence of early menarche in general female population was 15 per 1000. Calculate;

- Relative Risk (Risk Ratio)
- Attributable Risk (Risk difference) in percent
- Population Attributable Risk in percent
- Comment on each result.

C-3:-

I A researcher took a representative sample (n=5000) of adult population of a big city of Punjab and tested every person for low platelets count (400 were found with low count), taken as proxy indicator of chronic Hep-C infection. All subjects included in sample were also tested for Anti-HCV Anti Bodies. It was found that in low platelets group 60% had Anti-HCV Anti Bodies positive while in non-low platelets group 10% persons were positive for Anti-HCV Anti Bodies.

- Name the type of the study.
- Construct 2x2 table for the analysis of data obtained in the study.
- Using Chi-square test at 95% level of significance, calculate P-value to estimate the strength of association b/w low platelets count and presence of chronic Hep-C infection. (Ref.
- J Park for chi-distribution table)
- Calculate Sensitivity of the low platelets counts test in detecting Anti-HCV Abs.
- Specificity of the low platelets counts test in detecting Anti-HCV Abs
- Predictive value of the Positive test
- Predictive value of the Negative test
- Predictive accuracy of the test.

C-4:-

Occurrence of leukemia in persons working on or living in close vicinity of Atomic Energy power generation plants in not a infrequent finding. A case-control study was undertaken to analyze association between occurrence of leukemia in persons working on or living in close vicinity of Atomic Energy power generation plants. Data obtained was summarized in following table;

Exposure to Risk factor	Cases of Leukemia	Control
Positive	650	70
Negative	350	1930
	1000	2000

Calculate;

- Exposure Rates in cases
- Exposure rates in Controls
- Measures of association in this case;
- Odds ratio & interpret the result.
- Standard error of the difference between two proportions (interpret results).
- P-value at 95% LOS using Chi-square test of significance (interpret results).

C-5:-

Uric acid levels in mg of a representative sample of Diabetic patients attending Diabetic Clinic were as 5.0, 4.5, 7.0, 8.0, 8.0, 5.0, 5.5, 4.0, 9.0, 8.5, 7.0,

7.0,8.5, 6.0, 6.0.

Calculate;

a. Mean, Mode and Median
b. Standard deviation
c. 95% CI for mean of this distribution. .
d. 99% CI for mean of this distribution.

C-6:-

A researcher designed a clinical trial (RCT) to compare effect of Insulin therapy and Oral Hypoglycemic drugs as major treatment modalities to control Diabetes Mellitus. Reduction in serum Uric Acid levels was taken as indicator of good control. After satisfying other requirements, sample size of 15 patients in both groups, trial was run and following data was obtained;

- Insulin group s. uric acids values in mg% ;
- 6.0, 5.0, 4.0, 4.0, 5.0, 4.0, 7.0, 8.0, 4.0, 3.0, 5.0, 5.0, 6.0, 3.0, 4.0.

- Oral hypoglycemic group S. uric acid values in mg%;
- 6.0, 7.0, 4.0, 4.0, 5.0, 5.0, 7.0, 8.0, 8.0, 3.0, 5.0, 5.0, 6.0, 3.0, 6.0.

Assignments:

Using following statistical methods to compare and comment on the differences found on level of S. Uric Acid between the two groups

- Standard error of the difference between two means
- Student t-test

C-7;-

The estimated population of Sialkot District in 2014 is 1 million. The calculated growth rate of city is 2.5 %. What will be the population of the Sialkot District in 2016 if growth rate remains the same in coming two years?

C-8:-

C-9:- The population growth rate of Pakistan is 2.1 %. Calculate the time in which population of the country will be double.

Age distribution of a town X is as under;

Age group	Number of individuals(M)	Number of individuals(F)
0-14 yrs	19,000	21,000
15-64 yrs	48,000	52,000
65 and above	12,000	8000

Calculate:

- Total dependency ratio in percentage of the town X.
- Sex Ratio of the town X.

C-10:-

In census of 1998, the demographic data of a city of Sind province is given below in tabulated form.

Age Groups	**Number of individuals**
Total number of literate persons	20×10^5
Total number of individuals aged 0-5 yrs	5×10^5
Total number of individuals aged 10-15 yrs	5×10^5
Total number of individuals aged 16- 30	25×10^5
Total number of individuals aged 31- 45	15×10^5

Total number of individuals aged 46-65	5×10^5
Total number of individuals above 65	5×10^5

Calculate the "crude literacy rate" for the city. How and what would be a more meaningful literacy rate.

C-11:-

A village of Punjab was kept under statistical monitoring for one year in order to assess health status of the women . It was found that during the year, 14 women died of postpartum hemorrhage, 20 due to puerperal sepsis and 02 died due to anesthesia complications during emergency c-sections. Six women died due to tuberculosis during same period. Total population of the village was 10000 and total number of live births during the year was 700.

Calculate the maternal mortality ratio for the village for the same year of observation.

C-12:-

Total number of reported live births in a district of Baluchistan were 10,000, as a result of high mortality among children, 260 children died in the first month of life, out of which 200 were died in 1st week of their life. One hundred and forty children were died before the completion of first year. A number still births reported during the year was 30. While another 100 children died before reaching age of 5years.

Calculate;

- Peri-natal mortality rates
- Neonatal Mortality Rate
- Post neonatal Mortality rate
- Infant Mortality rate.

C-13:-

Midyear population in a small town of Punjab during 2013 was recorded to be 20000. The number of live births in this town during 2013 was 500 while midyear estimated female population of reproductive age (15 to 49 years) was 6000. While 30 women during the year died due to pregnancy or any cause related to its management.(maternal deaths)

Calculate General fertility rate. Calculate MMR

C-14:-

In a demographic survey was conducted in district-X for year 2010, and the data reported is tabulated as under;

Age & sex groups	population	No. of live births in married women	No of deaths
0-15Y(M)	150,000	-	1500
0-15Y(F)	160,000	-	1700
15>Y – 49Y(F)	90,000	1500	1000
a. 15>-24Y	80,000	2000	1500
b. 25-35Y	70,000	1000	800
c. 3645/49Y			
16Y-60Y(M&F)	300,000	-	3000
>60Y	100,000	-	5000

Calculate;

- Age specific fertility rates
- General fertility rate
- Age specific death rates
- Crude death rate
- Crude birth rate
- Growth rate of the population (suppose net-migration =0)
- Population doubling time for this district.

(Ref. Public Health & Community Medicine by Muhammad Illyas & Ansari Ch.5 Demography & population dynamics)

C-15:-

During moon soon water wells in a village got polluted with flood water. While working as a public health officer in rural area , you are asked to calculate dose of bleaching powder to infect a well in which water depth was 2.4m, diameter of well was 2m.

(Ref. Community Medicine by Muhammad Illyas & Ansari Ch. community water supply, page 247) C-16:- A DHO-hospital comprises 200 bed. The hospital statistical record indicate mid quarter average number of daily beds occupied during year 2013 was 150, 190, 140 and 160. Midyear population of the district was estimated to be 500,000. Calculate the bed-occupancy rate of the hospital. (Ref. Public Health & Community Medicine by Muhammad Illyas & Ansari Ch. Hospital Adinstration , page 133)

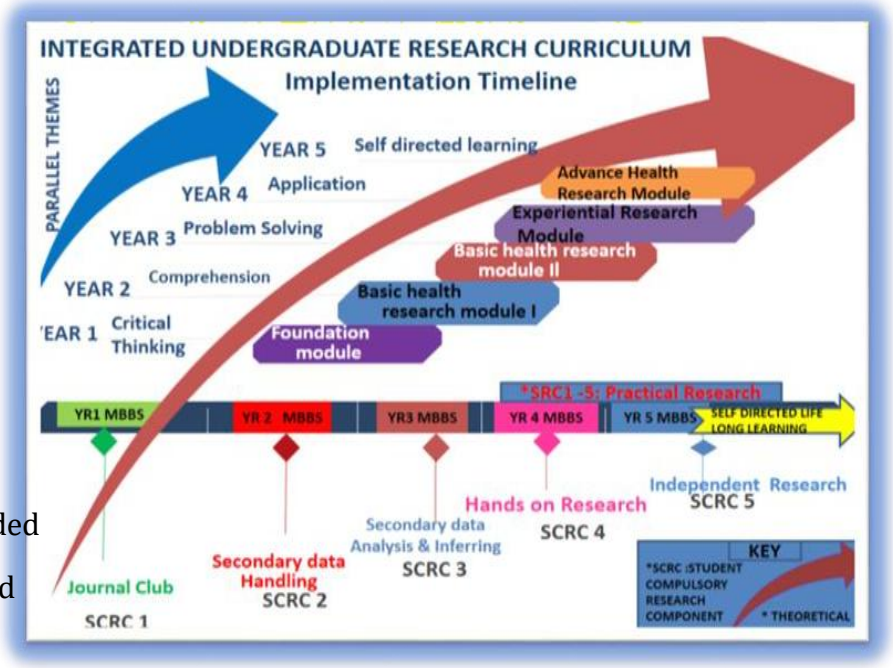
MODULE –VII
Integrated Undergraduate Research Curriculum

Iugrc-iv - (experiential research learning module)
Fully integrated scaffold research curriculum through 5 year

Theme:

Research curriculum has two components as shown in Figure 1 .

- Theoretical component (IUGRC lV)
- Practical Research Component (Student Research component SRC lV)*



Theoretical session **Large group interactive sessions *(IUGRC1V*)** based on Class room based Research teachings, conducted longitudinally from first year to final year in the form of flip class room using modern teaching learning strategies.

Practical session **(*SRC 1V)****** Practical component focuses on Research teachings directed to experiential learning in research by practicing research in real world. Each student of undertakes a small research studying the form of student's "Student Group research project" (SGRP) comprising approx. 7% of total class strength. A doable small scale research projects/ pilot projects (not clinical trial) preferably on a public health topic are preferred for the purpose. Students of each respective year are divided into smaller sub-groups (14-16 batches) for this purpose. Each group will be supervised by separate faculty member.

.*only practical component will be logged in this Log Book

Topic	Learning Objectives At the end of the lecture the student should be able to	Teaching Strategy	Skill
Finalization of research topic & Synopsis writing	• Develop the list of useful keywords for relevant literature search	Sgis	Does
	• Perform review of relevant Literature **to** refine how to approach selected topic and finding a way to analyze it.		
	• Review Health related data bases, EMBASE,MEDLINE, PubMed, Google scholar Ovid, ProQuest Psych INFO, Cochrane Database, Scopus) etc.		
	• Identify knowledge gaps in literature		
	• Formulate appropriate research questioning		
	• Translate research problem into steps of study proposal/synopsis		
	• Attempt "reflective writing		
	• Develop the list of useful keywords for relevant literature search		
Finalization of questionnaire and layout of work plan (Gantt chart)	• Finalize study variables, data analysis plan, application of relevant statistical tests		
	• Appreciate relevant sampling and data collection technique	Sgis	Does
	• Finalize data collection tool / questionnaire according to study		
	• Finalize study variables, data analysis plan, application of relevant statistical tests objectives and variables and in accordance to information required from target respondents		

	• Develop Gantt chart for study timeline		
	• Develop informed consent form for the SGRP study		
	• Develop Gantt chart for study timeline		

Data Collection	• Compile & interpret study data	SGIS	DOES
	• Make observable improvements or changes in data collection skills & behaviors if required		
	• -Record take measures to address logistic issues reported like lack of equipment ,facilities ,need assessment for prior data collection training , poor quality assurance, language barriers , systematic errors		
	• Address ethical concerns of study if any		
	• Compile & interpret study data		
	• Make observable improvements or changes in data collection skills & behaviors if required		
Descriptive analysis of data collected	• Make variables on computer	Sgis	Does
	• Feed data under variables on computers		
	• Summarize data on computer including text, tabulations & graphics		
	• Perform Descriptive analysis of data		
Inferential analysis of data collected	• Analyze data according plan of analysis of study including;	Sgis	Does
	• Construct 2x2 table if relevant to plan		
	• Calculate measures of Risks		
	• Apply tests of significance		
	• Interpret the results of tests applied		
	• Run SPSS on relevant analysis		
Preparing students for students Report writing and oral presentation	• Interpret & apply basic principles of manuscript writing of research report		
	• Perceive authorships requirements or rules of drafting manuscript of a research report for publication in indexed journal		
	• Write discussion section of draft		

	• Report research as oral presentation and poster presentation according to standard guidelines	Sgis	Does

	• Finalization of preparation of PowerPoint presentation for final research day		
	• practice basic communication skills		
	• Interpret & apply basic principles of manuscript writing of research report		
	• Perceive authorships requirements or rules of drafting manuscript of a research report for publication in indexed journal		
Preparing students for students Report writing and oral presentation	• Interpret & apply basic principles of manuscript writing research report	Sgis	Does
	• Perceive authorships requirements or rules of draftin manuscript of a research report for publication in indexe journal		
	• Write discussion section of draft		
	• Report research as oral presentation and poster presentatio according to standard guidelines		
	- Finalization of preparation of PowerPoint presentation for final research day		
	- practice basic communication skills		

ANNEXURES

Millennium Developmental Goals

Do you know!

- What are health related MDGs.
- What are health related Targets of MDGs
- Background of " Alma Ata Declaration" (HFA-2000)".
- Five principles of Primary health care.
  - What preventive health care services are available at "Basic Health Unit".
  - GOBI-FFF stands for what.

On September 25th 2015, countries adopted a set of goals to **end poverty, protect the planet,** and **ensure prosperity for all** as part of a new sustainable development agenda. Each goal has specific targets to

be achieved over the next 15 years. For the goals to be reached, everyone needs to do their part: governments, the private sector, civil society and people like you

- What is “sustainable development”
- Two lines explanation of each SDG.

Annexures (Proforma for Hospital Administration)

Community Medicine Department

Rawalpindi Medical University & Allied Hospitals

Name of Hospital: _____

Name of the student:_____Roll No:_____Batch:_____

Purpose of visit:_____

Department / site visited: _____

- **Hospital Waste Management Committee: Exist / Not Exist (encircle accordingly)**
- **Hospital Waste Management guidelines / SOPs displayed: yes / No (encircle accordingly)**
- **Type of waste: (give a precise detail) _____**

Check list

NO	Query	Things to look for	Yes, give description	are things as per standards , if No, write what was needed
1	How waste was collected at the source	Waste collecting containers		Yes/NO
	Waste destruction aids used at site of its generation	Like syringe needles cutters		
		Shredder		
		Any other apparatus		

2	Arrangements for transportation of waste to its final disposal site within Hospital.	Transport vehicle		
	Waste handlers	Educated for health risks	Ask the available staff	
		Trained in waste handling	Ask the available staff	

		Health checkup arrangements	Ask the available staff	
3	Personal Protective Equipments (PPEs)	Is handlers wearing Personal Protective Equipments	Give detail of PPEs being used	
4	Vaccination status of the staff / waste handlers (Hep-B)	Hep-B Tetanus, vaccination status	Ask the staff	
5	Schedule of waste transfer to final site	Schedule	Ask the staff	
6	Segregation of waste	What is practiced	Ask the staff	
	Final waste disposal within Hospital	Visit the site	**Give detail of the apparatus/ process being used. (incinerator)**	
	Incinerator: • Type Capacity Working Temperature			

	Final waste disposal			

Any suggestion and recommendation in the existing situation and existing resources for better system of hospital waste management team

Batch In charge Name:_____Signature_____date_____

Department Of Community Medicine

Rawalpindi Medical University & Allied Hospitals Rawalpindi

Visit to Family Planning Center Proforma / Check List

Name of the student:_____Roll No:_____ Batch:_____

Department / site of visit: _____

Purpose of visit:_____

1. History of the Family Planning / Family Health Center

……

…… ……

……

2. Premises / location of Center

……

3. Catchment area or approximate population draining to this FP / MCHC.

……

4. Human resource of the MCH Center: (Brief description of each category) I. Administrative setup:

II. Skilled staff: (status and nature of duties)

……
……

III. Unskilled / Supporting staff (status and nature of duties)

……
……

IV. Lower staff / class four staff (give total strength only)

……

5. Financial base and administrative control of MCHC.

Health Department Govt. of Punjab:- Y / N

Others:……

6. Detail of FP/ Contraceptive services provided by the MCHC:

Family planning services (give types, cost/paid and schedule of the services provided)

S #	Name of FP service	Cost	Schedule	Remarks

…….

7. Provision of Antenatal services Y / N (if yes give detail)

<table>
<tr><td colspan="3">Professional status of the service providers</td></tr>
<tr><td></td><td colspan="2"></td></tr>
<tr><td></td><td colspan="2"></td></tr>
<tr><td>Medical Examination</td><td>Medical Lab facility</td><td rowspan="2">If yes detail of tests available:
i. .
ii. .
iii. .
vii</td></tr>
<tr><td>Y / N</td><td>Y / N</td></tr>
<tr><td>Provision medicine Y / N</td><td colspan="2">If yes give detail</td></tr>
<tr><td>Other service s /</td><td colspan="2"></td></tr>
</table>

8. Utilization of the FHC;

I. Total Number of clients / patients attended)

Per day……..Per Month……..

Per Annum…….……

II. Family planning services utilization rates

1. Clients attendance rate……..per month……..
2. Most common contraceptive method used …….
3. Terminal method ;

1. tubal ligation per month or per annum

……

2. Vasectomy per month or per annum

……..

III. Referral rate:

……..

Name and designation of the staff who provided information

……

Signature of the student……..

Comments by the Batch in charge

……

Signature of the batch in charge …… Date……

Department of Community Medicine Rawalpindi Medical University & Allied Hospitals Rawalpindi

Visit to EPI Center Holy Family Hospital

Name of the student:_____Roll No:_____ Batch:_____

Department / site of visit:_____

Purpose of visit:_____

1. Brief History of EPI Center and its Administrative Control.

   _____

   _____

2. Catchment area of the EPI Center: _____
3. Location of EPI center within Hospital _____
4. Detail of space / rooms used for the purpose (draw a sketch)
5. Is the infrastructure is purposely built: Y / N
6. Is the infrastructure / space is appropriate for the purpose: Y / N
7. Is the proper couch for performing immunization of clients / child is present: Y / N
8. Facility for sitting of parents / attendants: Y / N
9. Presence of Location Guiding Sign Boards: Y / N
10. Detail of Working staff of the center:
    a. Cadre of the staff.

       ……

    b. Strength of the staff of EPI-center.

       ……

    c. Trained for the purpose Y / N

11. Equipment used for immunization;
    a. Specific purpose Refrigerator: Y / N if no give detail ……..
    b. Number of Refrigerators used. ……..
    c. Is Refrigerator displays it temperature: Y / N
    d. Vaccine Boxes for use on table. Y / N
    e. Ice packs Y / N
    f. Types of syringes used: (Auto-distract able) Y / N
    g. Syringe cutter: Y / N
    h. Used Syringes disposal/collection arrangement: Y / N
12. Arrangement for temperature maintenance during use on the table: Y / N
13. Arrangement for temperature maintenance during power failure: (Give detail of alternative power supply and its operation arrangements):

    _____
14. Is there any log book of Refrigerator use during power failure: Y / N
15. Name of the diseases against which immunization services are provided, type of immunization agent / vaccine used, and the manufacturer detail

S #	Disease	immunization agent / vaccine used	[a] Nature of the immu-agent	Manufacturer detail	Supply schedule

    a: live attenuated / killed / others and is single of combined etc
16. Schedule of the EPI-center for performing immunization: Give brief detail _____

17. Arrangement for clients registration / record keeping : Y / N if yes, is it Computerized / manual

18. If multi dose vials used, how kept in between use

……

Detail of vaccines, solvents storage in refrigerator etc;

Immunization agent	Available form	Place of storing in refrigerator	Temperature of th e compartment	Remarks
Solvents / diluents				

19. Arrangements to deal with immediate complications / anaphylaxis due to vaccination: Y / N 21. Arrangements for recording and reporting serious adverse events following vaccination: Y / N 22. Is the center perform Tetanus immunization for women of child bearing age; Y / N 23. Any other than EPI, Immunizations performed like:

    a. For persons going for Pilgrimage: Y / N
    b. Travelers to African counties (Yellow fever): Y / N
    c. Hep-B vaccination for adults : Y / N

24. EPI center utilization data;

a. Total number of immunizations performed per day:…… ……

b. Total number per month: ……..……

c. Total number per year (last year data) ……..

25. Problems faced / observed by the staff during immunizations

a. Pertaining to the immunization (side effects, complications) ……
……

b. Pertaining to clients attitudes & behavior

c. Pertaining to supplies and management issues ……
……

26. Source of the vaccines and other supplies ……

27. Charges for vaccine, if any …….

Name and designation of the staff who provided information

……

Signature of the student……..

Comments by the Batch in charge

……

……

Signature of the batch in charge …… Date: ……..

_____

Annexures

Core Planner of Community Oriented Clerkship in the subject of Community Medicine (2 weeks batch rotation)

[Calendar schedule as notified by DME will be followed accordingly]

Day	Activity -I 10.30 – 11.00	Activity – II 11.00- 11.30am	Activity -III 11.30- 01.00pm	Act-V 01.00 – 2.00pm	Sites of teachinglearning	Assessment	Session outcome (level of learning)
	Session topic	Session topic	Session topic	Session topic			
1st day	instructing / demonstration on Practical Manual based Assignments	• Visit to CHC • SGIS on Health days commemoration work, Display material, PPT.	SGIS on HM-DTD practicum. Topic finalization, CHCMessage draft outlines finalization.	• PPT based Demo on How to conduct & report HHS. • Guidelines on PHI work to be done during clinical rotations / ward duties	Demonstration / lec -Hall 3 CHC -Dept CM NTB RMU.	• 1-2 OSPE in end of clerkship exam (credit will part of IA) • Assessment of HHS - Report (Max marks:5 part practical /viva exam 4th Prof MBBS)	• Construct a health message. (C6) • Prepare Health days commemoration stuff, Display material, PPT, (P) • Undertake a health survey. (HHS) (C3)
2nd day	Follow up session on. - HM-DTD work - HHS work - health days commemoration work	SGIS/ Briefing / PPT based guidelines on field visit of the day (EPI services center HFH)	FV to the EPI center HFH	Health awareness work (HAW)	• Demo Room, • EPI Center HFH • OPD, hospital shelters sites for health awareness work (HAW)	• 1-2 OSPE in end of clerkship exam (credit will part of IA) • Grade of performance in EPI visit reporting. • Credit of HAW	• Explain cold chain component at EPI center • Vaccinate (EPI) vaccines to the clients . • Comprehend EPI system

3rd day	Follow up session on HMDTD work & HHS	SGIS / Briefing / PPT based guidelines on FV to MCH & FP Services Center HFH	FV to the MCH services & FP center HFH	Health awareness work (HAW)	• FP Center HFH • OPD, hospital shelters sites for HAW	• 1-2 OSPE in end of clerkship exam (credit will part of IA) • Grade of performance in EPI visit reporting. • Credit of HAW	• Identify CP devices available at MHC FP center • Counsel clients for use of a contraception method • Place CP devices to client (P)
4th day	Follow up session on HMDTD work & HHS	Briefing / guidelines on FV Hospital waste disposal system in hospitals	FV to the hospital waste disposal system & relevant sites / Incinerator	Health awareness work (HAW)	FP Center HFH OPD, hospital shelters sites for HAW	• End of module OSPE • Grade of performance in visits to sites	• Explain hospital waste disposal system • Develop a hospital waste management plan • Explains various domains of hospital management (C2)
5th day (week 2)	SGIS / PPT based briefing on Hospital management & administration	Visit to Hospital management & administration (HFH) office		Health awareness work (HAW	HHF	• End of module OSPE • Grade of performance in visits to sites	
6th day	SGIS / PPT based briefing on visit to First level of health care facility (FLCF) BHU/RHC	Field visit to RHC Khyaban Sir-Syed (RHC) or BHU		• Demo room / lec Hall 3 NTB / CPC-Hall . • RHC / BHU	Health awareness work (HAW at site visited	• End of module OSPE • Report credit in PJ	• Explain working of FLCF • Appreciate PHC elements at FLCF. (C2)

7th day	Health days commemoration (walk/ seminar/ presentation/ CHC-message dissemination work (10.30 – 12.00pm)	12.00 – 2.00pm • ompletion & assessment of relevant Practical Journal work, HHS-report book, Logbook etc. • eedback discussion on PHI	• Communication skills • Comprehend frequency Preventable RFs of NCDs in the real population (RF surveillance) • Undertake a preventive Healthcare inquiry

8th day	Museum learning module (MLM) / visit to departmental Museum 10.30- 12.30	• Endo of module OSPE (12.30 – 2.00pm) • OPSE conduction (10 stations video assisted OPSE / OSPE) for 40 total marks .	Plus Completion of any remaining work journal assessment HHS report assessment Students feedback etc

Community based / Field Visits

Each batch will be perform at least 02 filed visits of sites of Public health importance outside the institutions under available opportunities and logistics. Following sites may be considered for the purpose.

	I. RHC Khiaban-e-Sir-Syed Rawalpindi / DHO II. Sewerage Treatment Plant I-8 Islamabad III. Water purification plant Rawal Dame Islamabad IV. Child protection Bureau Rawalpindi V. Community Livings / urban slums - US-15 Rawalpindi VI. National Vaccination production unit– Chuk Shahzad Islamabad VII. Vaccines & Venom Production Unit, NIH, Islamabad VIII. Clinical Trail Unit, NIH- Islamabad IX. Diseases Surveillance & control / SAAL office. NIH Islamabad X. WHO-Office, Chuk Shahzad, Islamabad XI. National Command & Operation Control Office (NCOC) / System. Disaster Control & Management office Islamabad XII. Office of Punjab Food Control Authority – Rawalpindi XIII. Drug intoxication & Rehabilitation center Dept of Psychiatry BBH Rawalpindi XIV. Any site appropriate & feasible for the purpose.	**LOs:** Students will better comprehend the System, Mechanism, or Processes (visited) of community health or public health relevance in regional practices context. (**Practice based Learning)** **Feasibility, opportunity, and logistics:** every visit will be planned subject to: 1. Approval of competent authority (RMU) in given conditions. 2. Time space available (total 8 days rotation & with max 04 hrs. a day) 3. Availability of Transport 4. Consent / approval of f remote sites 5. Another justified pre-visit approval/favor or fulfillment of need.

Department of Community Medicine & Public Health
Rawalpindi Medical University

Section - IX

RMU - Spirally Integrated Courses/ ALPHA & GEC Cluster

Integrated University Spiral Courses/ ALPHA & General Education Cluster Module

Introduction

Preamble

In alignment with the Higher Education Commission's Undergraduate Policy 2023 and the Pakistan Medical and Dental Council's Guidelines 2024, This comprehensive module is designed to enrich the MBBS curriculum with a broad spectrum of interdisciplinary competencies.

The General Education Cluster encompasses essential domains—Leadership, Information Technology, Entrepreneurship, Expository Writing, Art and Humanities, Research, Bioethics, and Quran Translation—integrating these elements into a cohesive learning experience that extends across the five-year MBBS program.

This module is meticulously structured to enhance both professional and personal development, ensuring that medical graduates are not only adept in clinical skills but also well- rounded individuals equipped with a diverse skill set.

Rationale for the General Education Cluster Module

The General Education Cluster Module is conceived to address the multifaceted demands of modern medical education and practice. In accordance with the Higher Education Commission's Undergraduate Policy 2023 and the Pakistan Medical and Dental Council's Guidelines 2024, this module is designed to create a comprehensive educational framework that extends beyond traditional medical training. he rationale behind this integrative approach includes:

1. Holistic Development: Medicine is a field that requires not only technical proficiency but also leadership, ethical judgment, and effective communication. By incorporating Leadership, Information Technology, Entrepreneurship, Expository Writing, Art and Humanities, Research and Bioethics, and Quran Translation into the curriculum, the module aims to develop well-rounded professionals who excel in both clinical and non-clinical aspects of healthcare.
2. Adaptation to Technological Advancements: The rapid advancement of technology and artificial intelligence is transforming healthcare.

Proficiency in Information Technology and AI is crucial for modern medical practitioners to effectively use digital tools, engage in data-driven decision-making, and contribute to innovations in patient care and research.

3. Leadership and Management Skills: Effective leadership and management are essential for navigating the complexities of the healthcare environment. By focusing on leadership skills, the module prepares students to lead teams, manage healthcare systems, and address challenges with strategic vision and ethical integrity.
4. Entrepreneurial Mindset: Entrepreneurship fosters innovation and problem-solving. By integrating entrepreneurial principles into the curriculum, students are encouraged to think creatively, develop new healthcare solutions, and drive positive change in the industry.
5. Enhanced Communication Skills: Expository writing is a fundamental skill for clear and effective communication in medical practice. Mastery of this skill is vital for documenting patient care, conducting research, and engaging in academic discourse.
6. Cultural and Ethical Awareness: The inclusion of Art and Humanities helps students understand the broader human context of medicine, fostering empathy and cultural sensitivity. Concurrently, the continued study of Quran Translation and Islamiyat reinforces the integration of cultural and ethical perspectives with medical practice.
7. Strengthening Research and Bioethics: Advanced knowledge in research methodologies and bioethics ensures that students are well-prepared to conduct and evaluate research ethically, contributing to the advancement of medical science while adhering to high standards of ethical practice.
8. Preparation for a Dynamic Healthcare Environment: The General Education Cluster Module equips students with a diverse skill set necessary to thrive in a rapidly evolving healthcare landscape. It prepares them to be versatile, innovative, and ethical practitioners capable of addressing the multifaceted challenges they will encounter.

In essence, this module represents a strategic response to the evolving needs of the healthcare profession, ensuring that medical graduates are not only technically proficient but also capable of leading, innovating, and communicating effectively in a complex and dynamic field.

Alignment of RMU Spiral Courses as per HEC Undergraduate Policy 2023 and guidelines of PMDC 2024

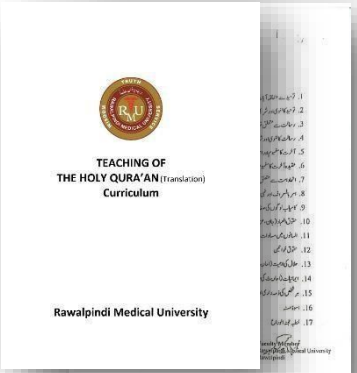
Title	Hours recommended by HEC/PMDC (to be covered from 1st to 4th year)	Teaching hours in RMU Curriculum
Quran Kareem	50 hours (PMDC)	55 Hours
Bioethics / Professionalism	25 Hours (PMDC)	50 Hours
Leadership	25 Hours (PMDC)	30 Hours
Islamic Studies	2 credit hours (HEC)	17 Hours
Ideology & Constitution of Pakistan/Pakistan Studies	2 credit hours (HEC) 25 hours (PMDC)	17 Hours
Quantitative Reasoning/Research	2 credit hours (HEC) 100 Hours (PMDC)	120 Hours
Entrepreneurship	2 credit hours (HEC)	50 Hours
Arts and Humanities (Videography)	2 credit hours (HEC)	20 Hours
Expository writing	2 credit hours (HEC)	16 Hours
Applications of information and communication technologies (ICT)	2 credit hours (HEC) 25 Hours (PMDC)	25 Hours
Family medicine	----------	30 Hours
Artificial intelligence	----------	25 Hours
Behavioral Sciences	100 Hours (PMDC)	150 Hours

- 1 credit hour = 16 teaching hours

- The minimum requirement for the general education component is 30 credits in all the undergraduate/equivalent degree programs including associate degree. References: undergraduatepolicy-2023-1pdf/261474627

Islamiat & 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

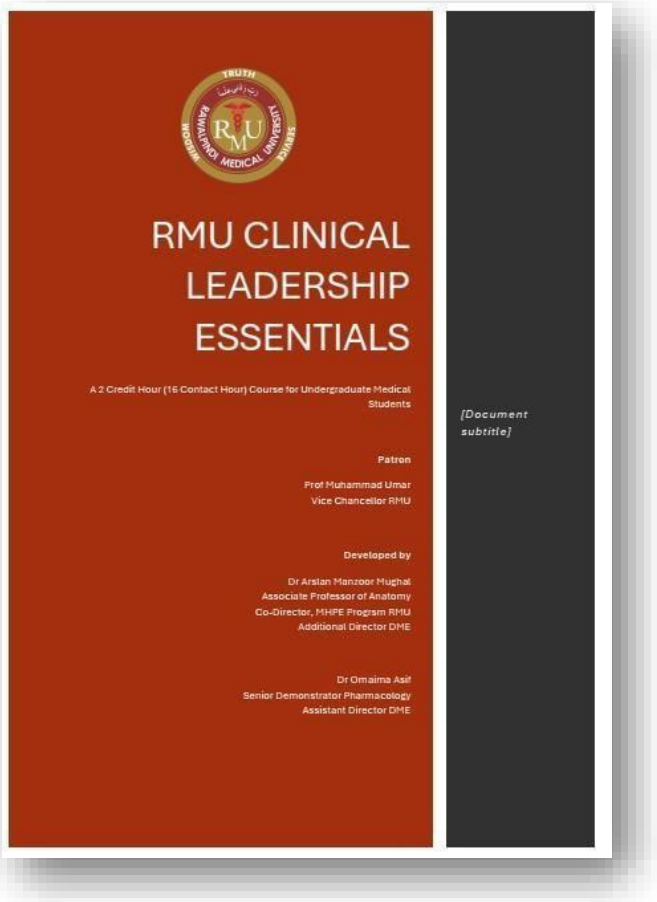
Biomedical ethics, also known as bioethics, is a field of study that addresses the ethical, social, and legal issues arising from medicine and the life sciences. It applies moral principles and decision-making frameworks to the practice of clinical medicine, biomedical research, and health policy. Biomedical 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.

Leadership & Professionalism

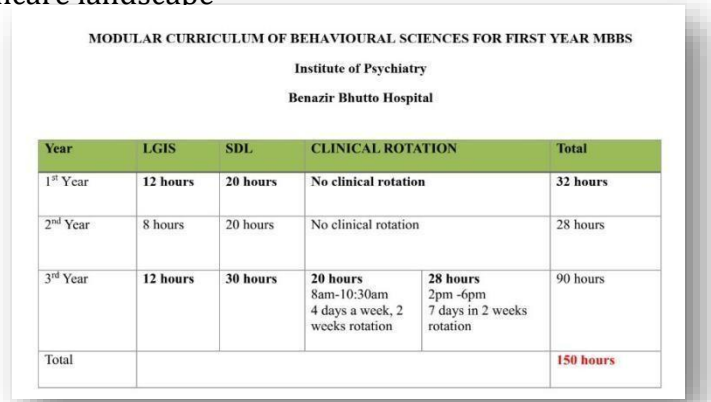


Professionalism in medicine refers to the set of values, behaviors, and relationships that underpin the trust the public has in doctors and other healthcare professionals. It encompasses a commitment to competence, integrity, ethical conduct, accountability, and putting the interests of patients above 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.



MODULAR CURRICULUM OF BEHAVIOURAL SCIENCES FOR FIRST YEAR MBBS

Institute of Psychiatry

Benazir Bhutto Hospital

Year	LGIS	SDL	CLINICAL ROTATION		Total
1st Year	**12 hours**	**20 hours**	**No clinical rotation**		**32 hours**
2nd Year	8 hours	20 hours	No clinical rotation		28 hours
3rd Year	**12 hours**	**30 hours**	**20 hours** 8am-10:30am 4 days a week, 2 weeks rotation	**28 hours** 2pm -6pm 7 days in 2 weeks rotation	90 hours
Total					**150 hours**

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

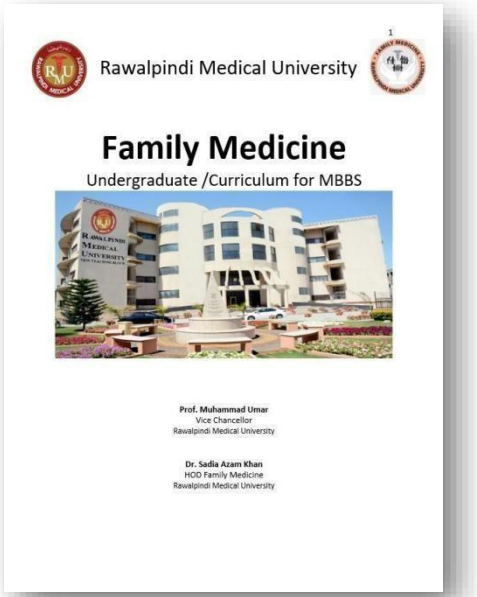
At Rawalpindi Medical University (RMU), the development of communication skills is regarded as a fundamental aspect of medical education, recognizing its critical importance in enhancing patient care, teamwork, and interdisciplinary collaboration. RMU is dedicated to equipping its students with exceptional 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

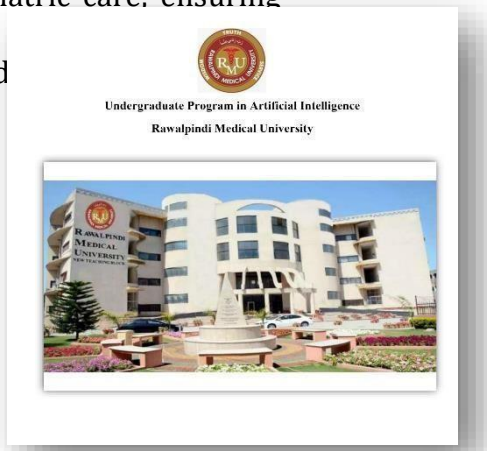
Family medicine is a medical specialty dedicated to providing comprehensive health care for people of all ages and genders. It is characterized by a long-term, patient-centered approach, building sustained relationships with patients and offering continuous care across all stages of life. It focuses 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.

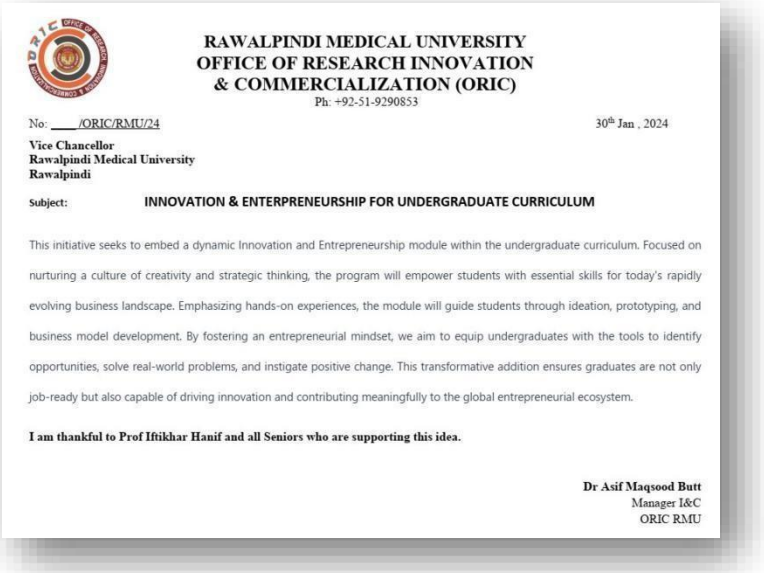
Through a combination of lectures, and written and coding assignments, students will become well versed in key ideas and techniques for RL. Assignments will include the basics of reinforcement learning as well as deep reinforcement learning — an extremely promising new area that combines deep learning 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.



RAWALPINDI MEDICAL UNIVERSITY
OFFICE OF RESEARCH INNOVATION
& COMMERCIALIZATION (ORIC)
Ph: +92-51-9290853

No: ____/ORIC/RMU/24 30th Jan , 2024

Vice Chancellor
Rawalpindi Medical University
Rawalpindi

Subject: INNOVATION & ENTERPRENEURSHIP FOR UNDERGRADUATE CURRICULUM

This initiative seeks to embed a dynamic Innovation and Entrepreneurship module within the undergraduate curriculum. Focused on nurturing a culture of creativity and strategic thinking, the program will empower students with essential skills for today's rapidly evolving business landscape. Emphasizing hands-on experiences, the module will guide students through ideation, prototyping, and business model development. By fostering an entrepreneurial mindset, we aim to equip undergraduates with the tools to identify opportunities, solve real-world problems, and instigate positive change. This transformative addition ensures graduates are not only job-ready but also capable of driving innovation and contributing meaningfully to the global entrepreneurial ecosystem.

I am thankful to Prof Iftikhar Hanif and all Seniors who are supporting this idea.

Dr Asif Maqsood Butt
Manager I&C
ORIC RMU

Innovation & Entrepreneurship

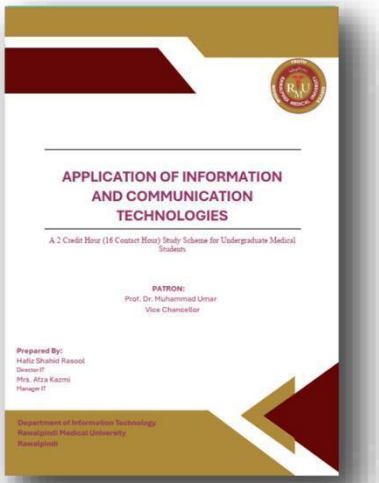
Entrepreneurship is the process of designing, launching, and running a new business, which typically starts as a small enterprise offering a product, process, or service for sale or hire. It involves identifying a market opportunity, gathering resources, developing a business plan, and managing the business's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

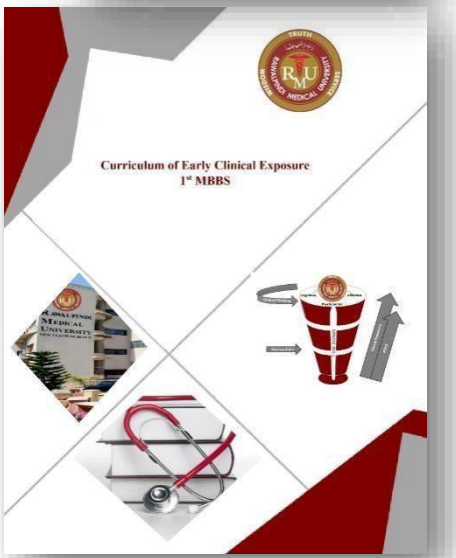
Digital Literacy Module

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

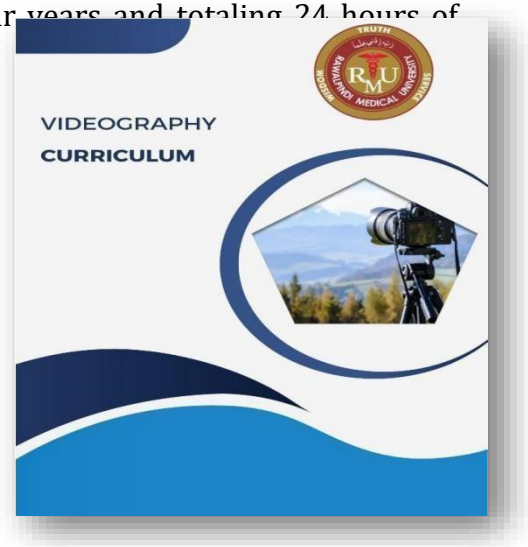
interact with patients and healthcare professionals. Engaging with reallife clinical situations early on encourages the development of critical

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.

Videography Curriculum

In an age where visual communication and digital media play pivotal roles in healthcare education, research dissemination, and public outreach, the importance of videography as a skill cannot be overstated. This comprehensive course at Rawalpindi Medical University is designed to equip students with the essential knowledge, technical proficiency, and creative acumen necessary to excel in utilizing video as a powerful tool in the medical field. Spanning four years and totaling 24 hours of instruction, this course integrates theoretical foundations with hands-on practical experience tailored to the unique needs of future healthcare professionals. Through interactive lectures, immersive workshops, and project-based assessments, students will embark on a transformative journey from mastering fundamental camera operations and lighting techniques to refining advanced video editing skills and project management capabilities.



Curriculum & Learning Objectives of ALPHA

(Artificial Intelligence, Leadership, Professionalism, Humanities, Arts) Introduction:

The RMU ALPHA Curriculum at Rawalpindi Medical University represents a transformative approach to medical education, designed to align with the Higher Education Commission Undergraduate Policy 2023 General Educational Cluster. This innovative curriculum integrates a diverse array of general education courses aimed at enhancing the intellectual and professional capabilities of undergraduate medical students. By embedding courses such as Quran Kareem, Introduction to Computer, Functional & Expository Writing, and Leadership Professionalism & Bioethics, the RMU ALPHA Curriculum ensures that students are not only proficient in medical sciences but also excel in critical thinking, ethical leadership, and effective communication. These courses collectively provide a robust foundation that is essential for the holistic development of future medical professionals. Furthermore, the study of Ideology & Constitution of Pakistan instills a deep understanding of national values and legal frameworks, promoting civic responsibility and informed decision-making in medical practice.

By integrating these courses, the RMU ALPHA Curriculum not only adheres to the educational standards set by the Higher Education Commission but also prepares students to navigate the complexities of the medical profession with competence, compassion, and a broad perspective on health and society.

Aligned with HEC Undergraduate Policy 2023 General Education Cluster

Patron

Prof Muhammad Umar, Vice Chancellor, RMU

Prepared by:

Prof Ifra Saeed, Professor of Anatomy Dr Arsalan Manzoor Mughal, Associate Professor of Anatomy

S No	Title	Hours Recommended (to be covered from 1st year Curriculum to 4th Year)	Current status in RMU	Focal Person	Course development team
			Recommended by HEC & PMDC		
1	Quran Kareem	15 x 4 = 52	Implemented 85 hours	Prof Naeem Akhtar Dr Sidra Hamid	Quran Course team
2	Introduction to Computer	7 x 4 = 28	New Course	Mr. Shahid Rasool	IT Department
3	Functional & Expository Writing	7 x 4 = 28	New Course	Dr Omaima Asif	Literary Society
4	Leadership	7 x 4 = 28	Implemented50 hours	Prof Akram Randhawa	Department of Community Medicine
5	Professionalism & Bioethics	7 x 4 = 28		Dr Khola Noreen	Department of Bioethics
6	Arts & Humanities	7 x 4 = 28	New Course	Prof Fuad Khan Dr Saira	Arts Society
			Recommended by HEC only		

7	Natural Sciences	Not required as physics , chemistry, biology etc are already part of basic and clinical sciences			
8	Social Sciences	7 x 4 = 28	New course	Ms Ghulam Fatima Ms Vareesha Zafar	Psychiatry Department
9	Ideology & Constitution of Pakistan	7 x 4 = 28	Implemented30 hours	DME Main Campus	Pakistan Studies team

10	Quantitative Reasoning	Already part of Epidemiology and Biostatistics in Community Medicine curriculum			
11	Civics and Community Engagement	Already part of Community Medicine curriculum			
12	Entrepreneurship	7 x 4 = 28	Implemented 32 hours Awareness Program	Dr Asif Rawalian Community	Dr Omaima Asif
	Grand Total Hours	**224 hours**	**Already Developed and Implemented 197 hours To be developed 112 hours**		

Time Table for General Educational Cluster (GEC) Xlodule

3* Year âIBBS (Batch-49)

Date/Day	8:00 AM – 09:00 AM	09:00 AM – 09:50 AM	09:50 AM – 10:10AM	10:10 AM – 11:00 AM	11:00 AM – 11:50 AM	11:50 AM – 12:15	12:15 PM – 02:00 PM	04:00 PM – 06:00 PM
Monday	LEADERSHIP W kshop 1 ilezltb Education 07	ITC Getting .•tBitell'antb TO\\'9F 0t£tt	Break	ARTIFICIAL INTELLIGENCE (AI) I dis	iting Softv e	Break	Utilizñig A dgoritbins	lTDE0GRE?8¥ Introduction to Video for early doin of Ed im
Tuesday	LEADERSHIP W kshop II	ITC Formatting & enhancing presentation skills in rosoft erPoint		ARTIFICIAL INTELLIGENCE (AI) AI-driven drug discovery and development Fndrl\ Tjpt.• of Softuan SDL	Editing Workflow and Techniques		Expository Writring	lIDE0GRH¥¥
Wednesday	LEADERSHIP Group Projects I i4e&ttb EJucatioo	ITC Basics of Networking		INTELLIGENCE (AI) p on	Int .. ation		Expository Writring	UTIHC£4L \JDE0GR 'EY
Thursday	LEADERSHIP Group Projects II	ITC Security, privacy, and ethics		INTELLIGENCE (AI) Challenges and limitations of AI adoption in med cine	Advanced Editing Techniques		ENTERPRENEURSHIP .kbtpttte ttzatatat fBi0e .II 6°0FiI tzi9	LEADERSHIP Aud!o Zditizt• azd Reflective Journaling ARTIFICES YIOE0GRIPBY
	ITC			ENTERPRENEURSHIP Market Launch	Co Correction and Grading			
Saturday	ITC File Management / Internet and	Expository Writring		ENTERPRENEURSHIP			ITC Internet & Emails	

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\'ideo Editing and

Grnib Establishment Sourd Dtsis

Beta Launch

Video Editing and Post-Production (6 hours)

Innovation & Entrepreneurship

Sr No.	Topic	Learning Objectives	Teaching Strategy	Assessment Tool
1.	Introduction to Video Editing Software	Familiarize with popular video editing software and their basic functions. Learn how to import, organize, and manage footage within editing software.	LGIS	MCQs
2.	Editing Workflow and Techniques	Develop proficiency in timeline editing, cutting techniques, and adding transitions. Understand the importance of pacing and rhythm in video editing.	LGIS	MCQs
3.	Audio Editing and Integration	Explore techniques for recording and editing audio for video projects. Integrate music, voiceovers, and sound effects to enhance storytelling	LGIS	MCQs
4.	Advanced Editing Techniques	Learn advanced editing techniques such as compositing, visual effects, and motion graphics. Understand how editing choices contribute to narrative structure and emotional impact.	LGIS	MCQs

5.	Color Correction and Grading	Master techniques for color correction and grading to achieve desired visual aesthetics. Apply color theory principles to enhance mood and visual continuity across video projects.	LGIS	MCQs
6.	Video Editing and Sound Design	Edit raw footage into a cohesive narrative using advanced editing techniques. Incorporate sound design elements to enhance the overall impact of the video project.	LGIS	MCQs

Advanced Projects and Portfolio Development (6 hours)

Sr No.	Topic	Learning Objectives	Teaching Strategy	Assessment Tool
1.	Project Planning and Management	Develop skills in project planning, including budgeting and scheduling.	LGIS	MCQs
		Coordinate production teams and resources effectively for video projects.		
2.	Pitching and Presenting Creative Ideas	Learn how to pitch and present creative concepts effectively.	LGIS	MCQs
		Develop communication skills to articulate and sell ideas to clients or stakeholders		
3.	Portfolio Development	Select and organize work into a professional portfolio.	LGIS	MCQs
		Showcase growth and proficiency in videography through curated projects.		
4.	Career Readiness and Industry Insights	Explore career opportunities in videography and media production.	LGIS	MCQs
		Understand industry trends, standards, and professional expectations.		
5.	Advanced Video Production	Plan, shoot, edit, and present an advanced video project demonstrating comprehensive skills.	LGIS	MCQs
		Apply all aspects of videography learned throughout the course to produce a polished video.	LGIS	
6.	Portfolio	Present and discuss portfolio showcasing growth and proficiency in videography.		

	Review and Reflection	Reflect on personal and professional development throughout the course.	LGIS	MCQs

Preamble

In the dynamic and multifaceted field of medicine, effective leadership is crucial to providing high-quality patient care, fostering collaborative environments, and driving innovation in healthcare systems. Recognizing the pivotal role that leadership plays in the medical profession, this curriculum aims to equip undergraduate medical students with the knowledge, skills, and attitudes necessary to become proficient leaders.

This curriculum is meticulously designed to address the unique challenges and opportunities that future medical leaders will encounter. It integrates evidence-based theories and practical applications of leadership, drawing from a wealth of resources including seminal books, scholarly articles, and established workshop frameworks. The goal is to create a holistic and immersive learning experience that empowers students to lead with confidence, integrity, and empathy.

Needs Assessment

The following literature was studied for development of this section. Key points from each literature resource are described below, 1.

Book- ABC of Clinical Leadership by Tim Swanwick
Chapter 2-Ledership and Management, Chapter 3-Ledership theories and concepts and Chapter 4- Leading Groups and teams,

2. **Book- Leadership in Healthcare by Carson Dye**
Part II- Personal Values for leadership (Respect, ethics. Interpersonal connection, desire for change, commitment, emotional intelligence) and Part III- Team Values for Leadership

(Cooperation & sharing, cohesiveness & Collaboration, trust and conflict management)

3. **American Medical Association- Team Meetings Strengthen Relationships and Increase Productivity** (https://edhub.ama-assn.org/steps-forward/module/2702508) Can be used for creating a section of team meetings for prereading

4. **AAMC MedEdPortal- Leadership and Academic Medicine: Preparing Medical Students and Residents to Be Effective Leaders for the 21st Century**
(https://www.mededportal.org/doi/10.15766/mep_2374-8265.10677)
They designed leadership workshop for students and residents with the following objectives

1) introduced to leadership terms and theories

2) provided examples of leadership opportunities during medical training and upon entering medical practice 3) given instruction and resources on how to become more effective leaders

Goals and Objectives

The primary objectives of this curriculum are to:

Cultivate a Deep Understanding of Leadership Principles:

- Distinguish between management and leadership.
- Explore various leadership theories and concepts.
- Examine the dynamics of leading groups and teams.

Foster Self-Awareness and Personal Growth:

- Encourage introspection and self-assessment to understand individual leadership styles and strengths.
- Promote continuous reflection and improvement of leadership skills.

Instill Core Leadership Values:

- Emphasize the importance of personal values such as respect, ethics, interpersonal connection, desire for change, commitment, and emotional intelligence.
- Highlight team values including cooperation, sharing, cohesiveness, collaboration, trust, and conflict management.

Develop Practical Leadership Skills:

- Provide practical tools and strategies for effective leadership in clinical settings.
- Engage students in interactive workshops and case-based scenarios to apply leadership concepts in real-world situations. **Educational Strategies**

Strategies used for teaching will include **Interactive Lectures:**

Engaging lectures introduce key leadership concepts and theories, incorporating multimedia elements, real-life examples, and interactive questioning to maintain interest and participation. This approach provides foundational knowledge while encouraging active involvement and critical thinking.

Guest Lectures:

Experienced healthcare leaders are invited to share their insights and experiences through guest lectures and panel discussions, allowing students to engage in dialogue and gain real world perspectives from established leaders in the field.

Self-Assessments:

Utilizing tools like leadership style assessments and emotional intelligence evaluations helps students identify their strengths and areas for improvement, encouraging self-assessment and providing constructive feedback to guide personal leadership development.

Reflective Journaling:

Students keep reflective journals to document their experiences, challenges, and growth as leaders, guided by prompts to reflect on specific leadership experiences. This practice promotes self-awareness and continuous personal development through structured reflection.

Group Projects:

Assigning group projects that require collaboration, delegation, and collective decision-making, students work on initiatives ranging from research to community health campaigns. This strategy enhances teamwork, communication, and project management skills in a leadership context.

Implementation:

3rd Year Medical Students:

Focus: Practical Application and Team Dynamics

Health Education Workshop Leader (2 Hours)

Assign students to develop and conduct health education workshops for the community.

Group Projects (2 Hours)

Initiate group projects that require collaboration, such as community health campaigns, to enhance teamwork and leadership.

Reflective Journaling:

Continue reflective journaling, emphasizing reflections on leadership roles within group projects.

4th Year Medical Students:

Focus: Clinical Leadership and Advanced Skills

1. **Workshops and Simulations** (2 Hours)
   Conduct workshops and simulations focused on clinical leadership scenarios
2. **Clinical Rotation Leadership Role** (2 Hours)
   Encourage students to take on leadership roles during clinical rotations, such as leading case discussions and coordinating patient care teams.
3. **Reflective Journaling**
   Continue reflective journaling with a focus on clinical experiences and leadership challenges encountered in rotations.

Assessments Evaluation

Online MCQ based LMS Assessments will be taken in the first block

Program will be evaluated each year by the curriculum committee based on student feedback

The Holy Quran Teaching

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8 اللہ اور رسول ﷺ کی محبت

اخلاقیات

9 تکری و غرور 10

تواضع و انکساری

11 علم / تعلیم و تعلم 12

جہالت

معاملات

13 ظلم

14 عدل و انصاف ی 15

امانت کی ادائیگ

ر

معا شت

17 چوری اور رکی بت

16

قسم اور کفارہ قسم

سال چہارم

ایمانیات

1 مسئلہ تقدیر اور اس کے فوائد

2 عظمت قرآن کریم کی مثال اور صفات باری تعالی 3 رسول اللہ ﷺ کی بعثت کے مقاصد

عبادات

4 دعا کی اہمیت اور ا ٓداب قرآ نی دعائ ی اہل ایمان کی دعا 5 انبیاء کرام علیہم السلام کی دعائ ی

اخلاقیات

6 حیا

7 رئ حیا ئ حلم بردباری

8 ہمدردی و خ ی خواہی

9 صری و شکر

معاملات

10 گواہی

11 وراثت

12 اصلاح ب زی الناس کی ترغیب اور فساد کی مذمت

13 سلام محبتوں کا شچشمہ

ر

معا شت

14 احکام نکاح

15 محرماتوہ عورت ی جن سے نکاح ہمیشہ کے ل ئ حرام ےہ

16 عفت و پاکدام زت

17 عورتوں کے ساتھ حسن سلوک

ICT Scheme

Course Description

This course is designed for medical students to improve their skills in ICT (Information and Communications Technology) enabling them to manage their tasks effectively and efficiently in their working environment. Students, in this course, will learn the fundamentals of computing including computer basics and organization, common tools and applications, medical informatics, distance learning, and telemedicine. Students will be provided with knowledge and skills for the use of computing and communication technologies to solve real-life problems.

Goals and Objectives

This course is intended to give an overview of the complete program of studies in computing and its structure where students will be able to achieve the following objectives:

- Explain the basics of computer organization including memory and storage elements • Recognize data representation in terms of number systems.
- Understanding basic concepts of the internet, WWW, and internet applications.
- Working on productivity software including Word processing, Spreadsheets, Presentations, and SPSS.
- Use of Microsoft Collaborative software such as MS Teams, MS Outlook, and MS OneDrive.
- Students will learn the basic concepts of networking, network structure, and webmail applications.
- Discovering the latest research in the medical field through social networking platforms such as ResearchGate.

Educational Strategies

Strategies used for teaching will include: **Flipped Classroom**

Flipping the classroom is a strategy where students first explore course content outside of class by viewing a pre-recorded lecture video or digital module or completing a reading or preparatory assignment. In-class time is organized around student engagement, inquiry, and assessment, allowing students to grapple with, apply, and elaborate on course concepts. Inclass sessions typically entail collaborative coursework and the use of active learning strategies, including case studies, problem sets, or structured discussions.

Hands-on Exploration: Provide opportunities for students to explore and interact with technology through practical activities and projects on software/hardware tools. This allows for experiential learning and fosters a deeper understanding. This activity is conducted in a Lab Environment.

ProjectBased Learning

In project-based learning, students work together, use technology, and develop their problemsolving abilities to devise a solution to the issue at hand. Students are more engaged and learn better with project-based learning. It allows students to use technology. Additionally, project-based learning links students with local communities and the outside world. Projectbased learning involves:

- Picking up an idea or problem you have and building that idea or the solution to that problem either alone or in collaboration with others.
- Deciding on the tools to use to execute that project.
- Building projects based on the extent of your creativity, environment, and experience.

Collaborative Learning: Encourage collaboration and teamwork when using technology. This can be achieved through group projects, discussions, and peer-to-peer learning, fostering communication and problem-solving skills. Troubleshooting issues in Hardware/Software using this technique will help students to learn from their peers.

Problem-Based Learning (PBL): is a teaching method in which complex real-world problems are used as the vehicle to promote student learning of concepts and principles as opposed to direct presentation of facts and concepts. In addition to course content, PBL can promote the development of critical thinking skills, problem-solving abilities, and communication skills. It can also provide opportunities for working in groups, finding and evaluating research materials, and life-long learning.

Course Reference Material & Literature

The following literature was studied for the development of this section. Key points from each literature resource are described below,

1. **Book: Introduction to Computers 6th International Edition, Peter, N. McGraw-Hill**
   Chapter 1: Lesson 1A Exploring Computer and their Uses
   Chapter 1: Lesson 1B Looking Inside the Computer System
   Chapter 5: Lesson 5A Types of Storage Devices

   Chapter 7: Lesson 7A Networking Basics

   Chapter 8: Lesson 8A The Internet and the World Wide Web
   Chapter 8: Lesson 8B Email and Other Internet Services
   Chapter 10: Lesson 10A Productivity Software's

   Chapter 13: Lesson 13A Understanding the need for security Measures

2. **Using Information Technology: A Practical Introduction to Computer & Communications, 6th Edition. Williams, S. McGraw-Hills.**
   Chapter 5: Networking and Communication
   Chapter 6: The Internet and the World Wide Web

   Chapter 8: FILES, DATABASES, & E-COMMERCE: Digital Engines for the New Economy

3. **Book: Computers, Communications & Information: A user's introduction, Sarah E. Hutchinson. Stacey, C. Swayer.**
   Chapter 3: Input/Output Hardware: Interfaces between you and Computer

   Chapter 14: Ethics, Privacy, Security and Social Questions: Computing for Right Living

4. **Book: Computing Fundamentals, Faithe Wempen, Cybex, 2015**
   Part II: Chapter 4: Software

   Part III: Microsoft Office: Chapter 8: Understanding Microsoft Office 2013 Part III: Microsoft Office: Chapter 9: Word Processing with Microsoft Word

Part IV: Connectivity and Communication Chapter 13: Networking, Internet Basics Part III: Microsoft Office: Chapter 10: Creating Spreadsheets with Microsoft Excel Part III: Microsoft Office: Chapter 12: Creating Presentation Graphics with

PowerPoint.Part IV: Connectivity and Communication: Chapter 14: Online Communication

5. **Book: Discovering Computers by Shelly 2016**
   Chapter 5: Digital Security, Ethics and Privacy: Threats, Issues and Defenses Chapter 6: Creating, formatting, and Editing a Word Document

6. **Book: Computer Fundamentals by Pradeep K. Sinha, Priti Sinha 6th Ed** Chapter 2: Basic Computer Organization
   Chapter 7: Processor And Memory
   Chapter 8: Secondary Storage Devices
   Chapter 9: Input Output Devices
   Chapter 10: Computer Software

   Chapter 13: System Implementation and Operation
   Chapter 15: Application Software Packages

7. **Introductory Statistics for Health and Nursing Using SPSS, FIRST EDITION, Louise Marston - University College London, UK.**
   Chapter 1 Getting Started with Data and SPSS
   Chapter 2 Data Management

   Chapter 3 Study Designs
   Chapter 4 Probability

   Chapter 5 Summary Statistics for Continuous Data Chapter 6 Summary Statistics for Categorical Data Chapter 7 Samples and Populations

   Chapter 8 Comparing Two Categorical Variables Chapter 9 Comparing Means

   Chapter 10 Non-Parametric Tests

   Chapter 11 Assessing Associations with A Continuous Outcome Chapter 12 Assessing Associations with A Categorical Outcome

8. **Data and Computer Communications, 10th Edition by William Stallings** Chapter 18 Wireless Networks
9. **Social media in Clinical Practice, https://link.springer.com/book/10.1007/978-14471-4306-2**

Implementation

3rd Year Medical Students:

Focus: Working with Presentations, Concepts of Networking, SPSS, and Collaborative Software.

Interactive Lectures:

- Develop simple MS PowerPoint Document (Create, Edit, and Save Document)
- Formatting with Microsoft PowerPoint
- Enhancing the presentation appearance
- Basics of Networking
- Security, privacy, and ethics

Group Based Learning:

Create a PowerPoint presentation on recent medical research Add necessary animations and graphics for illustration

Flipped Learning:

Discussion on different computer crimes and viruses based on shared reference material **Problem-based Learning:**

Adding video and audio in PowerPoint presentation of the opening ceremony of any event.

Assessments

Online MCQ-based LMS Assessments, Assignments will be taken in the first block Evaluation

The program will be evaluated each year by the curriculum committee based on student feedback.

4th Year Medical Students

Focus: Working with MS Excel, SPSS, and Collaborative Software. **Interactive Lectures:**

- Develop a simple MS Excel Document
- Practicing Mathematical Formulas in Excel
- Logical and Lookup Functions
- Graphical Presentations of Data using Charts in Excel
- Managing SPSS Variables, Graphs and Plotting
- Data Analysis in SPSS

- Interacting with MS Teams **Group Based Learning:**
  Create a Meeting in MS Teams, add Participants, Communicate & Share information.
  Flipped Learning:
  Share Medical Statistical Information with students and perform Data Analysis on it.

Assessments Evaluation

Online MCQ-based LMS Assessments, Assignments will be taken in the first block

The program will be evaluated each year by the curriculum committee based on student feedback.

Artificial Intelligence

Background:

The Rawalpindi Medical University (RMU) has taken the initiative and lead by starting a program in Artificial Intelligence at the graduate level to help establish and grow the industry in medicine field in Pakistan.

Program Educational Objectives:

PEO1: Have a strong competence in Artificial Intelligence resulting in successful careers.

PEO2: Pursuing research and innovation and be able to provide modern solutions to technical problems.

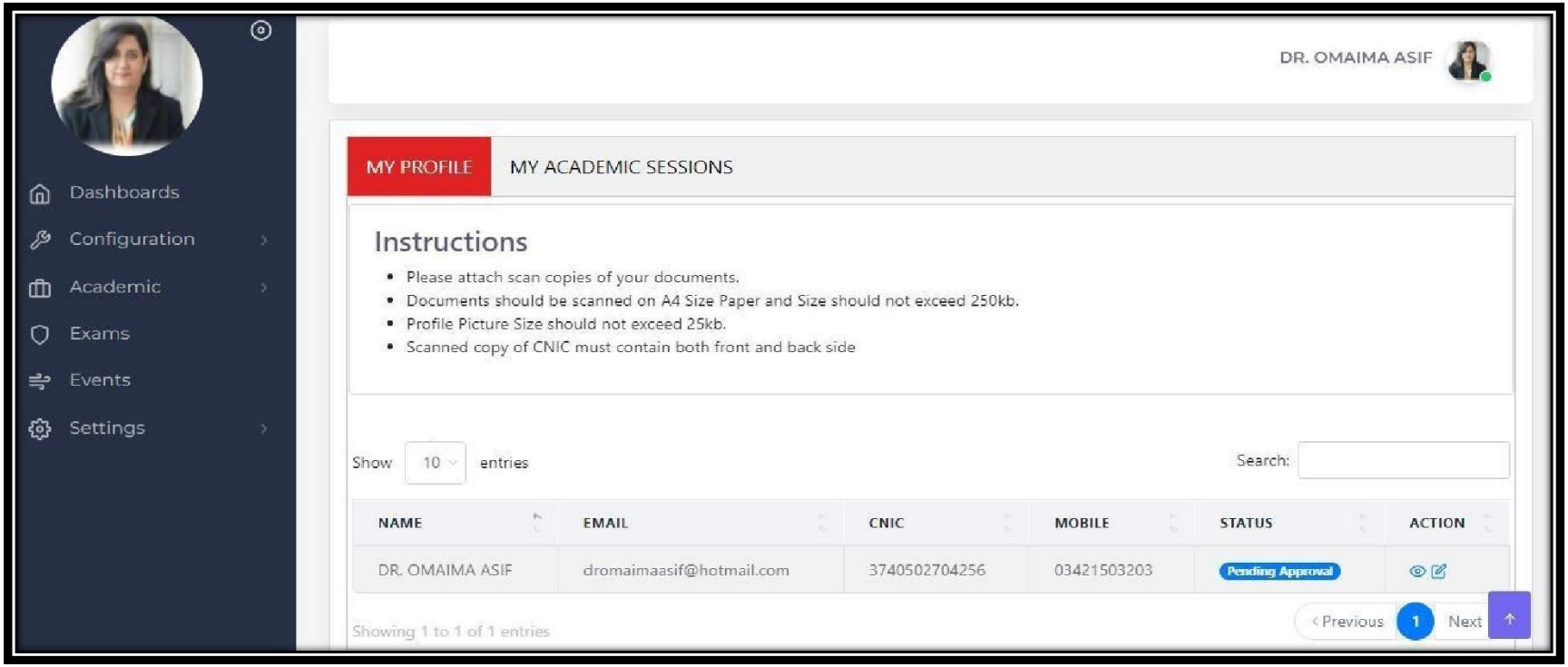
PEO3: To apply as well as create Artificial Intelligence based knowledge at par with the developments at both national and international level.

Curriculum:

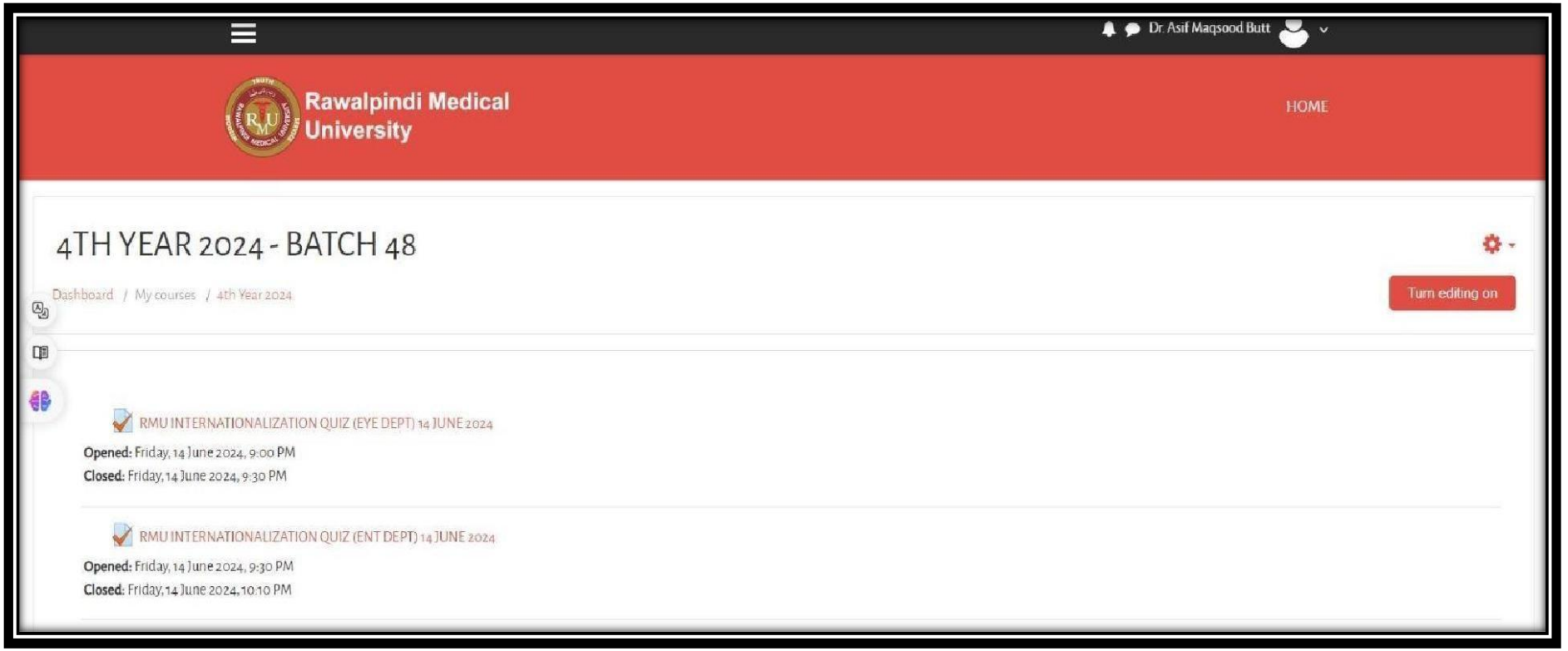
The proposed curriculum is unified for all RMU partner universities. For the sake of uniformity and ease of transfer of courses, a national course code has also been defined for each course. This will be treated as a reference for course compatibility between RMU partner institutions.

RMU Digital Literacy Program

Campus Management System (CMS)



Learning Management System (LMS)



SECTION- X

Learning Resources

Learning Resources

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

Community Medicine	**Textbooks** 1. Community Medicine by Parikh 25th edition. 2. Community Medicine by M Illyas 8th edition. 3. Basic Statistics for the Health Sciences by Jan W Kuzma 5th edition.

Pathology/Microbiology	**Textbooks** 1. Robbins & Cotran, Pathologic Basis of Disease, 10th edition. 2. Rapid Review Pathology, 5th edition by Edward F. Goljan MD. 3. http://library.med.utah.edu/WebPath/webpath.html
Pharmacology	**Textbooks** 1. Lippincot Illustrated Pharmacology 9th edition.
Spiral Integration Subjects & General Education Cluster Courses	
Bioethics	**Textbooks** 1. Textbook of Medical Ethics by Erich H. Loewy (Author)
Videography	The Five Cs of Cinematography by Joseph V. Mascelli Digital Video Production: A Comprehensive Guide by Anirban Das
Leadership	Leadership and the New Science by Margaret J. Wheatley A Treatise on Good Works by Martin Luther
Family Medicine	**Textbooks** 1. Textbook of Family Medicine" by Robert E. Rakel and David P. Rakel 2. Essentials of Family Medicine" by Philip D. Sloane, Lisa M. Slatt, and others 3. Textbook of Family Medicine" by Ian R. McWhinney 4. Family Medicine: Principles and Practice" by Robert B. Taylor
Islamiat & Pak Studies	Islamiyat Lazmi by Muhammad Khalil
Vertical Integration Subjects	

Medicine	**Textbooks** 1. Harrison's Principles of Internal Medicine by J. Larry Jameson, Anthony S. Fauci, and others 2. Davidson's Principles and Practice of Medicine by Stuart H. Ralston, Ian D. Penman, and others 3. Kumar and Clark's Clinical Medicine by Parveen Kumar and Michael Clark
	4. Oxford Handbook of Clinical Medicine by Ian B. Wilkinson, Tim Raine, and others
Surgery	**Textbooks** 1. Bailey & Love's Short Practice of Surgery by Norman S. Williams, P. Ronan O'Connell, and Andrew W. McCaskie
Obsteterics & Gynecology	**Textbooks** **1.** Obstetrics by Ten Teachers **2.** Gynaecology by Ten Teachers
Peadiatrics	**Textbooks** 1. Nelson Textbook of Pediatrics" by Robert M. Kliegman, Joseph St. Geme, and others

Digital Resources

Digital Resources

Up To Date	https://www.uptodate.com/contents/search
RMU Digital library	http://www.digitallibrary.edu.pk/rmc.html
International Resources	
USMLE	https://www.usmle.org/
Plab	https://www.gmc-uk.org/registration-and-licensing/join-the-register/plab
U World	https://www.uworld.com/
Kaplan	https://mykaplan.co.uk/

SECTION-XI

Assessment Policies

Assessment

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

Assessment Policy

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

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

3. Forms of assessments

Formative Assessment

A formative assessment refers to a low-stakes assessment that does not normally contribute towards a student's final grade. A formative assessment may include summarizing the main points in a lecture or a weekly quiz to test comprehension of the reviewed content.

(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 performance may be taken as a continuous assessment.

Summative Assessment

A summative assessment is any method of evaluation performed at the end of a unit that allows a teacher to measure a student's understanding, typically against standardized criteria. Assessment of learning takes place at the end of modules/ blocks and clerkships and comprises of:

a. Written assessment (50%)

Multiple Choice Questions (MCQs)	40% Will be as USMLE format
Extended Match Questions (EMQ)	10%
Short answer questions (SAQs)	50%

b. Performance (Practical) assessment (50%)
Objective Structured Practical Examination (OSPE) Years I, II and III Objective Structured Clinical Examination (OSCE) Years IV - V Short cases will be included in OSCE

4. Assessment and their timings

- The module/ clerkship teams will be responsible for their assessment plan mentioning assessment strategies, timings, and other essentials (please refer to the individual plans).
- Students will be briefed about the pattern and scoring of the assessments before the examination.
- Professional examination will be taken by RMU.

5. Weekly LMS (learning management system) assessment of LGIS and SDL

- There will be weekly assessment of LGIS and SDL of whole week at end of week through LMS.
- The LMS result will be shared by module coordinator and DME through vice chancellor on weekly basis.

6. Eligibility to appear in End Block Assessment (EBA)

- This will be applicable to all the blocks of undergraduate program
- 90% 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 after poor performance

90% and above	20 marks
80-89%	10 marks
70-79%	5 marks
Below 70%	-5 marks
[illegible]	[illegible]

7. Eligibility to appear in Pre-Annual Assessment (PAA)

- 90% attendance in each block is required to appear in PAA
- It is mandatory to appear in all EBA to appear in PAA
- Appraisal letter from head of departments will be needed to appear in pre-annual assessment.

8. Attendance policy

- 90% attendance in each block is required to appear in PAA □ There will be extra marks given as per rules.
- Attendance of the students will be shared by coordinator of module and DME through vice chancellor RMU on weekly basis.

- These marks will be counted in annual professional assessment.

9. Eligibility to appear in annual professional assessment

- Minimum 60% score in pre-annual assessment is required to appear in annual professional examination.
- Written and practical /OSPE/OSCE should be passed separately.

10. Passing criteria in annual professional examination

 60% marks will be needed to pass annual professional examination.

11. Total break up of assessment score

 Annual professional exam weightage 70%

 Continuous internal assessment weightage 30%

Internal Assessment

Continuous Internal Assessment means the assessment based on continuous internal assessment (CIA) tests and assignments given to the students during an academic period.

Break up of internal assessment is as follows:

<table>
<tr><td colspan="2">Continuous Internal assessment (CIA) 100%</td><td>50% end block assessment (summative)</td></tr>
<tr><td><u>End module-I</u> (25%)
End module 10
LMS 03
Attendance 02</td><td><u>End block-1</u> (25%)
End block 10
LMS 03
Attendance 02</td><td></td></tr>
<tr><td colspan="2">Work place based assessment (WPBA) 50% Further division of 50% WPBA</td><td></td></tr>
</table>

Ward test (50%)	Histories (20%)	Case presentation (10%)	Log books (10%)	Research (10%)

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.

12. Research publication marks

- Extra marks will be given to students who will publish research article in student journal, resident journal or faculty journal.
- These marks will be adjusted in viva.

Name of journal	**Marks**
Faculty journal	20 marks
Resident journal	15 marks
Student journal	10 marks

Blue Print For Module Assessment for Fourth Year MBBS

Blue print of assessment of 4th year MBBS

Table of Specification

Module Examination Include

Written Theory Based Assessment

Audio Visual Aid assisted Assessment

Modules	Subject	MCQs*	Marks	EMQs*	Marks	SAQs*	Marks	SEQs*	Marks	Core Subject 70%			Horizontal & Vertical			Spiral Integration 10%			Total Marks	Total Time	AV OSPE*		Time	AED Reflective	Total Time of Module Assessment
										MCQs	EMQs	SAQ/SEQ	MCQs	EMQs	SAQs/SEQs	MCQs	EMQs	SAQs/SEQs			Stations	Marks			
ENT I&II	community medicine	25	25	1	5	5	25	5	45	19	1	7	4	0	2	2	0	2	100	3 HRS	10	50	50 min	45 mins	4 hrs 35 minutes

Modules	Subject	MCQs*	Marks	EMQs*	Marks	SAQs*	Marks	SEQs*	Marks	Core Subject 70%			Horizontal & Vertical			Spiral Integration 10%			Total Marks Theory	Total Time	AV OSPE*		Time	AED Reflective	Total Time of Module Assessment
										MCQs	EMQs	SAQ/SEQ	MCQs	EMQs	SAQs/SEQs	MCQs	EMQs	SAQs/SEQs			Stations	Marks			
EYE I&II	community medicine	25	25	1	5	5	25	5	45	19	1	7	4	0	2	2	0	1	100	3 HRS	10	50	50 min	45 mins	4 hrs 35 minutes

Modules	Subject	MCQs*	Marks	EMQs*	Marks	SAQs*	Marks	SEQs*	Marks	Core Subject 70%			Horizontal & Vertical			Spiral Integration 10%			Total Marks	Total Time	AV OSPE*		Time	AED Reflective	Total Time of Module Assessment
										MCQs	EMQs	SAQ/SEQ	MCQs	EMQs	SAQs/SEQs	MCQs	EMQs	SAQs/SEQs			Stations	Marks			
endocrinology	community medicine	25	25	1	5	5	25	5	45	19	1	7	4	0	2	2	0	1	100	3 HRS	10	50	50 min	45 mins	4 hrs 35 minutes

Modules	Subject	MCQs*	Marks	EMQs*	Marks	SAQs*	Marks	SEQs*	Marks	Core Subject 70%			Horizontal & Vertical			Spiral Integration 10%			Total Marks Theory	Total Time	AV OSPE*		Time	AED Reflective	Total Time of Module Assessment
										MCQs	EMQs	SAQ/SEQ	MCQs	EMQs	SAQs/SEQs	MCQs	EMQs	SAQs/SEQs			Stations	Marks			
reproduction	community medicine	25	25	1	5	5	25	5	45	19	1	7	4	0	2	2	0	1	100	3 HRS	10	50	50 min	45 mins	4 hrs 35 minutes

Modules	Subject	MCQs*	Marks	EMQs*	Marks	SAQs*	Marks	SEQs*	Marks	Core Subject 70%			Horizontal & Vertical			Spiral Integration 10%			Total Marks	Total Time	AV OSPE*		Time	AED Reflective	Total Time of Module Assessment
										MCQs	EMQs	SAQ/SEQ	MCQs	EMQs	SAQs/SEQs	MCQs	EMQs	SAQs/SEQs			Stations	Marks			
renal	community medicine	25	25	1	5	5	25	5	45	19	1	7	4	0	2	2	0	1	100	3 HRS	10	50	50 min	45 mins	4 hrs 35 minutes

Modules	Subject	MCQs*	Marks	EMQs*	Marks	SAQs*	Marks	SEQs*	Marks	Core Subject 70%			Horizontal & Vertical			Spiral Integration 10%			Total Marks Theory	Total Time	AV OSPE*		Time	AED Reflective	Total Time of Module Assessment
										MCQs	EMQs	SAQ/SEQ	MCQs	EMQs	SAQs/SEQs	MCQs	EMQs	SAQs/SEQs			Stations	Marks			
CNS	community medicine	25	25	1	5	5	25	5	45	19	1	7	4	0	2	2	0	1	100	3 HRS	10	50	50 min	45 mins	4 hrs 35 minutes

LMS Based Assessment

Skill lab Assessment(OSPE)

Laboratory-Based Assesment

OBSERVED & STRUCTURED VIVA EXAMINATION(OSVE)

BLOCK	LMS Based Assessment				Lab OSPE*				Time**	OSVE***				Time
	Subjects	MCQs*			Observed	Marks	Unobserved	Marks		Module 1		Module 2		
		ENT I	ENT II	ENT 1 & II						Viva Marks	Book Marks	Viva Marks	Book Marks	
(BLOCK I)	community medicine	15	15	30	10	50	10	50	6 hrs	45	5	45	5	4 hrs
	LMS Based Assessment				Lab OSPE*					OSVE***				

Weekly LMS Based Assessment

Table of Specification

Sheet1

Proposed final Assessment Blue Print of 4th year

LMS Based Assessment												
5kill la b Assessment[D5PE|												
Laboratory-Based Assesment												
OBSERVED B STRULTURE D VIVA EXAMINATI ON|^SVE												
	LMS Based Assessment			Lab OSPE"					OSVE"""			
BLOCK	Subjects	MCQs*		Observ ed	Marx	u b d .	Marks	Time**	Module I		Module 2		me
		ENT I	ENT II	ENT 1 & II					Viva Marks	Book Marks	V1va Marks	Book Marks	
fBLDCK I]	community medicine	15	15	SO	1O	5O	1O	5O	6hrs	O5	5	45	5	4hrs
	LMS Based d		ssessment		La b O	PE"			OS'	E"""			
BLO€K	Subjects	MCQs'		ed	Mr' "	erved	Mr'"		Module I		ModU" 2		Time
		EYE I	EYE II	EYE 1 & II					Viva Marks	Book Marks	Viva Marks	Book Marks	
(BLOCK II}	community medicine	15	15	30	10	TO	10	TO	o hrs	45	5	45	5	4 hrs
	Subjects	McQs'		Observ ed	Mr' "	UnObG erved	Mr'"		Module I		Module 2		
		Endocr inok›g	Repro ductio						Riva Marks	Book Marks	Riva Marks	Book Marks	
(BLO€K III}		15	15	30	10	I/0	10	I/0	6 hrs	45	5	45	5	4 hrs

WeeMy LM5 Based Assessment

Table of Specification

Subjects

No of MCQs* 15

Marks/MCQ **15**

*MCQ=I Mark each, I min each

	community medicine									

BLOCK	LMS Based Assessment				rab OSPE*					OSVE'""				
	Subjects	MCQs'			ed	Mr'"	erved	Marks	Time**	Module I		Module 2		
		Renal	CNS	1 & II						Viva Marks	Marks	Viva Marks	Book Marks	e
(BLOCK IV}	community medicine	15	15	30	10	SO	10	SO	6 hrs	45	S	45	S	4 hrs

*M Q=1 Mark each	*EMQ= S Mark each	*SAQ= S Mark each	*SEQ= 9 Mark each 15 min each

**Time=1 Round of 40 Students =80 min
**Time=3 Round of 40 Students = 240 min
*"DSVE=Time per student=Smins

SECTION XII

LMS Assessments

As current era of globalization and digitalization has significantly transformed the landscape of education. On one hand, it has introduced new challenges for institutions, teachers, and students. On the other hand, it has fostered innovation and inspired a renewed commitment to delivering quality education.

This manual has been developed to ensure that online learning is standardized across the five years of medical education and four years of dental education while maintaining a high standard of quality. It serves as a comprehensive policy guideline for online teaching and learning. The document provides detailed information on the learning management system (LMS), curricular framework, online assessment policy, student support services, quality assurance mechanisms, and QEC proformas for feedback. Additionally, it includes a faculty training plan designed to make online teaching more interactive and effective.

The development of a learning management system (LMS) tailored to the needs of RMU students and faculty highlights the institution's commitment to delivering quality education during these challenging times. The LMS has been designed in accordance with the standards and guidelines set by the Higher Education Commission (HEC) and Pakistan Medical and Dental Council (PMDC) . Along with course materials, the system includes an integrated mechanism for tracking student progress through quizzes and assignments. Moreover, the online assessment component ensures adherence to the academic calendar in both letter and spirit. These assessments are primarily formative in nature. In future it is planned to include evaluation proformas have also been incorporated into the LMS to facilitate regular and periodic feedback from key stakeholders, embedding a culture of monitoring and continuous quality improvement.

We sincerely hope and pray that our dedicated efforts to safeguard our students' valuable time will yield positive outcomes, reflected in stakeholder satisfaction. We aspire for this initiative to become a significant milestone in further enhancing the established credibility of the institution.

LEARNING MANAGEMENT SYSTEM RMU

- A campus management system is being utilized as a learning resource.
- Faculty members from all disciplines, both basic and clinical, have been actively involved and trained in using these systems to deliver lectures effectively.
- The faculty is responsible for uploading lectures, assignments, and weekly assessments. Each student has been provided with a unique login to access the lectures and resources on the LMS.
- Attendance for each academic activity—lectures, interactive sessions, quizzes, and assignments—is recorded separately.

 Faculty members are required to mark attendance immediately after each lecture

Objectives of a Learning Management System (LMS) for Undergraduate Medical Students

The primary objective of a Learning Management System (LMS) for undergraduate medical students is to enhance the quality of medical education by providing a comprehensive, interactive, and accessible digital platform that facilitates:

Efficient Delivery of Educational Content:

To enable faculty to upload and organize lectures, assignments, assessments, and other learning resources systematically.

Student-Centered Learning:

To promote self-paced, flexible learning by granting students 24/7 access to educational materials tailored to their curriculum.

Interactive and Engaging Learning:

To foster active engagement through features like discussion forums, quizzes, and virtual interactive sessions.

- **Streamlined Academic Monitoring:**

  To track student attendance, performance, and progress through automated attendance marking, assessments, and progress dashboards.

- **Standardization and Quality Assurance:**

To ensure uniformity in educational delivery across various disciplines and compliance with institutional and accreditation standards.

- **Feedback and Continuous Improvement:**

To integrate feedback mechanisms that involve students, faculty, and other stakeholders, driving continuous quality improvement.

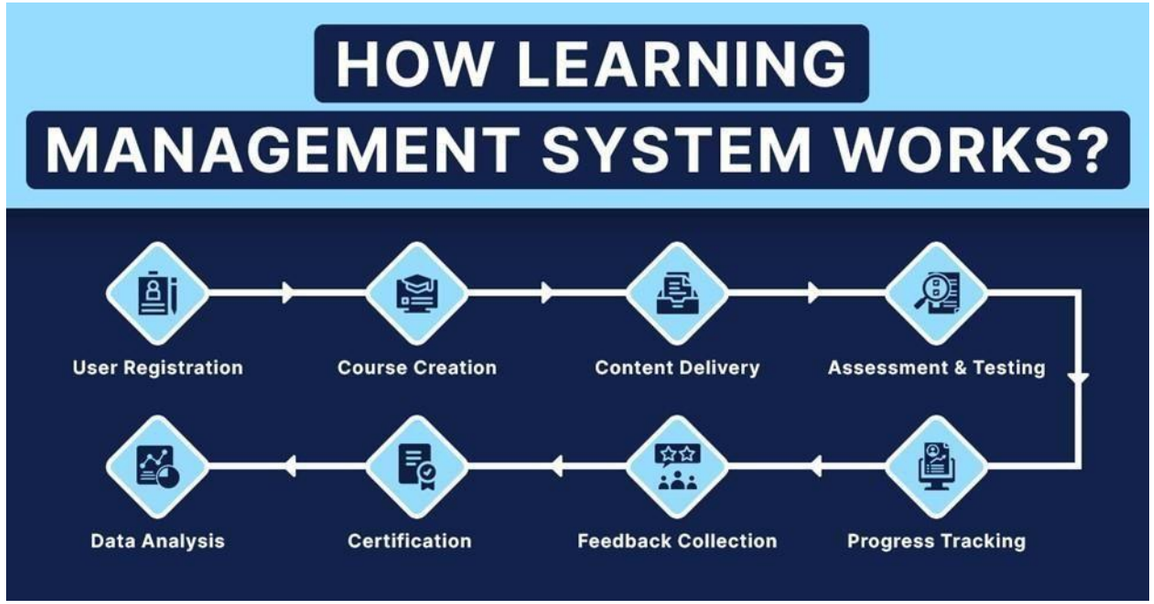
- **Integration of Technology in Medical Education:**

To familiarize students with digital tools and resources essential for modern medical practice and research.

By achieving these objectives, the LMS supports the holistic development of medical students, ensuring they are well-prepared for clinical practice and lifelong learning.

Framework for LMS Assessment for Undergraduate Medical Students

An effective Learning Management System (LMS) assessment framework for undergraduate medical students should be structured to evaluate knowledge, skills, and attitudes systematically. It should also align with educational objectives, regulatory standards, and the specific needs of medical education. Below is a comprehensive framework:


HOW LEARNING
MANAGEMENT SYSTEM WORKS?
User Registration
Course Creation
Content Delivery
Assessment & Testing
Data Analysis
Certification
Feedback Collection
Progress Tracking

1. Goals and Objectives of Assessment

- **Knowledge:** Evaluate understanding of basic and clinical sciences.
- **Skills:** Assess critical thinking, clinical reasoning, and procedural skills.
- **Attitudes:** Foster professionalism, ethical decision-making, and communication skills.
- **Feedback:** Provide timely, constructive feedback to support learning and growth.

2. Components of LMS-Based Assessment

a. Formative Assessments

- **Purpose:** Monitor ongoing learning and identify areas needing improvement. It includes o Online quizzes (MCQs, EMQs) o Short assignments or reflections
  - o Case-based discussions
  - o Interactive polls during live sessions
- **Schedule:** Weekly or module-specific

b. Practical/Skill-Based Assessments

- **Purpose:** Assess clinical skills, diagnostic reasoning, and procedural competence. Practical/skill based assessments can be taught through o Virtual simulations (e.g., diagnostic procedures, patient management)
  - o Video submissions demonstrating skills (e.g., history-taking, physical examination) o Peer assessment of clinical skills via uploaded videos

c. Attendance and Participation.

Its purpose is to encourage consistent engagement in academic activities. Student's attendance is actively monitored through LMS via

- o Attendance tracking for lectures, discussions, and interactive sessions. o Participation metrics (e.g., activity in discussion forums, live Q&A sessions).

d. Feedback Mechanisms: Its purpose is to enhance learning and improve course delivery. Feedback monitoring can be done by following mechanisms:

- Embedded feedback forms after each session or activity. o Peer and faculty reviews of assignments and projects. o Self-assessment tools for reflection on progress.

3. Assessment Tools and Formats

- **MCQs/EMQs:** Test foundational knowledge and application.
- **OSCE Simulations:** Evaluate clinical reasoning and procedural skills.

- **Interactive Tools:** Use polls, chat, and breakout rooms for real-time engagement.
- **Assignments:** Assess understanding through essays, case reports, or reflections.
- **Group Projects:** Foster teamwork and problem-solving skills.

Implementation Strategies

- **Faculty Training:** Equip faculty with skills to design and deliver online assessments.
- **Student Orientation:** Familiarize students with LMS tools and expectations.
- **Tech Infrastructure:** Ensure robust LMS functionality and technical support.
- **Accessibility:** Provide accommodations for students with disabilities or limited resources

5. Quality Assurance and Continuous Improvement

- **Evaluation Proformas:** Gather periodic feedback from students and faculty.
- **Data Analytics:** Use LMS analytics to track student performance and participation.
- **Audit Mechanisms:** Regularly review and update the assessment framework.
- **Stakeholder Input:** Incorporate suggestions from students, faculty, and external reviewers.

6. Compliance with Regulatory Standards

Launching of LMS in RMU is in alignment with regulatory bodies . Digital learning at RMU aims at

- Alignment assessments with accreditation and medical council guidelines (e.g., HEC, WFME).
- Ensure assessments address core competencies, including knowledge, skills, and professionalism.

This LMS assessment framework integrates diverse evaluation methods to ensure holistic learning and competency development in undergraduate medical students. It fosters an interactive, adaptive, and equitable learning environment, preparing students for the demands of modern medical practice.

LMS ASSESSMENT DOCUMENT 4TH YR MBBS 2024
Otorhinolaryngology Block X, Module XIX

ENT Content

Sr #	Schedule Wks.	Topics of LGIS &SGD*	Topics Of SDL	Learning Objectives of SDL	Learning resources	Mode of assessment

1.	Wk. 1	• Anatomy of ear and vestibular system • Physiology of ear and vestibular system • Acute otitis externa • Malignant otitis externa • Acute otitis media • Otitis Media with effusion • Eustachian tube catarrh	Radiology of ear and mastoid	• Radiological investigations done for ear and mastoid • X ray mastoid oblique view, CT scan temporal bone (axial, coronal views) • Indications of radiological investigations Findings on radiological investigations	Diseases of Ear Nose and Throat & Head and Neck Surgery, 4th edition PL Dhingra Section IX page 386	LMS Based MCQS
2.	Wk. 2	• Chronic otitis media • Complications of chronic otitis media • Epistaxis and management	Vasomotor Rhinitis and its differentials	• What is vasomotor rhinitis • Etiology • Investigations Management	Diseases of Ear Nose and Throat & Head and Neck Surgery, 4th edition PL Dhingra Section II page 160	LMS Based MCQS
		• Types of hearing loss and their management				

3.	Wk. 3	□ □ □	Facial nerve palsy Otosclerosis Causes of otalgia and referred otalgia	Acute otitis media/Chronic otitis media / Cholesteatoma	• Definition • Etiology • Investigations • Treatment options Surgical options	Diseases of Ear, Nose and Throat & Head and Neck Surgery, 4th edition PL Dhingra Section I pages 61,66	LMS Based MCQS

Community Medicine Content ENT Module I

Sr #	Wks.	Topics of LGIS &SGD*	Topics Of SDL	Learning Objectives of SDL	Learning resources	Mode of assessment
1.	Wk. 1	Fundamental concepts of Preventive medicine- I Fundamental concepts of Preventive medicine- II Levels of prevention	An exercise of Measurement of Morbidity	• Concepts & formulae of Epidemiologic tools used for measurements of diseases in the community. • Various types of morbidity rates • Calculation of Incidence Rate Prevalence Rate Relation b/w Incidence and Prevalence	K. Park Ed. 27th page177	LMS Based MCQS
2.	Wk. 2	Fundamental Concepts & Uses of Epidemiology	COVID 19	• Describe public health importance of COVID in global and local context. • Describe the epidemiology of COVID	K. Park Ed. 27th Page 163	LMS Based MCQS

				• Enlist the modes of transmission and incubation period of COVID • Identify the high-risk individuals who are most susceptible to get these diseases. • Diagnose the cases based on signs and symptoms. • Enlist the complications of COVID • Recommend prevention and control measures of COVID in community.		

3.	Wk. 3	Analytical studies (casecontrol studies	INFUENZA	• Describe public health importance of influenza in global and local context. • Describe the epidemiology of influenza • Enlist the modes of transmission and incubation period of influenza • Identify the high-risk individuals who are most susceptible to get these diseases. • Diagnose the cases based on signs and symptoms. • Enlist the complications of influenza • Recommend prevention and control measures of influenza in community.	K. Park Ed. 27th page177	LMS Based MCQS

				Differentiate between antigenic drift and antigenic shift with reference to Influenza		

ENT Content

Sr #	Wk	Topics of LGIS & SGD*	Topics Of SDL	Learning Objectives of SDL	Learning resources	Mode of assessment
4.	Wk 4	• Acute Chronic tonsillitis • Peritonsillar abscess • Retropharyngeal abscess • Parapharyngeal abscess • Adenoiditis	Laser and cryosurgery in otorhinolaryngology	• Types of lasers • Uses of lasers in ENT • Hazards of lasers	Ear, Nose and Throat, Self-Assessment and Self-Evaluation Manual, 7th Edition, PL Dhingra Section VII pages 315, 317	LMS Based MCQS
		• Vocal nodules □ Vocal polyps □ Reinke's edema • Ludwigs angina • Diseases of salivary glands	Anatomy and physiology of esophagus, trachea, bronchi	• Anatomy of esophagus, trachea, bronchi • Physiology of esophagus, trachea, bronchi Anatomical variations	Diseases of Ear, Nose and Throat & Head and Neck Surgery, 4th edition PL Dhingra Section V, VI pages 259, 301	LMS Based MCQS

Community Medicine content

*For LOS of LGIS & SGD Ref To Study Guide of otorhinolaryngology block

Sr #	Wks.	Topics of LGIS &SGD*	Topics Of SDL	Learning Objectives	Learning resources	Mode of assessment
1.	Wk. 1	• Non probability sampling • Sample size • Probability sampling	Comparative review of all Epidemiological study designs	• Comprehend & differentiate parallel concepts of all study designs • Choose right study designs in given scene • Choose right analytical techniques for the given study design • Comprehend & choose right study population / groups for the study • Comprehend & apply	K Park Ed. 27th	LMS Based MCQS

				right statistical techniques		

2.	Wk. 2	• Smallpox • Chicken Pox • Measles • Association & Causation • Measurement of mortality	Epidemiologic Investigation	• Describes public approach to deal with disease outbreaks & epidemics. • Classify types and levels diseas e epidemics or outbreaks. • Explain steps of investigating a disease outbreak situation. • Delineates epidemiologic investigation levels	K. Park Ed. 27th Page no. 146	LMS Based MCQS

Sr #	Wks.	Topics of LGIS &SGD*	Topics Of SDL	Learning Objectives	Learning resources	Mode of assessment
1.	Wk. 1	• Blepharitis • Ptosis • Non neoplastic and neoplastic lid mass • Ophthalmia neonatorum • Infective conjunctivitis • Allergic conjunctivitis • Dry eye syndrome • Corneal ulcers; diagnosis and management	Fungal Keratitis	• Signs and Symptoms of fungal keratitis • Pathophysiology • Investigations Treatment plan	• Kanski's Clinical Ophthalmology 9th edition Chapter 7, Page # 216 - 218 • Clinical Ophthalmology by ShafiM.Jatoi 5th edition Chapter 8, Page # 90-92 https://eyewiki.aao.org/Fungal_Keratitis	LMS Based MCQS

2.	Wk. 2	• Refractive errors/ refractive surgery • Uveal tissue Complications of uveitis and its treatment	Congenital Glaucoma	• Signs of symptoms of Congenital Glaucoma • Differential diagnosis of watering in neonates	Kanski's Clinical Ophthalmology 9th edition Chapter 11, Page # 395 - 398	LMS Based MCQS

				□ Clinical evaluation in pediatric group Management	□ Clinical Ophthalmology by ShafiM.Jatoi 5th edition Chapter 11, Page # 156- 159 https://www.aao.org/we binar-detail/primaryseconda ry-surgerycongenital- glaucoma	
3.	Wk. 3	□ Facial nerve palsy □ Otosclerosi s Causes of otalgia and referred otalgia □	Steroid induced Glaucom a	• Pathophysiology • Types of steroids causing glaucoma and their route of administration • Know about steroi d responders Management	• Kanski's Clinical Ophthalmology 9th edition Chapter 11, Page # 388 • Clinical Ophthalmology by ShafiM.Jatoi 5th editio n Chapter 11, Page # 155 https://doi.org/10.101 6/j .survophthal.2020.01.0 0	LMS Based MCQS

					2	

Sr #	Wks.	Topics of LGIS &SGD*	Topics Of SDL	Learning Objectives	Learning resources	Mode of assessment
1.	Wk. 1	Data analysis (Inferential statistics) Screening I Screening II	Health planning& management (Evaluation of health services)	Explain 7 steps of evaluation. Comprehend elements of evaluation.	K Park text book of preventive & social Medicine 26th edition (882-3)	LMS Based MCQS
2.	Wk. 2	Health education Prevention and control of Blindness, accidents & injuries in population	Communication for health education	• Apprise among three models of health education. • Explain steps of planning for Health education. Differentiate six stages of transtheoretical model of change	K Park text book of preventive & social Medicine 26th Edition (Chapter 19, 859, 867) Maxcy-Rosenau-Last Public	LMS Based MCQS

					health & preventive medicine (15th Edi Chapter53)	

3.	Wk. 3	• Primary Health care MDGs, SDGs • Hospital Waste Management Planning & Management	Emporiatrics	• Define Emporiatrics • Enlist health risks related to travel • Define Role of health physician in Emporiatrics Enlist Recommended vaccines for travelers	K Park textbook of preventive & social Medicine, 26th Edition, Chapter 5	LMS Based MCQS

Sr #	Wks.	Topics of LGIS &SGD*	Topics Of SDL	Learning Objectives of SDL	Learning resources	Mode of assessment
1.	Wk. 1	• Proptosis • Orbital/ preseptal cellulitis Thyroid eye disease	Strabismus and Amblyopia Complications of Cataract surgery	• What is amblyopia • Different types of squint • Assessment of squint • Management plan • Types of Cataract surgery • Pre op and post op complications • Management of complications	Kanski's Clinical Ophthalmology 9th edition Chapter 18, Page # 707 - 708Clinical Chapter 22, Page # 282 - 283 https://aapos.org/glossary/amblyopia Kanski's Clinical Ophthalmology 9th edition Chapter 10, Page # 325 - 335 Clinical Ophthalmology by ShafiM.Jatoi 5th edition Chapter 10, Page # 128 131https://eyewiki.aao.org/Cataract Surgery Complications	LMS Based MCQS

2.	Wk. 2	• Cataract; clinical features and management • Different types of cataract surgeries and their complications	Approach to Leukocoria Idiopathic intracranial hypertension	• Differential Diagnosis of Leukocoria • Different sight and life threating conditions • Clinical evaluation and investigations	Kanski's Clinical Ophthalmology 9th edition Chapter 20, Page # 864 Clinical Ophthalmology by ShafiM.Jatoi 5th edition Chapter 10, Page # 117	LMS Based MCQS

		Ectopia lentis; diagnosis and management		Management plan Signs and symptoms Differential diagnosis Role of Lumber puncture and MRI Management plan	https://www.aao.org/eyenet/article/stepwiseapproach-to-leukocoria Kanski's Clinical Ophthalmology 9th edition Chapter 19, Page # 769 - 770 Clinical Ophthalmology by ShafiM.Jatoi 5th edition Chapter 16, Page # 223 - 225 https://doi.org/10.1016/ S1474-4422(06)70442-2	

Community Medicine Content

Sr #	Wks.	Topics of LGIS &SGD*	Topics Of SDL	Learning Objectives	Learning resources	Mode of assessment
1.	Wk. 1	HMIS-Health Management Information System	Geriatrics	• Differentiate between geriatrics and gerontology • Explain the public health importance of geriatrics • Enlist common	K Park textbook of preventive & social Medicine, 26th Edition Chapter 10	LMS Based MCQS

				health and other problems related to old age • Recommend preventive, rehabilitative measures for older age health problems required to be adopted in travel • Knowledge of high-risk group of travelers		

				Appreciate the role of health physicians in giving health advise to travelers		
2.	Wk. 2	• Hospital Administration	Surface-Infection HIV / AIDS a Global pandemic	Describe lab findings & their significance with HIV infection. Classify WHO recommended ARV treatments guidelines / regimens.	K Park textbook of preventive & social Medicine 26th Edition Chapter5	LMS Based MCQS

*For LOS of LGIS & SGD Ref to Study Guide of ophthalmology block

Pathology content

Sr #	Wks.	Topics of LGIS &SGD*	Topics Of SDL	Learning Objectives of SDL	Learning resources	Mode of assessment
1.	Wk. 1	• Anatomy of ear and Hypothyroidism and Thyroid Tumors • Hyperthyroidism	contributions of the endocrine system to homeostasis	• Describes the effects of endocrine system on homeostasis.	Robin Basic Pathology 10th Edition Chapter Endocrine System Page: 749	LMS Based MCQS
2.	Wk. 2	• Diabetics mellitus • Adrenal Gland/ Hyperadrenalism	Summarize the site of production, regulation, thyroid gland	• Discuss steps of production and regulation of Thyroid hormone	Robin Basic Pathology 10th Edition Chapter Endocrine System Page: 755 – 756	LMS Based MCQS
3.	Wk. 3	□ Hypoadrenalism and adrenal tumors	Investigations of a case of goiter	• Know basic laboratory investigations of a case of Goiter	Robin Basic Pathology 10th Edition Chapter Endocrine System Page: 762 – 763	LMS Based MCQS

Community Medicine Content

Sr #	Wks.	Topics of LGIS &SGD*	Topics Of SDL	Learning Objectives of SDL	Learning resources	Mode of assessment
1.	Wk. 1	• Non-Communicable • Disease introduction (Hypertension ,CHD) (Diabetes, obesity)	Adolescent health	• Discuss normal adolescent development, its impact on health • Counselling of adolescents with specific conditions	K Park Ed. 27th (pg. 670-73)	LMS Based MCQS
				• Identification of normal growth and pubertal development • Manage common health &mental health conditions, nutritionrelated disorders Identify signs of substance use and substance use disorders		

2.	Wk. 2	□ Non-Communicable Diseases (Cancer)	Epidemiology of Stroke	• Describe problem statement of stroke. • Risk factors of stroke Strategies for stroke control in population	K Park Ed. 27th (pg. 377-78)	LMS Based MCQS
3.	Wk. 3	□Non-Communicable Diseases (Cancer Health care delivery system Health care delivery system of Pakistan □ □	Epidemiology of Rheumatic Heart disease (RHDs)	• Describe problem statement of RHDs. • Epidemiological factors of RHDs. • WHO criteria for diagnosis of RHDs Approaches for Pr(Even)tion of RHDs in population	K Park Ed. 27th (pg. 378-81)	LMS Based MCQS

Pharmacology Content

Sr #	Wks.	Topics of LGIS &SGD*	Topics Of SDL	Learning Objectives of SDL	Learning resources	Mode of assessment
1.	Wk. 1	• Anti-thyroid Drugs I • Anti-thyroid Drugs II • Drugs that Affect • Bone Mineral • Homeostasis I	PostCovid incidence of thyroid diseases and their pharmacological treatment	• define hypothyroidism • Correlate lab results of thyroid function tests and patient's symptoms • Discuss pathophysiology of thyroid disease in association with Covid Discuss the role of drugs used for hypothyroidism in post Covid patients	Thyroid and COVID-19: a review on pathophysiological, clinical and organizationalaspects. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7992516/#:~:text=Thyro id%20and%20COVI2D19%3A%20a%20review%20on%20pathophysiological%2C%20clin ical%20and%20organizational%20aspects	LMS Based MCQS
2.	Wk. 2	Drugs Used in Diabetes I Drugs used in diabetes II Drugs used in diabetes III	Bisphosphonates and bone mineral diseases	• Classify drugs used for bone mineral diseases • Describe mechanism of action and uses of bisphosphonates • Describe adverse effects of bisphosphonates	The Effect of Bisphosphonates on Fracture Healing Time and Changes in Bone Mass Density: METAAnalysishttps://www.frontiersin.org/articles/10.3389/fendo.2021.688269/full#:~:text=10.3389/fendo.2021.688269,The%20	LMS Based MCQS

					Effect%20of%20Bisphosphonates%20on%20Fracture%20Healing%20Time%20and%20Changes%20in	

3.	Wk. 3	Corticosteroid I,II,III	Nuclear receptors coactivators	• Descried Steroid receptor signaling mechanisms • Discuss the role of coactivators in steroid receptor functioning Enumerate the drugs acting through steroid receptor activation	Nuclear Integration of Glucocorticoid Receptor and Nuclear Factor-κB Signaling by CREB-binding Protein and Steroid Receptor Coactivator https://www.jbc.org/article/S0022-9258(19)59316-4/fulltext#:~:text=Nuclear%20Integration%20of%20Glucocorticoid%20	LMS Based MCQS

Sr#	Wks.	Topics of LGIS & SGD*	Topics Of SDL	Learning Objectives of SDL	Learning resources	Mode of assessment
1.	Wk. 1	• Malignant diseases of cervix. • Benign Diseases of Uterus	Diseases of Penis	• Abnormalities /Malformations of Penis • Describe briefly about inflammatory diseases of Penis Explain Neoplastic lesion of Penis	Robbins Basic Pathology 9th Edition Chapter 17 male genetal system Pg 658-659	LMS Based MCQS
2.	Wk. 2	• Benign diseases of ovary • Malignant diseases of Ovary.	prostatitis	• Categorize different types of prostatit is • Explain etiology	Robbins Basic Pathology 9th Edition Chapter 17 male genetal	LMS Based MCQS

					system Pg 658-659	
				❑ clinically presentat i on of prostatitis diagnosis of prostitis		

3.	Wk. 3	Benign Non neoplastic lesions of breast Benign neoplasm of breast	Fibrocystic changes of Breast	• explain fibrocystic changes of breast • explain briefly types of changes • describe the morphology how the fibrocystic changes are related to breast carcinomas	Robbins Basic Pathology 9th Edition Chapter 17 male genetal system Pg 658-659	LMS Based MCQS

4.	Wk. 4	Malignant neoplasm of breast BPH, prostatic cancer, testicular atrophy, seminoma	Polycystic ovarian disease	Define PCOD What is conical presentation of PCOD Investigation of PCOD Morphological changes of PCOD	Robbins Basic Pathology 9th Edition Chapter 17 male genetal system Pg 658-659	LMS Based MCQS
5.	Wk. 5	early pregnancy complications & Non neoplastic placental pathology GTD &, Choriocarcinoma	Disorders of uterus	Define Endometriosis Etiology and clinical features of endometriosis Morphology of endometriosis Describe adenomyosis	Robbins Basic Pathology 9th Edition Chapter 17 male genetal system Pg 658-659	LMS Based MCQS

6.	Wk. 6	Dysfunctional uterine bleeding STD	Epidemiology and risk factors of breast carcinoma	Epidemiology and Risk factors related to breast cancer	Robbins Basic Pathology 9th Edition Chapter 17 mal e genetal system Pg 658-659	LMS Based MCQS
7.	Wk. 7	Male testicular tumors	Classification of sexually transmitted diseases	Classify important STDs according to the pathogens	Robbins Basic Pathology 9th Edition Chapter 17 mal e genetal system Pg 658-659	LMS Based MCQS

Sr #	Wks.	Topics of LGIS &SGD*	Topics of SDL	Learning Objectives of SDL	Learning resources	Mode of assessment
1.	Wk. 1	• Reproductive Health and domiciliary services • Preventive obstetrics	Dynamics of human behavior (Human psychology)	Students should be able to: • Describe dynamics of human behavior in terms of health behavior, illness behavior and treatment behavior • Comprehend learning as Behavior change. Describe 3 types of learning	K Park Ed. 27th (673, 674, 676, 678)	LMS Based MCQS
2.	Wk. 2	• Preventive medicine in pediatrics I • Preventive medicine in pediatrics growth & development II	Ottawa charter on health promotion	Students should be able to: Describe. Explain key areas of action for health promotion	K Park Ed. 27th (30,31)	LMS Based MCQS
3.	Wk. 3	• Demography and population trends, I • Demography and population trends II Demographic transition	Population control	Students should be able to: • Explain element of national pop cont strategy • Explain national pop control policy Population control action program	• Practical Journal of Com-Med Annexure III. • https://pwd.punjab.gov.pk/ https://www.pc.gov.pk/uploads/ plans/Ch4-Population2.pdf	LMS Based MCQS
		• school health service • Handicapped	Reproductive health	Students should be able to: Describe. • early neonatal care • Immediate neonatal care | | Early neonatal examination Neonatal screening	K Park Ed. 27th (532-535	LMS Based MCQS

		• Health economics I • Framework • Public health on global scale	Child Health in context of MCH Services	Students should be able to • Describe determinants of child growth & development • Describe methods assessment of physical growth of child	K Park Ed. 27th (541,42,43,44, -47	LMS Based MCQS
				Explain formation of growth chart.		

		Family planning, I Family planning II	Genetics	• Acquire knowledge about human genetics, genotype, phenotype • Classify genetic diseases • Describe Preventive and social measures of genetic diseases Define euthenics Explain importance of Genetic counselling	Page 764, K-Park	LMS Based MCQS
		National population policy Demographic transitions	Breast feeding Baby friendly hospital initiative (BFHI)	• Procure knowledge about advantages &disadvantages of types of feeding practices. • Acquire knowledge of the hazards associated with feeding of the child. • Appreciate the logic behind the conditions of concern prevailing in the mother during breast feeding. • Identify, the problems associated with feeding and the measures to rectify. • Educate mothers about the steps of weaning Educate the mothers about technique of breast feeding and to advice to Tuberculous mother about lactation	K.Park Page 497 Ed22nd	LMS Based MCQS

Sr #	Wks.	Topics of LGIS &SGD*	Topics Of SDL	Learning Objectives of SDL	Learning resources	Mode of assessment
1.	Wk. 1	• Prolactin antagonist • Gonadal hormones: I • Estrogens	Pharmacological management of dysmenorrhea	Recall the pathophysiology of dysmenorrhea Enlist short- and long-term management strategies of dysmenorrhea Discuss the salient pharmacological feature of different strategies	Mittal R. Medical management of Dysmenorrhea. International Journal of Advance Research, Ideas and Innovations in Technology. 2019;5(1). Harel Z. Dysmenorrhea in adolescents and young adults: an update on pharmacological treatments and management strategies. Expert opinion on pharmacotherapy. 2012 Oct 1;13(15):2157-70.	LMS Based MCQS

2.	Wk. 2	• Gonadal hormones :II Progestin • Gonadal hormones' • Anabolic	Novel endocrine therapies for hormone positive breast cancer	Enumerate hormonal treatments of breast cancer Discuss the mechanism of action of SERM and SERD in breast cancer Give new therapies acting via nuclear estrogen receptors in breast cancer	Lloyd MR, Wander SA, Hamilton E, Razavi P, Bardia A. Next-generation selective estrogen receptor degraders and other novel endocrine therapies for management of metastatic hormone receptor-positive breast cancer: current and emerging role. *Therapeutic Advances in Medical Oncology*. 2022;14. doi:10.1177/17588359221113694	LMS Based MCQS
3.	Wk. 3	□ Hormonal □ contraceptives	Use and abuse of anabolic steroids	Differentiate between androgens and anabolic steroids	Gagliano-Jucá T, Basaria S. Abuse of	LMS Based MCQS

		□ □	Oxytocic drugs and Uterine Relaxants		Discuss the clinical application of anabolic steroids Give the organ effects of anabolic effects Identify the health consequences of abuse of anabolic steroids	anabolic steroids: A dangerous indulgence. Current Opinion in Endocrine and Metabolic Research. 2019 Dec 1;9:96- 101.	
4.	Wk. 4	□	Treatment of infertility	Hormonal therapy for prostate cancer (GnRH antagonist VS ADT)	Identify different agents used in prostate cancer Recognize the role of different hormone receptors in prostate cancer Describe the clinical merits and demerits of different treatment options	Rice MA, Malhotra SV, Stoyanova T. Secondgeneration antiandrogens: from discovery to standard of care in castration resistant prostate cancer. Frontiers in oncology. 2019 Aug 28;9:801.	LMS Based MCQS
5.	Wk. 5	□ □	PK Calculations I PK Calculations				LMS Based MCQS

			II				
6.	Wk. 6	☐	Drugs used in Pregnancy and Lactation				LMS Based MCQS
7.	Wk.7	☐	Hormonal Contraceptives				LMS Based MCQS

*For LOS of LGIS & SGD Ref To Study Guide Of Reproductive Health & Population Medicine Block

CNS & Psychiatry Block Renal Module

Pathology Content

Sr #	Wks.	Topics of LGIS &SGD*	Topics Of SDL	Learning Objectives of SDL	Learning resources	Mode of assessment
1.	Wk. 1	Mechanism Of Glomerular Injury, Nephritic Syndrome(Post Streptococcal Glomerulonephritis) 	Pathogenesis & morphology of primary Glomerular diseases.	• Describe the morphological features and pathogenesis of primary glomerular diseases	Robbins Basic pathology	LMS Based MCQS
2.	Wk. 2	Diseases Causing Nephritic Syndrome IGA Nephropathy ,Hereditary Nephritis,Rpgn, Crescenteric Gn,Immune Complex Mediated Gn	•Pathogenesis &morphology of secondary Glomerular diseases.	• Describe the morphological features and pathogenesis of secondary glomerular diseases	Robbins Basic pathology	LMS Based MCQS
3.	Wk. 3	Pathologic Basis Of Nephrotic Syndrome Primary Glomerular Diseases	•Diabetic Nephropathy	• Know causes morphology & basic laboratory investigations of Diabetic Nephropathy	Robbins Basic pathology	LMS Based MCQS

Community Medicine Content

Sr #	Wks.	Topics of LGIS &SGD*	Topics Of SDL	Learning Objectives of SDL	Learning resources	Mode of assessment

1.	Wk. 1	Entomology I Introduction & Classification of Arthropods of Public Health Importance Entomology II Transmission of Arthropod Infections Diseases transmitted by Arthropods integrated vector management	Antimicrobial resistance, Hospital acquired infections / Nosocomial infections Hospital acquired infections	• Define Antimicrobial resistance. • Causes of antimicrobial resistance • Describe major examples of antimicrobial resistance and possible preventive measures. • Define HAIs. infections and its types. • Surveillance, Sources, & rout of speared of HAI. Explain standard precautions and other measures to prevent HAIs	K Park Ed. 27th (378-81) K Park Ed. 27th (359-61)	LMS Based MCQS
2.	Wk. 2	Vector Born Diseases Epidemiology of Viral Hemorrhagic & fever Malaria Prevention of Leishmaniasis & Scabies & Modes of Transmission of Filariasis	Emerging and Re-emerging health problems /Neglected tropical diseases	• Define emerging and re-emerging diseases • Identify different factors in causation of emerging/re emerging diseases List diseases included, and ways to control	K Park Ed. 27th	LMS Based MCQS

3.	Wk. 3	Snake Bite Disaster Management Zoonotic diseases I	Genetics	Recognize genetics • Identify positive and negative eugenics • Define euthenics Understand genetic counselling	K Park Ed. 27th page 858,863,865	LMS Based MCQS

Pharmacology Content

Sr #	Wks.	Topics of LGIS &SGD*	Topics Of SDL	Learning Objectives of SDL	Learning resources	Mode of assessment
1.	Wk. 1	Carbonic Anhydrase inhibitors	Acute mountain sickness	• Enlist the drugs used for acute mountain sickness • Describe the mechanism of action of acetazolamide	Acetazolamide for the prevention of acute mountain sickness--a systematic review and metaanalysis https://pubmed.ncbi.nlm.nih.gov/22943270/	LMS Based MCQS

2.	Wk. 2	□ Loop Diuretics	Cerebral Oedema	• Enlist the drugs used for reducing cerebral oedema • Describe the mechanism of action of mannitol Discuss the role of mannitol in reducing cerebral oedema	Cerebral Edema and its Management https://www.ncbi.nlm.nih.gov/ .	LMS Based MCQS
3.	Wk. 3	□ Thiazide & Thiazide Like Diuretics	Acute mountain sickness	Discuss the role of acetazolamide for acute mountain sickness prevention	Acetazolamide for the prevention of acute mountain sickness--a systematic review and metaanalysis https://pubmed.ncbi.nlm.nih.gov/22943270/	LMS Based MCQS

CNS Module XXVI

Pathology content

Sr #	Wks.	Topics of LGIS &SGD*	Topics Of SDL	Learning Objectives of SDL	Learning resources	Mode of assessment
1.	Wk. 1	• Infectious diseases of CNS • Diseases of myelin and neurodegenerative	Genetic Metabolic Diseases of CNS	• The student should be able to: Describes the types of Genetic Metabolic Diseases and their effects of brain and spinal cord	Robin Cotran Pathologic basis of disease 10th Edition Chapter The Central Nervous System page 1289-1290	LMS Based MCQS
2.	Wk. 2	• Tumors of CNS • Tumors of Skin management	Toxic and Acquired Metabolic Diseases of CNS	Describe the pathogenesis and morphological changes occurring due to toxic and acquired metabolic diseases in CNS	Robin Cotran Pathologic basis of disease 10th Edition Chapter The Central Nervous System page 1290-1293	LMS Based MCQS

3.	Wk. 3	• Dermatosis & Infections of Skin • Diseases of skeletal muscles and myopathies	Inherited Diseases of Skeletal Muscle	Describe the pathogenesis and genetic defects of various muscle dystrophies and myopathies	Robin Cotran Pathologic basis of disease 10th Edition Chapter Peripheral Nerves and Skeletal Muscles page 1231-1234	LMS Based MCQS

4.	Wk. 4	• Metabolic diseases of bone • Bone Tumors And Tumor-Like Lesions	Peripheral Nerve Sheath Tumors	• Describe the morphology and pathogenesis of various peripheral nerve sheath tumors.	Robin Cotran Pathologic basis of disease 10th Edition Chapter Peripheral Nerves and Skeletal Muscles page 1236-1239	LMS Based MCQS
5.	Wk. 5	Neuropathies, neuromuscular junction disorders	Infections of skin	• Describe the pathogenesis and morphological features of various bacterial and viral skin infections	Robin Cotran Pathologic basis of disease 10th Edition Chapter The skin pages; 1166-1169	LMS Based MCQS
6.	Wk. 6	Inflammatory And Degenerative Diseases Of The Joint	Infectious Arthritis	• Describe the etiology pathogenesis and morphology of infectious arthritis	Robin Cotran Pathologic basis of disease 10th Edition Chapter Bones, Joints, and Soft Tissue Tumors pages;	LMS Based MCQS

					1203-1204	

Community Medicine Content

Sr #	Wks.	Topics of LGIS &SGD*	Topics Of SDL	Learning Objectives of SDL	Learning resources	Mode of assessment
1.	Wk. 1	• Mental Health • Occupational Health	Dynamics of human behavior (Human psychology)	Students should be able to: • Describe dynamics of human behavior in terms of health behavior, illness behavior and treatment behavior • Comprehend learning as Behavior change. Describe 3 types of learning	K Park Ed. 27th (673, 674, 676, 678)	LMS Based MCQS
2.	Wk. 2	• Dynamics of Social Sciences • Medical Anthropology	Concepts of sociology relevant to	□ Comprehend definitions of, Society, community, social structure & institution, social	1. K Park Ed. 27th (670-73)	LMS Based MCQS

				control mechanisms,		

			community medicine	Comprehend customs, culture, social problems, social pathology, case study & field study.		

3.	Wk. 3		Health problems due to industrialization	Mental Health Ethics	Discuss the ethical and legal challenges of the mentally ill and how they are different from those with physical illness with emphasis on their vulnerability and the risks involved. Discuss how the needs of the mentally ill are different from those with physical illness (with emphasis on the concept of consent/capacity; confidentially/sharing of information; working with the families; risk assessment etc) in the context of legal, sociocultural and religious factors in Pakistan	Public health and community Medicine by Ilyas Shah Ansari, 8th edition, Chapter Biomedical ethics(318-328)	LMS Based MCQS
4.	Wk. 4		Types of Learning	Measures of health protection of workers and prevention of	Describe measures of health protection of workers • Discuss various aspects of	K Park , Chapter Occupational Health(756-760)	LMS Based MCQS

			occupational diseases	prevention of occupational diseases		
5.	Wk. 5	Leadership in Health	Community Psychiatry	Describe Operation of	K Park, Chapter Community	LMS Based MCQS

		Ethics of Medical Profession		community psychiatry Enlist Team in community psychiatry Discuss Community Mental health center functions Briefly describe hive system Enlist physical components of community Psychiatry Briefly describe functions of subtypes of community Psychiatry	Mental Health (678-684)	

6.	Wk. 6	Tobacco and Health	Alcohol related problems	Discuss socioeconomic factors related to alcoholism What are special vulnerability situations in alcoholism Enlist major alcohol related problems	K Park, Chapter Mental Health(772-777)	LMS Based MCQS

Pharmacology Content

	Wks.	Topics of LGIS &SGD*	Topics of SDL	Learning Objectives of SDL	Learning resources	Mode of assessment
	Wk. 1	• Central Neurotransmission • Anti – Parkinsonism I • Anti – Parkinsonism II	Role of neurotransmitter in physiology and pathology of CNS	Discuss the role of inhibitory and excitatory neurotransmitters in mental health and disease	Teleanu RI, Niculescu AG, Roza E, Vladâcenco O, Grumezescu AM, Teleanu DM. Neurotransmitters-Key Factors in Neurological and Neurodegenerative Disorders of the Central Nervous System. Int J Mol Sci. 2022 May 25;23(11):5954. doi: 10.3390/ijms23115954. PMID: 35682631; PMCID: PMC9180936.	LMS Based MCQS

	Wk. 2	• Sedative Hypnotics I • Sedative Hypnotics II	Pharmacological treatment of nicotine addiction	Discuss the features of nicotine addiction Describe different pharmacological strategies employed in nicotine addiction	Giulietti, F., Filipponi, A., Rosettani, G. et al. Pharmacological Approach to Smoking Cessation: An Updated Review for Daily Clinical Practice. High Blood Press Cardiovasc Prev 27, 349–362 (2020). https://doi.org/10.1007/ s40292-020-00396-9	LMS Based MCQS

					Pajai D D, Paul P, Reche A (February 16, 2023) Pharmacotherapy in Tobacco Cessation: A Narrative Review. Cureus 15(2): e35086. doi:10.7759/cureus.35086	
3.	Wk. 3	Facial nerve palsy Otosclerosis Causes of otalgia and referred otalgia	Multimodal analgesia	• Identify different agents used for analgesia • Discuss the mechanism of action of different types of analgesics Discuss pain ladder management	Paladini A, Varrassi G. Multimodal pharmacological analgesia in pain management. InPain Management-Practices, Novel Therapies and Bioactives 2020 Sep 3. London, UK: IntechOpen. Ehrlich AT, Kieffer BL, Darcq E. Current strategies toward safer mu opioid receptor drugs for pain management. Expert opinion on therapeutic targets. 2019 Apr 3;23(4):315-26.	LMS Based MCQS

4.		Skeletal Muscle Relaxants I Skeletal Muscle Relaxants II	Fetal outcomes of AED use during pregnancy	Identify different effects of antiepileptic drug on fetus	Nie Q, Su B, Wei J. Neurological teratogenic effects of antiepileptic drugs during pregnancy.	LMS Based MCQS

	Wk. 4			•	taken during pregnancy Recognize antiepileptic drugs considered relatively safe in pregnancy	Experimental and therapeutic medicine. 2016 Oct 1;12(4):2400- Bjørk MH, Zoega H, Leinonen MK, Cohen JM, Dreier JW, Furu K, Gilhus NE, Gissler M, Hálfdánarson Ó, Igland J, Sun Y. Association of prenatal exposure to antiseizure medication with risk of autism and intellectual disability. JAMA neurology. 2022 Jul 1;79(7):672-81.	
	Wk. 5	Local Anesthetics I Local Anesthetics II	Cognitive enhancers		Define cognitive enhancers Describe the mechanism of action of	Malík M, Tlustoš P. Nootropics as cognitive enhancers: types, dosage

5.				cognitive enhancers	and side effects of smart drugs. Nutrients. 2022 Aug 17;14(16):3367. https://www.a.org.uk/media/1068/bma_ cognitive_enhancing_drugs_and_the_workplace _oct_2019.pdf Husain M, Mehta MA. Cognitive enhancement by drugs in health and disease. Trends in	LMS Based MCQS
					cognitive sciences. 2011 Jan 1;15(1):28-36.	

6.	Wk. 6	Anti-seizures I Anti-seizures II	Cognitive enhancers	• Identify the clinical utility of different cognitive enhancers	Malík MTlustošP. Nootropics as cognitive enhancers: types, dosage and side effects of smart drugs. Nutrients. 2022 Aug 17;14(16):3367. https://www.bma.org.uk/media/1068/bma_cognitive_enhancing_drugs_and_the_workplace_oct_2019.pdf Husain M, Mehta MA. Cognitive enhancement by drugs in health and disease. Trends in cognitive sciences. 2011 Jan 1;15(1):28-36.	LMS Based MCQS

*For LOS of LGIS & SGD Ref To Study Guide Of CNS& Psychiatry Block

SECTION-XIII

Feedback & Evaluation

Rawalpindi Medical University is dedicated to advancing equality, diversity, and inclusion across all its activities, processes, and cultural practices, in line with its Public Sector Equality Duties. This commitment encompasses promoting equality and diversity for everyone, regardless of any protected characteristic, working pattern, family circumstance, socio-economic background, political belief, or any other irrelevant distinction. Where pertinent to the policy, decision-making panels will ensure a reasonable gender balance (with at least one man and one woman) and will actively consider the representation of other protected groups.

Principles Feedback from students is essential to inform the development of the University's programmes and to help shape all aspects of their current and future learning and broader experience. The University actively seeks and encourages students to share their views. Our approach aims to create openness, responsiveness and a sense of partnership. **How feedback is received**

 Informal Feedback

Informal feedback is received by day-to-day dialogue between students and staff, **Formal Feedback**

Feedback is received from students in more formal settings. These include:

- **Central survey campaign**

The University regularly invites students to participate in anonymous surveys (Appendix 1).

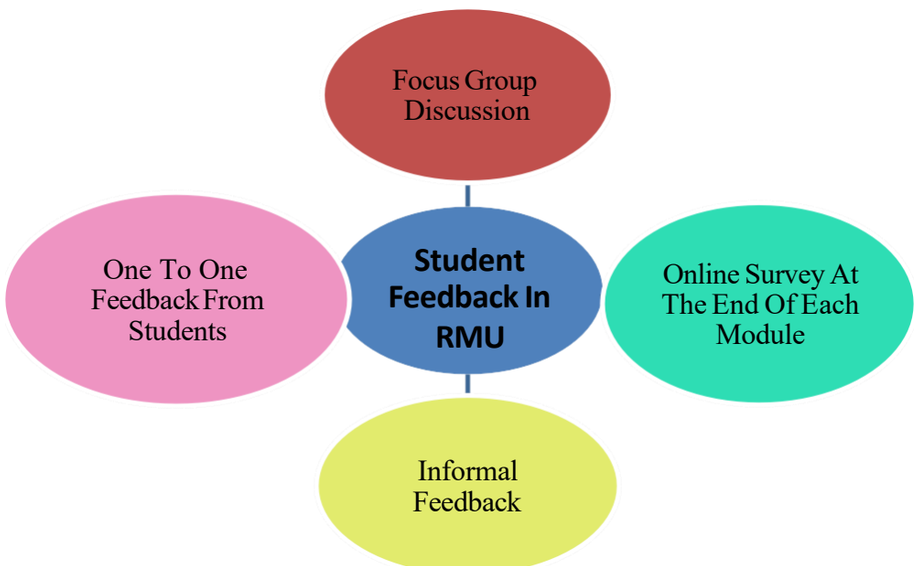
The central surveys take place after every module, after every Block and at the end of the academic year. This schedule enables the University to work in conjunction with the students and help to improve the teaching, learning and assessment methodologies.

- **Focus Group Discussion**

- **One To One Feedback from Students**

Appendix -I Student Feedback Proforma for 2024

(to be conducted after every module completion)



Module Content & Organization

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
The module objectives were informed.					
At the beginning of module study guide was available.					
The module workload was manageable.					
The pace of the module was manageable.					
The module was well organized.					
Module started and ended on time.					
End of block feedback was taken					

Learning Environment and Teaching Methods

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Lectures were delivered appropriately.					
Labs were conducted appropriately.					
Small group discussions were conducted appropriately					
Teaching sessions were as per schedule.					

CBLs were conducted appropriately					
Faculty was cooperative.					
Learning resources were communicated clearly					
SGDs were standardized between different batches					

Quality of Delivery

Learning Resources

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
The module stimulated my interest.					
Ideas were presented clearly.					

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Learning Material was provided / recommended.					
Learning Resources were available in the library.					

Student Contribution

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
I participated actively in the module.					

I believe I have made progress in this module.					

Assessments

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Class tests were conducted regularly.					
Class tests were helpful					
Test difficulty was appropriate.					
Written Assessment was as per Table of Specifications.					
OSPE Exam was as per Table of Specification					
Table of Specification was shared					

LMS and its working

Questionnaire	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
Easy Access to LMS					
Module Content was Available					

Logbooks

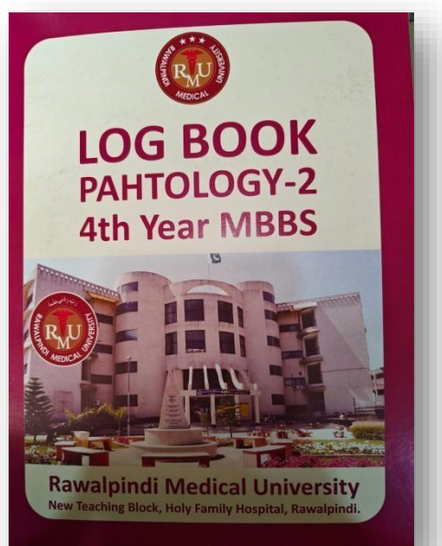
Preamble

Log books are an essential tool for medical students, serving as a record of their learning, skill development, and clinical experience. For 4th year MBBS students, log books provide a structured approach to documenting various practical procedures, patient interactions, and the application of theoretical knowledge in real-world settings. This phase of the MBBS curriculum is crucial, as students transition from basic sciences to hands-on clinical skills, learning to manage and observe patients under supervision.

The purpose of the log book is multifaceted. It helps students track their progress, reflect on their clinical experiences, and ensure competency in essential skills. It also serves as an assessment tool, where faculty can review entries to evaluate student engagement, comprehension, and skills development. In each entry, students are encouraged to note the cases they encounter, procedures performed or observed, diagnostic decisions, and their personal reflections on patient care.

Components of Log Book:

A log book for 4th year MBBS students typically consists of several structured sections to help systematicall y document clinical experiences and skills development. Here are the main parts commonly included:



1. **Personal Details and Goals**:
    - Record your personal information and set pathology objectives (e.g., "Learn to identify common histological findings" or "Understand the lab tests for infectious diseases").

2. **Attendance Record**:
    - Keep track of attendance for lab sessions and any clinical pathology postings, signed by the supervisor.
3. **Histopathology and Cytology Observations**:
    - Document slides or specimens observed, including:

        - Descriptions of normal and pathological tissue findings.
        - Diagnostic features of common diseases (e.g., cancer, tuberculosis, autoimmune disorders).
        - Supervisor's feedback on slide interpretations.
4. **Laboratory Procedures and Techniques**:
    - Record any lab techniques learned or observed, such as:
        - Staining techniques, blood smears, urine analysis, and biopsy processing.
        - Notes on specimen handling, preparation, and diagnostic relevance.
5. **Case-Based Documentation**:
    - For each case, document:
        - Clinical history, lab investigations, and pathology findings.
        - Diagnostic process, including relevant markers or imaging studies.
    - Reflect on the connection between pathology findings and patient symptoms.

General Tips for Completing the Log Books:

- **Consistency**: Regularly update each section during or immediately after patient rounds or procedures.
- **Detail and Clarity**: Document all cases and procedures in clear, concise language, focusing on learning outcomes.
- **Reflection**: Use the reflection sections to internalize key concepts, identify areas for improvement, and reinforce learning.
- **Facilitators Feedback**: Actively seek feedback from facilitators to ensure all competencies are achieved, and use their advice to guide your learning.

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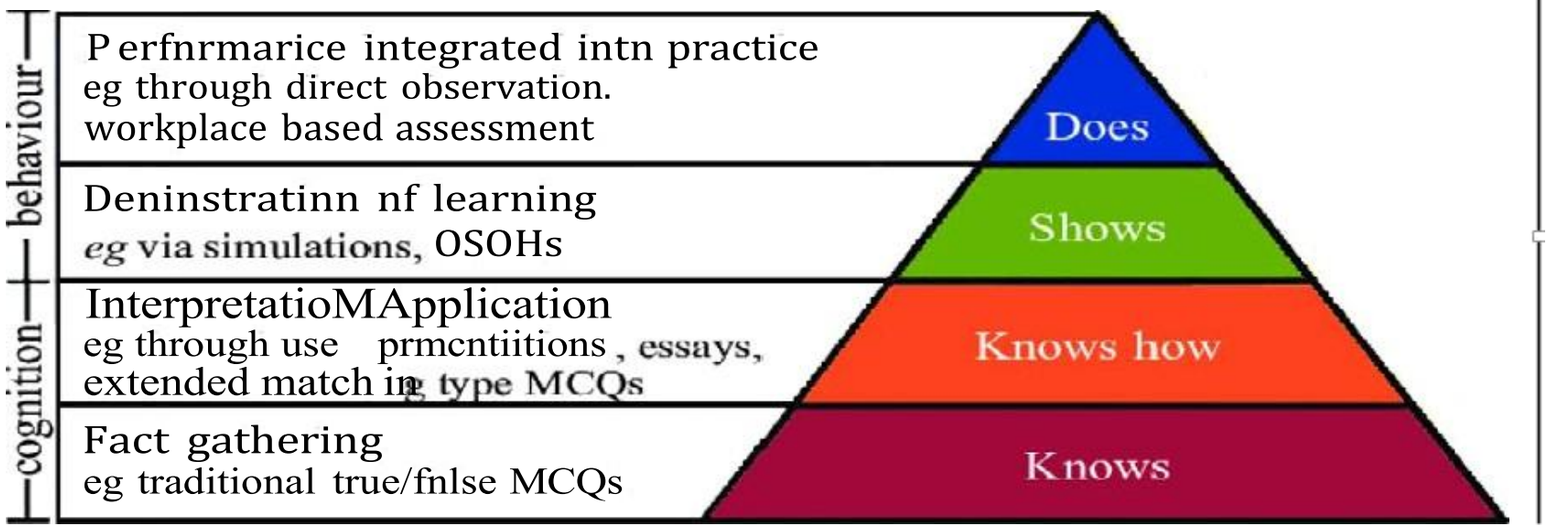

Endocrinology Module

Objectives	Skill	Miller's Pyramid Level Reflected
• Identify gross features and microscopic features such as Massive lymphoplasmacytic infiltration with lymphoid follicles formation and large active germinal center in Hashimoto's thyroiditis • Explain the gross features asymmetrically enlarged gland with Irregular nodules and microscopic features such as varied sized dilated follicles with hyperplastic epithelium in multinodular goiter and grave's disease • Identify microscopic features such as closely packed small follicles lined by cuboidal epithelium, within a fibrous capsule in follicular adenoma	Identification of Thyroiditis, Multinodular goiter	Knows how
• Identify and explain the gross and microscopic features of chronic pancreatitis • Differentiate between normal pancreas and pancreatic adenocarcinoma /pancreatic carcinoma	Identification of Chronic pancreatitis & pancreatic carcinoma	Knows how

Place a **"✓"** in case box if step/task is performed satisfactorily, an **"X"** if it is not performed satisfactorily, or **N/O** if not observed.
Satisfactory: Performs the step or task according to the standard procedure or guidelines
Unsatisfactory: Unable to perform the step or task according to the standard procedure or Guidelines

CHECKLIST FOR IDENTIFICATION OF THYROIDITIS, MULTINODULAR GOITER	CASES (Minimum 1 Entry)

STEP/TASK

Task: **Preparation:** Reviewed relevant theory before the session **PPE:** Wearing lab coat before entering lab. **Task:** • Gross & Microscopic Identification of Thyroiditis such as Massive lymphoplasmacytic infiltration with lymphoid follicles formation and large active germinal center in Hashimoto's thyroiditis • Explain the gross features asymmetrically enlarged gland with Irregular nodules and microscopic features such as varied sized dilated follicles with hyperplastic epithelium in multinodular goiter and grave's disease • Identify microscopic features such as closely packed small follicles lined by cuboidal epithelium, within a fibrous capsule in follicular adenoma	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	
Procedure: 1. Carefully observe the Gross specimen provided. 2. Properly use microscope 🔬 3. Focus & review the provided slides. 4. Identification of the key microscopic features 5. Provide Preliminary diagnosis.	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	
Signature of Supervisor	

CHECKLIST FOR IDENTIFICATION OF CHRONIC PANCREATITIS & PANCREATIC CARCINOMA	CASES (Minimum 1 Entry)
STEP/TASK	
Task: **Preparation:** Reviewed relevant theory before the session **PPE:** Wearing lab coat before entering lab. **Task:** • Examine and identify gross & microscopic pathological changes in Pancreas in Chronic Pancreatitis by slides under microscope. • Drawing and Labelling Microscopic features of Chronic Pancreatitis	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	
Procedure: 1. Properly use microscope 2. Focus & review the provided slides. 3. Identification of the key microscopic features 4. Provide Preliminary diagnosis	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	
Signature of Supervisor	

Reproduction & Health Population Module

Objectives	Skill	Miller's Pyramid Level Reflected
Perform the preparation of cervical smears, simulating sample collection and slide preparation in a 15-minute practice session. Analyse a given cervical smear slide under the microscope, identifying features of CIN and carcinoma within a 5-minute slide observation.	Identification of Cervical carcinoma and screening through cervical smears	Does
Examine and interpret histological slides of ovarian teratomas and hydatidiform moles, identifying characteristic structures such as hair, cartilage (teratoma), and trophoblastic proliferation (mole) within 10 minutes for each specimen. Draw and label key histological features of an ovarian teratoma and hydatidiform mole, noting structures such as differentiated tissues in teratomas and villous changes in moles, in a 10-minute exercise.	Identification of Ovarian teratoma and hydatidiformmole	Knows How

Interpret histology slides of leiomyomas and endometrial carcinomas, accurately identifying the fibromuscular structure in leiomyomas and glandular atypia in carcinomas within a 5-minute observation per slide. Draw and label a cross-section of the uterus, showing typical features of both benign and malignant conditions, within a 10-minute time frame.	Identification of Benign and malignant diseases of the uterus	Knows How
Examine breast tumour histology slides, identifying differences between benign fibroadenomas	Identification of Tumors of the breast	Knows How

(stromal and ductal proliferation) and invasive ductal carcinomas (atypical cells, invasion of basement membrane) within 10 minutes per slide. Draw a labelled diagram of breast tissue, indicating typical features of fibroadenomas and ductal carcinomas in a 10-minute session.		
Review histology slides of seminomas and non-seminomas, identifying features such as large cells with clear cytoplasm in seminomas and varying patterns in non-seminomas (e.g., embryonal carcinoma, yolk sac tumor) within 10 minutes per slide. Sketch a labelled diagram of testicular anatomy, highlighting areas prone to tumor development and noting histologic features relevant to seminomas and non-seminomas, within a 10-minute time frame	Identification of Male testicular tumors	Knows How

Place a **"✓"** in case box if step/task is performed satisfactorily, an **"X"** if it is not performed satisfactorily, or **N/O** if not observed.
Satisfactory: Performs the step or task according to the standard procedure or guidelines
Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Checklist For Identification Of Cervical Carcinoma And Screening Through Cervical Smears	CASES (Minimum 1 Entry)
STEP/TASK	

Preparation
 	
Under this section, students need to come prepared with:
 	
• **Basic Knowledge:**
  ○ Understand the anatomy of the cervix, including the squamocolumnar junction.
  ○ Familiarity with the histopathological features of normal and abnormal cervical epithelium (e.g., dysplasia, carcinoma in situ, invasive carcinoma).
  ○ Knowledge of the Pap smear technique and its role in screening for cervical cancer.
• **Microscopic Slides:**
  ○ Know how to examine histopathological slides of normal, dysplastic, and carcinoma cervix tissues.
  ○ Familiarity with cytological features seen in Pap smears, especially atypical squamous cells, low-grade and high-grade squamous intraepithelial lesions (LSIL, HSIL), and invasive carcinoma.
• **Lab Equipment:**
  ○ Familiarity with the use of light microscopes for viewing histological slides.
  ○ Basic understanding of staining techniques used for Pap smears (e.g., Papanicolaou stain).
 	
2. PPE (Personal Protective Equipment)
 	
Students should wear the following PPE during practical sessions:
 	
• **Lab Coat:** Full-length, knee-length, and properly fitted.	

• **Gloves:** Non-latex gloves for handling slides and specimens. • **Face Mask:** To avoid inhaling dust, debris, and to prevent contamination. **3. Task**	

Under this section, students need to learn and understand the following topics:
 	
• **Cervical Carcinoma Histology:**
  ○ Identification of normal, dysplastic, and malignant cervical tissue on histopathological slides.
• **Gross Examination of Cervix in Cervical Carcinoma:**
  ○ Learn how to perform gross examination of a cervical specimen, including identifying signs of malignancy (ulceration, friability, size, and extent of lesion).
• **Pap Smear:**
  ○ Understand the procedure of performing a Pap smear (e.g., scraping, fixation, preparation of slides).
  ○ Learn how to identify cellular abnormalities in Pap smear slides, including:
  ▪ Squamous cell abnormalities (e.g., atypical squamous cells, dysplastic cells).
  ▪ Glandular cell abnormalities.
  ▪ HPV-related changes.
• **Clinical Correlation:**
  ○ Learn the diagnostic and prognostic value of Pap smears and histological examination in detecting cervical carcinoma.
  ○ Understand how HPV testing is integrated with cytological examination for cervical cancer screening.	

SKILL/ACTIVITY PERFORMED SATISFACTORILY	

Procedure: The students should be able to demonstrate proficiency in the following steps and activities to meet the learning objectives:
 	
• **Histopathology:**
 	
  ▪ Correctly identify normal and abnormal cervical histology under the microscope (e.g., cervical squamous epithelium, basal cells, dysplastic cells, keratinization, stromal invasion).
  ▪ Discuss the histopathological features associated with cervical carcinoma, such as irregular nuclear contour, hyperchromasia, and increased mitotic figures.	

• **Pap Smear:**	

▪ Prepare a high-quality smear from a mock or real sample. ▪ Ensure proper fixation of the smear to preserve cellular morphology. ▪ Examine and identify key features in the Pap smear. ▪ Accurately report the findings of the Pap smear using the Bethesda System. • **Gross Examination:** ▪ Correctly identify and describe any gross abnormalities in cervical tissue specimens (e.g., ulceration, growths, and changes consistent with carcinoma). ▪ Properly document the gross findings (size, location, and appearance) in a systematic manner. • **Clinical Discussion and Diagnosis:** ▪ Discuss the clinical relevance of histopathological and cytological findings, including how they correlate with the patient's clinical history, presentation, and symptoms (e.g., bleeding, pelvic pain). ▪ Be able to explain the diagnostic significance of HPV testing in conjunction with Pap smear and histopathology. • **Safety and Accuracy:** ▪ Students must follow lab safety protocols, ensuring the safe handling and disposal of biological specimens and chemicals. ▪ Students must demonstrate accuracy in identifying abnormalities in both histopathology slides and Pap smear preparations, ensuring no misdiagnosis or oversight.	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	

Checklist For Identification Of Ovarian Teratoma And Hydatidiform Mole	CASES (Minimum 1 Entry)
TASK	
Preparation: Reviewed relevant theory before the session **PPE:** Wearing lab coat before entering lab. **Task:** Gross & Microscopic Identification seminomas and non-seminomas, identifying features such as large cells with clear cytoplasm in seminomas and varying patterns in non-seminomas (e.g., embryonal carcinoma, yolk sac tumor).	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	
Procedure: 1. Carefully observe the Gross specimen provided. 2. Properly use microscope 🔬 3. Focus & review the provided slides. 4. Identification of the key microscopic features 5. Provide Preliminary diagnosis.	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	
Signature of Supervisor	

CHECKLIST FOR IDENTIFICATION OF BENIGN AND MALIGNANT DISEASES OF THE UTERUS	CASES (Minimum 1 Entry)
STEP/TASK	
Task: **Preparation:** Reviewed relevant theory before the session **PPE:** Wearing lab coat before entering lab. **Task:** • Examine, identify and differentiate gross & microscopic pathological changes in uterus during benign and malignant diseases. • Gross Identification and differentiation of Leiomyoma, Adenomyosis, Endometrial carcinoma. • Microscopic identification and differentiation of benign and malignant conditions by slides under microscope. Drawing and labelling microscopic features	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	
Procedure: 1. Carefully observe the Gross specimen provided. 2. Properly use microscope 🔬 3. Focus & review the provided slides. 4. Identification of the key microscopic features 5. Provide Preliminary diagnosis	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	

Signature of Supervisor	

CHECKLIST FOR IDENTIFICATION OF TUMORS OF THE BREAST	**CASES (Minimum 1 Entry)**
TASK	
Preparation: Reviewed relevant theory before the session **PPE:** Wearing lab coat before entering lab. **Task:** Examine and identify gross & microscopic pathological changes in Breast tumors ○ Gross Identification of benign and malignant breast tumor. ○ Microscopic identification of benign tumors and malignant tumors (fibroadenoma, ductal carcinoma in situ DCIS, Invasive ductal carcinoma IDC). ○ Use of diagnostic criteria to differentiate between benign and malignant tumors	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	
Procedure: 6. Properly use microscope 🔬 7. Focus & review the provided slides. 8. Identification of the key microscopic features 9. Provide Preliminary diagnosis.	

SKILL/ACTIVITY PERFORMED SATISFACTORILY	

Signature of Supervisor	

CHECKLIST FOR IDENTIFICATION OF MALE TESTICULAR TUMORS	**CASES (Minimum 1 Entry)**
TASK	
Preparation: Reviewed relevant theory before the session **PPE:** Wearing lab coat before entering lab. **Task:** Gross & Microscopic Identification of Hydatidiform Mole & various types of Ovarian Teratomas. o Complete Hydatidiform Mole o Incomplete Hydatidiform Mole o Benign Ovarian Teratoma o Monodermal Ovarian Teratoma o Malignant Ovarian Teratoma	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	

Procedure: 10. Carefully observe the Gross specimen provided. 11. Properly use microscope 🔬 12. Focus & review the provided slides. 13. Identification of the key microscopic features 14. Provide Preliminary diagnosis.	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	

Signature of Supervisor	

Renal Module

Objectives	Skill	Miller's Pyramid Level Reflected
Identify and differentiate histopathological features of chronic pyelonephritis, such as interstitial fibrosis, tubular atrophy, and chronic inflammatory cell infiltration. Conduct a gross examination of kidney specimens showing the characteristic scarring and deformities seen in chronic pyelonephritis. Systematically record and document histological findings related to chronic pyelonephritis for accurate diagnosis and case discussion.	Identification of Chronic Pyelonephritis	Knows how

Identify distinguishing microscopic features of renal cell carcinoma (such as clear cells and vascular patterns) and transitional cell carcinoma (such as papillary structures and urothelial cell layers). Perform a gross examination of kidney and bladder specimens to observe characteristics specific to each carcinoma type. Systematically document histopathological findings for both renal cell carcinoma and transitional cell carcinoma to support accurate diagnosis and case discussion.	Identification of Renal Cell Carcinoma & Transitional Cell Carcinoma	Shows how

Identify characteristic microscopic findings in Wilms tumor, such as triphasic components (blastemal, stromal, and epithelial elements). Conduct a gross examination of kidney specimens affected by Wilms tumor, noting size, color, and consistency. Systematically record and document histopathological findings to support accurate diagnosis and assist in multidisciplinary discussions	Identification of Wilms Tumor	Knows how

Place a **"✓"** in case box if step/task is performed satisfactorily, an **"X"** if it is not performed satisfactorily, or **N/O** if not observed.
Satisfactory: Performs the step or task according to the standard procedure or guidelines
Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

CHECKLIST FOR IDENTIFICATION OF CHRONIC PYELONEPHRITIS	**CASES (Minimum 1 Entry)**
STEP/TASK	
Task: **Preparation:** Reviewed relevant theory before the session **PPE:** Wearing lab coat before entering lab. **Task**: • Examine and identify gross & microscopic pathological changes in kidneys. • Gross Identification of Chronic Pyelonephritis by external appearance i.e., surface irregularities, broad based corticomedullary scars, dilated and deformed calyces, thinning of cortex. • Microscopic Identification of slides of Chronic Pyelonephritis by identifying tubular thyroidization, fibrosis and chronic inflammatory infiltrate. • Drawing and labelling microscopic findings.	

SKILL/ACTIVITY PERFORMED SATISFACTORILY

Procedure: 1. Properly use microscope 2. Focus & review the provided slides. 3. Identification of the key microscopic features 4. Provide Preliminary diagnosis	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	
Signature of Supervisor	

CHECKLIST FOR IDENTIFICATION OF RENAL CELL CARCINOMA & TRANSITIONAL CELL CARCINOMA	CASES

	(Minimum 1 Entry)
STEP/TASK	
Task: **Preparation:** Reviewed relevant theory before the session **PPE:** Wearing lab coat before entering lab. **Task**: • Examine and Identify distinguishing microscopic features of renal cell carcinoma (such as clear cells and vascular patterns) and transitional cell carcinoma (such as papillary structures and urothelial cell layers). • Identify and distinguish microscopic features of different types of Renal call carcinoma such as Clear cell carcinomas, papillary cell carcinoma and chromophobe carcinoma • Perform a gross examination of kidney and bladder specimens to observe characteristics specific to each carcinoma type. • Systematically document histopathological findings for both renal cell carcinoma and transitional cell carcinoma to support accurate diagnosis and case discussion.	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	
Procedure: 1. Properly use microscope 2. Focus & review the provided slides. 3. Identification of the key microscopic features 4. Provide Preliminary diagnosis	

5. Differentiate between different types of renal cell carcinoma.	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	

Signature of Supervisor	

CHECKLIST FOR IDENTIFICATION OF WILMS TUMOR	**CASES** **(Minimum 1 Entry)**
STEP/TASK	
Task: **Preparation:** Reviewed relevant theory before the session **PPE:** Wearing lab coat before entering lab. **Task**: • Examine and identify microscopic findings in Wilms tumor, such as triphasic components (blastemal, stromal, and epithelial elements). • Conduct a gross examination of kidney specimens affected by Wilms tumor, noting size, color, and consistency. • Systematically record and document histopathological findings to support accurate diagnosis and assist in multidisciplinary discussions	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	

Procedure: 1. Properly use microscope 2. Focus & review the provided slides. 3. Identification of the key microscopic features 4. Provide Preliminary diagnosis 5.Dif	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	
Signature of Supervisor	

CNS & MSK Module

Objectives	Skill	Miller's Pyramid Level Reflected
Identify the morphology of various brain tumors on slide Demonstrate the collection and transport of CSF for routine analysis	Identification of Brain tumors and CNS infections and CSF analysis	Does
Identify the morphology of various skin tumors on a slide	Identification of Skin tumors	Shows
Identify the microscopic morphology of bone tumors and osteomyelitis on slide Identify gross features of Osteomyelitis, benign and malignant bone tumor.	Identification of Tumors of bones and bone infections	Knows how
Identify the morphology of various soft tissue tumors on a slide	Identification of Soft tissue tumors	Knows how

Place a **"✓"** in case box if step/task is performed satisfactorily, an **"X"** if it is not performed satisfactorily, or **N/O** if not observed.
Satisfactory: Performs the step or task according to the standard procedure or guidelines
Unsatisfactory: Unable to perform the step or task according to the standard procedure or

guidelines

CHECKLIST FOR IDENTIFICATION OF BRAIN TUMORS AND CNS INFECTIONS AND CSF ANALYSIS	CASES (Minimum 1 Entry)
TASK	
Preparation: Reviewed relevant theory before the session **PPE:** Wearing lab coat before entering lab. **Task:** Examine and identify gross & microscopic pathological changes in meninges, brain tissue, and CSF. ○ Gross Identification of Acute Pyogenic Meningitis ○ Microscopic identification of Astrocytoma, Oligodendroglioma, Meningioma, Schwannoma ○ CSF Report Analysis	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	
Procedure: 1. Properly use microscope 2. Focus & review the provided slides. 3. Identification of the key microscopic features 4. Provide Preliminary diagnosis.	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	

Signature of Supervisor	

CHECKLIST FOR IDENTIFICATION OF SKIN TUMORS	CASES (Minimum 1 Entry)
STEP/TASK	
Task: **Preparation:** Reviewed relevant theory before the session **PPE:** Wearing lab coat before entering lab. **Task:** Examine and identify gross & microscopic pathological changes in tumors of skin. o Gross Identification of benign skin tumors o Gross identification of squamous cell carcinoma, basal cell carcinoma and melanoma Microscopic identification of squamous cell carcinoma, basal cell carcinoma and melanoma	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	
Procedure: 1. Properly use microscope 🔬 2. Focus & review the provided slides. 3. Identification of the key microscopic features 4. Provide Preliminary diagnosis.	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	

Signature of Supervisor	

CHECKLIST FOR IDENTIFICATION OF TUMORS OF BONES AND BONE INFECTIONS	CASES (Minimum 1 Entry)
STEP/TASK	
Preparation: Reviewed relevant theory before the session **PPE:** Wearing lab coat before entering lab. **Task:** • Examine and identify the microscopic morphology of bone tumors and osteomyelitis on slide. • Identify gross features of Osteomyelitis, benign and malignant bone tumor. • Differentiate between different benign and malignant tumors.	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	

Procedure: 1. Properly use microscope 🔬 2. Focus & review the provided slides. 3. Identification of the key microscopic features 4. Provide Preliminary diagnosis.	

SKILL/ACTIVITY PERFORMED SATISFACTORILY	
Signature of Supervisor	

CHECKLIST FOR IDENTIFICATION OF SOFT TISSUE TUMORS	CASES

	(Minimum 1 Entry)
STEP/TASK	

Task: **1. Preparation:** **Review the Basic Features of Soft Tissue Tumors**: ▪ Study the pathophysiology, clinical presentation, and types of soft tissue tumors, including benign tumors like lipoma, leiomyoma, hemangioma, and fibroma. **Understand Histopathological Features**: Learn the gross and histological features of each tumor type such as Lipoma, Leiomyoma, Hemangioma, Fibroma **Prepare Slides and Materials**: ▪ Ensure prepared tissue slides of lipoma, leiomyoma, hemangioma, and fibroma are available for microscopic examination. ▪ used to confirm soft tissue tumors, such as **fine needle aspiration (FNA)** and **core biopsy**. **2. PPE (Personal Protective Equipment)**	

- **What You Need to Wear for the Practical:**
    1. **Lab Coat**: Wear a clean, knee-length lab coat to protect yourself from chemical or biological contamination.
    2. **Gloves**: Always wear latex or nitrile gloves when handling histological slides, tissue samples, or reagents.
    3. **Mask**: Wear a surgical mask if necessary, especially in confined lab settings, to prevent inhalation of aerosols or dust.

3. TASKS ▪ Be able to describe and identify the gross appearance of soft tissue tumors like lipoma, leiomyoma, hemangioma, and fibroma. ▪ Learn the characteristic of each soft tissue tumor under the microscope. ▪ Understand how to differentiate between these tumors based on their microscopic structure. ▪ Understand the clinical presentation, prognosis, and treatment options for each type of tumor. ▪ Correlate gross and histological findings with clinical cases to make accurate diagnoses. ▪ Be able to differentiate benign soft tissue tumors from malignant ones, knowing the features that indicate malignancy. ○	
SKILL/ACTIVITY PERFORMED SATISFACTORILY	

Procedure: 1. Properly use microscope 🔬 2. Focus & review the provided slides. 3. Identification of the key microscopic features 4. Provide Preliminary diagnosis	

SKILL/ACTIVITY PERFORMED SATISFACTORILY	
Signature of Supervisor	

Rawalpindi Medical University
Clinical Clerkship Training Programme
Otorhinolaryngology
4th year MBBS

ENT

2025

Student Name:……..

Roll No……..Batch:……..……

University Registration No…….. PMDC No……

Address:…….

Contact:……..Email:…….

RAWALPINDI
MEDICAL
COLLEGE
NEW TEACHING BLOCK

Aims and Objectives

Aims and Objectives of the Surgical Logbook

Aims:

1. To provide a structured record of clinical and surgical experiences during undergraduate training.
2. To ensure documentation of the learning process and competencies achieved in alignment with the curriculum requirements.
3. To serve as a tool for self-assessment, reflection, and skill improvement.
4. To facilitate periodic evaluation by supervisors for constructive feedback and guidance.

Objectives:

1. History Taking and Examination:

Practice proper history taking from patients and writing it down and examining the patient thoroughly with proper consent and exposure.

2. Skill Development:

Highlight exposure to different basic surgical procedures including iv cannulation, wound dressing, foley catheterization and Nasogastric insertion to ensure competency in clinical skills.

3. Patient Management:

Document history, clinical notes, progress notes, consent taking, and follow up notes.

Develop a comprehensive understanding of patient care in both outpatient and inpatient settings.

5. Compliance with Training Program:

Ensure the trainee meets the requirements set by the training program and regulatory bodies for successful certification.

6. Assessment and Evaluation:

Provide a transparent and verifiable record for supervisors to assess clinical exposure, surgical competence, and overall progress.

Facilitate constructive feedback during periodic reviews and examinations.

7. Research and Academic Growth:

Encourage the integration of evidence-based medicine into clinical practice.

SOP's for filling the logbook

1. All students should wear white coat in the wards
2. All students should wear their ID badges during the clinical rotation
3. 75 % attendance is mandatory for every student
4. Students are required to submit leave application in principal office in case of illness or family emergencies
5. Students will not be permitted to makeup time missed without a leave application
6. Students time schedule for clinical rotation will be set in the time table
7. All students are required to attend the wards in the evening according to their unit schedule
8. The final year clinical rotation will be clinical clerkship and students will stay in the ward according to the unit schedule.
9. Student will have call days according to the unit schedule.
10. Student must write histories of all the patients on their allotted beds.
11. Moorings reports will be presented 10:00 am for 4th year.
12. Students are expected at all times to maintain a professional and therapeutic relationship with patients.
13. During a clinical rotation in 3rd year student must write 15 histories and clinical examination (5 histories per hospital/unit) and should have completed all Mini Clinical Skill Assessment (Mini CXA):
14. Ward test at the end of clinical rotation is mandatory.
15. Your internal assessment is based on ward test, Mini CXA, Attendance and Behavior.
16. Please keep a photocopy of this card with you so it can be replaced if lost.

Checklist for history taking

Demographic details
Chief complaints
History of present illness
Past medical and surgical history
Family history
Personal history
Gynae Obs history in case of female patient
Drug history
Allergies history

Checklist for ENT Examination

Checklist for examination of Ear

Greetings Consent Exposure
Inspection of pinna from front, from behind , from above
Palpation of tragus, pinna, mastoid
Examination of EAC without speculum
Examination or ear with speculum
Otoscopy with and without valsalva maneuver
Examine other ear
Tuning fork tests (Rinne's, Weber's)
Facial nerve Examination Fistula test
Nystagmus Finger nose test
Romberg's test Gait

Checklist for examination of Nose

Greetings	Consent	Exposure
Inspection of nasal bridge	From front:	From above and sides
Inspection of paranasal sinuses	Nasal patency	Olfaction on both sides
Palpation Nasal bridge, paranasal sinuses, orbital rim and canine fossa		
Anterior rhinoscopy without speculum		with speculum
Posterior rhinoscopy with mirror		

Checklist for examination of Oral Cavity and Throat

Greetings	Consent	Exposure
Assessment of trismus by mouth opening		Tongue movements
Inspection of buccal mucosa, lower alveolar ridges, upper alveolar ridges, palate, floor of mouth		
Inspection of oropharynx, tonsils, posterior pharyngeal wall		
Aah test	Indirect Laryngoscopy examination	

Checklist for examination of Neck

Greetings	Consent	Exposure
Inspection upon swallowing, protrusion of tongue, cough, valsalva		
Palpation of adam's apple of trachea		Laryngeal crepitus
Palpation of neck nodes		
General physical examination if required		
Pulse	Blood pressure	
Temperature	Respiratory rate	
Jaundice	Clubbing	
JVP	Cyanosis	
	Pallor	

Module-1
EAR
Two weeks

ENT department Holy Family Hospital
Clinical Attendance Record
4th Year MBBS

Duration from ……. To ……

Date	Topic	Teacher name	Signature

Mini Clinical Evaluation Exercise (Mini-CEX)

Date	Topic	History 2 marks	General Physical examination 3 marks	Clinical Examination 3 marks	Diagnosis 2 marks	Tota l 10 marks	Sign
	Ear						
	Total Marks						

Module-1
EAR
Two weeks

ENT department Holy Family Hospital
Operative Surgery Log Book
4th year MBBS

No.	Date	Operative Procedure	Elective/Emergency	Surgeon	Department	Sign

Module-1
EAR
Two weeks

ENT department Holy Family Hospital
irect Observations of Procedural Skills (DOPS)
Minor Surgical Procedures

No.	Date	Skill	Number of Attempts	Competence Obtained	Signs
		Ear suction			
		Foreign body ear removal			
		Wax removal			
		Ear packing			

Level of Competence , O: Observed ; U: Under supervision

Total days…… Days attended……
Percentage……

History taking scoring

No. of histories written	Marks per history	Total marks
	5 marks	

Ward assessment

Total marks…… Marks obtained……
Percentage……

Signature of HOD HFH

Module-2
NOSE
Two weeks

ENT department Benazir Bhutto Hospital
Clinical Attendance Record
4th Year MBBS

Duration from …… To ……

Date	Topic	Teacher name	Signature

Mini Clinical Evaluation Exercise (Mini-CEX)

Date	Topic	History (2)	General Physical examination (3)	Clinical Examination (3)	Diagnosis (2)	Total (10)	Sign
	Ear						
	Total Marks						

Module-2
NOSE
Two weeks

ENT department Benazir Bhutto Hospital

Operative Surgery Log Book

4th year MBBS

No.	Date	Operative Procedure	Elective/Emergency	Surgeon	Department	Sign

Module-2
NOSE
Two weeks

ENT department Benazir Bhutto Hospital

Direct Observations of Procedural Skills (DOPS)

Minor Surgery Log Book

No.	Date	Skill	Number of Attempts	Competence Obtained	Signs
		Ear suction			
		Foreign body ear removal			
		Wax removal			
		Ear packing			

Level of Competence , O: Observed ; U: Under supervision

Total days…… Days attended……
Percentage……

History taking scoring

No. of histories written	Marks per history	Total marks
	5 marks	

Ward assessment

Total marks…… Marks obtained……
Percentage……

Signature of HOD BBH

Module-3
THROAT
HEAD AND
NECK
Two weeks

ENT department
Clinical Attendance Record
4th Year MBBS

Durati on from ……. To ……

Date	Topic	Teacher name	Signature

Mini Clinical Evaluation Exercise (Mini-CEX)

Date	Topic	Histor y (2)	General Physical examination (3)	Clinical Examination (3)	Diagnos i s (2)	Tota l (10)	Sign
	Ear						
	Total Marks						

Module-3
THROAT HEAD AND NECK
Two weeks

ENT department Rawalpindi Teaching Hospital

Operative Surgery Log Book

4th year MBBS

No.	Date	Operative Procedure	Elective/Emergency	Surgeon	Department	Sign

Module-3
THROAT
HEAD AND
NECK
Two weeks

ENT department Holy Family Hospital

Direct Observations of Procedural Skills (DOPS)

Minor Surgery Log Book

4th year MBBS

No.	Date	Skill	Number of Attempts	Competence Obtained	Signs
		Ear suction			
		Foreign body ear removal			
		Wax removal			
		Ear packing			

Level of Competence , O: Observed ; U: Under supervision

Total days…… Days attended……
Percentage……

History taking scoring

No. of histories written	Marks per history	Total marks
	5 marks	

Ward assessment

Total marks…… Marks obtained……
Percentage……

Signature of HOD RTH

Clinical Clerkship Appraisal

Name of student ..... **Roll No……..**

Batch…….

Histories marks	Percentage	Ward attendance	Percentage	Internal assessment	Signatures
Module 1					
Module 2					
Module 3					

Remarks / comments:

HOD:……
……

……
……

……
……

Dean:
……
……

……
……

Signatures

HOD ENT **Dean ENT and EYE** **DME**

OPHTHALMOLOGY
RMU

Aims and Objectives

Rawalpindi Medical University Department of Ophthalmology Clinical Log Book

Aims:

1. To provide a structured record of clinical and surgical experiences during the ophthalmology clerkship.
2. To ensure documentation of learning in alignment with the clinical curriculum.
3. To facilitate self-assessment, reflection, and skill improvement.
4. To serve as a tool for periodic evaluation by supervisors.

Objectives:

1. Practice proper ophthalmic history-taking and examination techniques.
2. Acquire hands-on experience in using ophthalmic instruments and performing basic procedures.
3. Develop clinical reasoning and decision-making skills for common ophthalmic conditions.
4. Understand the principles of patient management in outpatient, ward, and operating theater settings.
5. Record and reflect on clinical and surgical skills achieved during the rotation.
6. Ensure compliance with attendance and professional behavior standards.

Instructions:

1. Wear a white coat and ID badge during all clinical activities.
2. Maintain 80% attendance, with leave applications submitted for absences.
3. Participate in all scheduled rotations, including OPD, wards, and OT sessions.
4. Document patient interactions, procedures, and learning outcomes daily.
5. Submit the logbook for evaluation at the end of the rotation.

Rotation Overview

Learning Objectives

By the end of the 6-week ophthalmology clerkship, you should be able to:

1. Conduct a focused history and ophthalmic examination.
2. Identify common ophthalmic conditions.
3. Perform and interpret essential ophthalmic examinations under supervision.
4. Identify Ophthalmologic Emergencies and Indications for Referral
5. Apply ethical principles and effective communication in patient care.
6. Participate in team-based management and patient education.
7. Gain Exposure to Ophthalmic Surgical Techniques
8. Administer informed consent to patients undergoing surgical procedures

Clinical Skills/ competencies Required

Keyword/Topic	Competency Description
Common Ocular Conditions	Identify and describe common ocular conditions, along with their treatment and management strategies.

History Taking and Case Presentation	Take a detailed and comprehensive ophthalmic history. Present patient cases in a structured and professional format.
Vision Assessment	Demonstrate the steps for assessing visual acuity, including distance, near vision, colour vision, and pinhole testing.
Pupil Examination	Perform a thorough examination of pupils, including anisocoria, hetrochromia, light and near reflex
Slit Lamp Examination	Demonstrate the correct use of the slit lamp for evaluating the anterior segment of the eye, including lids, cornea, and iris.
Direct Ophthalmoscopy	Perform direct ophthalmoscopy to examine the optic disc, macula, and retinal vessels.
Extraocular Movements	Examine uniocular and binocular extraocular movements and interpret findings related to ocular alignment and motility.
Ophthalmic Emergencies	Recognize common ophthalmic emergencies, describe their clinical features, and determine the need for urgent referral.
Patient Counselling and Education	Counsel patients effectively regarding common conditions such as cataracts, including obtaining informed consent in a simulated environment.
Surgical Exposure	Observe ophthalmic surgical procedures to gain an understanding of surgical techniques, patient preparation, and teamwork.
Preoperative Patient Preparation	Demonstrate the steps of preoperative preparation, including patient education, hygiene, and administration of pre-surgical medications.
Practical Skills in a Simulated Environment	Eyedrop instillation, lacrimal regurgitation techniques and biometry in a simulated setting.

Module 1
Ophthalmology department HFH

CLINICAL ATTENDANCE RECORD

Duration: _____ to: _____

No.	Date	Topic	Attendance (Morning)	Sign	Attendance (Evening)	Sign
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

Total Days_____Days Attended_____Percentage_____
Signature_____
Name (Head of Unit) _____
Signature_____

Week 1

Day	Date	Case/Condition Seen	Key Learning Points	Faculty Signature
Day 1				
Day 2				
Day 3				
Day 4				

Week 2

Day	Date	Case/Condition Seen	Key Learning Points	Faculty Signature
Day 1				
Day 2				
Day 3				
Day 4				

SKILL LAB LOG BOOK

No.	Date	Skill	Number of Attempts	Competence Obtained	Sign
1.					
2.					
3.					
4.					

Level of competence; O: Observed, U: Under Supervision

SURGERY LOG BOOK

No.	Date	Operative Procedure	Elective/Emergenc y	Surgeon	Department	Sign

Module 2
Ophthalmology department BBH

CLINICAL ATTENDANCE RECORD

Duration: _____ to: _____

No.	Date	Topic	Attendance (Morning)	Sign	Attendance (Evening)	Sign
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

Total Days_____Days Attended_____Percentage_____
Signature_____
Name (Head of Unit) _____
Signature_____

Week 3

Day	Date	Case/Condition Seen	Key Learning Points	Faculty Signature
Day 1				
Day 2				
Day 3				

Day 4				

Week 4

Day	Date	Case/Condition Seen	Key Learning Points	Faculty Signature
Day 1				
Day 2				
Day 3				
Day 4				

SKILL LAB LOG BOOK

No.	Date	Skill	Number of Attempts	Competence Obtained	Sign
1.					
2.					
3.					
4.					

Level of competence; O: Observed, U: Under Supervision

SURGERY LOG BOOK

No.	Date	Operative Procedure	Elective/Emergen c y	Surgeon	Department	Sign

No. Date Top

Module 3

Ophthalmology Department HRT

CLINICAL ATTENDANCE RECORD

Duration: _____ to: _____

		ic	Attendance (Morning)	Sign	Attendance (Evening)	Sign
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

Total Days_____Days Attended_____Percentage_____
Signature_____
Name (Head of Unit) _____
Signature_____

Week 5

Day	Date	Case/Condition Seen	Key Learning Points	Faculty Signature
Day 1				
Day 2				
Day 3				
Day 4				

Week 6

Day	Date	Case/Condition Seen	Key Learning Points	Faculty Signature
Day 1				
Day 2				
Day 3				
Day 4				

SKILL LAB LOG BOOK

No.	Date	Skill	Number of Attempts	Competence Obtained	Sign
1.					

2.					
3.					
4.					

Level of competence; O: Observed, U: Under Supervision

SURGERY LOG BOOK

No.	Date	Operative Procedure	Elective/Emergenc y	Surgeon	Department	Sign

Workplace-Based Assessments (WPBA)

A. Formative

1. Mini Clinical Evaluation Exercise (Mini-CEX)

Date	Topic	Setting	Feedback	Sign

2. Case-Based Discussions (CBD)

Case Topic	Date	Key Points Discussed	Supervisor Feedback	Faculty Signature

3. Checklist

Procedure	Date	Patient ID/Details	Performed/Observed	Faculty Signature
Vision assessment				
Pupillary reflex examination				
Slit lamp examination				
Fundus examination				
Tonometry				
Cover/uncover test				
Counselling on cataract surgery				

B. Summative Assessment

	Date	OSCE (30)	OSVE (20)	Marks (50)	Faculty Signature
Module 1					
Module 2					
Module 3					
Total					

Internal Assessment:

Component	Total marks	Obtained marks
Ward test	15	
histories	5	
Case presentations	5	
Additional curricular activities (workshops, seminars, conferences)	5	
	30	

Entrustable Professional Activities (EPA) Checklist for Clinical Training Logbook

EPA	Task	Assessment Method(s)	Supervision Level
1. Perform a Basic Ophthalmic Assessment	• Obtain focused history• Measure visual acuity• Assess pupil reflexes• Perform anterior segment examination• Record findings systematically	OSCE, Logbook review	Direct guidance / Minimal guidance / Independent
2. Perform Direct Ophthalmoscopy	• Handle ophthalmoscope properly• Explain procedure to the patient• Visualize and describe fundus structures• Identify normal and abnormal findings• Correlate findings with symptoms	OSCE (direct ophthalmoscopy), Faculty feedback, Logbook entries	Direct guidance / Minimal guidance / Independent
3. Recognize and Manage Red Eye Conditions	• Take focused history• Perform targeted examination• Differentiate common causes of red eye• Propose initial management• Educate the patient on care	OSCE (red eye management), Case-based discussions	Direct guidance / Minimal guidance / Independent
4. Counsel Patients About Cataracts	• Explain cataract progression and treatment• Discuss risks/benefits of surgery• Address patient concerns• Provide pre- and post-operative care guidance	OSCE (counselling station), Faculty feedback, Reflective portfolios	Direct guidance / Minimal guidance / Independent
5. Identify and Initiate Management of Ophthalmic Emergencies	• Recognize critical signs• Perform focused examination• Initiate first aid/stabilization• Communicate with healthcare team• Document cases systematically	OSCE, Case-based discussions, Logbook review	Direct guidance / Minimal guidance / Independent

6. Assist in Common Ophthalmic Procedures	• Observe procedural steps• Maintain aseptic technique• Assist with instruments• Describe purpose of instruments• Perform pre-/post-procedural tasks	Logbook entries, Video interpretation of steps, Supervisor feedback	Direct guidance / Minimal guidance / Independent

Competency Checklist

Keyword/Topic	Competency Description	Attempt at Activity	Rating *(B: Below expectations, M: Meets expectations, E: Exceeds expectations)*	Decision of Faculty *(C: Completed, Re: Remedial)*	Remarks
Common Ocular Conditions	Identify and describe common ocular conditions, along with their treatment and management strategies.				
History Taking and Case Presentation	Take a detailed and comprehensive ophthalmic history. Present patient cases in a structured and professional format.				

Vision Assessment	Demonstrate the steps for assessing visual acuity, including distance, near vision, color vision, and pinhole testing.				
Pupil Examination	Perform a thorough examination of pupils, including anisocoria, heterochromia, light, and near reflex.				
Slit Lamp Examination	Demonstrate the correct use of the slit lamp for evaluating the anterior segment of the eye, including lids, cornea, and iris.				
Direct Ophthalmoscopy	Perform direct ophthalmoscopy to examine the optic disc, macula, and retinal vessels.				

Extraocular Movements	Examine uniocular and binocular extraocular movements and interpret findings related to ocular				

	alignment and motility.				
Ophthalmologic Emergencies	Recognize common ophthalmic emergencies, describe their clinical features, and determine the need for urgent referral.				
Patient Counselling and Education	Counsel patients effectively regarding common conditions such as cataracts, including obtaining informed consent in a simulated environment.				
Surgical Exposure	Observe ophthalmic surgical procedures to gain an understanding of surgical techniques, patient preparation, and teamwork.				

Preoperative Patient Preparation	Demonstrate the steps of preoperative preparation, including patient education, hygiene, and administration of pre-surgical medications.				

Practical Skills in a Simulated Environment	Eyedrop instillation, lacrimal regurgitation techniques, and biometry in a simulated setting.				

Instructions for Use

1. **Attempt at Activity**: Indicate whether it was the student's **First (F)** attempt or a **Repeat (R)** attempt.
2. **Rating**: Use **B** for below expectations, **M** for meets expectations, and **E** for exceeds expectations.
3. **Decision of Faculty**: Mark as **Completed (C)** if competency is achieved or **Remedial (Re)** if further practice is required.
4. **Remarks**: Provide specific feedback to help the student improve where necessary.

Overall Remarks:

_____

_____

Final Grade: _____

Signatures:

HOD/ Dean Eye and Ent: _____

RAWALPINDI MEDICAL UNIVERSITY, RAWALPINIDI

STUDENT'S LOGBOOK

Community oriented Clerikship module

4th year MBBS

Department of community medicine & public Health

Rawalpindi Medical University

STUDENT'S PROFILE

University 4th Prof Exam Roll No .

Space for Photo

Name of The Students: _____

Class Roll No: _____

Batch Name: _____

Academic Session _____***Admission Session.*** _____

University Reg. No: _____

Name Of Batch Incharge _____

. . . . . .

SIGNATURE OF STUDENT

Sig. Batch In charge_____

Record Supervision
Department of Medical Education
NTB / Student Section NTB RMU

Community oriented Clerikship module

4th year MBBS (Rev-2023)

Department of community medicine & public Health RMU

Theme (aim):

1. The primary purpose of this module is to educate students in those areas of the subject of Community Medicine which are learnt better by onsite presence of the students at certain sites, processes, agencies which have public health relevance and in general community setting.
2. Interactive teachings in small group help students in domains of data analysis & report writing skills, contraceptive use skills, vaccination skills, etc are also covered during this rotation.
3. Batch rotation is dedicated for health education communication practices as Health awareness work and other social work.

Learning outcomes (LOs):

at the end of this learning module students are expected to achieve following Public health Competencies as will be able to:

1. Undertake a population-based health survey (HHS)
2. Appreciate working of First level Care Facility (Public Sector)
3. Perform Community Immunization / EPI vaccinations.
4. Develop Hospital waste management plans.
5. Develop Community based health awareness message.
6. Communicate for Health awareness in community settings.
7. Commemorate International public health days.
8. Develop Hospital administration Plans.
9. Undertake Preventive healthcare inquiries and NCDs Risk Factors Surveillance
10. Counsel for the contraceptive devices to the community

Module outline:

1. A batch comprising 20-22 students is posted in the department for a period of 2weeks **(Monday to Thursday-04 hrs. /day & for 32hrs in total)**. This schedule is run over the whole academic year, till all students of 4th year MBBS class passes through this rotation.
2. Batch formation and schedules of rotation for whole class as notified by the DME / Student's section will be followed accordingly.
3. At commencement of the academic year overall batch learning module coordinator, nomination of batch in-charges, senior faculty in charges and calendar schedule of batch rotation for all batches over the whole academic year will be notified by the Department.

SOPs of Learning & Assessments:

1. Active participation will be graded by the batch in charge (under a check list) during the activity / session and grades/marks will be O5 Max Marks for health message development and Health awareness work.
2. Assessment will be done by OSPE **at** the end of each module and credit will be objectively recorded for the purpose of internal assessment. (Max mark 10)
3. Students are required to report / write the relevant work in Logbook on daily basis.

SOP's for filling the logbook

17. All students should wear white coat during field visits
18. All students should wear their ID badges during the field visits
19. 75 % attendance is mandatory for every student
20. Students are required to submit leave application in principal office in case of illness or family emergencies
21. Students will not be permitted to makeup time missed without a leave application
22. Students time schedule for clerkship rotation will be set in the time table
23. Student reporting time in the department is 10:00 am.
24. Students are expected at all times to maintain a professional behavior.
25. Assessment (OSPE) at the end of clinical clerkship is mandatory.
26. Internal assessment is based on Assessment, Attendance and Behavior.
27. Student should keep a photocopy of this logbook so it can be replaced if lost.

Core Planner of Community Oriented Clerkship in the subject of Community Medicine (2 weeks batch rotation)

[Calendar schedule as notified by DME will be followed accordingly]

	ivity -I **0 – 11.00**	**ivity – II** **0- 11.30am**	**ivity -III** **0- 01.00pm**	**-V** **0 – 2.00pm**	**s of teaching-learning**	**essment**	**ion outcome** **(level of learning)**
	ion topic	ion topic	ion topic	ion topic			
1st day	ructing / demonstration on Practical Manual based Assignments	Visit to CHC • SGIS on Health days commemoratio n work, Display material, PPT.	• SGIS on HM-DTD practicum. Topic finalization, CHC-Message draft outlines finalization.	• PPT based Demo on How to conduct & report HHS. • Guidelines on PHI work to be done during clinical rotations / ward duties	• Demonstrati o n / lec - Hall 3 • CHC -Dept CM NTB RMU.	• 1-2 OSPE in end of clerkship exam (credit will part of IA) • Assessment of HHS - Report (Max marks:5 part practical /viva exam 4th Prof MBBS)	• Construct a health message. (C6) • Prepare Health days commemoration stuff, Display material, PPT, (P) • Undertake a health survey. (HHS) (C3)
2nd day	ow up session on. M-DTD work HS work alth days commemoration work	S/ Briefing / PPT based guidelines on field visit of the day (EPI services center HFH)	to the EPI center HFH	lth awareness work (HAW)	• Demo Room, • EPI Center HFH • OPD, hospital shelters sites for health awareness work (HAW)	• 1-2 OSPE in end of clerkship exam (credit will part of IA) • Grade of performance in EPI visit reporting. • Credit of HAW	• Explain cold chain component at EPI center • Vaccinate (EPI) vaccines to the clients . • Comprehen d EPI system
3rd day	ow up session on HM-DTD work & HHS	S / Briefing / PPT based guidelines on FV to MCH & FP Services Center HFH	to the MCH services & FP center HFH	Health awareness work (HAW)	• FP Center HFH • OPD, hospital shelters sites for HAW	• 1-2 OSPE in end of clerkship exam (credit will part of IA) • Grade of performance in EPI visit reporting. • Credit of HAW	• Identify CP devices available at MHC FP center • Counsel clients for use of a contraception method • Place CP devices to client (P)
4th day	ow up session on HM-DTD work & HHS	fing / guidelines on FV Hospital waste disposal system in hospitals	• FV to the hospital waste disposal system & relevant sites / Incinerator	lth awareness work (HAW)	• FP Center HFH), hospital shelters sites for HAW	• End of module OSPE • Grade of performance in visits to sites	• Explain hospital waste disposal system • Develop a hospital waste management plan • Explains various domains of hospital management (C2)
day (week 2)	S / PPT based briefing on Hospital management & administration	Visit to Hospital management & administration (HFH) office		Health awareness work (HAW	F	• End of module OSPE • Grade of performance in visits to sites	
6th day	S / PPT based briefing on visit to First level of health care facility (FLCF) BHU/RHC	ield visit to RHC Khyaban Sir-Syed (RHC) or BHU		• Demo room / lec Hall 3 NTB / CPC-Hall . • RHC / BHU	lth awareness work (HAW at site visited	• End of module OSPE • Report credit in PJ	• Explain working of FLCF • Appreciate PHC elements at FLCF. (C2)

7th day	lth days commemoration (walk/ seminar/ presentation/ CHC-message dissemination work 30 – 12.00pm)	12.00 – 2.00pm • Completion & assessment of relevant Practical Journal work, • HHS-report book, • Logbook etc. • Feedback discussion on PHI	• Communication skills • Comprehend frequency Preventable RFs of NCDs in the real population (RF surveillance) • Undertake a preventive Healthcare inquiry
8th day	eum learning module (MLM) / visit to departmental Museum 0- 12.30	• Endo of module OSPE (12.30 – 2.00pm) • OPSE conduction (10 stations video assisted OPSE / OSPE) for 40 total marks .	s pletion of any remaining work journal assessment HHS report assessment Students feedback etc

	Community based / Field Visits • Each batch perform filed visits of sites of Public health importance outside the institutions under available opportunities and logistics. Following sites may be considered for the purpose	**alth Message Dissemination**
	• RHC Khayaban-e-Sir-Syed Rawalpindi / DHO • Family planning center RMU • Hospital waste management RMU • Vaccination center RMU • Department of infectious diseases RMU • Hospital administration RMU	OPDs & indoors of allied hospitals of RMU (to at least 30 Patients and/or attendants) C Khayaban-e-Sir-Syed Rawalpindi

Section-1: Filed Visit

Filed visits to the selected places of public health importance (4thyear MBBS)

Name of Batch In charge: _____ Batch: _____

#	Title & Site of the Filed Visit	Date	Level of parti.[a]	FV Repo. Writing	Assess- - ment	Sig BI[c]	Sig RF[d]	Sig DME
1					1-2 OSPE/ MCQs in End of clerkship Exam			
2					1-2 OSPE/ MCQs in End of clerkship Exam			
3					1-2 OSPE/ MCQs in End of clerkship Exam			
4					1-2 OSPE/ MCQs in End of clerkship Exam			

a. A: active / raised rational query (1mark) B: no questioning (0 mark) b. FV Report Writing: student is required submit report of the FV on the prescribed Performa in practical manual at the end of FV c: batch in charge d: RF: remote facilitator . DME nominated person will supervise / sign

Section-1: Filed Visit

Filed visits to the selected places of public health importance (4thyear MBBS) Name of Batch In charge: Batch:

#	Title & Site of the Filed Visit	Date	Level of parti.[a]	FV Repo. Writing	Assess- - ment	Sig BI[c]	Sig RF[d]	Sig DME
5					1-2 OSPE/ MCQs in End of clerkship Exam			
6					1-2 OSPE/ MCQs in End of clerkship Exam			
7					1-2 OSPE/ MCQs in End of clerkship Exam			
8					1-2 OSPE/ MCQs in End of clerkship Exam			

a. A: active / raised rational query (1mark) B: no questioning (0 mark) b. FV Report Writing: student is required submit report of the FV on the prescribed Performa in practical manual at the end of FV c: batch in charge d: RF: remote facilitator . DME nominated person will supervise / sign

Section-2: Public Health Days Commemoration Work Module

Name of Batch In charge: _____ Batch: _____

(Max Credit: 5marks)

#	Title / Topic / Theme of the Public Health Day Commemorated	Date	Level of parti.[a]	Assess- - ment	Sig BI[c]	Sig Sen Faculty
1	a. Public Health day topic: _____ _____ b. Theme of the subject for the given year: _____ --- --- --- --- --- --- --- --- --- --- --- --- --- --- c. Health day commemoration strategy adopted i. Seminar in institutional settings. If yes, write the setting…			01- 02 OSPE/ MCQs in End of the clerkship Exam		

	…… …… ii. Seminar in community settings . If yes, write the setting… …… …… iii. Health awareness walk . If yes, write the setting… …… ……					

A: health message development, B; presentation / talk, C: participation

Section-3:Health Message Dissemination Work Performa (community awareness work) (Credit of work max marks:5)

	Date	TITLE OF HEALTH MESSAGE IN URDU	Site of health awareness work	Ref of client*	Gender & age of client	Client Agreed to usefulness of H-Message (Y/N)	Remarks/Any issues faced by student
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
11.							
12.							
13.							
14.							
15.							

*Ref. of client: OPD No./CNIC/Cell #/OPD # of patient if client was attendant

Roll No. _____Batch_____Sig of BI _____dated: _____

	Date	TITLE OF HEALTH MESSAGE IN URDU		Site of health awareness work	Ref of client*	Gender & age of client	Agreed to usefulness of H-Message (Y/N)	Remarks/Any issues faced by student
16.								
17.								
18.								
19.								
20.								
21.								
22.								
23.								
24.								
25.								
26.								
27.								
28.								
29.								
30.								

*Ref. of client: OPD No./CNIC/Cell #/OPD # of patient if client was attendant

Roll No. _____Batch_____Sig of BI _____dated:

Assessment:

Assessment mode	100% covered	> 100% -80% covered	Sig of BI	Sig HOD
Number of people aware / delivered Health Edu	A (5marks)	B (4 marks)		

Section-4: Museum Learning Module (MLM) - 4thyear MBBS

Name of Batch In charge: _____ Batch: _____

#	Names of the Model / specimen / major areas covered during the MLM-day	Date	Assess-	Sig BI[c]	Sig Sen. faculty
1	1. 2. 3. 4. 5. 6. 7. 8. 9. 10.		1-2 SOPE in End of clerkship exam		

a. A: invol in discussion / raised rational query (1mark) B: no questioning (0 mark) b.: batch in charge d: RF: remote facilitator / Dr. in charge Museum

Assessment : Section 1, 2, & 4 (End of clerkship Examination)

Assessment mode	Max marks	Marks obtained	Marks in %	Sig of BI	Sig Sen faculty	DME supervision
OSPE / MCQs test						

Remarks: _____

Sig: HOD _____

Section-5: IUGRC Component -IV (4thyear MBBS) Contact Sessions Log

Name of Batch In charge: _____ Batch: _____

#	Topic & LOs of the IUGRC Contact Session covered during the session (PAL)	Individual *Level of participation			Date	Sig BI	Sig Sen Faculty
		A. Literatur e search	B. sharing ideas	C. Peer discussion			
CS-1							
CS-2							
CS-3							
CS-4							
CS-5							

Section-5: IUGRC Component -IV (4thyear MBBS) Contact Sessions Log

Name of Batch In charge: _____ Batch: _____

#	Topic & LOs of the IUGRC Contact Session covered during the session (PAL)	Individual *Level of participation			Date	Sig BI	Sig Sen Faculty
		A. Literatur e search	B. sharing ideas	C. Peer discussion			
CS-6							
CS-7							
CS-8							
CS-9							
CS-10							

Assessment mode	Max marks	Marks of obtained	Marks %	Sig BI	Sig Sen Faculty	Supervision DME
End of the session HRM (SGRPs) based viva voce examination						

Remarks: _____

Sig: HOD _____