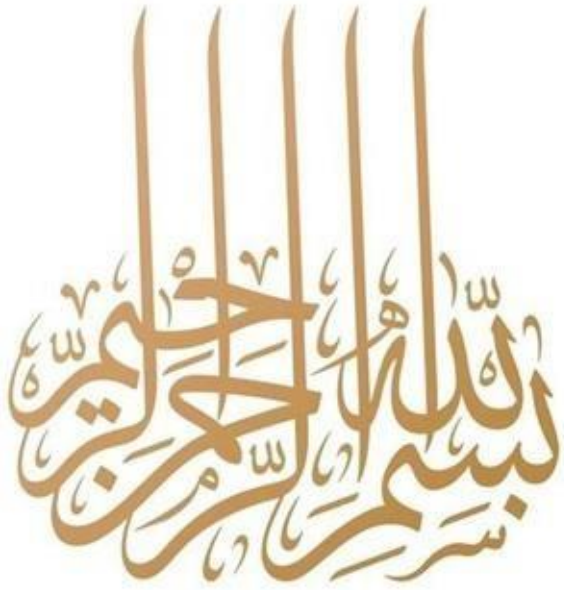
Rawalpindi Medical University
Clinically Oriented Integrated Modular Curriculum 2024 Fourth Year MBBS



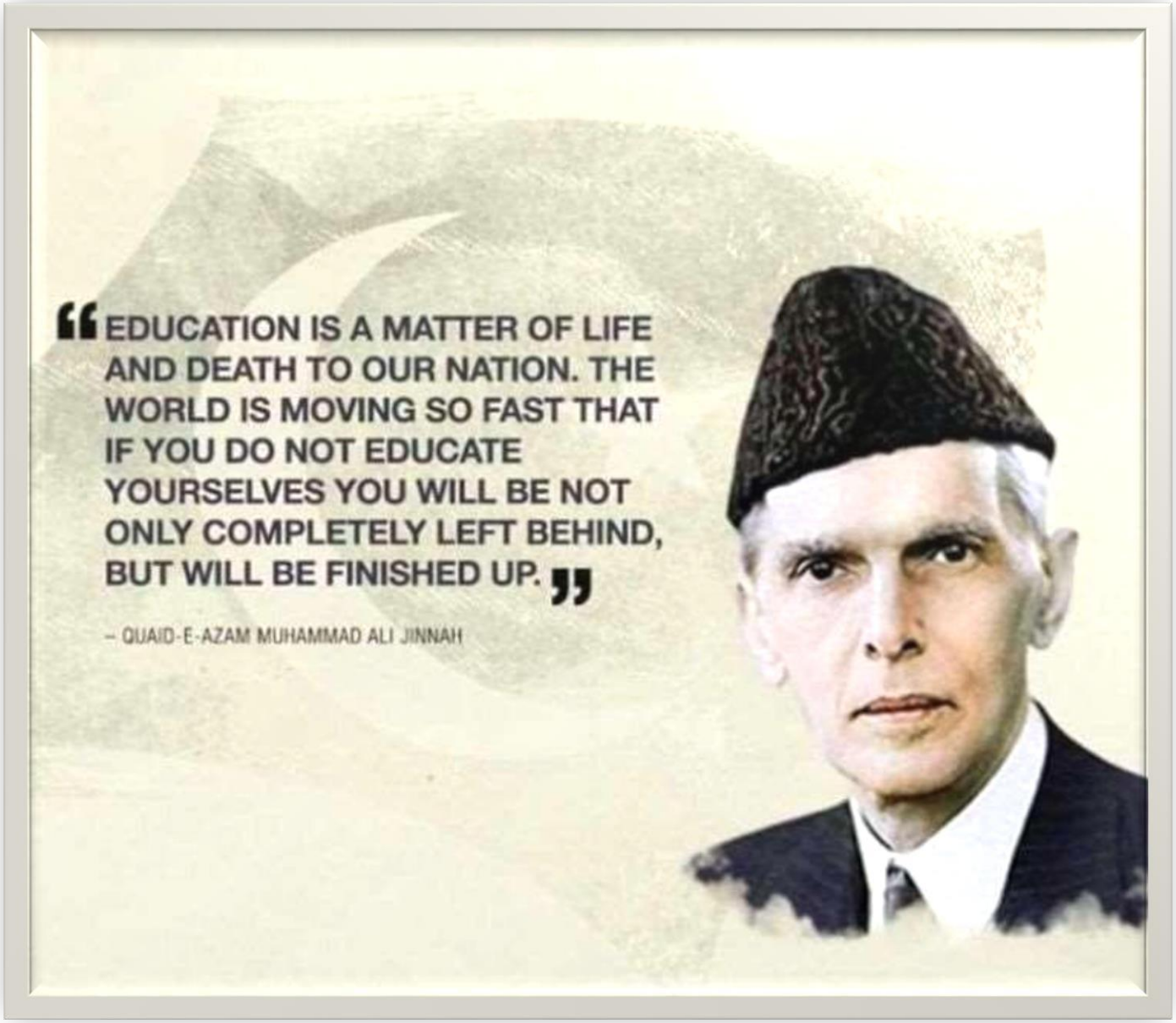
Dedicated to Hazrat Muhammad (S.A.W

Modular Integrated Curriculum 2024

Revised September 2024

Pre & Para Clinical Sciences

Quote by Quaid-e-Azam Muhammad Ali Jinnah

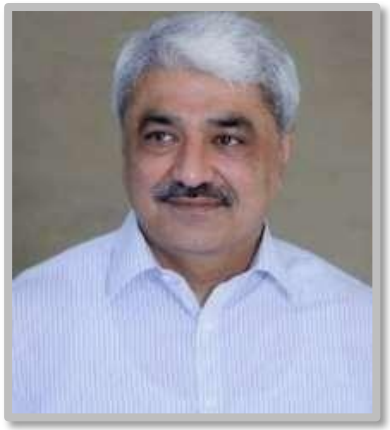


Sardar Saleem Haider Khan
Governor Punjab

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. Jahangir Sarwar Khan
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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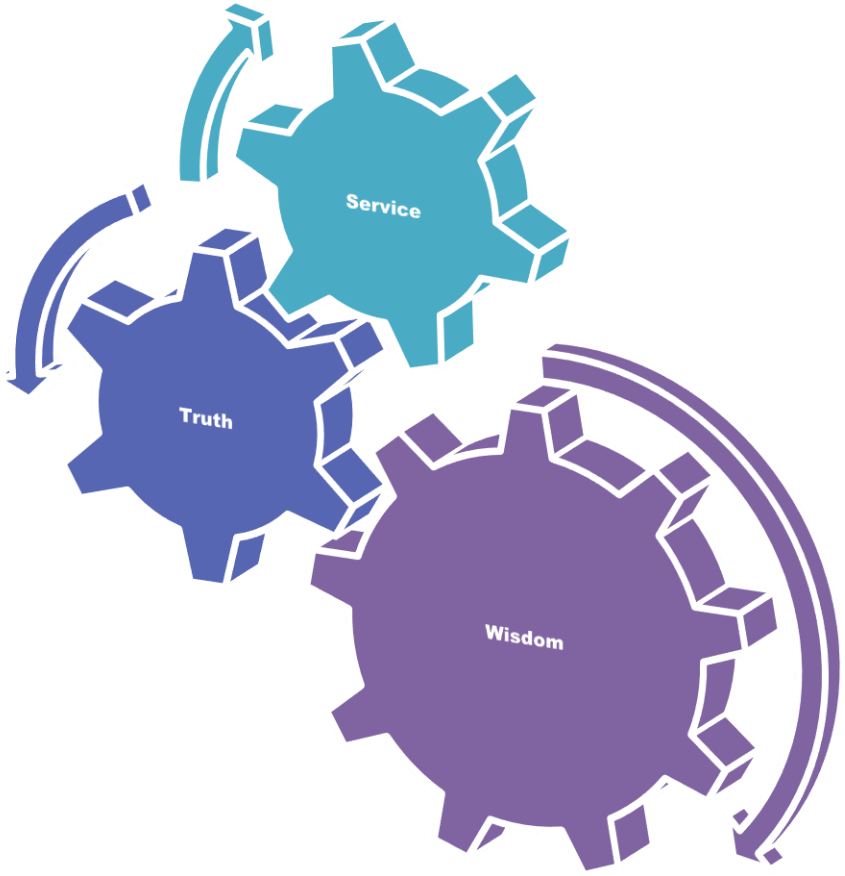
University Moto, Vision, Values & Goals

RMU Motto



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 critical thinkers, experiential self-directed lifelong learners and are socially accountable

Mission Statement

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

Outcomes 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 evidence-based knowledge to help you attain personal and professional growth & excellence.

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The management system of

Rawalpindi Medical University

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has been assessed and certified as meeting with the requirements of

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"Providing Education Services for Medical Graduation & Post Graduation."

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Director Medical Education, Asst. Director Medical Education,	Curriculum Committee	Vice Chancellor

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Documents Revision History

Author(s)	Date	Version	Description
Dr Naeem Akhtar Dr Seemi Gull Dr Omaima Asif Dr Attiya Munir	2018-2019	1st	Developed for 3rd year MBBS Learning Objectives added.
Dr Naeem Akhtar Dr Seemi Gull Dr Omaima Asif Dr Attiya Munir	2020-2021	2nd	Developed for 3rd year MBBS Learning Objectives updated. Time Table, Teaching strategies updated
Dr Naeem Akhtar Dr Asma Khan Dr Sajid Hameed Dr Zunera Hakim	2021-2022	3rd	Developed for Third Year MBBS. Horizontally and vertically integrated Learning objectives updated, Research curriculum incorporated
Dr Mobina Ahsan Dr Asma Khan Dr Romana Arif Dr Zunera Hakim	2022-2023	4th	Developed for Third MBBS. Horizontally and vertically integrated Learning objectives updated, Research, Bioethics, Family Medicine curriculum incorporated along with Professionalism
Dr Mobina Ahsan Dr Asma Khan, Dr Romana Arif Dr Zunera Hakim	2023-2024	5th	Developed for Third Year MBBS. Horizontally and vertically integrated Learning objectives updated, Research curriculum revamped Bioethics, Family Medicine curriculum incorporated along with Professionalism. Compulsory manuscript writing incorporated

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SECTION-I

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- **Deans of Faculties & Professors**
- **List of Contributors**

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4.	The Secretary to Government of the Punjab, Higher Education Department, Lahore
5.	The Secretary to Government of the Punjab, Law & Parliamentary Affairs Department, Lahore
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11.	The Medical Superintendent, Holy Family Hospital, Rawalpindi
12.	The Principal, College of Nursing Holy Family Hospital, Rawalpindi
13.	The Vice Chancellor Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi
14.	The Vice Chancellor National University of Science & Technology (NUST), Islamabad

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SECTION-II

Foreword of Curriculum 2024

- Introduction
- Level of integration
- PMDC Seven Star Doctor Competencies
- Contextualization in curriculum
- Context Facets of Curriculum 2024 at Rawalpindi Medical University
- Process of Development

Introduction

Welcome to the fourth edition of the Clinically Oriented Integrated Modular Curriculum for the MBBS students at Rawalpindi Medical University. This revised version is tailored to integrate clinical insights from the very beginning, ensuring a more practical and application-focused approach to the fundamental medical sciences. At Rawalpindi Medical University, we are committed to providing a curriculum that not only covers the essential theoretical knowledge but also emphasizes the development of critical clinical skills necessary for future medical professionals. This curriculum is designed to foster a deep understanding of human biology and the pathophysiological processes, combined with hands-on clinical experiences that contextualize theoretical knowledge in real-world medical settings.

Version V of the curriculum incorporates the latest advancements in medical education and reflects changes in the medical landscape, ensuring our students are well-prepared to meet the challenges of modern healthcare environments. With a focus on interdisciplinary learning and ethical practice, we aim to equip our students with the competence and compassion required to excel in their future careers.

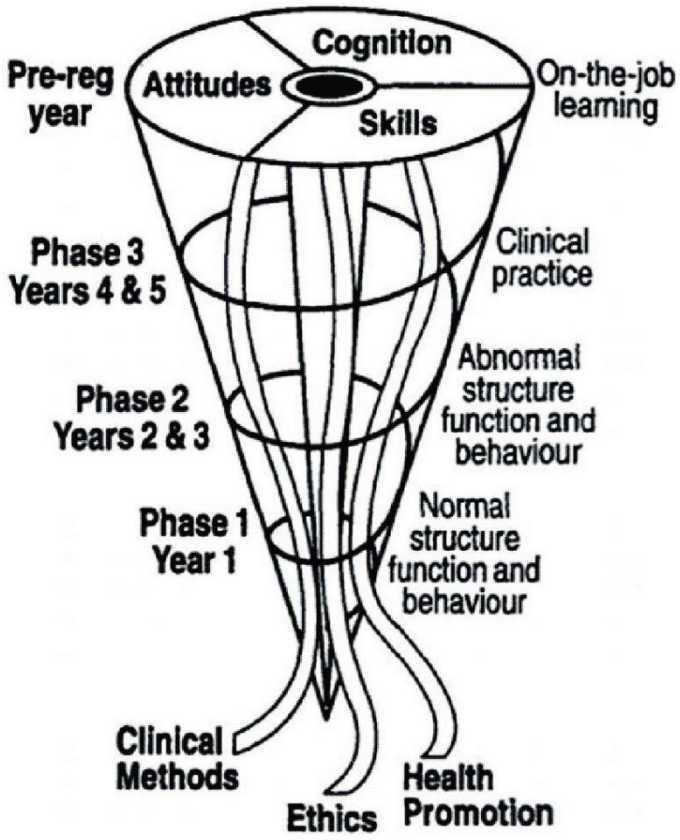
We trust that this curriculum will inspire and challenge you to reach new heights in medical education and beyond. Welcome to a journey of learning that promises to be as rewarding as it is demanding.

What is curriculum?

According to definition curriculum can be classified into five categories:

1. Curriculum as a product - program, document, electronic media, or multimedia
2. Curriculum as a program of study - usually courses offered, curriculum sequences of study instandards as benchmarks, gateways,
3. Curriculum as intended learnings - goals, content, concepts, generalizations, outcomes
4. Curriculum as experiences of the learner - activities, planned and unplanned.
5. Hidden curriculum - what students learn that isn't planned - unless you plan for this - or is itpossible?

What is Integrated Medical Curriculum?



Shoemaker defines an integrated curriculum as “education that is organized in such a way that it cuts across subject matter lines, bringing together various aspects of the curriculum into meaningful association to focus upon broad areas of study.” There is an ongoing discussion about whether medical curriculum should be discipline based or integrated. Most curricula for medical education have been integrated horizontally and vertically–-vertically between basic and clinical sciences. The Flexnerian curriculum has disappeared to permit integration between basic sciences and clinical sciences, which are taught throughout the curriculum. We have proposed a different form of integration where the horizontal axis represents the defined learning outcomes and the vertical axis represents the teaching of the sciences throughout the courses. We believe that a mere integration of basic and clinical sciences is not enough because it is necessary to emphasize the importance of humanism as well as health population sciences in medicine. It is necessary to integrate basic and clinical sciences, humanism,and health population in the vertical axis, not only in the early years but also throughout the curriculum, presupposing the use of active teaching methods based on problems or cases in small groups.

The method of teaching medicine, since Flexner's days, implies that students should first learn basic and biomedical sciences and then move to clinical sciences; however, this is not how patients are presented. A common criticism of this approach is that students will not see the relevance of basic and biomedical sciences applied to clinical practice, and it is preferable to encourage students to think as doctors from the day they enter medical school.

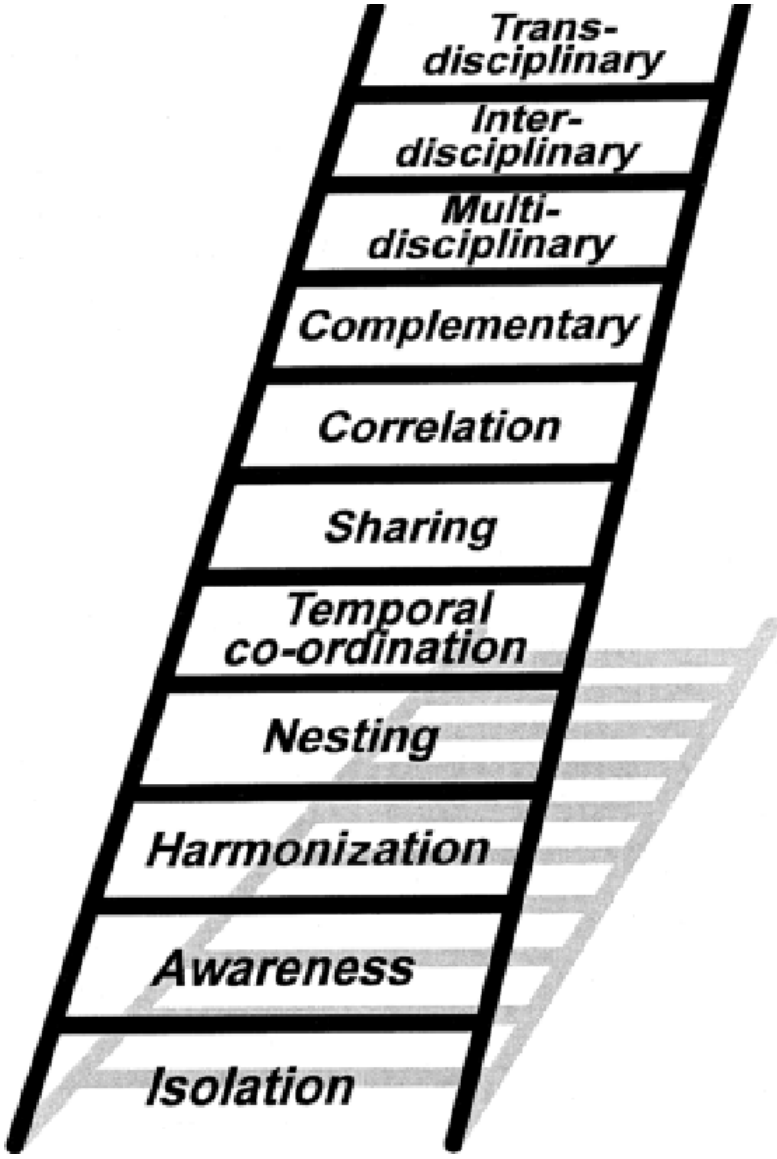
Integration is therefore of key importance for medical education because basic science learning is placed in the context of clinical and professional practice and is considered by students to be more meaningful and relevant. In the vast majority of curriculum reforms, vertical integration combines basic and clinical sciences, early clinical experience, clinician–scientist partnerships, and incorporation of sciences in the later years of the course. This is undoubtedly an advantage, but is based on a biologist's vision of the health-illness process.

Levels of Integration

At Rawalpindi Medical University, our curriculum for the MBBS program adheres to the sophisticated model of Correlation, recognized as level 7 on Harden's scale of integration. This approach is foundational throughout the initial four years of the medical education journey. Our emphasis predominantly remains on discipline-specific education, where courses focused on individual subjects constitute the majority of the curriculum. This traditional structure ensures a robust foundation in the core medical sciences.

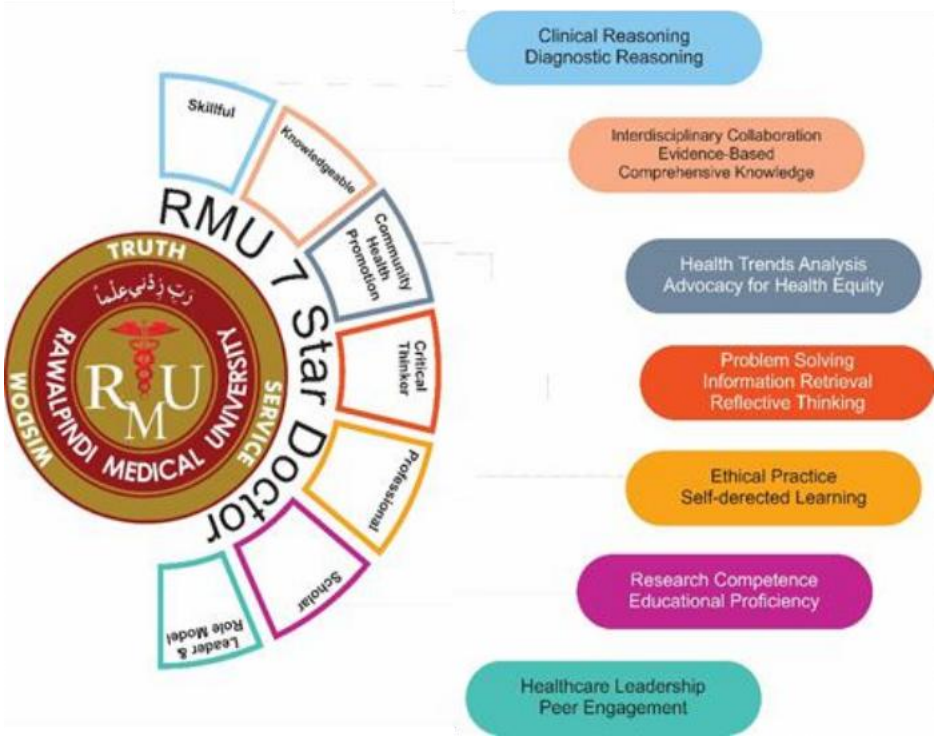
Within this discipline-oriented framework, we introduce an innovative element an integrated teaching session. These sessions are strategically designed to bridge various subjects by identifying and connecting areas of mutual relevance. This method facilitates a holistic learning experience by correlating distinct disciplines and embedding them within a clinical context. This integration enhances the students' understanding and application of medical concepts, making the learning process both comprehensive and applicable to real-world scenarios.

As our students progress through their education, the degree of clinical teaching intensifies. This gradual increase is deliberate, ensuring that by the time our students reach their final year, they are well-prepared to engage in extensive clerkships. Year V is exclusively devoted to these clerkships, offering students hands-on, practical experience in a variety of clinical settings. This exposure is crucial for the development of competent and empathetic future physicians who are equipped to meet the diverse needs of their patients and the healthcare system at large.



PMDC Seven Star Doctor Competencies

At RMU we aim to produce seven-star doctor according to PMDC Competencies having the generic competencies of “Skill, Knowledge, Community Health Promoter, Critical Thinker, Professional, Scholar, Leader and Role Model”, Rawalpindi Medical University has introduced modular integrated undergraduate curriculum as being first public sector university. These competencies are further outlined by various enabling traits specifying knowledge, skills, and attitude.



Contextualization in the curriculum

It involves incorporating both local needs and global standards. This ensures the curriculum's relevance to the local community while adhering to international benchmarks. For health professionals, this is crucial as it equips students to effectively serve diverse populations in real- world healthcare settings.

Content identification, contextualization, and validation during curriculum development require a balanced consideration of local and global requirements, overseen by relevant leaders and experts. To this end, Rawalpindi Medical University has engaged subject experts and medical educationists, planning to incorporate feedback from local stakeholders to address the current needs effectively.

In Pakistan, the shift towards contextualization is essential, particularly due to the country's unique healthcare challenges like infectious diseases, malnutrition, and maternal and child mortality, compounded by socioeconomic factors. The prevalence of various diseases, limited healthcare resources, and cultural diversity necessitate a customized approach to medical education.

Contextualizing the curriculum is expected to positively influence graduate performance. By blending basic and clinical subjects, introducing early clinical exposure, and emphasizing practical, context-aware learning, graduates will be better equipped to tackle health challenges in their communities, enhancing their competence, confidence, and ability to deliver high-quality healthcare.

Context Facets of Curriculum 2024 at Rawalpindi Medical University

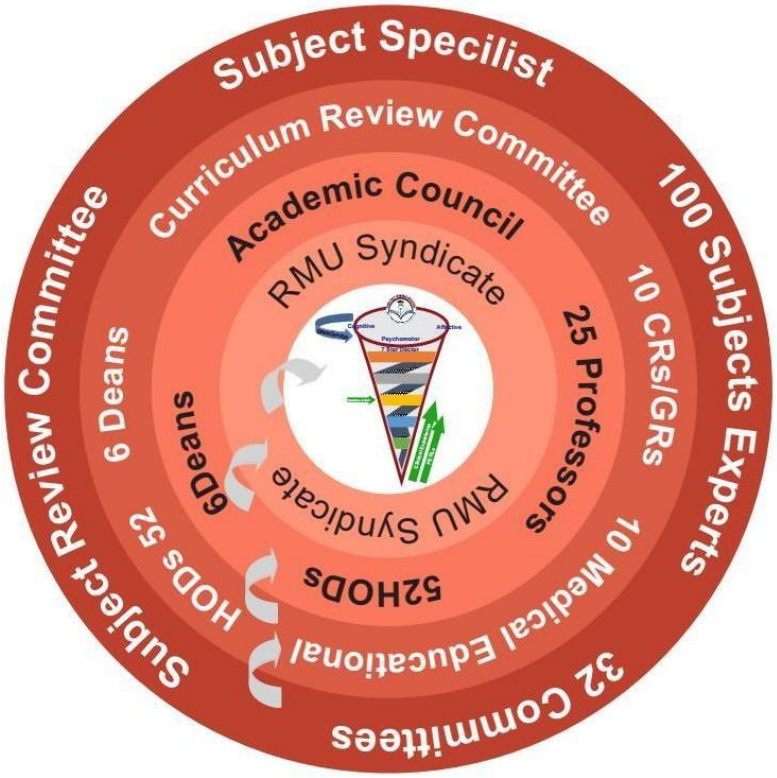
Rawalpindi Medical University adheres to globally recognized best practices in curriculum development. The Department of Medical Education at RMU has structured the process of syllabi identification, thematic structuring, content validation, and contextualization. This process integrates existing teaching and learning practices with global recommendations for change.

Key perspectives for the context of change include:

- The exponential growth in course content due to educational advancements, technological innovations, and scientific discoveries requires prioritization, removal of outdated concepts, and modern information transfer methods.
- Evolving societal expectations of healthcare workers necessitate balancing patient satisfaction with health system responsiveness. The curriculum should address societal needs, healthcare access, resource equity, and system awareness.
- The post-pandemic era's shift towards hybrid learning and online methodologies necessitates a curriculum that accommodates these new educational paradigms.
- The curriculum revision is aligned with global standards of Basic Medical Education and conforms to national regulations, ensuring international recognition and employability.
- The curriculum incorporates training in the affective domain to address societal expectations, legal awareness, and community interaction. This includes a dedicated ‘spiral’ for affective training, with assessments for the ‘PERLs’ domain.
- Student-centered approaches, such as Problem-Based Learning, electives, self-directed learning, and portfolio development, empower students in their educational journey.

Process of Curriculum Development

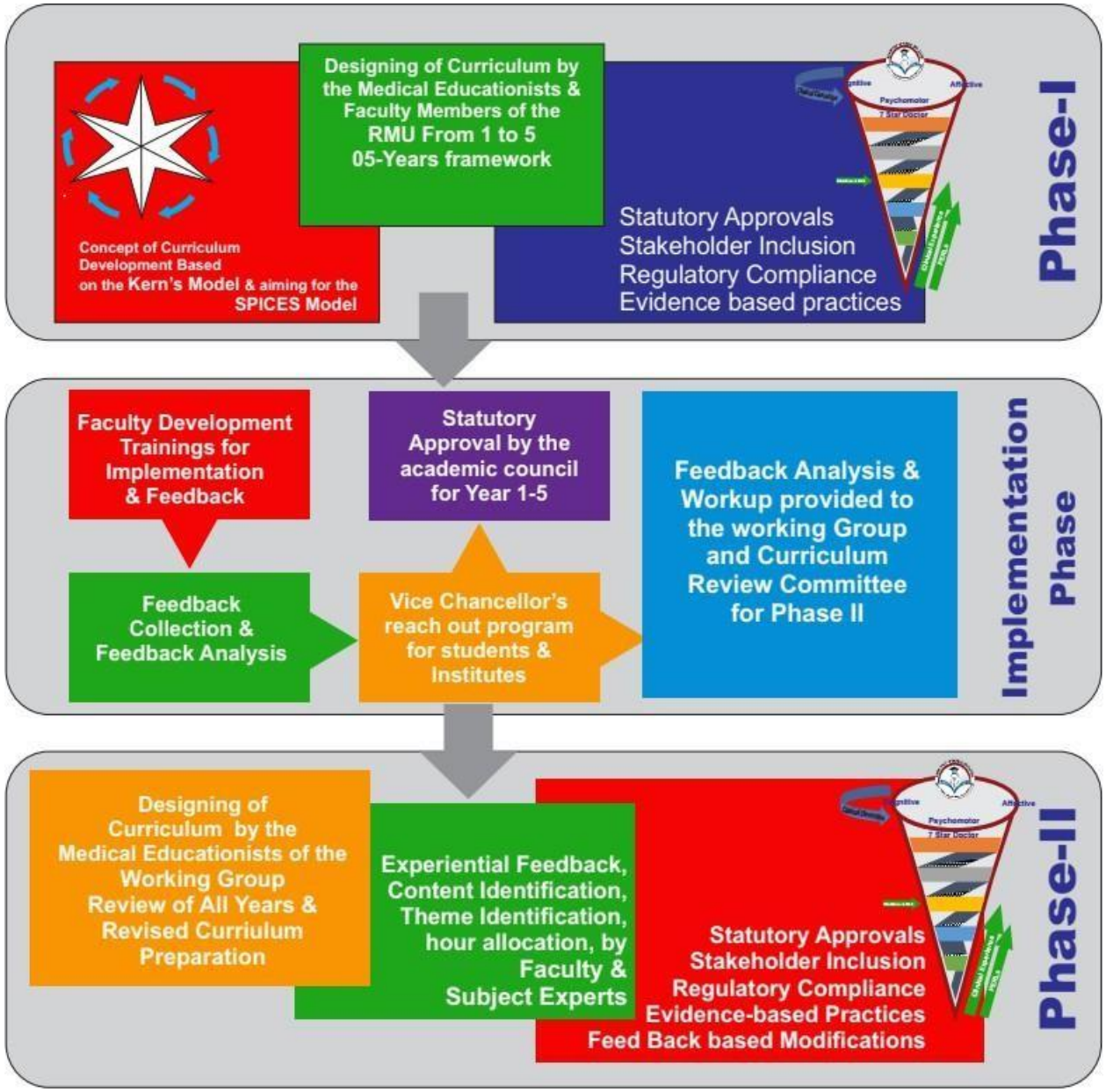
The curriculum development process at Rawalpindi Medical University was an intricate and well- orchestrated endeavor, meticulously designed to create an advanced and relevant curriculum. This process maintained a strong linkage with existing educational norms and professional practices while introducing innovative elements. Here's a more detailed breakdown of the process:



Curriculumn Development Process

1. **Syllabi Development and Expert Consultation**: The first stage involved the formation of subject- specific advisory committees, engaging over 34 experts. Each committee focused on curating and refining the syllabi for their respective subjects. Their primary task was to incorporate all critical elements pertinent to each subject while discarding any obsolete or irrelevant content.
2. **Curricular Committee Review**: The next phase brought together a 26-member Curricular Steering Committee, consisting of medical educationists This committee played a pivotal role in scrutinizing and endorsing the overarching structure for a 'Modular Integrated Curriculum' spanning five years. Their focus areas included the identification and placement of modules, clerkship planning, and ensuring that the curriculum aligned seamlessly with various assessment techniques.
3. **Theme Identification and Modular Design**: In this phase, 18 medical educators engaged in a dynamic and collaborative exercise. They meticulously arranged syllabi elements into specific modules according to these themes. This step was crucial in determining the topics for each learning objective and allocating appropriate hours for each curriculum component.
4. **Finalization of Modules**: A select group comprising Lead Medical Educationists and members from the Department of Medical Education undertook the final step of module finalization. This involved setting the structure, themes, time allocation, syllabi content, and emphasizing clinical relevance for each module.
5. **Statutory Approval and Integration**: The finalized modules and their associated assessment policies underwent a rigorous approval process through the Academic Council, and the Syndicate. Feedback and recommendations gathered during this statutory process were meticulously integrated into the curriculum guidelines.

6. **Adaptive and Feedback-Oriented Approach**: Recognizing the importance of adaptability and continuous improvement, the university incorporated a system for regular feedback and curricular evaluations. This system ensures that the curriculum remains dynamic, accommodating necessary updates and refinements as needed.
7. **Curriculum 2024 - A Modular Integrated Outcome-Based Approach**: The developed Curriculum is a testament to a comprehensive, outcome-based educational strategy. This strategy enables affiliated colleges to implement the curriculum effectively, respecting each institution's unique identity and vision, despite variations in available resources.
8. **Integrative and Contemporary Educational Strategies**: The curriculum emphasizes both horizontal integration across various disciplines and vertical integration throughout different educational stages. This integrative approach is in line with modern educational theories, like Meizrow's concept of transformative learning and strategies for early clinical exposure. Such an approach is aimed at promoting professional growth and practical knowledge application among students.



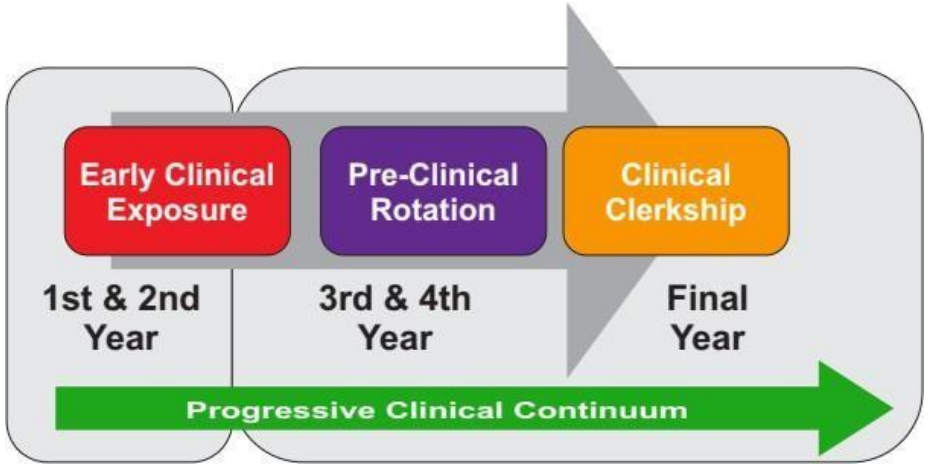
In essence, the curriculum development at Rawalpindi Medical University was a detailed, step-by-step process involving extensive expert input, iterative refinement, and a focus on adaptability and modern educational practices.

Curricular Organization and Structure

RMU will follow the Correlation approach, corresponding to level 7 of Harden's levels of integration. The emphasis remains on disciplines or subjects, with subject-based courses occupying most of the curriculum time. Within this framework, an integrated teaching session or course is introduced, in addition to the subject-based teaching. This session brings together areas of interest common to each of the subjects. Although the teaching is discipline-based, topics are correlated and taught within a clinical context for better understanding and application of concepts. However, clinical teaching increases gradually with advancing years. The fifth year of the MBBS program is dedicated to clerkships.

Integrated Curriculum Design of RMU MBBS Program

Two designs of the MBBS curriculum are acceptable by PMDC. System Based (Preferred) with horizontal and vertical integration. The curriculum of each Clinical Discipline must emphasize—Health Promotion and Disease Prevention‖, besides Curative Health Care. RMU has opted for system based modular curriculum.

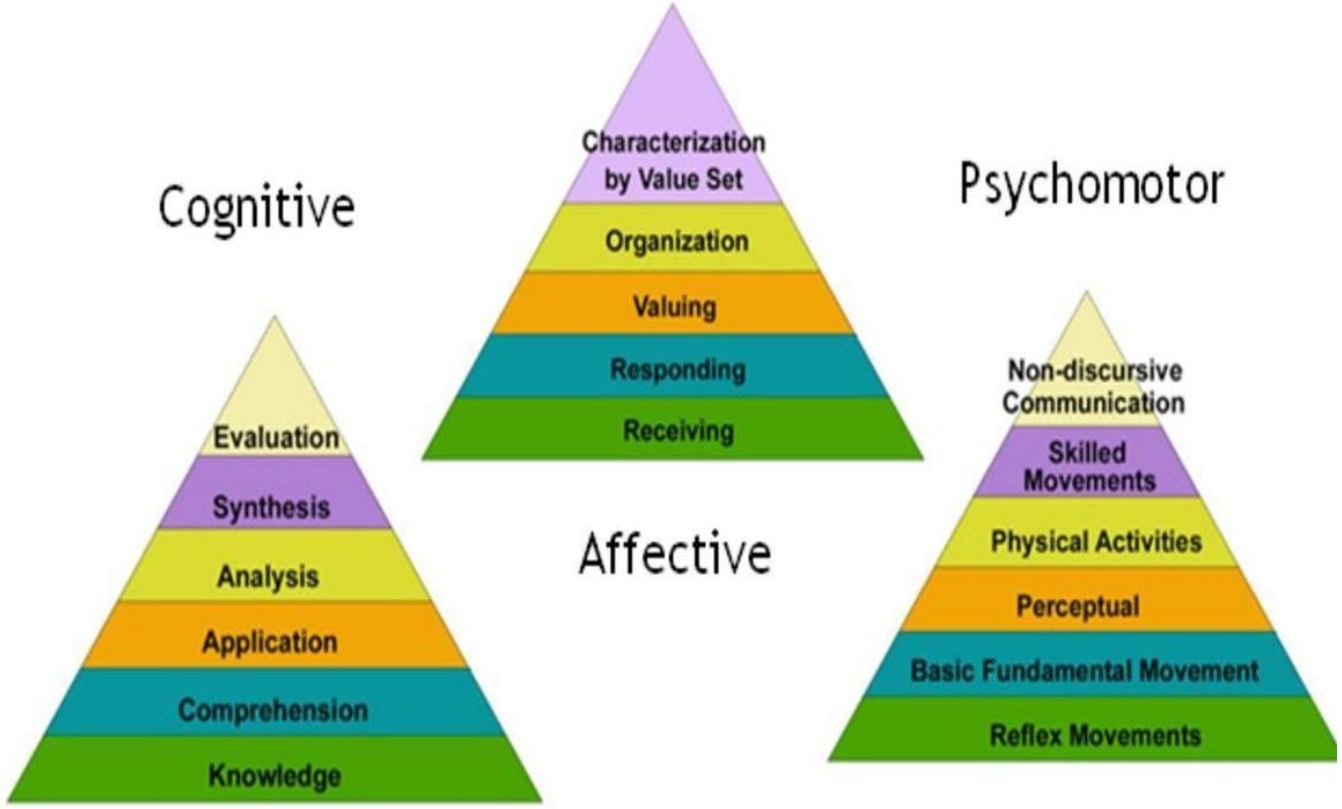


The Module: Module is the smallest unit of Curriculum both in the System- Based and Subject-Base (topic-based) Curricula. Modules are taught as a continuous block or as a longitudinal theme and assessments is carried out at the end of each module. The System-Based Curriculum made up of ―Modules, where each module is based upon organ-system(s) of the body. In each module, the Basic and Clinical Sciences are taught and learned in an integrated fashion in RMU we are following the system-based curriculum.

The Module should explicit makes:

Title of Module of a System 2) Learning Objectives, 3) Allocated Time in weeks/Hours and Credit Hours, 4) the name of the Coordinator, 5) Teaching Faculty (regular/visiting) 6) Learning Sites, 8) Modes of Information Transfer, 9) List of the Recommended Books, 10) Assessment strategies, and 11) Strategies for Monitoring and Improvement.

Learning Objectives: Learning Objectives are defined for each module. They are Specific, Measurable, Achievable, Relevant to the desired competencies (Outcomes) of the PMDC Curriculum and Time bound (SMART), related to level of the learner and the three main domains.



Level of the Learner: While developing the curriculum, the learning objectives are according to the desired level of the learner, and the assessment systems must assess the knowledge, skills and attitudes to be achieved for that level.

a. The RMU MBBS curriculum in the first four years will be delivered in a System-Based Modular Format with clinical relevance and early clinical Exposure. However, in the third and fourth years, students will gain clinical exposure through rotations in the wards and outpatient departments (OPDs), and in the fifth year through clerkships.

b. The curriculum will be delivered by modular teams consisting of multidisciplinary basic science faculty and relevant clinical faculty.

c. The planning and delivery will be coordinated by Module Team who will guide module coordinators of their respective modules for efficient implementation.

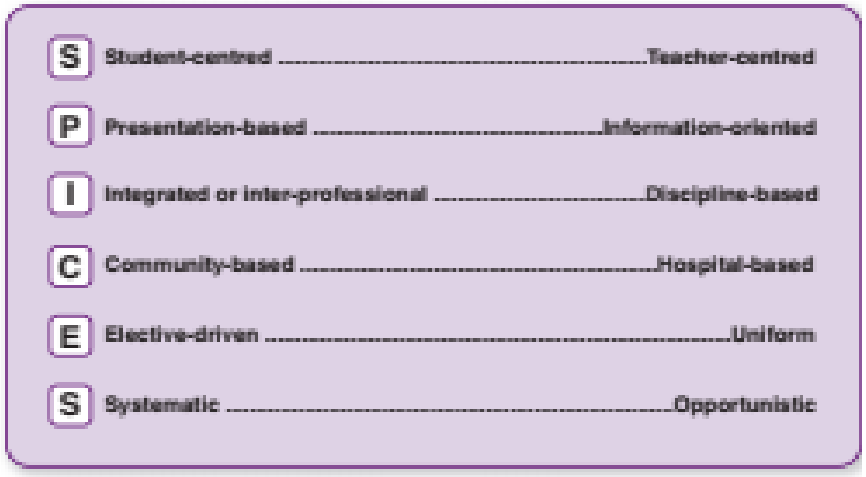
d. The Modular Coordinator will be responsible for teaching and assessment during each module. The coordinator will be appointed by the Heads of Departments (HODs) in coordination with the Health Professions Education (HPE) team.

e. The Clinical Coordinator will be responsible for placement, teaching, and assessment during clinical rotations

The Theoretical Frameworks Shaping the RMU Integrated Modular Curriculum

The Changing concept of Curriculum in Medical Education

The way medical curricula are structured and taught has undergone significant changes in recent decades. New approaches to education have resulted in a more cohesive curriculum that emphasizes the teacher's role as a facilitator of learning rather than a source of information. Students are now seen as active participants in the learning process rather than mere recipients of knowledge. The responsibility for curriculum planning has shifted from individual departments to committees representing different stakeholders. Key issues that need to be addressed include the mission of the medical school, learning outcomes, curriculum content, course sequence, educational strategies, teaching and learning methods, assessment procedures, educational environment, communication about the curriculum, and management of the process. The SPICES model describes a range of educational strategies that move from student-centered to teacher-centered, problem-based to information-centered, integrated to discipline-based, community-based to hospital-based, and from electives to uniform and systematic to opportunistic. (Figure-1)



Spices Model of Educational Strategies
(Essential Skills For A Medical Teacher, Second Edition, Ronald M. Harden)

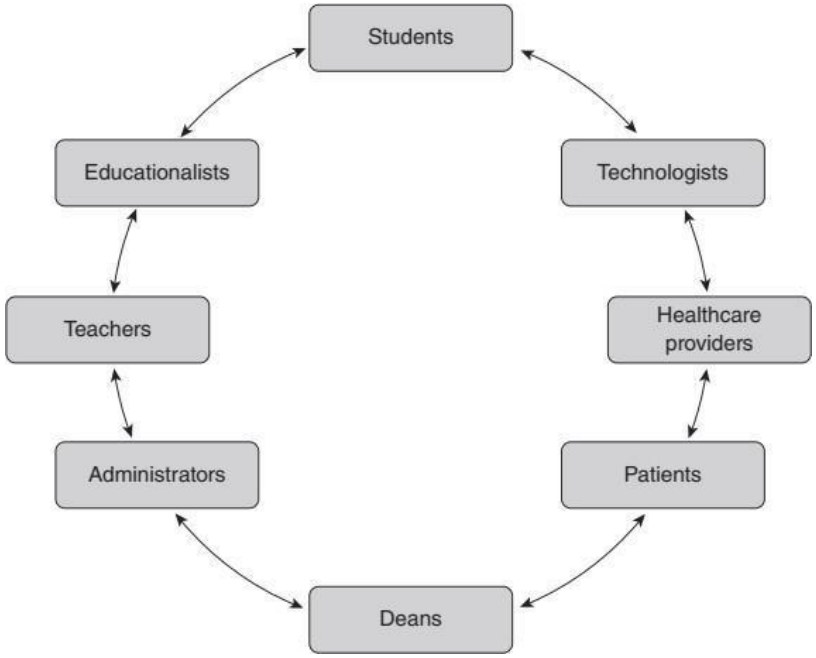
Creating an Authentic Curriculum

The concept of an authentic curriculum in medical education is gaining importance worldwide. In line with this, Rawalpindi Medical University has also made efforts to create a curriculum that is relevant and responsive to the needs of society and the healthcare system. The university has recognized the need for medical education to keep pace with the changing healthcare landscape, and has adopted an outcome- or competency-based approach to education. This means that the curriculum is designed to produce graduates who are not only knowledgeable but also equipped with essential clinical skills, communication skills, and professionalism. To achieve this, the university has incorporated learning outcomes such as Leadership, Professionalism, Communication skills, Research skills and Bioethics in addition core objectives. Regular Case Based and Problem based learning sessions developed with a local context develops the ability of translating theory to practice since undergraduate years. By adopting an authentic curriculum, Rawalpindi Medical University aims to ensure that its graduates are well-prepared to practice effectively for the benefit of their patients and the community at large.

Collaborative Activities in the Curriculum

Rawalpindi Medical University recognizes the importance of collaboration in enhancing medical education. In order to achieve this, the university has established a collaborative approach among different stakeholders, including students, faculty, healthcare professionals, and the community.

One of the ways that Rawalpindi Medical University fosters collaboration is by implementing horizontal and vertical integration in the medical curriculum on the continuum of the integration ladder. (Figure 2) By integrating subjects that are normally taught in the same phase of the curriculum, such as anatomy, physiology, biochemistry, surgery, paediatrics, obstetrics, and gynecology, students gain a more comprehensive understanding of medical concepts. Moreover, students are introduced to patients from the first year of the curriculum, allowing them to apply their knowledge in clinical settings.



In addition, the university believes that collaboration should extend beyond the different subject experts working together to deliver an integrated program. All stakeholders, including students, faculty, healthcare professionals, and the community, should work together in the planning and implementing of a curriculum. (Figure 3) They collaborate in specifying learning outcomes, planning the approaches to teaching, learning, and assessment, and evaluating the effectiveness of the program.

The stakeholders in curriculum development.
(Mennin, Stewart, and Ronald Harden. Routledge international handbook of medical education., 2016. Pg 120)

Furthermore, Rawalpindi Medical University recognizes that collaboration is necessary across the different phases of education, including undergraduate, postgraduate, and continuing education. By breaking down silos and fostering communication between these different phases, the university ensures a higher level of collaboration and progress. This collaborative approach to medical education ensures that students graduate with the necessary skills and knowledge to meet the changing needs of the community.

The Involved Student

In Rawalpindi Medical University, students play a crucial role in the curriculum. There has been a shift in the perception of the student's role, where they are no longer seen as mere products of the education system, but as active partners in the learning process. The focus is on student-centered learning, where the emphasis is on what the students learn rather than what the teachers teach.

To facilitate this, the university provides study guides and clear statements of the expected learning outcomes, encouraging students to take responsibility for their own learning. The university also supports personalized adaptive learning, recognizing that each student is different in terms of their abilities, previous experiences, learning styles, and aspirations.

The university has implemented various strategies, including problem-based learning, case-based learning, peer-to-peer learning and flipped classrooms, to support student-centered learning. Students are also actively engaged in the educational program, serving on committees, participating in policy decisions, and shaping the teaching and learning experience.

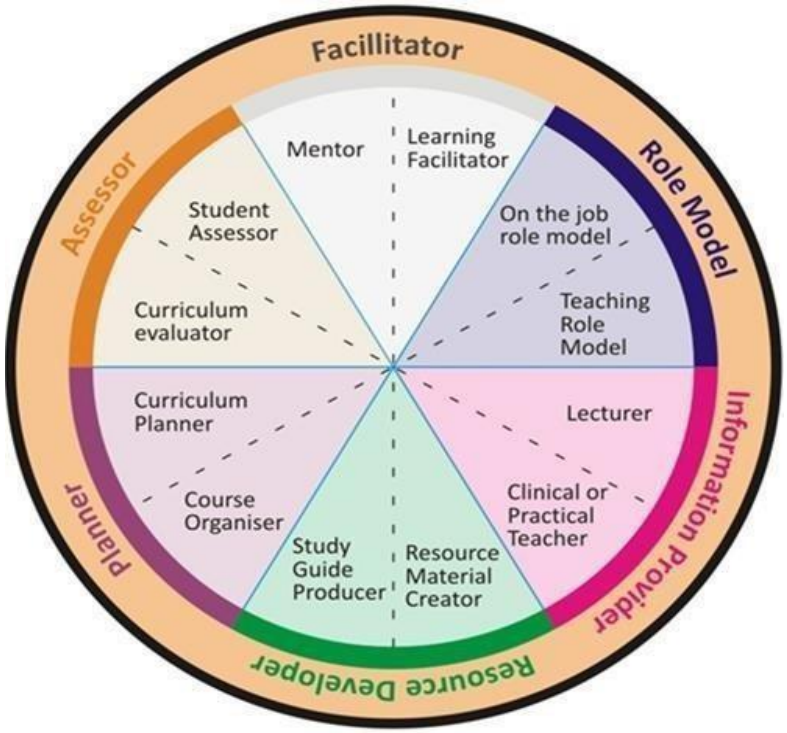
In Rawalpindi Medical University, students have the opportunity to engage in the research program, representing the school and contributing to national and international education seminars. They may also be involved in the delivery of the teaching program as peer teachers or developers of learning resources. Overall, students in Rawalpindi Medical University are valued partners in the learning process, actively engaged in shaping their educational experience.

A broader role of Teachers

Rawalpindi Medical University places great importance on the role of the teacher in the success of a curriculum. We understand that the input of the teacher is as significant, if not more significant, than the design of the curriculum itself. Therefore, we prioritize the training and development of our faculty through a regular faculty development program to ensure that they are equipped with the necessary knowledge and skills to effectively teach our students.

Our teachers play multiple roles in the curriculum, including that of information provider, role model, facilitator of learning, assessor of student progress, and curriculum planner. (Figure 4) They are not simply lecturers, but rather mentors and guides who help our students navigate the complex world of medicine. They work tirelessly to create an educational environment that supports the learning of our students and encourages appropriate learning behavior.

Our teachers also serve as facilitators of learning, guiding our students to access, select, and evaluate a wide range of resources that will help them achieve their learning outcomes. They work with individual students to support, motivate, and inspire them, promoting a sense of ownership of the course and their studies.



12 Roles of a Medical Teacher *(adapted from Harden, R.M., Crosby, J.R., 2000. AMEE Educational Guide No. 20)*

As assessors of student progress, our teachers monitor the progression of our students through the curriculum, identifying any problems related to their progress and guiding their studies to meet their individual needs. They provide feedback and support to students who may require remedial teaching, as well as guidance to those who have mastered a topic and are ready to explore more advanced areas.

Finally, our teachers are integral to the development of our authentic curriculum, which mirrors the mission of our medical school and relates to the needs of our community. They work collaboratively to ensure that our curriculum is up-to-date, relevant, and responsive to the changing landscape of healthcare.

At Rawalpindi Medical University, we recognize the critical role that our teachers play in the success of our curriculum and, ultimately, in the success of our students. We are committed to providing them with the training, resources, and support they need to continue to be effective mentors, guides, and role models for our future medical professionals.

SECTION-III

RMU Undergraduate Curriculum 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. The competencies emphasized in the first and second years align with these roles.

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.

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.

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.
    - Explain the principles of living systems.
    - Apply knowledge of living systems to clinical practice.
    - Evaluate the impact of living systems on health and disease.
- **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.

Outcomes

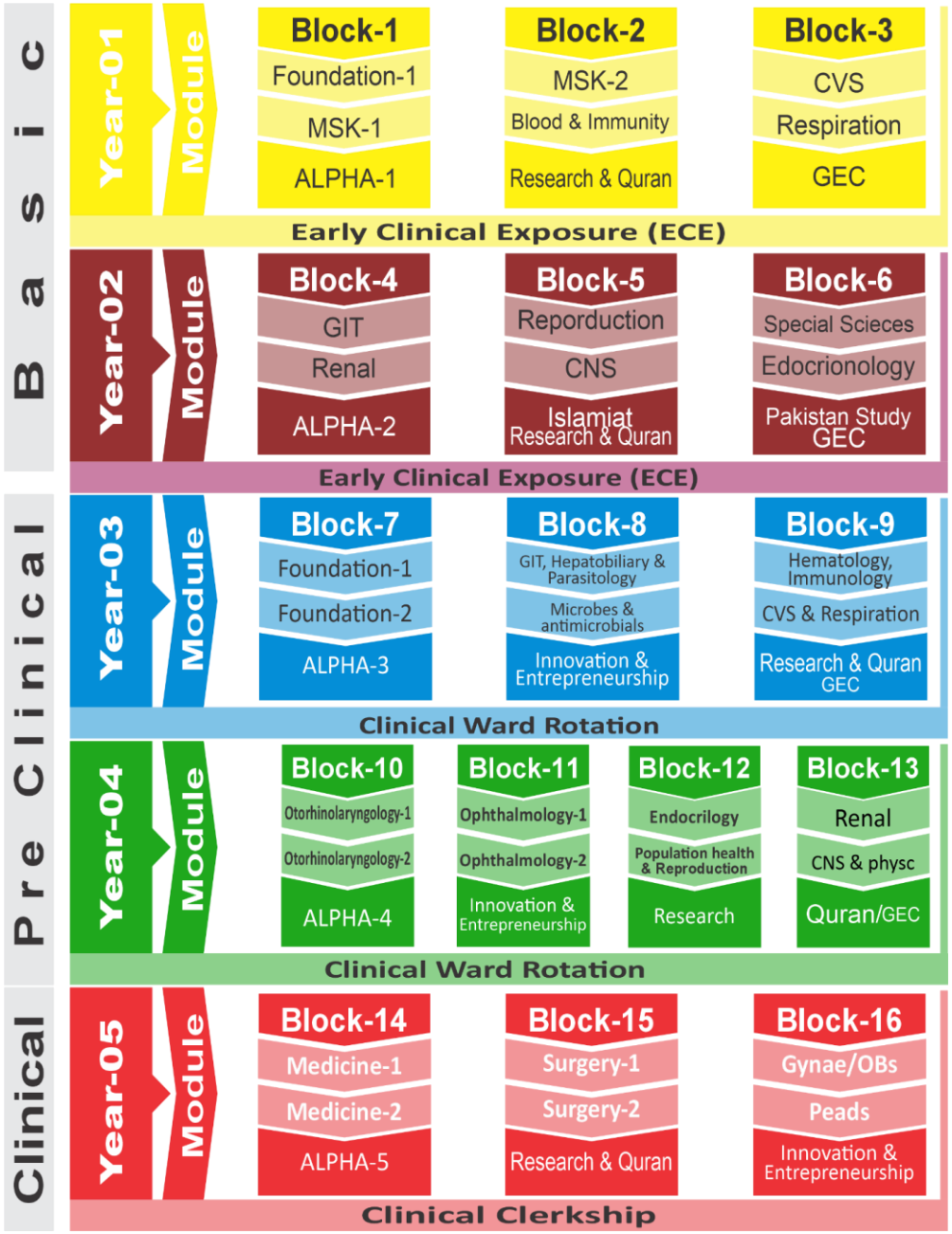
Outcomes of the Undergraduate Integrated Modular Curriculum

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 & excellance.

SECTION- IV

Five Year Structured Framework of
Clinically Oriented Integrated Modular Curriculum 2024

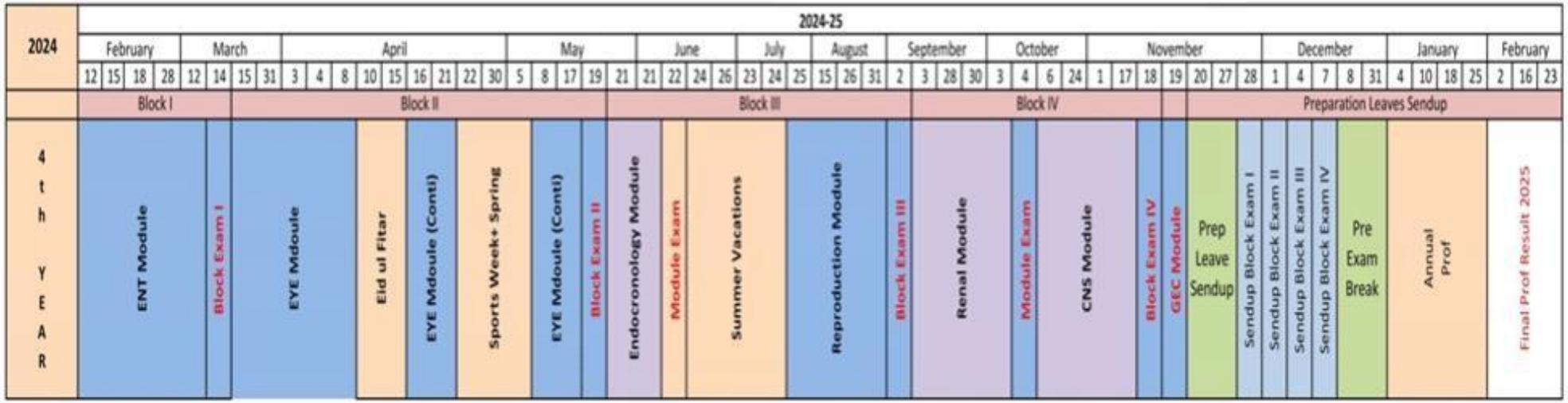


Structured Framework for Five Year of MBBS

Structured Framework of Clinically Oriented Integrated Modular Curriculum 2024

Sr. No	Class	Module	Duration	Block
1.	First Year MBBS	Foundation Module	6 weeks	Block-I
		MSK-I Module	5 weeks	
		MSK-II Module	5 weeks	Block -II
		Blood & immunity Module	5 weeks	
		CVS Module	6 weeks	Block -III
		Respiration Module	5 weeks	
		General Education Cluster Module	1 week	
2.	Second Year MBBS	Gastrointestinal tract Module	5 weeks	Block-IV
		Renal module	5 weeks	
		Reproduction Module	4 weeks	Block -V
		Central nervous system module	6 weeks	
		Special Senses Module	4 weeks	Block -VI
		Endocrinology Module	5 weeks	
3.	Third Year MBBS	Foundation 1	4 weeks	Block- VII
		Foundation II	4 weeks	
		GIT, Hepatobiliary & Parasitology	5 weeks	Block - VIII
		Microbes & Antimicrobials	7 weeks	
		Hematology, Immunology & Research	5 weeks	Block - IX
		CVS & Respiration	5 weeks	
4.	Fourth Year MBBS	Otorhinolaryngology 1	2.5 weeks	Block- X
		Otorhinolaryngology II	3 weeks	
		Ophthalmology I	2.5 weeks	Block - XI
		Ophthalmology II	3 weeks	
		Endocrinology	5 weeks	Block -XII
		Population Health & Reproduction	6 weeks	
		Renal	4 weeks	Block – XIII
		CNS & Psychiatry	6 weeks	
5.	Final Year MBBS	Medicine & Allied	12 weeks	Block- XIV
		Surgery & Allied	12 weeks	Block- XV
		Gynae & Peads	12 weeks	Block- XVI

4th Year Academic Calendar 2024



Contact Hour Distribution for Core Subjects
4th Year MBBS

Subjects	Contact Hours
Pathology	132
Community Medicine & Research	179
Pharmacology	101
Eye	150
ENT	150
Medicine	95
Surgery	55
Obstetrics & Gynecology	95
Pediatrics	55
Spirally integrated subjects	30
Quran translation	16
Self-Directed Learning	100
Co-curricular activities	40
LMS test	30
Exams/Send ups	60
TOTAL HOURS	**1288 hours**

<table>
<tr><th colspan="4">YEAR-IV (Contact Hours: 1128+30 hrs.LMS+60Hrs sendups=1218 hours)</th></tr>
<tr><td colspan="4">3.5 hours/day for 4 days = 504 hours (LGIS/SGD/CBL/Pathology & Pharmacology Practical/Community visits)
Friday: 252 hours</td></tr>
<tr><td colspan="2">• Pathology: 132 hours
• Community Medicine+Reserch: 179 hours
• Pharmacology: 101 hours
• Eye: 150 hours
• ENT: 150 hours
• Spirally integrated subjects=30 hrs.
• Medicine & Allied: 95 hours</td><td colspan="2">• Surgery & Allied: 55 hours
• Obs/Gynae: 95 hours
• Pead’s: 55 hours
• Self-Directed Learning: 100 hours
• LMS Test-30 HRS
• Co-curricular activities: 40 hours</td></tr>
<tr><th colspan="4">Core subjects</th></tr>
<tr><th>ENT BLOCK
(6 weeks)=216 hrs.</th><th>EYE BLOCK
(6 weeks)=216 hrs.</th><th>Repro BLOCK
(11 weeks)=496 hrs.</th><th>CNS BLOCK
(10 weeks)=424 hrs.</th></tr>
<tr><td>• ENT
• Community Medicine</td><td>• Eye
• Community Medicine</td><td>• Community Medicine
• Pathology
• Pharmacology
• Obs/Gynae
• Medicine
• surgery</td><td>• Nephrology
• Urology
• Community Medicine
• Pathology
• Pharmacology
• Psychiatry</td></tr>
<tr><td colspan="4">Proposed Rotation Plan (3.5 Hrs./4 Day)</td></tr>
</table>

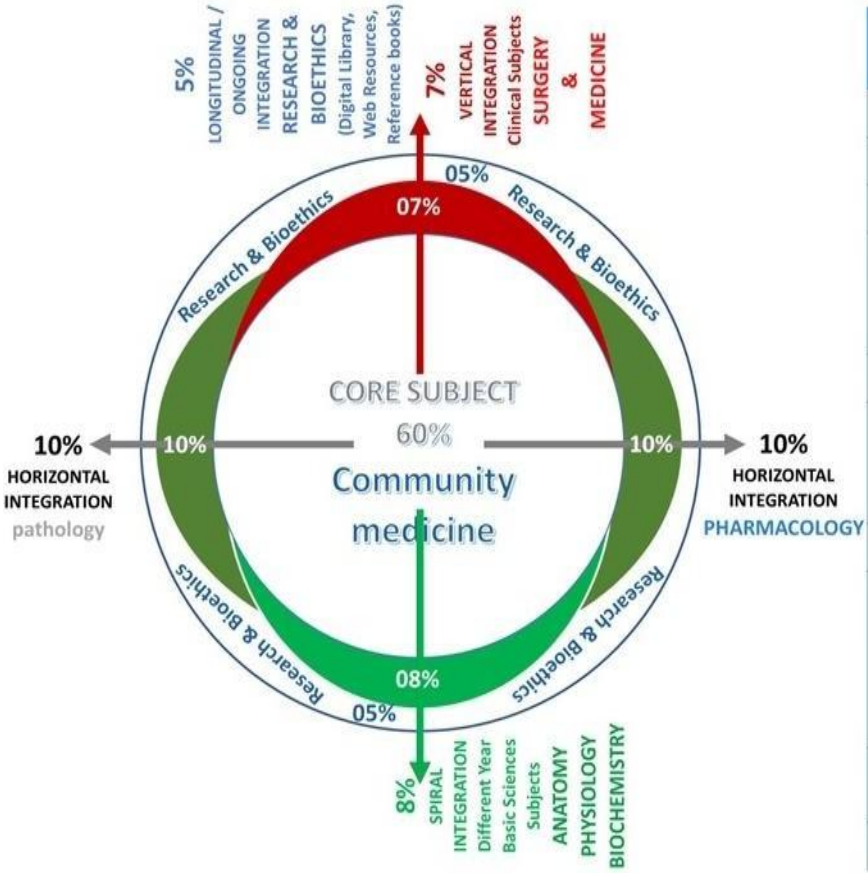
SECTION -V

Teaching and Learning Methodologies / Strategies

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

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



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)	

Prof Umar's Model of Integrated Lecture

Small Group Discussion (SGD)

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

Table 2. Standardization of teaching content in Small Group Discussions

S. No	Topics	Approximate %
1	Title Of SGD	
2	Learning Objectives from Study Guides	
3	Horizontal Integration	5%+5%=10%
4	Core Concepts of the topic	60%
5	Vertical Integration	20%
6	Related Advance Research points	3%
7	Related Ethical points	2%

Table 3. Steps of Implementation of Small Group Discussions

Step 1	Sharing of Learning objectives by using students Study guides	First 5 min
Step 2	Asking students pre-planned questions from previous teaching session to develop co-relation (these questions will be standardized)	5 min
Step 3	Students divided into groups of three and allocation of learning objectives	5 min
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, horizontal integration, vertical integration, related research article, related ethics content	
Step 9	Students Assessment on online MS teams (5 MCQs)	5 min
Step 10	Summarization of main points by the facilitator	5 min
Step 11	Students feedback on the SGD and entry into log book	5 min
Step 12	Ending remarks	

Self-Directed Learning (SDL)

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

PBL

- Problem-based learning (PBL) is a student-centered approach in which students learn about a subject by working in groups to solve an open-ended problem

The 7- Jump-Format of PBL (Maastricht Medical School)	
Step 7	Synthesize & Report
Step 6	Collect Information from outside
Step 5	Generate learning Issues
Step 4	Discuss and Organize Ideas
Step 3	Brainstorming to Identify Explanations
Step 2	Define the Problem
Step 1	Clarify the Terms and Concepts of the Problem Scenario
Problem- Scenario	

Case Based Learning (CBL)

- It's a learner centered model which engages students in discussion of specific scenarios that typically resemble real world examples.
- Case scenario will be given to the students
- Will engage students in discussion of specific scenarios that resemble or typically are real-world examples.
- Learning objectives will be given to the students and will be based on
  i. To provide students with a relevant opportunity to see theory in practice
  ii. Require students to analyze data in order to reach a conclusion.
  iii. Develop analytic, communicative, and collaborative skills along with content knowledge.

Practical Sessions/Skill Lab (SGDs)

Demonstration/ power point presentation 4-5 slide	10-15 minutes
Practical work	25-30 minutes
Write/ draw and get it checked by teacher	20-25 minutes
05 mcqs at the end of the practical	10 minutes
At the end of module practical copy will be signed by head of department	
At the end of block the practical copy will be signed by Head of Department, Dean, Medical education department, QEC	

SECTION- VI

Seven Star Competencies

Cognitive Domain

Horizontal Integration

There are 8 modules in the revised 2024 Curriculum of year 4 MBBS. The modular structure, which allows for the simultaneous application of several fundamental disciplines to the themes, clearly demonstrates horizontal integration. All of the fundamental disciplines are represented in the modules according to the relative weighting of their content. The assessment framework makes sure that the learner's concept development incorporates the applied/clinical element while maintaining the clinical relevance and context at the center. The modular structure, which allows for the simultaneous application of several fundamental disciplines to the themes, clearly demonstrates horizontal integration. All of the fundamental disciplines are represented in the modules according to the relative weighting of their content as per PMDC guidelines. The assessment framework guarantees that the clinical and applied aspects are thoroughly assessed in accordance to clinical and contextual relevance.

Clinical Relevance & Themes

Clinical relevance and suggested themes is defined at the beginning of any module. These themes are aligned with rationale of module so that the learning pattern can be directed toward a professional, hands-on approach.

Vertical Integration

The spiral theme embedded inside the modular curriculum framework assures a revisit of the basic sciences. Basic Sciences teachings at the beginning of the module orient the student, and the repeating clinical themes during clinical clerkship rotations guides the concept development of the learner keeping the clinical and contextual relevance at the core.

Psychomotor Domain

RMU CCR

Clinical Clerkship Rotation

Psychomotor skills refer to the coordinated use of physical movements, cognitive processing, and perceptual abilities required to perform clinical tasks. These skills are vital for diagnostic and therapeutic procedures, patient interactions, and real-time clinical decision-making. Clinical clerkships are an essential part of medical education, providing students with hands-on experience under the supervision of experienced clinicians. They contribute not only to the acquisition of knowledge but also significantly enhance the development of **psychomotor skills**, which are essential for the competent practice of medicine.

Affective Domain

RMU ALPHA Curriculum

(Artificial Intelligence, Leadership, Professionalism, Humanities, Arts)

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.

SECTION VII

Study Guides

Otorhinolaryngology Module I & II
Block - X

Introduction

Otorhinolaryngology module provides integration of core concepts that underlie the basic science/pathology of Ear Nose & Throat diseases 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: Otorhinolaryngology (ENT) module is essential for comprehensive patient care, as ENT disorders significantly impact quality of life. It fosters interdisciplinary collaboration, enabling early diagnosis and management of conditions, which can prevent complications and improve outcomes. Students develop crucial diagnostic and procedural skills vital for clinical practice. The module also raises awareness of public health issues related to ENT diseases, promoting preventive measures. Additionally, it encourages understanding of ongoing research and advancements in the field, fostering critical thinking. Ultimately, equipping future healthcare professionals with this knowledge enhances their ability to educate and advocate for patients, contributing positively to health outcomes.

Module Outcomes

Knowledge ;

Each student will be able to acquire knowledge about the basic terminologies used in Pharmacology, Pathology & Community Medicine as well as the concepts of diseases in the community

Appreciate concepts & importance of

- Family Medicine
- Biomedical Ethics
- Research
- Use technology based medical education including **Artificial Intelligence**

Skill:

- Interpret and analyze various practicals of Pre-clinical Sciences & by attending hospital wards & OPDs they will learn to handle the patient.

Attitude:

- Demonstrate a professional attitude, team building spirit and good communication skills
- This module will run in 5/6 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 guide. Study guide will be uploaded on the university website.

Block TORs

The framework is based on a 34-hour work week.

A total of 1200 hours per year is allocated for teaching, learning, and assessments.

- **Module Requirements:**
  - Each module has a minimum number of hours that must be fulfilled.
  - Institutions have the flexibility to use additional hours as they see fit for teaching and assessments.

- **Content and Learning Outcomes:**
  - The specified content and intended learning outcomes are mandatory and must be taught.
  - The final assessments will focus on these outcomes to ensure alignment.

- **Cognitive Engagement:**
  - While the content is set, institutions can encourage higher-level cognitive skills, promoting deeper understanding and critical thinking among students.

- **Assessment Standards:**
  - A Table of Specifications is provided for the first professional exam and must be used for internal assessments as well.
  - This promotes consistency in evaluating student learning across different assessments

Otorhinolaryngology Block Team

Block Name : Otorhinolaryngology Block-X (Module I-II)

Duration of module : 03 Weeks each module

Module Coordinator : Dr Ashar Alamgir

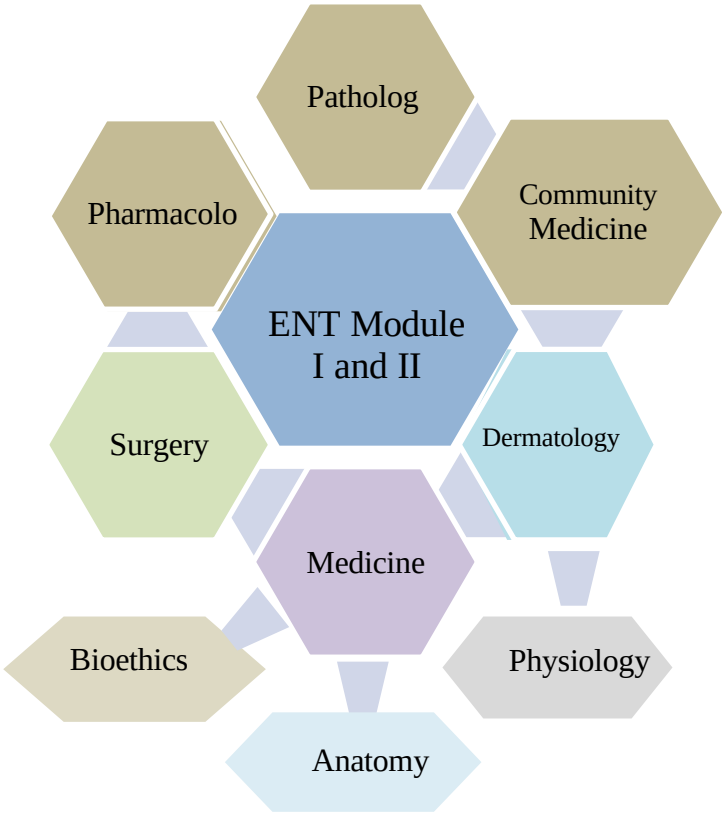
Block Committee			Block Task Force Team		
1.	Vice Chancellor RMU	Prof. Dr. Muhammad Umar	1.	Coordinator	Dr. Ashar Alamgir
2.	Principal	Prof. Dr. Jahangir Sarwar Khan	2.	DME Focal Person	Dr. Maryum Batool
3.	Convener Curriculum	Prof. Dr. Naeem Akhter		**DME Implementation Team**	
4.	Dean Basic Sciences	Prof. Dr. Ayesha Yousaf	1.	Director DME	Prof Dr. Ifrah Saeed
5.	Director DME	Prof. Dr. Ifra Saeed	2.	Assistant Director DME	Dr Omaima Asif
6.	Chairperson Otorhinolaryngology	Prof Nousheen Qureshi (HOD)			
7.	Chairperson Community Medicine	Prof. Dr. Arshad Sabir			
8.	Focal Person Otorhinolaryngology	Dr Huma			
9.	Focal Person Community Medicine	Dr Sana			

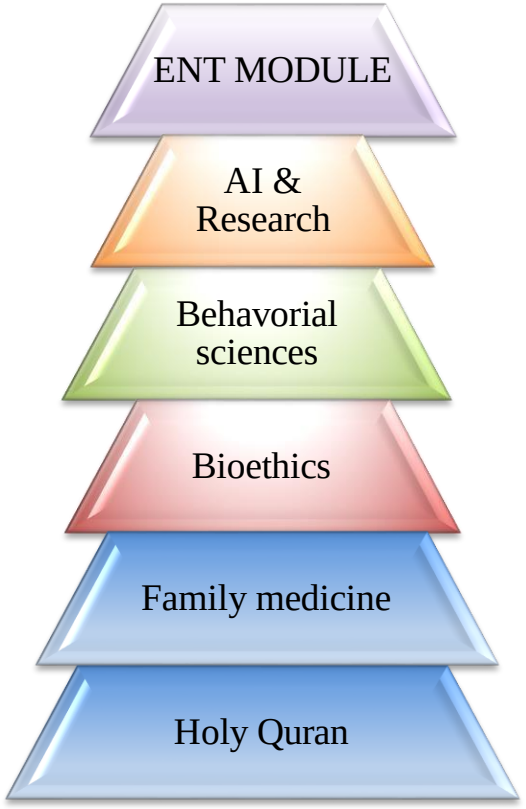
Prepared By:

Dr Ashar Alamgir
Assistant Professor ENT
Rawalpindi Medical University, Rawalpindi

MBBS YEAR IV
BLOCK- X
MODULE- I & II
ENT MODULE
DURATION- 6 WEEKS

Integration of Disciplines in ENT Block / Spirally Integrated Disciplines





Contents of the ENT Block

1. **Horizontally Integrated Basic Sciences (Pharmacology, Pathology, Community Medicine)**
2. **Large Group Interactive Session (LGIS):**

   i. ENT (Otorhinolaryngology) ii. Pathology iii. Community Medicine iv. Pharmacology
3. **Small Group Discussions (SGD**)

   i ENT (Otorhinolaryngology) ii. Community Medicine
4. **Self-Directed Topic, Learning Objectives & References (SDL)**

   i. ENT (Otorhinolaryngology) ii. Pathology iii. Community Medicine iv. Pharmacology
5. **Peer Assisted Learning (PAL)**

   Community medicine
6. **Skill Lab**

   i. Pathology ii. Pharmacology
7. **Case Based Learning (CBL)**

   i. ENT (otorhinolaryngology) ii. Pathology
8. **Wards, operation theatres**

   ENT (Otorhinolaryngology)

Horizontally Integrated Basic Sciences

S No	Subjects	Teaching hours without practical/PAL
1	Pathology (LGIS+SGD+CBL)	2
2	Community medicine (LGIS+SGD)	20
3	Pharmacology (LGIS+SGD+CBL)	2

Orientation Day Introduction to New Teaching Block & Hospital Disciplines

Medical Education And Integrated Disciplines			
Topic	**Facilitator**	**Learning Objectives**	**Teaching Strategy**
Introduction to RMU and Allied Hospitals	Vice Chancellor	Honorable VC will welcome and introduce the University and Allied Hospitals.	LGIS
		The students will be able to:	
Introduction to Medical Education Department	Assistant Director DME	• Introduce DME	LGIS
		• Define Medical Education	
		• Discuss its role	
		• Appreciate role of DME in their curriculum	
		• Appreciate role of DME in attendance monitoring	
		• Illustrate the application	
		• Leave submission process	
Introduction to Pre-Clinical Sciences	Implementation on In charge 4th Year MBBS	• Introduction to Departments	LGIS
		• Introduction to Hospitals	
		• Discussion about Teaching & Learning strategies	
		• Assessment Model	
		• Discipline	
Introduction to Medicine & Allied	Lecture by Dean of Medicine & Allied	• Define medicine	LGIS
		• Discuss History of medicine	
		• Describe Islamic concepts of medicine	
		• Identify Basic sciences involved in medicine	
		• Identify Clinical subjects and their role	
		• Describe practice and process of medicine	

Horizontally Integrated Clinical Subjects
Content of ENT
Learning Objectives of ENT (LGIS)

Topic	Learning Objectives At the end of the lecture the student should be able to	Learning Domain	Teaching Strategy	Assessment Tool
Otology				
Endoscopic anatomy of middle ear	• Define middle ear cleft • Parts of middle ear • Physiology of middle ear	C1 C2 C3	LGIS	SAQ MCQ OSCE
Anatomy and physiology of ear and vestibular system	• Parts of ear and vestibular system • Functions of cochlea and vestibular system • Biochemical processes of cochlea and vestibular system	C1 C2 C3	LGIS	SAQ MCQ OSCE
Acute otitis externa **Malignant otitis externa**	• Definition of acute otitis externa and malignant otitis externa • Clinical features, diagnosis, investigations • Management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
Acute otitis media **Otitis Media with effusion** **Eustachian tube catarrh**	• Definition of acute otitis media and otitis media with effusion • Clinical features, diagnosis, investigations • Management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
Chronic otitis media	• Definition of chronic otitis media • Clinical features, diagnosis, investigations • Management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
Complications of chronic otitis media	• Different types of complications of chronic otitis media • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
Facial nerve palsy	• Anatomy of facial nerve, types of facial nerve palsy • Clinical features, diagnosis, investigations • Management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
Otosclerosis	• Definition of otosclerosis, types, pathophysiology • Clinical features, diagnosis, investigations • Management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE

Sensorineural hearing loss Noise induced hearing loss	• Definition of sensorineural, noise induced, drug induced hearing loss, Meniere's disease	C1 C2	LGIS	SAQ
Meniere's disease Drug induced hearing loss	• Clinical features, diagnosis, investigationsManagement plans	C3		MCQ OSCE
Types of mastoidectomies	• Canal wall up, canal wall down mastoidectomies • Investigations before mastoid • exploration Post operative care	C1 C2 C3	LGIS	SAQ MCQ OSCE
Audiology				
Pure tone audiometry Tympanometry BERA test ASSR test	• Hearing assessment methods and tests • Types of graphs • Clinical implications and diagnoses	C1 C2 C3	LGIS	SAQ MCQ OSCE
Hearing aids Cochlear implant	• Types of hearing aids • Parts of cochlear implant • Indication of hearing aids and cochlear implant	C1 C2 C3	LGIS	SAQ MCQ OSCE
Rhinology				
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	LGIS	SAQ MCQ OSCE
Snoring and sleep apnoea	• Definition of snoring and sleep apnoea • Clinical features, diagnosis, • investigations Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
Nasopharyngeal angiofibroma	• Origin of nasopharyngeal angiofibroma • Clinical features, diagnosis, • investigations Management plan	C1 C2 C3	LGIS	SAQ MCQ OSCE
FESS	• Definition of FESS • Steps of FESS • Complications of FESS	C1 C2 C3	LGIS	SAQ MCQ OSCE
Deviated Nasal Septum Rhinoplasty	• Definition of deviated nasal septum, • Rhinoplasty • Clinical features, diagnosis, investigations Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE

Acute and chronic rhinosinusitis	• Definition of acute and chronic sinusitis • Clinical features, diagnosis, • investigations Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
Nasal polyps Allergic Infective	• Types and pathophysiology of nasal polyps • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
Complications of rhinosinusitis	• Enumerate complications of rhinosinusitis • Clinical features, diagnosis, • investigations Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
Allergic rhinitis	• Definition of Allergic Rhinitis • Pathophysiology • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
Radiology of nose and PNS	• Important investigations done for nose and PNS • Indications and findings Recent advances	C1 C2 C3	LGIS	SAQ MCQ OSCE
Septal hematoma Septal abscess	• What is Septal hematoma, septal abscess • Clinical features, diagnosis, investigations Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
Basal cell carcinoma Squamous cell carcinoma	• What is BCC, SCC nose • Clinical features, diagnosis, investigations Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
Antomy 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
Anatomy and phytsiology of larynx, Trachea, bronchi	• Anatomy of larynx, trachea, bronchi • Physiology of larynx, trachea, bronchi • Nervbe supply of larynx • Clinical implications	C1 C2 C3	LGIS	SAQ MCQ OSCE
Acute epiglottitis	• What is acute epiglottitis • Causatibe organism • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE

Acute laryngo tracheo bronchitis	• What is laryngotracheobronchitis • Causative organism • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
Carcinoma larynx	• Types of Carcinoma larynx • Etiological factors • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE

Small Group Discussion (SGDs) Otorhinolaryngology			
SGD IN ENT WARDS	**At The End Of SGD Student Should Be Able To**	**Learning Domains**	**Assessment Tool**
Anatomy of ear and vestibular system	• Parts of ear and vestibular system • How to examine ear and vestibular system	C2	MCQ SAQ OSPE
Physiology of ear and vestibular system	• Functions of cochlea and vestibular system • Biochemical processes of cochlea and vestibular system	P	MCQ SAQ OSPE
Acute otitis externa **Malignant otitis externa**	• Definition of acute otitis externa and malignant otitis externa • Clinical features, diagnosis, investigations • Management plan	C1	MCQ SAQ OSPE
Otitis media with effusion **Eustachian tube catarrh**	• Definition of acute otitis media and otitis media with effusion • Clinical features, diagnosis, investigations • Management plan	P	MCQ SAQ OSPE
Epistaxis and management	• Types of epistaxis, how patient presents • Clinical features, diagnosis, investigations • Emergency and definitive management plan	C2	MCQ SAQ OSPE
Types of hearing loss and their management	• Types of hearing loss • Investigations • Hearing aids • Cochlear implant • Speech therapy	C3	MCQ SAQ OSPE
Causes of otalgia and referred otalgia	• What is otalgia and referred otalgia • How to take history and examine the patient • Differential diagnosis • Investigations • Management	C1	MCQ SAQ OSPE
Discuss different types of mastoidectomies in ENT ward class room	• Types of mastoidectomies • Indications • Steps of mastoidectomy • Complications	C2	MCQ SAQ OSPE
Anatomy and physiology of nose and PNS	• Anatomy of nose and PNS • Physiology of nose and PNS • Examination of nose and PNS	C3	MCQ SAQ OSPE

DNS, Sinusitis, Angiofibroma	• How to take history, examine the patient • Clinical features, diagnosis, investigations • Management plans	C3	MCQ SAQ OSPE
Rhinoplasty	• Types • Examination steps • Investigations • Surgical steps • Complications	C2	MCQ SAQ OSPE
Acute chronic rhinosinusitis	• Definition of acute and chronic sinusitis • Clinical features, diagnosis, investigations • Management plan	C2	MCQ SAQ OSPE
Discuss radiology of Nose and PNS in ENT wards	• Important investigations done for nose and PNS • Indications and findings • Recent advances	C1	MCQ SAQ OSPE
Discuss septal abscess, septal hematoma in ENT ward	• How to diagnose septal hematoma and septal abscess on patient • Management steps	C2	MCQ SAQ OSPE
Discuss anatomy and physiology of larynx, trachea, bronchi in ENT ward	• Anatomy of larynx, trachea, bronchi • Physiology of larynx • Nerve supply of larynx • Examination of larynx, trachea • •	C3	MCQ SAQ OSPE
Discuss acute tonsillitis **Chronic tonsillitis,** **Peritonsillar abscess** **Retropharyngeal abscess** **Parapharyngeal abscess in ENT ward**	• How patients present • History taking • Examination steps • Investigations • Management	C3	MCQ SAQ OSPE

Self-Directed Learning (SDL) ENT Module I

Topics Of SDL	Learning Objectives	Learning resources
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
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
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

Horizontally Integrated Basic Sciences
Content of Community Medicine
Learning objectives of LGIS

TOPIC	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives After the Session Students Will Be Able To:	Learning domain	Teaching strategy	Assessment tool
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
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
Fundamental concepts of Preventive medicine- II	• Health Assessment (Indicators) • Quality of life indicators Health indexes • 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	C1, C2 C1 C3 C1, C2	LGIS	MCQs, SEQs, OSPE Viva
Levels of prevention	• Models of Disease causation • Natural History of disease • Models of Disease causation • Levels of prevention • 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

Fundamental Concepts & Uses of Epidemiology	• Definition of epidemiology • Explanation of concepts • (Time- place-Person & Epidemiological triangle) • Epidemiologic approach to health problems	• 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
Introduction to Epidemiologic Methods descriptive studies	• Epidemiologic Methods / studies • Descriptive epidemiology-types & step of descriptive studies • Steps of descriptive studies Migration studies	• Explain classification of epidemiologic study designs. • Comprehend types of descriptive studies • Explain steps of Descriptive study • Describe theme of Migration study designs	C2 C2 C2 C1	LGIS	MCQs, SEQs, OSPE Viva
Analytical studies (case-control studies)	• Fundamental concept of case-control study designs • Steps of case control studies Bias & Matching • Odds ratio • Limitations of case-control studies	• Explain rationale of Case-Control study designs • Describe & apply steps for undertaking a Case-Control study • Comprehend Bias issues and perform matching • Calculate & interpret Odds Ratio • Explain limitations of Case-Control studies	C2 C2 C3 C3 C2	LGIS	MCQs, SEQs, OSPE Viva

Small Group Discussions Community Medicine (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 • Calculation of 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

SDL Community medicine				
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 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.	MCQS	K. Park Ed. 27th page177
Droplet infections	**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. • Differentiate between antigenic drift and antigenic shift with reference to Influenza	MCQs	K. Park Ed. 27th Page 163

Clinical Sciences (Vertical Integration)

Content (Gynecology, Obstetrics & Dermatology)

- CBLs
- LGIS

Vertically Running Subjects

Obstetrics & Gynaecology Learning Objectives (LGIS)								
S. No	**Date**	**Day**	**Teacher**	**Region**	**Topic**	**Learning objectives**	**Level**	**Assessment**
1	28-02-24	WEDNESDAY	Dr Humera Noreen	Obstetrics 1	Preparation for obstetric ward LGIS	• Orientation of obstetric department • Define the antenatal & postnatal care • Ethics to communicate with female patients • Bed-side manners • Dress-code especially for male students • Principles of privacy & Confidentiality of obstetric patient	C1 C1 A2	OSCE
2	02-03-24	SATURDAY	Prof Tallat Farkhanda	Obstetrics 2	History & examination of obstetric patient LGIS	• Elicit booking history and examination • To know the investigations in each trimester • To differentiate between low and high risk pregnancy	C1 C2 C2	OSCE

Dermatology LGIS

Topic	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives	Assessment tool LMS
RASH	Clinical evaluation of a rash	• At the end of lecture, the student should be able to • Describe symptoms associated with skin disease • Describe what is a primary lesion • Explain the types of primary lesion with examples • Describe what is a secondary lesion • Explain the types of secondary lesion with examples • Tell the important pearls of history and examination • Explain the diagnostic details of basic skin lesions	MCQS
PSORIASIS	An approach to a patient with psoriasis	• Describe the risk factors of psoriasis • Describe the types according to morphology • Explain the modification of psoriasis by site • Describe the clinical features of psoriasis • Explain the features of psoriatic arthritis • Know the treatment options of psoriasis	MCQs
ECZEMA	An approach to a patient with eczematous disorders	• Define eczema • Classify eczema on basis of duration and etiology • Differentiate different types of endogenous eczema on basis of clinical findings • Differentiate different types of exogenous eczema on clinical findings • Order appropriate investigations • Give treatment appropriate to the subtype of eczema	MCQs
SCABIES	An Approach To A Patient With Bacterial Skin Infections And Scabies	• Classify common streptococcal skin diseases • Identify clinical features of direct streptococcal cutaneous infections • Identify clinical features of toxin mediated streptococcal cutaneous infections • Classify common staphylococcal skin diseases • Identify clinical features of direct staphylococcal cutaneous infections • Identify clinical features of toxin mediated streptococcal cutaneous infections • Treat different types of cutaneous bacterial infections • Identify cutaneous features of scabies • Treat appropriately a patient of scabies	MCQs

SKIN INFECTIONS	An approach to a patient with fungal and viral skin infections	• Classify cutaneous fungal infections • Identify different patterns of superficial fungal infections • Make an appropriate diagnosis of superficial fungal infections • Treat different types of dermatophytosis • Classify common viral infections of skin • Recognize clinical features of different viral infections • Treat cutaneous viral infections	MCQs
ACNE AND MELASMA	An approach to a patient with acne and melasma	• At the end of lecture, a student should be able to • Elaborate the pathophysiology of acne • Clinical features of acne • Treat acne according to type and severity • Identify melasma • Differentiate melasma from other differentials • Treat appropriately a case of melasma	MCQs
CUTANEOUS DRUG REACTIONS	An approach to a patient with cutaneous drug reactions	• Define a cutaneous drug reaction • Elaborate different clinical patterns of cutaneous drug reactions • Differentiate cutaneous drug reactions from other exanthems • recognize both mild and severe drug reactions • Treat appropriately according to the severity	MCQs

Spiral Courses

Longitudinal Themes

- The Holy Quran Translation
- Family Medicine
- Behavioral Sciences
- Biomedical Ethics
- Research
- Artificial Intelligence

Spirally Integrated Subjects
Research 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 1. Define 'health research' 2. Prioritize and select a research topic 3. Understand FINER Criteria for research question 4. Describe steps of conducting a health research 5. Outline brief summary of a health research proposal 6. Describe the main components of a research report	1. MCQ in end of block exam 2. Viva exam at the end of the session
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.	1. MCQ in end of block block exam 2. Viva exam at the end of the session

Horizontally Integrated Clinical Subjects
Content of ENT
Learning Objectives of ENT LGIS

Oral cavity, Head and Neck, Aerodigestive tract				
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
Adenoiditis	• What is adenoiditis • Clinical features, diagnosis, investigations Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
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
Ludwigs angina	• What is Ludwigs angina • Causative organism • Clinical features, diagnosis, investigations • Management plans	C1 C2 C3	LGIS	SAQ MCQ OSCE
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

Self-Directed Learning ENT (SDL)

Sr #	Topics Of SDL	Learning Objectives	Learning resources
1.	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
2.	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
3.	Vocal cord paralysis Radiology of neck and aerodigestive tract	• Nerve supply of larynx • Radiological investigations for larynx and esophagus • Indication of radiological investigations	• Diseases of Ear, Nose and Throat & Head and Neck Surgery, 4th edition PL Dhingra • Section V, VI pages 275, 386

Case Based Learning (CBL) Otorhinolaryngology

Subject	Topic Learning Objectives At the end of the lecture the student should be able to	Learning Domain
OTOLOGY **AUDIOLOGY**	• Ear examination in ENT wards on patients • Examination of hearing and vestibular system on patients in ENT ward • History and examination of acute otitis externa/media • Malignant otitis externa patients in ENT ward • History and examination of Otitis media with effusion Eustachian catarrh patients in ENT ward • Management of otitis media in ENT wards on patients • Examination of hearing and vestibular system on patients and interpretation in ENT ward • History and examination of patients with otalgia in ENT ward • Demonstration of mastoidectomy patients in ENT operation theatre • Performing pure tone audiometry, tympanometry	CBL CBL CBL CBL CBL CBL CBL CBL CBL CBL
RHINOLOGY	• History taking and Nose and PNS examination in ENT wards on patients • Septoplasty, SMR, FESS on patients • Demonstrate rhinoplasty on patients in ENT OT • Demonstrate acute and chronic sinusitis on patients in ENT ward • Demonstrate septal hematoma, septal abscess, Basal cell carcinoma, squamous cell carcinoma on patients in ENT ward	CBL CBL CBL CBL CBL

Subject	Learning Objectives At the end of the lecture the student should be able to	Learning Domain
HEAD AND NECK	• History taking, examination of oral cavity, pharynx in ENT wards on patients • History taking, examination of larynx, trachea, bronchi, neck on patients in ENT ward • Demonstrate acute, chronic tonsillitis, peritonsillar abscess, retropharyngeal, parapharyngeal abscess on patients in ENT ward • Examination of salivary glands • Investigations of salivary glands diseases • Radiology in ENT	CBL CBL CBL CBL CBL CBL

Horizontally Integrated Basic Sciences
Content of Community Medicine
Learning objectives of LGIS

TOPIC	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives After The Session Students ill Be Able To:	Learning domain	Teaching strategy	Assessment tool
Sampling-I	• Non probability sampling • Sample size	• Define and comprehend the definition & rationale of sampling. • Understand the Concept ofnon-probability sampling technique • Enlist the types of non-probability sampling • Appraise different scenarios to apply different non -probability technique Calculate sample size for any study design	C2 C2 C1 C3 C3	LGIS	MCQs, SEQs, Viva Voce and OSPE
Sampling-II	Probability sampling	• Enlist the types of probability sampling. • Appraise different scenarios to apply different probability technique (04 primary methods) • Compare probability sampling technique with non-probability sampling technique keeping in mind its pros and cons.	C1 C3 C2	LGIS	MCQs, SEQs, Viva Voce and OSPE
Droplet infections- I	• Smallpox • Chicken Pox • measles	• Explain the strategy adopted for eradication of smallpox. • Describe the WHO response in case of any bioterrorism. • Describe the epidemiology of chicken pox & measles. • Explain modes of transmission and incubation period of chicken pox & measles. • Identify the high-risk individuals who are most susceptible to get the chicken pox & measles	C2 C2 C1 C2 C2	LGIS	MCQs, SEQs, Viva Voce and OSPE

		• Differentiate skin rashes of chicken pox & measles. • Recommend prevention and control measures of chicken pox & measles in community. • Recommend prevention and control measures of chicken pox & measles in institutional outbreaks Explain the steps of WHO Measles Elimination Strategy in the community.	C2 C3 C2		
Droplet infections- II	• Rubella • Pertussis • Mumps	• Describe the epidemiology of mumps, rubella, and pertussis. • Explain the modes of transmission and incubation period of mumps, rubella, and pertussis. • Identify the high-risk individuals who are most susceptible to get rubella, pertussis, mumps. • Describe the cases based on epidemiological features. • Enlist the complications of mumps rubella, pertussis. • Apply prevention and control measures of mumps, rubella, and pertussis in community. • Explain Congenital Rubella Syndrome (CRS) as public health issue.	C1 C1 C2 C3 C1 C3 C2	LGIS	MCQs, SEQs, OSPE and Viva Voce
Experimental Epidemiologic study designs	• Fundamental concept of Experimental Epidemiologic designs • Steps of undertaking a Randomized Controlled Trial (RCT) • Randomization & Blinding • Types Experimental Epidemiologic study designs	• Explain Fundamental concept of Experimental Epidemiologic designs • Apply general Steps of undertaking a Randomized Controlled Trial (RCT) in required scenario • Apply Randomization & Blinding in required situation • Explain Types Experimental study designs	C2 C2 & C3 C3 C1, C2	LGIS	MCQs, SEQs, OSPE and Viva Voce

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
Droplet infections- III	• Meningitis • Influenza • COVID • Diphtheria	• Describe public health importance of Meningitis, diphtheria in global and local context. • Describe the epidemiology of Meningitis, diphtheria. • Enlist the modes of transmission and incubation period of Meningitis, diphtheria. • 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 Meningitis, diphtheria • Recommend prevention and control measures of Meningitis, diphtheria in community.	C2 C2 C1 C2 C3	LGIS	MCQs, SEQs, OSPE and Viva Voce
Droplet infections- IV	Tuberculosis	• Describe the public health importance of Tuberculosis in global and local context. • Describe the epidemiology of Tuberculosis. • Identify the risk factors and high risk population of the disease. • Explain case definition of tuberculosis. • Explain various case finding measures for TB. • Recommend prevention and control of Tuberculosis in community. • Enumerate components of End TB Strategy. Including TB-DOTs strategy. • Differentiate primary, secondary drug resistance and MDR-TB and XDR-TB. • Apply levels of prevention for control of TB in community.	C2 C2 C1 C2 C3 C3 C2	LGIS	MCQs, SEQs, OSPE and Viva Voce

Small Group
Discussion Community Medicine (SGD)

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 mortality	• Review of Basic tools of measurements in epidemiology • Measurement of Mortality • Issues of recording morality • Types of Mortality Rates • Standardization of Mortality Rate	• Quantification of mortality data • Comprehend issue in death certification. • Practice methods of standardization of morality rates • Calculate 04 types of Mortality rates in various scenarios • Identify uses of morality data	C3 C3 C3 C3 C2	SGD	MCQs, SAQs, OSPE and Viva Voce

Self-directed learning Community Medicine (1per wk.)

Topic	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives Students will be able to …	Assessment tool LMS	Learning resource
Comparative review of all Epidemiological study designs	• Comparative review based on Study population • Concepts of study group and control group • Data collection modes • Statistical components used in each design • Etiologic significance Advantages & limitations of each design	• Comprehend & differentiate parallel concepts of all study designs • Choose right study designs in given scene • Choose right analytical techniques for the given study design selected • Comprehend & choose right study population / groups for the study designs appropriate to given scene • Comprehend & apply right statistical techniques for the studies undertaken under the given scene. Comprehend Etiologic significance, advantages &limitations of each design in relevance to each other.	MCQS	K Park Ed. 27th
Epidemiologic Investigation	• Disease outbreak & epidemic – review (epidemic, endemic & pandemic) • Types of epidemics • Steps of an epidemiologic investigation • Covid-19 a case study • Exercise of undertaking investigation of outbreaks in various given scenarios.	• 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. • Delineates epidemiologic investigation levels involved in Covid-19 • Apply steps of epidemiologic investigation in various given scenarios (Exercises) • Able to read relevant research article	MCQs	K. Park Ed. 27th Page no. 146

Spiral Courses

Longitudinal Themes

- The Holy Quran Translation
- Family Medicine
- Behavioral Sciences
- Biomedical Ethics
- Research
- Artificial Intelligence

Spirally Integrated Subjects Module
Peer assisted learning (PAL)* IUGRC Contact Session

Topic	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives Students will be able to …	Assessment tool LMS
SESSION 3 **Finalization of questionnaire and layout of work plan (Gantt chart)** Development & finalizing; 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	By the end of session , students should be able to; 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

Learning Objectives of Bioethics

Topic	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives Students will be able to …	Assessment tool LMS
Functions of ethical review board	Discussion will cover; • Ethics Review Committee (ERC) why is it needed, historical importance, composition and working (process of review)	• Conceptualize the need of ERC • Elaborate the composition and function of ERC • Review the mock research proposals from ethical perspective • Apply principles of research ethics in SGRP specifically informed consent, confidentiality of information	1.MCQ in each block exam

Discipline Wise Teaching Hours Breakdown

Disciplines	LGIS	SGD	CBL	SDL	PALs	Hours
ENT	34	17	6	5	0	58
Community Medicine	16	3	0	6	3	28
Pharma	1	0	0	0	0	1
Dermatology	7	0	0	0	0	7
Gynaecology and Obs	2	0	0	0	0	2
Total	**60**	**20**	**06**	**11**	**03**	**100**

Ophthalmology Module -I & II
Block - XI

Introduction

Ophthalmology 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 module is designed to impart basic knowledge about ophthalmic pathology, pharmacology, Community Medicine, bioethics, Research, Medicine& Surgery. 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

Each student will be able to

Knowledge

- Acquire knowledge about the basic terminologies used in Pharmacology, Pathology & Community Medicine as well as the concepts of diseases in the community
- Appreciate concepts & importance of

Family Medicine Biomedical Ethics

- **Research.**

  Use technology based medical education including **Artificial Intelligence**

Skill

- Interpret and analyze various practical of Pre-clinical Sciences

Attitude

- Demonstrate a professional attitude, team building spirit and good communication skills
- T his module will run in 5/6 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 guide. Study guide will be uploaded on the university website.

Ophthalmology Module Team

Module Name : Ophthalmology Module
Duration of module : 05 Weeks
Coordinator : Dr. Sidra Jabeen
Review by : Module Committee

Module Committee			Module Task Force TEAM		
1	Vice Chancellor RMU	Prof. Dr. Muhammad Umar	1.	Coordinator	Dr. Mudassira Zahid (Associate Professor of Pathology)
2	Principal	Prof. Dr. Jahangir Sarwar Khan	2.	DME Focal Person	Dr. Maryum Batool
3	Convener Curriculum	Prof. Dr. Naeem Akhter	3.	Co-Coordinator	Dr. Sayed Iqbal Haider
4	Dean Basic Sciences	Prof. Dr. Ayesha Yousaf			
5	Director DME	Prof. Dr. Ifra Saeed			
6	Chairperson Pharmacology & Implementation In charge 3rd year MBBS	Dr. Asma Khan			
7	Chairperson Pathology	Prof. Dr. Mobina Dhodhy			
8	Chairperson Forensic Medicine	Dr Romana	1.	Director DME	Prof. Dr. Ifrah Saeed
9	Focal Person Pathology	Dr Faiza	2.	Additional Director DME	Assoc.Prof Dr Asma Khan
10	Focal Person Forensic Medicine	Dr. Filza	3.	Module planner & Implementation coordinator	Dr. Omaima Asif
11	Focal Person Medicine	Dr. Saima Ambreen	4.	Editor	Dr Omaima Asif
12	Focal Person Behavioral Sciences	Dr. Saadia Yasir			
13	Focal Person Community Medicine	Dr. Mehwish Riaz			
14	Focal Person Quran Translation Lectures	Mufti Abdul Wahid			
15	Chairperson Family Medicine	Dr Sadia			
16	Focal Person Bioethics Department	Prof. Dr. Akram Randhawa			
17	Focal Person Surgery	Dr Huma Sabir			

MODULE TERMS OF REFERENCE

Weekly Hours

The framework is based on a 35-hour work week and 1hr 45 min of LMS per week. A total of 1200 hours per year is allocated for teaching, learning, and assessments.

Module Requirements:

Each module has a minimum number of hours that must be fulfilled. Institutions have the flexibility to use additional hours as they see fit for teaching and assessments

Content and Learning Outcomes:

The specified content and intended learning outcomes are mandatory and must be taught. The final assessments will focus on these outcomes to ensure alignment.

Cognitive Engagement:

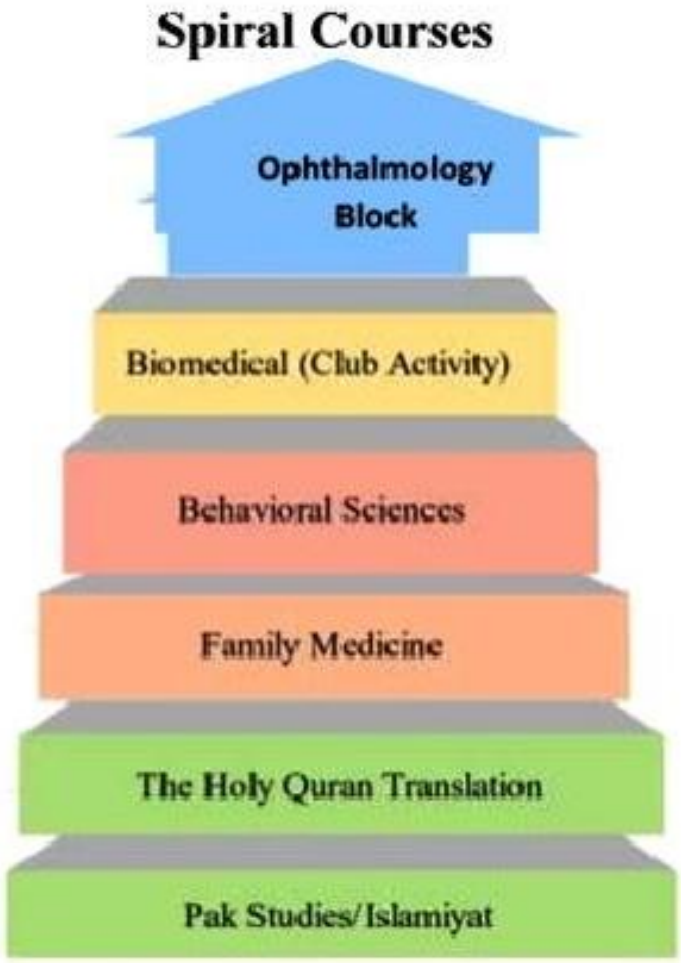
While the content is set, institutions can encourage higher-level cognitive skills, promoting deeper understanding and critical thinking among students.

Assessment Standards:

A Table of Specification is provided for the first professional exam and must be used for internal assessments as well. This promotes consistency in evaluating student learning across different assessments.

MBBS YEAR IV
BLOCK- XI
MODULE - I , II
EYE MODULE
DURATION- 6 WEEKS

Integration of Disciplines Ophthalmology Block



Content Organization

1. **Horizontally Integrated Basic Sciences (Community Medicine, Pathology & Pharmacology)**
2. **Vertically Integrated Clinical Sciences (Dermatology)**
3. **Large Group Interactive Session:**
   - Ophthalmology
   - Community Medicine
   - Pathology
   - Pharmacology
   - Dermatology
4. **Small Group Discussions**
   - Community Medicine
   - Pathology
5. **Self -Directed Learning**
   - Ophthalmology
   - Community Medicine
   - Pharmacology
   - Pathology
6. **Peer Assisted Learning (PAL)**
   - Community medicine
7. **Skill Laboratory**
   - Pathology (SKL)
8. **Wards, operation theatres**
   - Ophthalmology

Horizontally Integrated Clinical Subjects Ophthalmology
Module I
Large Group Interactive Session (LGIS)

Topic/ theme	Content	Learning outcome By the end of lecture students should be able to	Learning Domain	Teaching Strategies	Assessment Tools
Eyelids/ adnexa	• Blepharitis • Ptosis • Non neoplastic and neoplastic lid mass • Ectropion/ entropion • Ophthalmia neonatorum	• Recall anatomy of Eye lid • Distinguish between inflammatory, benign and malignant neoplastic disorders of eyelid. • Discuss the pathophysiology, microscopic features and diagnostic features of neoplasms of eyelid • Differentiate between malignant and benign neoplasms of eyelid • Describe the pathologies causing eyelid/eyelash malposition like Trichiasis, ectropion, entropion and ptosis • Diagnose and manage ophthalmia neonatorum	C1 C2 C2 C2 C2 C3	LGIS	MCQs SAQs SEQs EMQs VIVA
Conjunctiva	• Infective conjunctivitis • Allergic conjunctivitis • Degenerative conjunctival disorders • Dry eye syndrome	• Recall anatomy of Conjunctiva • Enlist common causes, sign and symptoms of conjunctivitis • Diagnose infective and allergic conjunctivitis. • Discuss the management of common conjunctival pathologies • Diagnose and manage Dry Eye, • Discuss pathology of Conjunctival degenerations (Pterygium, pinguecula, concretions)	C1 C2 C3 C3 C2 C1	LGIS	MCQs SAQs SEQs EMQs VIVA
Cornea	• Corneal ulcers; diagnosis and management • Keratoconus • Corneal dystrophies	• Enlist the causes of keratitis, • Classify keratitis and enlist sign and symptoms of keratitis. • Discuss the clinical examination including the different stains used for staining the corneal ulcers • Describe the treatment of corneal ulcers	C2 C2 C1 C2	LGIS	MCQs SAQs SEQs EMQs VIVA

	• Keratoplasty	• Discuss the pathology of contact lens related keratitis with its management • Discuss pathophysiology of band keratopathies ,keratoconus , fuchs endothelial and stromal dystrophies • Enlist the surgical steps and complications of keratoplasty	C2 C2 C1		
Refractive errors/ refractive surgery	• Hypermetropia • Myopia • Astigmatism • Presbyopia • Refractive surgery	• Diagnose and manage various refractive errors • Enlist the surgical options and steps for refractive surgery and discuss its complications	C2 C2	LGIS	MCQs SAQs SEQs EMQs VIVA
Uveal tissue	• Uveitis workup and management • Anterior uveitis- acute and chronic • Complications of uveitis and its treatment	• Classify different types of uveitis • Enlist the causes and systemic associations • Identify Clinical Features • Enumerate the complications of uveitis and its treatments • Describe basic principles of management of Uveitis	C1 C1 C2 C1 C2	LGIS	MCQs SAQs SEQs EMQs VIVA

Ophthalmology
Module II
Large Group Interactive Session (LGIS)

Topic/ theme	Content	Learning outcome By the end of lecture students should be able to	Learning Domain	Teaching Strategies	Assessment Tools
Orbit	• Proptosis • Orbital/ preseptal cellulitis • Thyroid eye disease	• Enlist the causes of Proptosis • Describe clinical features of Thyroid Eye Disease • Discuss management of Thyroid Eye Disease • Describe the pathophysiology of orbital cellulitis. • Describe the etiology of orbital cellulitis • Outline the differences between orbital and preseptal cellulitis • Identify sight threatening complications of orbital cellulitis	C2 C3 C3 C2 C1 C2 C3	**LGIS**	MCQs SAQs SEQs EMQs VIVA
Lens	• Cataract; clinical features and management • Different types of cataract surgeries and their complications • Ectopia lentis; diagnosis and management	• Define cataract • Classify cataract • Explain the principles of management of cataract. • Summarize possible complications of cataract surgery • Identify ectopia lentis and its causes	C2 C2 C3 C3 C2	**LGIS**	MCQs SAQs SEQs EMQs VIVA
Lacrimal drainage system	• Congenital NLDO • Acute and Chronic dacryocystitis	• Describe anatomy of lacrimal system • Enlist causes of epiphora • Identify clinical features of congenital and acquired nasolacrimal duct obstruction? • Differentiate between acute and chronic dacryocystitis? • Discuss investigations and treatment options of congenital and acquired nasolacrimal duct obstruction	C2 C1 C3 C3 C2	**LGIS**	MCQs SAQs SEQs EMQs VIVA
Retina	• Retinal vascular disorders; DR, CRAO, CRVO	• Discuss diagnosis and management of common retinal vascular disorders such as Diabetic retinopathy, CRVO, CRAO, CRVO, AMD	C2 C2	**LGIS**	MCQs SAQs SEQs EMQs

	• Retinal dystrophies/ degenerations; RP, AMD, myopic retinal degeneration • Retinal detachment • Ophthalmic lasers • Anti VEGF • Pars plana vitrectomy	• Discuss common retinal dystrophies/ degenerations such as Retinitis pigmentosa, AMD, Myopic retinopathy • Outline diagnosis ad management of different types of retinal detachment • Enlist common treatment options, their indications and complications like anti VEGF, retinal laser and PPV	C2 C3		VIVA
Ocular tumors	• Retinoblastoma • Rhabdomyosarcoma • Haemangiomas • Neurofibroma	• Identify common types of ocular tumors • Discuss clinical presentation and diagnosis of common ocular tumors • Outline their treatment options	C1 C2 C3	**LGIS**	MCQs SAQs SEQs EMQs VIVA
Glaucoma	• Primary open angle glaucoma • Angle closure glaucoma • Secondary glaucoma • Congenital glaucoma	• Classify glaucoma • Identify clinical features of congenital glaucoma • Describe treatment options of congenital glaucoma • Differentiate between primary open angle and closed angle glaucoma • Describe treatment options for open and closed angle glaucoma • Identify secondary glaucoma • Enumerate different types of secondary glaucoma • Describe clinical features of different types of secondary glaucoma • Discuss treatment options of different types of secondary glaucoma	C1 C2 C2 C2 C2 C1 C1 C2 C2	**LGIS**	MCQs SAQs SEQs EMQs VIVA
	• Systemic medications: Steroids, amiodarone • Systemic diseases:	• Enlist Ocular effects of systemic diseases • Identify the systemic drugs causing ocular side effects • Identify the signs and symptoms if side effects	C1 C2 C2	**LGIS**	MCQs SAQs SEQs EMQs VIVA
Trauma	• Chemical injury • Blunt ocular trauma • Penetrating ocular trauma • Blow out fracture	• Describe the findings, Grading and Treatment of Chemical injuries • Classify the different types of trauma • Discuss clinical features of Penetrating ocular trauma • Describe management of Penetrating Ocular trauma	C2 C1 C2 C3	**LGIS**	MCQs SAQs SEQs EMQs VIVA

	• Hyphema	• Discuss clinical features of Blunt Orbital trauma and Blow out fracture	C2		
Neuro ophthalmology	• Ocular motor cranial nerve palsies • Optic neuropathies/ neuritis • Pupillary abnormalities such as RAPD, light near dissociation • Efferent pupillary disorders such as Horner's syndrome, adies pupil • Visual field defects • Papilledema • Neuroimaging	• Describe the neuroanatomy of the visual pathways. • Describe the anatomy and functions of cranial nerves 2-7 • Illustrate the pupillary light and accommodation reflex pathway • Describe ocular motility and related neuronal pathways. • Interpret the typical findings and evaluation of the most common visual field defects (e.g., optic nerve, optic chiasm, optic radiation, occipital cortex). • Describe a systematic, sign-and-symptom-oriented neuro-ophthalmic patient • Recall anatomy and pathway of Optic nerve • Know the Clinical Features of cranial nerve palsies and Facial spasm • Discuss the typical features, evaluation, and management of the most common ocular motor neuropathies (e.g., third, fourth, sixth nerve palsy) • Describe the typical features, evaluation, and management of the most common efferent Pupillary abnormalities (e.g., Horner syndrome, third nerve palsy, tonic pupil, light-near dissociation). • Recall anatomy and pathway of Optic nerve • Know the Clinical Features of optic neuritis, papilledema • Demonstrate the Indications of neuroimaging, visual evoked potential and visual fields.	C1 C2 C2 C3 C1 C2 C2 C2 C2 C1 C2 C2 C3	**LGIS**	
Pediatric ophthalmology	• Congenital cataract • ROP • PHPV • Coats disease	• Discuss Leukocoria (white pupillary reflex) and its differential diagnosis. • Explain Congenital cataract; presentation, diagnosis and management.	C2 C2	**LGIS**	MCQs SAQs SEQs EMQs VIVA
Strabismus	• Esotropia • Exotropia • Amblyopia; causes and management	• Define & classify strabismus • Differentiate between pseudo strabismus and strabismus • Enlist causes of strabismus • Outline examination and investigation of strabismus	C2 C2 C1	**LGIS**	MCQs SAQs SEQs EMQs VIVA

	• Principles of strabismus management; surgical and non surgical	• Diagnose, classify and manage amblyopia • Enlist different surgical procedures for management of squint	C2 C2 C1		

Self-Directed Learning Ophthalmology

Sr. #	Topic of SDL	Learning objectives	Assessment		References
			LMS	Modular exams	
1	Fungal Keratitis	• Signs and Symptoms of fungal keratitis • Pathophysiology • Investigations • Treatment plan	MCQ,s	MCQ's SEQ's VIVA VOCE	• 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
2	Congenital Glaucoma	• Signs of symptoms of Congenital Glaucoma • Differential diagnosis of watering in neonates • Clinical evaluation in pediatric group • Management	MCQ,s	MCQ's SEQ's VIVA VOCE	• Kanski's Clinical Ophthalmology 9th edition Chapter 11, Page # 395 - 398 • Clinical Ophthalmology by ShafiM.Jatoi 5th edition Chapter 11, Page # 156-159 https://www.aao.org/webinar-detail/primary-secondary-surgery-congenital-glaucoma
3	Steroid induced Glaucoma	• Pathophysiology • Types of steroids causing glaucoma and their route of administration • Know about steroid responders • Management	MCQ,s	MCQ's SEQ's VIVA VOCE	• Kanski's Clinical Ophthalmology 9th edition Chapter 11, Page # 388 • Clinical Ophthalmology by ShafiM.Jatoi 5th edition Chapter 11, Page # 155 https://doi.org/10.1016/j.survophthal.2020.01.002

4	Recurrent anterior uveitis	• Systemic associations • Signs and symptoms • Systemic and ocular investigations • Management	MCQ,s	MCQ's SEQ's VIVA VOCE	• Kanski's Clinical Ophthalmology 9th edition Chapter 12, Page # 424 - 442 • Clinical Ophthalmology by ShafiM.Jatoi 5th edition Chapter 12, Page # 165 - 168 https://doi.org/10.1016/j.ajo.2008.11.009
5	Ophthalmic manifestations of DM	• Different presentations of DM in eye • Risk factors for DR • Complications of DR • Management of different manifestations	MCQ,s	MCQ's SEQ's VIVA VOCE	• Kanski's Clinical Ophthalmology 9th edition Chapter 13, Page # 496 • Clinical Ophthalmology by ShafiM.Jatoi 5th edition Chapter 15, Page # 191 - 197 DOI:10.1177/1474651411428950
6	Strabismus and Amblyopia	• What is amblyopia • How strabismus causes amblyopia • Different types of squint • Assessment of squint • Management plan	MCQ,s	MCQ's SEQ's VIVA VOCE	• Kanski's Clinical Ophthalmology 9th edition Chapter 18, Page # 707 - 708 • Clinical Ophthalmology by ShafiM.Jatoi 5th edition Chapter 22, Page # 282 - 283 https://aapos.org/glossary/amblyopia
7	Complications of Cataract surgery	• Types of Cataract surgery • Pre op and post op complications • Management of complications	MCQ,'s	MCQ's SEQ's VIVA VOCE	• Kanski's Clinical Ophthalmology 9th edition Chapter 10, Page # 325 - 335 • Clinical Ophthalmology by ShafiM.Jatoi 5th edition Chapter 10, Page # 128 -131 https://eyewiki.aao.org/Cataract_Surgery_Complications
8	Approach to Leukocoria	• Differential Diagnosis of Leukocoria • Different sight and life threating conditions • Clinical evaluation and investigations • Management plan	MCQ's	MCQ's SEQ's VIVA VOCE	• Kanski's Clinical Ophthalmology 9th edition Chapter 20, Page # 864 • Clinical Ophthalmology by ShafiM.Jatoi 5th edition Chapter 10, Page # 117 https://www.aao.org/eyenet/article/stepwise-approach-to-leukocoria

9	Idiopathic intracranial hypertension	• Signs and symptoms • Differential diagnosis • Role of Lumber puncture and MRI • Management plan	MCQ's	MCQ's SEQ's VIVA VOCE	• 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

Case Based Learning (CBL) Ophthalmology

Sr. #	Topic	Learning objectives. At the end of this session, students will be able to:	Learning Domain	Assessment		References
				LMS	Modular exams	
1.	A middle aged farmer with painful red eye after vegetative trauma	● Enlist the causes of keratitis, ● Classify keratitis and enlist sign and symptoms of keratitis. ● Discuss the clinical examination including the different stains used for staining the corneal ulcers ● Describe the treatment of corneal ulcers ● Explain the contact lens related keratitis with its management	C2 C2 C1 C2 C2	MCQ	MCQ, SEQ OSPE	● 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
2.	An infant presenting with photophobia, excessive lacrimation and blepharospasm	● Define congenital glaucoma ● Enumerate different types of secondary glaucoma ● Describe clinical features of congenital glaucoma ● Discuss treatment options	C1 C3 C2 C2	MCQ	MCQ, SEQ OSPE	● Kanski's Clinical Ophthalmology 9th edition Chapter 11, Page # 395 - 398 ● Clinical Ophthalmology by ShafiM.Jatoi 5th edition ● Chapter 11, Page # 156-159 https://www.aao.org/webinar-detail/primary-secondary-surgery-congenital-glaucoma
3.	A 50yrs old male patient with gradual painless loss of vision.	● Recall anatomy of Lens ● Define cataract ● Enlist classification of cataract, ● Discuss the clinical examination with investigations to diagnose cataract. ● Explain the principles of management of cataract. ● Enlist indications, types and complications of cataract surgery	C1 C1 C1 C2 C2 C3	MCQ	MCQ, SEQ OSPE	MCQ, SEQ OSPE

4.	A teenage male with recurrent painful red eye which gets better after treatment	● Recall anatomy of Conjunctiva ● Enlist common causes, sign and symptoms of conjunctivitis ● Diagnose infective and allergic conjunctivitis. ● Discuss the management of conjunctival eye problems	C1 C2 C3 C3	MCQ	MCQ, SEQ OSPE	● Kanski's Clinical Ophthalmology 9th edition Chapter 20, Page # 167 – 200 ● https://www.aao.org/eye-health/symptoms/red-eye-3
5.	4yrs old child with intermittent inwards deviation of both eyes for last 6 months	● Define strabismus ● Classify strabismus ● Outline examination and investigation of strabismus Enlist different surgical procedures of squint	C2 C2 C2	MCQ	MCQ, SEQ OSPE	● Kanski's Clinical Ophthalmology 9th edition Chapter 20, Page # 697 - 743 ● https://www.aao.org/eye-health/disease/strabismus-in-children
6.	A middle aged obese female with complain of headache and bilateral disc swelling	● Recall anatomy and pathway of Optic nerve ● Know the Clinical Features of optic neuritis, papilledema ● Demonstrate the Indications of neuroimaging, visual evoked potential and visual fields.	C1 C2 C2	MCQ	MCQ, SEQ OSPE	● Kanski's Clinical Ophthalmology 9th edition Chapter 20, Page # 745 – 825 ● https://eyewiki.aao.org/Demyelinating_Optic_neuritis
7.	6 months old infant with white pupillary reflex since birth.	● Discuss Leucocoria (white pupillary reflex) its differential diagnosis. ● Describe Retinoblastoma, its clinical presentation and management. ● Explain congenital cataract, presentation and management. ● Enumerate retinopathy of prematurity, persistent hypertensive, primary vitreous, coats diseases.	C2 C2 C2 C2	MCQ	MCQ, SEQ OSPE	● Kanski's Clinical Ophthalmology 9th edition Chapter 20, Page # 864 ● Clinical Ophthalmology by Shafi M.Jatoi 5th edition, Chapter 10, Page # 117 https://www.aao.org/eyenet/article/stepwise-approach-to-leukocoria

Community Medicine Large Group Interactive Session (LGIS)

Topic	At the end of the lecture student should be able to	Learning domain	Teaching strategies	Assessment tools
Data analysis (Inferential statistics)	• Comprehend the relevance of descriptive biostatistics to epidemiological research • Explain principles of descriptive analysis of data. • Perform simple data analysis including quantitative & qualitative data • Perform cross-tabulation between two categorical binomial variables • Calculate of "Standard Error" for the given data • Calculate "Confidence interval" for the given data	C2 C2 C3 C3 C3 C3	LGIS	MCQs SAQs SEQs EMQs VIVA
Screening I	• 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. • 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 C1 C1, C2 C1, C2 C1, C2 C1, C2 C2 C3 C2	LGIS	MCQs SAQs SEQs EMQs VIVA
Screening II	• 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
Health education I	• 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

Health education II	• 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
Health education III	• 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
Prevention and control of Blindness, accidents & injuries in population	• 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
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

Community Medicine Small Group Discussion (SGDs)

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

Community Medicine Self Directed Learning (SDL)

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)
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 Chapter 5

Pathology
Large Group Interactive Sessions (LGIS)

Topic/ theme	Content	Learning outcome By the end of lecture students should be able to	Learning Domain	Teaching Strategies	Assessment Tools
Neoplasms of Eyelids (Squamous cell CA, Basal cell CA)	• Squamous cell carcinoma • Basal cell carcinoma • Sebaceous carcinoma • Melanoma	• To know the pathophysiology, microscopic features and diagnostic features of neoplasms of eyelid • to know differentiating features if different neoplasms of eyelid	C1 C2	LGIS	MCQs SAQs SEQs EMQs VIVA
Corneal and Conjunctival degenerative and neoplastic disorders	• Conjunctival scarring, • pinguecula • pterygium	• To know the pathophysiology, microscopic features of conjunctival scarring • To know pathophysiology of pinguecula and pterygium	C2 C2	LGIS	MCQs, SAQs. SEQs, EMQs, VIVA
Pathology of cataract, glaucoma, intraocular infections and tumors	• Cataract • Glaucoma • Intraocular Infections and Tumors	• To know the pathophysiology and types and causes of glaucoma • To know features of endophthalmitis and panophthalmitis • To know causes and types of uveitis • To know the pathophysiology and microscopic features of uveal nevi and malignant melanoma • To know the differentiating features between uveal nevi and melanoma	C2 C2 C2 C2 C3	LGIS	MCQs SAQs SEQs EMQs VIVA
Optic neuropathies, Retinal detachment, Retinal vascular diseases	• Optic Neuropathy • Retinal Detachment • Retinal Vascular Disorders	• To know the pathophysiology and causes of retinal detachment • To know the pathophysiology of retinal vascular changes in hypertension , diabetes mellitus • To explain retinal artery and vein occlusion pathology	C2 C3 C3	LGIS	MCQs SAQs SEQs EMQs VIVA

Pharmacology
Large Group Interactive Sessions (LGIS)

Topic/ theme	Content	Learning outcome By the end of lecture students should be able to	Learning Domain	Teaching Strategies	Assessment Tools
Ophthalmic dosage forms	• Ocular routes of administration • Systemic side effects	• Discuss Ocular routes of administration • Discuss Systemic effects with ocular administration	C1 C3	LGIS	MCQs SAQs SEQs EMQs VIVA
Drugs used in ocular infections	• Antibiotics Eye Drops • Anti-Inflammatory Eye Drops	• Discuss Ocular antibiotics/anti-inflammatory and their various routes of administration • Enlist indications and side effects	C1 C2	LGIS	MCQs, SAQs. SEQs, EMQs, VIVA
Drugs used in glaucoma	• Cutaneous Leishmaniasis • Leprosy	• Enlist the names of anti-Glaucoma drugs • Explain their mechanism of action • Enlist side effects of the anti-glaucoma drugs	C2 C2 C2	LGIS	MCQs SAQs SEQs EMQs VIVA

CLINICAL SCIENCES (VERTICAL INTEGRATION)

CONTENT ORGANIZATION

- DERMATOLOGY (LGIS)

Dermatology
Large Group Interactive Sessions (LGIS)

Topic/ theme	Content	Learning outcome By the end of lecture students should be able to	Learning Domain	Teaching Strategies	Assessment Tools
Approach to urticaria	• Urticaria • Angioderma	• Identify lesions of urticaria and angioedema • Describe pathophysiology of urticaria • Describe causes of urticaria • Investigate and treat a case of urticaria	C1 C2 C2 C2	LGIS	MCQs SAQs SEQs EMQs VIVA
Dermatological disorders involving eye	• Skin Disease • Primary Lesion • Secondary Lesion • History and Examination	• Describe symptoms associated with skin disease • Describe what is a primary lesion • Explain the types of primary lesion with example • Describe what is a secondary lesion • Explain the types of such lesion with example • Tell the important pearls of history and examination • Explain the diagnostic details of basic skin lesions	C2 C2 C1 C2 C1 C2 C3	LGIS	MCQs, SAQs. SEQs, EMQs, VIVA
Cutaneous Leishmaniasis	• Cutaneous Leishmaniasis • Leprosy	• Know the organism and vector of cutaneous leishmaniasis • Differentiate between old and new world cutaneous leishmaniasis • Identify different clinical forms of cutaneous leishmaniasis • Investigate properly a case of clinical leishmaniasis • Identify organisms of leprosy • Differentiate between different types of leprosy • Identify lesions of different types of leprosy • Investigate appropriately a case of leprosy	C1 C2 C2 C2 C3 C3 C2 C2	LGIS	MCQs SAQs SEQs EMQs VIVA
Nail Disorders	• Nail • Nail disorders with Systemic Diseases • Nail Tumors	• Know the anatomy of nail apparatus • Identify nail diseases • Know the common associations of nail disorders with systemic diseases • Know the tumors arising in nail apparatus • Recall nail changes of common skin diseases	C2 C1 C2 C2 C2	LGIS	MCQs SAQs SEQs EMQs VIVA
Approach to cutaneous lichen planus	• Lichen Planus • Lichenoid drug eruptions	• Recognize lesions of lichen planus • Differentiate between different types of lichen planus • Treat a case of lichen planus • Define and manage lichenoid drug eruptions	C1 C2 C2 C2	LGIS	MCQs SAQs SEQs EMQs VIVA

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

Discipline wise Teaching Hours Breakdown

Discipline	LGIS	SGD	CBL	SDL	PALs	SKILL LAB	HOURS
OPHTHALMOLOGY	27	0	10	14	0	0	51
COMMUNITY MEDICINE	14	4	0	6	2	0	21
PATHOLOGY	4	6	0	0	0	2	1
PHARMACOLOGY	3	0	0	0	0	0	3
DERMATOLOGY	5	0	0	0	0	0	2
BIOETHICS	1	0	0	0	0	0	1
RESEARCH	0	0	0	0	4	0	4
TOTAL	**53**	**10**	**10**	**20**	**2**	**2**	**102**

Endocrinology Module -II
Block -XII

Introduction

Endocrinology module provides integration of core concepts that underlie the foundation of basic sciences and their use in clinical medicine. This will eventually lead to developing critical thinking for integration and application of basic knowledge for clinical application.

Rationale: System based learning structure is adopted. The Endocrinology module is designed to impart basic knowledge. This knowledge will serve as a base on which student will construct further knowledge about the etiology, pathogenesis, prevention of diseases and the principles of their therapeutics and management.

Module outcomes:

Knowledge

- 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
  - **Research**
  - **Biomedical ethics**
  - **Family medicine**
  - **Artificial Intelligence Skills**

Interpret and analyze various practical & practices of clinical sciences.

Attitude

Demonstrate a professional attitude. Team building spirit and good communication skills.

This module will run in 4 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

Module TORS

The framework is based on a 34-hour work week.

A total of 1200 hours per year is allocated for teaching, learning, and assessments.

- **Module Requirements:**
  - Each module has a minimum number of hours that must be fulfilled.
  - Institutions have the flexibility to use additional hours as they see fit for teaching and assessments.

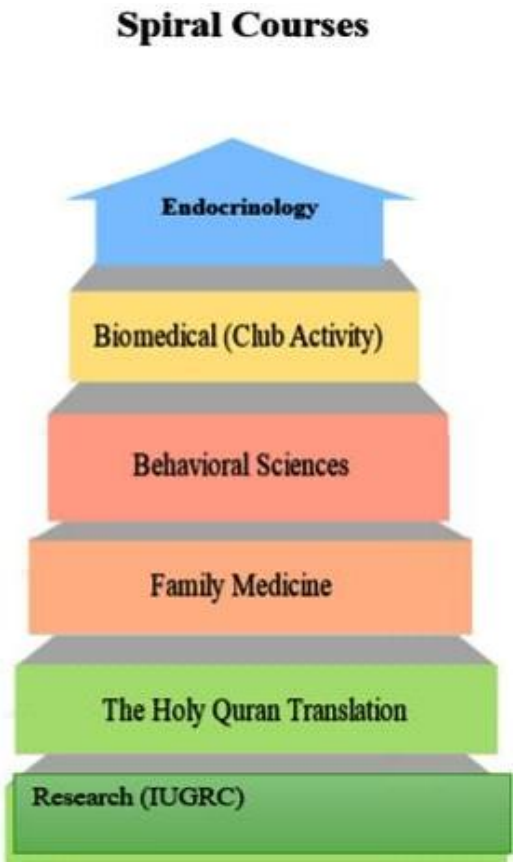
- **Content and Learning Outcomes:**
  - The specified content and intended learning outcomes are mandatory and must be taught.
  - The final assessments will focus on these outcomes to ensure alignment.

- **Cognitive Engagement:**
  - While the content is set, institutions can encourage higher-level cognitive skills, promoting deeper understanding and critical thinking among students.

- **Assessment Standards:**
  - A Table of Specifications is provided for the first professional exam and must be used for internal assessments as well.
  - This promotes consistency in evaluating student learning across different assessments

MBBS YEAR IV
Block – XII
Module -II
Endocrinology module
Duration – 4 weeks

Integration of Disciplines Endocrinology Module



Endocrinology Module Team

Module Order II
Duration of module : 04 Weeks
Coordinator : Dr. Sana Bilal
Co-cordinator : Dr. Imrana Saeed

Module Committee			Module Task Force Team		
1	Vice Chancellor RMU	Prof. Dr. Muhammad Umar	1.	Coordinator & Co-Coordinator	Dr. Sana Bilal Dr. Imrana Saeed
2	Principal	Prof. Dr. Jahangir Sarwar Khan	2.	DME Focal Person	Dr Maryum Batool
3	Convener Curriculum	Prof. Dr. Naeem Akhter	3.	Director DME	Prof. Dr. Ifrah Saeed
4	Dean Basic Sciences	Prof. Dr. Ayesha Yousaf	4.	Assistant Director DME/ Module planner & Implementation coordinator	Dr. Omaima Asif
5	Director DME	Prof. Dr. Ifra Saeed			
6	Associate Dean				
7	Chairperson Community Medicine	Assoc Prof. Dr. Khola Noreen			
8	Focal Person Pharmacology	Dr.Attiya Munir	1.	Director DME	Prof. Dr. Ifrah Saeed
9	Focal Person Community Medicine	Dr. Sana Bilal	2.	Additional Director DME	Dr. Omaima Asif
10	Focal Person Pathology	Dr. Syeda Ayesha			
11	Focal Person Medicine	Dr. Saadia			

Discipline Wise Details of Modular Contents

Subjects	Contents

• **Community Medicine**	• Non-Communicable
	• Disease introduction
	  ○ (Hypertension ,CHD)
	• Non-Communicable Disease
	  ○ (Diabetes, obesity)
	  ○ (Cancer)
	• Health care delivery system
	• Health care delivery system of Pakistan
	• Health programs of Pakistan

• **Pharmacology**	• Anti-thyroid Drugs I • Anti-thyroid Drugs II • Drugs that Affect Bone Mineral Homeostasis I • Drugs Used in Diabetes I • Drugs used in diabetes II • Drugs used in diabetes III • Corticosteroid I • Corticosteroid II • Corticosteroid III • Mineralocorticoid Antagonist • Glucocorticoid Antagonists • Hypothyroidism • Corticosteroid • Diabetes mellitus
• **Pathology**	• Hypothyroidism and Thyroid Tumors • Hyperthyroidism • Diabetics mellitus • Adrenal Gland/ • Hyperadrenalism • Hypoadrenalism and adrenal tumors Disorders of Post- • Pituitary Hormones

	• Parathyroid Disorders • Parathyroid • Adenoma/carcinoma • Pancreatic tumors, Neuroendocrine • Disorders of Adrenal medulla & MEN Syndrome • Complications of Diabetes Mellitus • Pineal gland
Spiral Courses	
The Holy Quran Translation	• Imaniyat
Bioethics & Professionalism	• Research ethics
Family Medicine	• Core concepts of family medicine in Diabetes
Research	• IUGRC Presentations and Manuscript writing
Vertical Integration	
Gynae/Obs	• Thyroid in Pregnancy • Pregnancy and Diabetes • Complications of Diabetes & Gestational diabetes
Pediatrics	• Thyroid Disorders • Diabetes Mellitus
Surgery	• Surgical Interventions of thyroid
Medicine	• Acromegaly • Diabetes Insipidus • Hypothyroidism • Hyperthyroidism Thyroid Disorder • Diabetes and Hypoglycemia • Diabetes Mellitus/DKA • Cushing's Syndrome and Addison's Disease

Contents of the Module

1. **Horizontally Integrated Basic Sciences (Pharmacology, Pathology, Community Medicine)**
2. **Large Group Interactive Session (LGIS):**
   - i Pathology
   - ii Community Medicine iii. Pharmacology
   - iii Medicine
   - iv Surgery
   - v Gynae & Obs
   - vi Pediatrics
3. **Small Group Discussions (SGD)**
   - i. Pathology
   - ii. Community Medicine
   - iii. Pharmacology
4. **Self-Directed Topic, Learning Objectives & References (SDL)**
   - i Pathology
   - ii Community Medicine
   - iii Pharmacology
5. **Peer Assisted Learning (PAL)**
   - i Community medicine
6. **Skill Lab**
   - i Pathology
   - ii Pharmacology
7. **Case Based Learning (CBL)**
   - i Pathology
   - ii Pharmacology
8. **Wards, operation theatres**
   - i Surgery
   - ii Medicine
   - iii Gynae& Obs

Horizontally Integrated Basic Sciences

Sr. No	Subjects
1	Community medicine (LGIS+SGD +SDL)
2	Pathology (LGIS+SGD+SDL,CBL)
3	Pharmacology (LGIS+SGD+SDL,CBL)

Learning Objectives
Learning Objectives of Community Medicine (LGIS)

Topic	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives	Learning domain	Assessment tool
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- & 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 & General preventive approaches • Explain epidemiology, prevention & control strategies for cardiovascular diseases (CHDs) • Explain epidemiology, prevention & control strategies for Hypertension • Explain rules of halves & tracking of Blood Pressure strategy (hypertension)	C2 C2 C2 C2 C2 C3 C3 C3	MCQs, SEQs, OSPE, Viva
Non-Communicable Disease (Diabetes, obesity)	• Epidemiology of • diabetes & obesity • Prevention & • control of diabetes • & obesity • Classification of diabetes & obesity & • Assessment of • Body mass index	• Describe the risk factors and their importance in causation of diabetes & obesity • Apprehend the burden of diabetes & in Pakistan • Classify diabetes & obesity • Define & 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	MCQs, SEQs, OSPE, Viva

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 C3	MCQs, SEQs, OSPE Viva
Health care delivery system	• Objectives, components & 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	C1 C1 C3 C2	MCQs, SEQs, OSPE Viva
Health care delivery system of Pakistan	• Levels and functions of healthcare system Tiers & 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 C3 C2	MCQs, SEQs, OSPE Viva

Small Group Discussion - Community Medicine (SGDs)

Topic	Contents Outlines (Major Topics & Sub-Topics)	Learning objectives At the end of session student will be able to:	Learning domain	Assessment tool
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 & 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 C3	MCQs, SEQs, OSPE and Viva Voce

Self-Directed Learning community medicine (SDL)

Topics	Learning objectives. Students will be able to …	Learning resource
1.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)
2.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)
3.Adolescent health	• Discuss normal adolescent development, its impact on health • Counselling of adolescents with specific conditions • Identification of normal growth and pubertal development • Manage common health &mental health conditions, nutritionrelated disorders • Identify signs of substance use and substance use disorders	K Park Ed. 27th (pg. 670-73)

Pathology Content
Learning Objectives of Pathology (LGIS)

Topic	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives	Learning domain	Teaching strategy	Assessment tool
Hypothyroidism and Thyroid Tumors	• Pathophysiology of thyroid gland • Introduction types, causes &sign symptoms of hypothyroidism • Pathophysiology of Hashimoto's • Thyroid function test	The students should be able to 1. Explain hypothyroidism 2. Classify and explain benign and malignant neoplasms of thyroid	C2 C2	LGIS	MCQs, SEQs, OSPE Viva
Hyperthyroidism	• Introduction types, causes &sign symptoms of hyperthyroidism • Pathophysiology of Grave's disease • Thyroid function test	The students should be able to 1. Compare and differentiate between hyperthyroidism and hypothyroidism 2. To describe pathophysiology of graves disease.	C3	LGIS	MCQs, SEQs, OSPE Viva
Diabetics mellitus	• Introduction • Classification & causes of Diabetes Mellitus • Plasma glucose regulation • Pathophysiology of DM • Investigation for DM	The students should be able to 1. Classify Diabetes Mellitus 2. Diagnose, and explain pathogenesisof diabetes along with glucose homeostasis.	C2 C3	LGIS	MCQs, SEQs, OSPE Viva
Adrenal Gland/ Hyperadrenalism	• Introduction to Hyperadrenalism • Types • Investigation of Hyperadrenalism	The students should be able to 1. Explain pathophysiology of Cushing syndrome 2. Explain the pathophysiology of hyperaldosteronism and adrenogenital syndromes	C2 C3	LGIS	MCQs, SEQs, OSPE Viva
Hypoadrenalism and adrenal tumors	• Introduction to hypoadrenalism • Types • Investigation of hypoadrenalism	Students should be able to 1. Describe the pathophysiology of Addison's disease and other hypo adrenal disorders 2. To describe the pathophysiology and microscopic features for diagnosis of adrenal cortical adenoma and carcinoma	C2, C3	LGIS	MCQs, SEQs, OSPE Viva

Small Group Discussion – Pathology (SGDs)

Demonstration	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives	Learning domain	Teaching strategy	Assessment tool
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
Parathyroid Disorders	• Introduction to parathyroid disorders and its Investigations	• Explain Parathyroid Disorders, clinical features and pathophysiology	C2	SGD	MCQs, SEQs, OSPE Viva
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
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
Disorders of Adrenal medulla & MEN Syndrome	• Introduction to adrenal medulla gland • Diseases /disorders of adrenal medulla • Features of MEN, S syndrome • 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

Self-Directed Learning (SDL) Pathology

Topic	Learning outcomes At the end of session students will be able to:	Reference
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
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
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

Skill Lab- Pathology

Topic	Contents Outlines (Major Topics & Sub-Topics)	Learning objectives At the end of session student will be able to:	Learning Domain	Assessment tool
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 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	C1 C2 C2 C2 C2	OSPE/OSCE
Chronic pancreatitis & 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	C2 C3 C3	OSPE/OSCE
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	OSPE/OSCE

Case Based Learning Pathology CBL

TOPIC	Contents Outlines (Major Topics & Sub-Topics)	Learning objectives At the end of session students will be able to:	Learning Domain	Assessment tool
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	MCQs
Pineal gland	Pathophysiology, functions, diagnosis and investigations	• Describe in detail the pathological findings • Explain the lab investigations required for diagnose	C2 C2	MCQs

Pharmacology Content
Learning Objectives of Pharmacology (LGIS)

Topic	ContentsOutline & Sub- Topics	Learning Objectives	Learning Domain	Assessment Tool
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	C1 C2 C2	MCQ/SEQ
Anti-thyroid Drugs II	• Mechanism of • action • Adverse effects • Use of beta blockers in hypothyroidism	• Describe the mechanism of action & 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	MCQ/SEQ
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	C2 C2 C2	MCQ/SEQ
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 • Describe adverse effects of sulfonylureas • Describe the mechanism of action of Meglitinides • Compare Sulfonylureas & Meglitinides	C2 C2 C2 C2 C2 C2	MCQ/SEQ

Drugs used in diabetes II	• Biguanides • Alpha-glucosidase inhibitors • Thiazolidinediones • Amylin analogs	• Discuss the mechanism of action & adverse effects of Biguanides • Differentiate between Sulfonylureas and Biguanides • Discuss the mechanism of action & adverse effects of • Alpha-Glucosidase Inhibitors • Discuss the mechanism of action & adverse effects of Thiazolidinedione • Describe the mechanism of action & adverse effects of Amylin analogs • Describe the mechanism of action & adverse effects of GLP-1 analogs and Gliptins • Discuss uses of Oral Anti-diabetics	C2 C2 C2 C2 C2 C2 C2 C3	MCQ/SEQ
Drugs used in diabetes III	• Insulin	• Classify Insulins • Compare animal & human insulins • Discuss the kinetics of different insulins with clinical significance • Describe the uses & adverse effects of Insulins • Describe insulin resistance	C1 C2	MCQ/SEQ
Corticosteroid I	• Classification Mechanism of action	• Classify corticosteroids • Describe the mechanism of action of	C1	MCQ/SEQ
Corticosteroid II	• Steroids	• Corticosteroids • Describe the actions of glucocorticoids • Describe the Uses of Corticosteroids	C2	
Corticosteroid III	• Uses • Adverse effects • Contraindications	• Describe the adverse effects of Corticosteroids • Justify the tapering off of corticosteroids • Describe the contraindications of corticosteroids	C2 C3 C2	MCQ/SEQ

Small Group Discussion -Pharmacology (SGD)

Topic	Learning objectives At the end of sessions, students will be able to:	Learning domain	Assessment tool
Mineralocorticoid Antagonist	• Enumerate mineralocorticoid antagonists • Describe the mechanism of action of mineralocorticoid antagonists	C2 C2	MCQ
Glucocorticoid Antagonists	• Enumerate glucocorticoid antagonists • Describe the mechanism of action of glucocorticoid antagonists	C2 C2	MCQ

Skill Lab Pharmacology

Strategy	Topic	Learning objectives At the end of session student will be able to:	Learning domain	Assessment tool
Practical	P-Drug & Prescription writing	P -Drug and prescription writing on • Diabetes Mellitus type II • Graves' Disease • Adrenal Insufficiency	C2	OSPE

Self-Directed Learning Pharmacology SDL

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%20Receptor%20and%20Nuclear%20Factor%2D%CE%BAB%20Signaling%20by%20CREB%2Dbinding%20Protein%20and%20Steroid%20Receptor%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?journalCode=aopd#:~:text=Dipeptidyl%20Peptidase%2D4%20Inhibitor%E2%80%93Associated%20Pancreatic%20Carcinoma

Case Based Learning Pharmacology (CBL)

Topic	Learning objectives At the end of the session students will be able to:	Learning Domain	Assessment tool
Hypothyroidism	• Describe different Thyroid Preparations • Dose adjustment in different scenarios	C2 C3	PBQ / Scenario Based Questions
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	PBQ / Scenario Based Questions
Diabetes mellitus	• Classify the drugs used in the management of DM • Identify the drug group preferred in the given case	C2 C3	PBQ / Scenario Based Questions

Clinical Sciences (Vertical Integration)

Vertical Integration LGIS

- Surgery
- Medicine
- Gynae & Obs
- Pediatrics

Vertically Integrated Clinical Subjects

Learning Objectives of Surgery (LGIS)

Topic of The Session	Contents Outlines (Major Topics & SubTopics)	Learning Objectives At the end of session student will be able to:	Learning Domain	Assessment tools
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 C1 C2 C2 C2	MCQ/SEQ
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 C2 C1 C3 C2 C3	MCQ/SEQ
Surgical intervention of adrenal gland	Surgical anatomy and surgical intervention of adrenal gland	Discuss the surgical anatomy of adrenal gland 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 C2 C3 C2	MCQ/SEQ
Surgical intervention of Thyroid gland	Surgical anatomy of thyroid, diseases of thyroid and their management	Briefly describe anatomy of the thyroid gland and vascular supply 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 C2 C3 C3 C2	MCQ/SEQ

Learning Objectives of Medicine (LGIS)

Topic Of The Session	Contents Outlines (Major Topics & SubTopics)	Learning Objectives At the end of session student will be able to:	Learning Domain	Assessment tools
Acromegaly	Clinical features & 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.	C2 C2 C2 C2	MCQ/SEQ
Diabetes Insipidus	Clinical features & 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 deprivation test in diagnosis and differentiation between both types of DI • Discuss various treatment options available for management of diabetes insipidus.	C2 C3 C2 C2	MCQ/SEQ
Hypothyroidism	Causes, C/F, investigations, treatment & 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	C1 C2 C2 C3 C2 C3	MCQ/SEQ
Hyperthyroidism Thyroid Disorder	Thyroiditis & 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.	C3 C2 C1	MCQ/SEQ
Diabetes and Hypoglycemia		• 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	MCQ/SEQ

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 C2 C2 C2 C3 C3 C3	MCQ/SEQ
Cushing's Syndrome and Addison's Disease	C/F, diagnosis, causes and management of Cushing's Syndrome and Addison's Disease	• Identify clinical presentation of Cushing's disease and describe diagnostic workup and management plan of Cushing's syndrome. • 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	C3 C2 C1 C2 C2	MCQ/SEQ
Hyperaldosteronism	C/F, diagnosis, causes and management of Hyperaldosteronism	• Identify clinical presentation of • Hyperaldosteronism and describe diagnostic workup and management	C2 C1 C2 C2	MCQ/SEQ

Learning Objectives of Obstetrics and Gynecology (LGIS)

Topic Of The Session	Contents Outlines (Major Topics & Sub-Topics)	Learning Objectives After The Session Students Will Be Able To:	Learning Domain	Assessment tools
Thyroid in pregnancy	C/F of thyroid disorders in pregnancy & 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	C1 C2 C2 C3	MCQ/SAQ
DM in pregnancy	Diagnosing gestational diabetes & its management	• Define different types of diabetes during pregnancy • Discuss screening for diagnosis of gestational diabetes • Elaborate management of diabetes	C1 C2 C2	MCQ/SAQ
Complications of Diabetes & Gestational diabetes	Pathophysiology diagnosis and complications of gestational diabetes	• Describe in detail the complications, pathological findings and organ involvement in diabetes and gestational diabetes • Explain the lab investigations required to diagnose diabetes	C2 C2	MCQ/SAQ

Learning Objectives of Pediatrics (LGIS)

Topic of the session	Contents Outlines (Major Topics & Sub-Topics)	Learning Objectives (At the end of session students will be able to)	Learning Domain	Assessment tools
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 C3 C3	MCQ/SAQ
Hypothyroidism	Hypothyroidism and its clinical presentation	• Enlist causes • Discuss clinical presentation at various ages • Plan, interpret Investigations and take appropriate action • Treat and counsel the parents • Do follow-up	C1 C2 C3 C3 C3	MCQ/SAQ

Spiral Courses

Longitudinal Themes

- Family Medicine
- Behavioral Sciences
- Biomedical Ethics
- Research

Spirally integrated subjects

Peer Assisted Learning (PAL) IUGRC

Indictors of accomplishment Prior readings / assigned work	Learning objectives/ competencies	Learning outcomes By the end of lecture student will be able to:	Assessment strategy
Endo session 1 **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 • Finalization of preparation of PowerPoint presentation for final research day • practice basic communication skills	At the end of session students should be able to; • Explain principles of research manuscript writing for publication • Write report for oral presentation • Reporting on poster • Explain rules of discussion on results of study • Clarify types of citations included in discussion section • Explain conclusion, recommendation and acknowledge part of research report.	1- MCQ in each block exam 2- Viva exam at the end of the session
End of session **Research presentations**			

Learning Objectives of Bioethics (LGIS)

Broad Topic	Major syllabus with sub- topics	Learning objectives	Learning domain	Assessment tools	Suggested reading sources
Informed consent	Discussion will cover; Prerequisites of inform consent in different situations	At the end of the session students should be able to; • Recognize the importance of obtaining valid consent from a patient for investigations and treatment • Analyze how to proceed • Elucidate how to proceed if a patient is incompetent to give consent • Reflect when it is justifiable to refrain from obtaining patient consent • Formulate the decision about giving relevant information to a patient or family by a medical student/doctor • Critically appraise the Inappropriate and • Appropriate Informed Consent Form	C2 C2 C2 C3 C3	1-2 MCQs of level C1 to C3 will cover this session teachings	http://nbcpakistan.org.pk/assets/may16bioethicsfacilitator-book--- may-16%2c-2017.pdf (page 74)

Learning Objectives of Family Medicine (LGIS)

Broad topic	Major syllabus with subtopics	Learning objectives	Learning domain	Assessment tools
Core concepts of family medicine in (Noncommunicable diseases)	Discussion will cover; Diabetes mellitus and obesity its psychological impacts on families	At the end of the session students should be able to; • 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 pr(Even)tion of diabetes mellitus and its complications • Identify the red-flags in a diabetic patient and • appropriately refer to specialty care when required • Describe the etiology, 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	C3 C2 C2 C2 C2 C2 C3	MCQS

Teaching Hours Breakdown

Disciplines	LGIS	SGD	CBL	SDL	Skill Lab	PAL	Hours
Community Medicine	5	1	0	4	0	2	12
Pathology	5	4	2	4	1	0	16
Pharmacology	9	2	2	4	1	0	18
Medicine	8	0	0	0	0	0	8
Pead's	2	0	0	0	0	0	2
Surgery	4	0	0	0	0	0	4
obstetrics	2	0	0	0	0	0	2
Total	**35**	**07**	**04**	**12**	**02**	**2**	**62**

Reproductive Health & Population Medicine Module – II
Block- XII

Introduction

Reproductive Health & Population Medicine 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: Implementing a reproductive health module is crucial due to high population growth, significant public health challenges, and the socio-cultural landscape. With an annual growth rate of around 2%, there's a pressing need for education and resources related to family planning. High maternal and child mortality rates can be tackled by improving access to prenatal, delivery, and postnatal care. Many areas lack family planning services, leading to unintended pregnancies; a focused module can raise awareness and improve access to contraceptives.

Culturally sensitive approaches are essential for promoting acceptance and use of reproductive health services. Additionally, addressing barriers to women's health services can empower women and contribute to gender equality. Comprehensive sexual education is necessary to combat misinformation and stigma surrounding reproductive health. Integrating this module into broader public health strategies can enhance efficiency and improve overall health outcomes. Investing in reproductive health also offers economic benefits by reducing mortality rates and increasing women's participation in the workforce. Overall, a reproductive health module is vital for improving health outcomes, empowering individuals, and fostering sustainable development in Pakistan.

Module Outcome
Each student will be able to:

Knowledge
Acquire knowledge about the basic terminologies used in Obs/Gynae, Pathology, Pharmacology, and Community Medicine as well as the concepts of diseases in the community. Appreciate concepts & importance of;

- Research
- Biomedical ethics
- Family medicine

Skills
Interpret and analyze various practical of basic Sciences and relevant skills of clinical sciences.

Attitude
Demonstrate a professional attitude, team-building spirit, and good communication skills. This module will run for 7 weeks duration. The content will be covered through the introduction of topics. Instructional strategies are given int the timetable and learning objectives are given in the study guides. Study guides will be uploaded on the university website.

Module TORS

The framework is based on a 34-hour work week.

A total of 1200 hours per year is allocated for teaching, learning, and assessments.

- **Module Requirements:**
  - Each module has a minimum number of hours that must be fulfilled.
  - Institutions have the flexibility to use additional hours as they see fit for teaching and assessments.

- **Content and Learning Outcomes:**
  - The specified content and intended learning outcomes are mandatory and must be taught.
  - The final assessments will focus on these outcomes to ensure alignment.

- **Cognitive Engagement:**
  - While the content is set, institutions can encourage higher-level cognitive skills, promoting deeper understanding and critical thinking among students.

- **Assessment Standards:**
  - A Table of Specifications is provided for the first professional exam and must be used for internal assessments as well.
  - This promotes consistency in evaluating student learning across different assessments

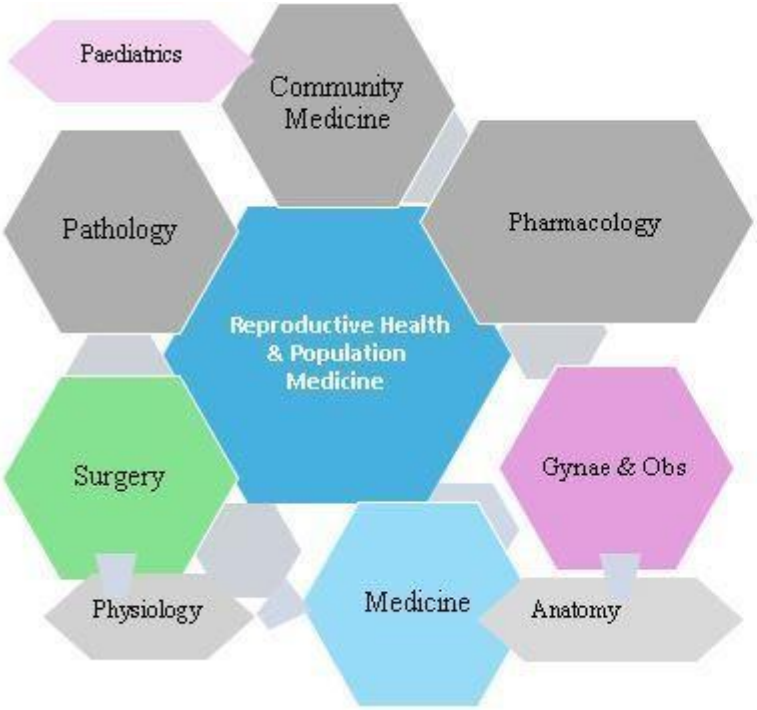
Reproductive Health & Population Medicine Module Team

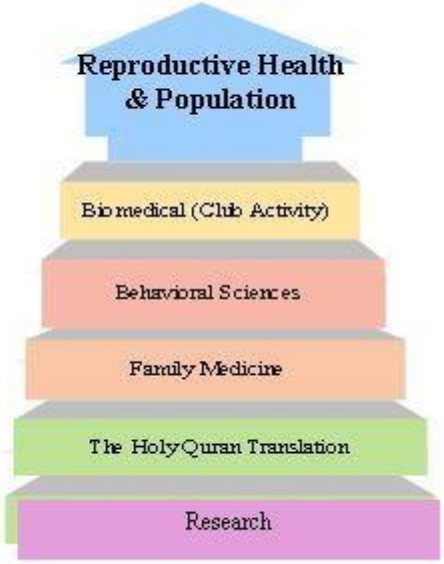
Module Name : Reproductive Health & Population Medicine
Duration of module : 07 Weeks
Coordinator : Dr. Sana Bilal
Co-cordinator : Dr. Imrana Saeed

Module Committee			Module Task Force Team		
1	Vice Chancellor RMU	Prof. Dr. Muhammad Umar	1.	Coordinator	Dr. Sana Bilal Dr. Imrana Saeed Dr. Zaira Azhar
2	Principal	Prof. Dr. Jahangir Sarwar Khan	2.	DME Focal Person	Dr Maryum Batool
3	Convener Curriculum	Prof. Dr. Naeem Akhter			
4	Dean Basic Sciences	Prof. Dr. Ayesha Yousaf			
5	Director DME	Prof. Dr. Ifra Saeed			
6	Associate Dean				
7	Chairperson Gayne/Obs	Prof. Dr. Talat Farkhanda	**DME Implementation Team**		
8	Chairperson Community Medicine	Assoc Prof. Dr. Khola Noreen	1.	Director DME	Prof. Dr. Ifrah Saeed
9	Chairperson Pathology	Prof. Dr Mobina Dhodi	2.	Assistant Director DME/Module planner & Implementation coordinator	Dr. Omaima Asif
10	Chairperson Pharmacology	Dr Zonaira Hakim	3.	Editor	Dr. Omaima Asif
11	Focal person Gynae/Obs	Dr. Ismat Btool			
12	Focal Person Pharmacology	Dr. Zunaira			
13	Focal Person Community Medicine	Dr. Sana Bilal			
14	Focal person Pathology	Dr. Nida			
15	Focal person family medicine	Dr Saadia			

MBBS YEAR IV
Block – XII
Module – I & II
Reproductive health & population medicine
Duration – 7 weeks

Integrated Desciplines of Reproductive Health & Population Medicine Module





Discipline Wise Details of Modular Contents

Subject	Topiecs
• 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) • Family planning & Population control plus National perspective (FP-II) • Preventive Aspects of Neonatal care (Preventive Pediatrics-I • Preventive Aspects of infants and childcare (Preventive Pediatrics-II) • Demography- Population growth transition & trends-I (Demography-I) • Demography-Population growth trends & transition. (Demography-II) • Population Migration and urbanization (Demography-III) • School health services • Child abuse & Handicapped children • Health economics Framework, structure & Evaluation • Global Public Health- WHO, NGOs
• Pharmacology	• Prolactin antagonist • Gonadal hormones: I Estrogens • Gonadal hormones : II Progestin • Gonadal hormones: III Anabolic • Hormonal contraceptives • Oxytocic drugs and Uterine Relaxants • Drug used in the treatment of infertility
• Pathology	• Benign Diseases of Ovary • Benign Diseases of breast (Non-Neoplastic Lesions) • Malignant Diseases of Ovary. • Malignant neoplasm of breast • Malignant Diseases of Cervix. • Testicular tumors • GTD & Choriocarcinoma • Benign and Premalignant Lesions of Cervix • Diseases of Lower Urinary Tract • Proliferative lesions of Endometrium and Myometrium

Spiral Courses		
• The Holy Quran Translation	• 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 • Second stage of labour • Normal labour • Episiotomy • Operative vaginal delivery • 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 • Prolonged pregnancy/Induction of labour • Hypertension in pregnancy • IUGR & oligohydramnios • Rh Incompatibility • Medical disorders in pregnancy • Revision of stages of labour and management • Intra-uterine Death • Management of GTD • Physiology of • Menstrual Cycle • Management of STDs • Management of benign & malignant disease of vulva & vagin • Management of premalignant & malignant disease of cervix • Management of benign & malignant disease of uterus. • Management of benign and malignant ovarian tumors • AUB & PMB
• 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
• Anesthesia	• Pain management during labour

Contents of the Module

1. **Horizontally Integrated Basic Sciences (Physiology, Pharmacology, Pathology, Community Medicine)**
2. **Large Group Interactive Session (LGIS):**
    i. Pathology
    ii. Community Medicine
    iii. Pharmacology
    iv. Medicine
    v. Surgery
    vi. Gynae & Obs
    vii. pediatrics
3. **Small Group Discussions (SGD)**
    i. Pathology
    ii. Community Medicine
    iii. Pharmacology
4. **Self-Directed Topic, Learning Objectives & References (SDL)**
    i. Pathology
    ii. Community Medicine
    iii. Pharmacology
5. **PAL**
    i. Community medicine
6. **Skill Lab**
    i. Pathology
    ii. Pharmacology
7. **CBL**
    i. Pathology
    ii. Pharmacology
8. **Wards, operation theatres**
    i. Surgery
    ii. Medicine
    iii. Gynae& obs

Horizontally Integrated Basic Sciences

S No	Subjects
1	Pathology (LGIS+SGD+CBL)
2	Community medicine (LGIS+SGD)
3	Pharmacology (LGIS+SGD+CBL)

Horizontally Integrated clinical subject Gynae & OBS

Learning Objectives of Obs/Gynae (LGIS)

Topic	Learning objectives At the end of the lecture the student should be able to	Cognitive levels	Assessment tool
Basic terminologies inobstetrics	• Enlist the aims of antenatal care. • Discuss the importance of early booking and regular anc.	C1 C2	MCQS/ SAQ
Basic antenatal care	• Discuss important points in obstetric history and examination. • Enlist the booking investigations. • Explain the method of calculating EDD and gestational age. • Elaborate the recommended schedule of antenatal visits. • Categorize the obstetric patient into high risk and low risk groups. • Define term, preterm, post term, post-dates, LBW, VLBW, lie, presentation, position, attitude and engagement of fetus.	C1 C2 C2 C3 C1	MCQS SAQ
Minor pregnancy disorders	• Enlist the common minor problems of pregnancy. • Discuss the physiological basis of these disorders • Describe their management options.	C1 C2 C2	MCQS SAQ
Nutrition in pregnancy	• Discuss the importance of healthy diet and lifestyle in pregnancy. • describe dietary and caloric requirements during pregnancy. • Calculate the recommended dose of iron in pregnancy.	C2 C2 C3	MCQS SAQ
Prenatal diagnosis	• 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 C1 C1 C1 C2 C2	MCQS SAQ
Early pregnancycomplications (miscarriages, ectopicpregnancy)	• 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	MCQs
Induced and septic abortions	• 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

Topic	Learning objectives At the end of the lecture the student should be able to	Cognitive levels	Assessment tool
Diagnosis of labour **First stage of labour and management**	• 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. • iscuss importance of adequate hydration and diet during labour.	C1 C2 C1 C2 C1 C2 C2	MCQ SAQ
Abnormalities of 1st stage of 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	C2 C2 C1	MCQ SAQ
Normal CTG	• Scenario based discussion on fetal monitoring during labour after which students will be able to •enlist different methods of fetal assessment during labour. • identify the 04-basic f hr. parameters to be interpreted on CTG trace. • differentiate between normal and abnormal CTG patterns. • discuss conditions in which continuous electronic FHR monitoring is required.	C1 C2 C2 C2	MCQ SAQ
Second stage of labour **Normal labour**	• define the second stage of labour and its normal duration. C1 • discuss the management of second stage of labour. C2 • discuss role of power passage and passenger in prolong second stage of labour. C2 •describe the mechanism of normal labour. C2	C1 C2 C2 C2	MCQ SAQ
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 C1	MCQ SAQ
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

Topic	Learning objectives At the end of the lecture the student should be able to	Cognitive levels	Assessment tool

Third stage of labour and its complications (retained placenta, uterine inversion)	• Define third stage of labour
	• discuss management of third stage of labour.
	• define post-partum hemorrhage.
	  * primary post-partum hemorrhage.
	  * secondary post-partum hemorrhage.
	• discuss the risk factors for post-partum hemorrhage.
		C1
		C2
		C1
		C1
		C1
		C2
			MCQ
			SAQ

Post-partum hemorrhage	• Describe the signs, symptoms and diagnosis of primary PPH. • 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 C2 C2	MCQ SAQ
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
Contraception	• Define contraception. • discuss different methods of contraception and their mechanism of action. • enlist side effects and failure rate of each contraception. • explain emergency contraception.	C1 C2 C1 C2	MCQ SAQ
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
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. • Discuss the management plan for placental abruption	C1 C1 C3 C2 C3 C3	MCQ SAQ
Perineal infections	• Elaborate the infections causing congenital abnormalities. • Explain the congenital infections causing preterm birth and pregnancy loss. • Identify infections acquired around time of birth causing serious neonatal consequences. • Discuss the perinatal infections causing long term disease.	C1 C2 C1 C2	MCQ SAQ

Topic	Learning objectives At the end of the lecture the student should be able to	Cognitive levels	Assessment tool
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
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
Hypertension in pregnancy	• Classify hypertensive disorders of pregnancy. • Identify fetomaternal risks associated with hypertensive disorders of pregnancy. • Explain the pathophysiology of hypertensive disorders of pregnancy. • Discuss the clinical features of pre-eclampsia and eclampsia. • Enlist relevant investigations. • Elaborate the principles of management of hypertensive disorders	C2 C1 C2 C2 C1 C3	MCQ SAQ
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	MCQ SAQ
Rh Incompatibility	Define Rh incompatibility. • Discuss the etiology and pathophysiology of rhesus disease. • enlist the potential sensitizing events for rhesus disease. • explain the management of sensitizing events in rhesus negative pregnant woman. • discuss prevention of rhesus isoimmunization. • enlist the fetal complications associated with rh incompatibility. • elaborate the management of rhesus disease in a sensitized woman.	C1 C2 C1 C2 C2 C1 C3	MCQ SAQ
Medical disorders in pregnancy	• Scenario based discussion on diagnosis and management of: • hypertension in pregnancy • diabetes in pregnancy • anemia and thrombocytopenia in pregnancy • cardiac disease in pregnancy.	C3/C4	MCQ SAQ

Topic	Learning objectives At the end of the lecture the student should be able to	Cognitive levels	Assessment tool
Revision of stages of labour and management	• Revision	C2 C2 C3	MCQS SAQ
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 fetomaternal complications associated with IUFD. • elaborate management of patient with IUFD.	C1 C1 C1 C2 C2 C3	MCQSAQ
Management of GTD	• Define gestational trophoblastic disease. • classify the different types of GTD. • enumerate the clinical features of gtd. • enlist important investigation to be done in gtd. • discuss the management of GTD, its follow-up and contraceptive advice.	C1 C2 C1 C1 C3	MCQ SAQ
Physiology of 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 cycle.	C1 C2 C2	MCQ SAQ
Management of STDs	• Scenario based discussion on clinical features, diagnostic investigations, • contact tracing and management of different std's. • (chlamydia, trichomoniasis, gonorrhea, HIV, syphilis, hepatitis B&C.	C3/C4	MCQ SAQ
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 C1 C3	MCQ SAQ
Management of premalignant & malignant disease of cervix	• Define premalignant diseases of cervix. • discuss the role of HPV testing in cervical screening program. • enlist the investigations for cervical screening of mass population. • 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.	C1 C2 C1 C1 C2 C2	MCQ SAQ

Gynae/Obs Small Group Discussion (SGD)

Topic	Learning objectives At the end of the lecture the student should be able to	Cognitive domain	Assessment tool
Scenario based SGD (mechanism of fetal delivery &delivery of placenta)	• Pictorial demonstration of mechanism of normal labour. • Pictorial demonstration of delivery of placenta. • Scenario based discussion of management of abnormal labor.	C3 C3 C3/C4	OSCE
Malpresentation	• Define malpresentations and its different types (breech, face, brow, shoulder, cord presentation) • Discuss the antenatal management of breech presentation. • Pictorial demonstration of external cephalic version. • Outline the management plan including mode of delivery. • Enlist the prerequisites for breech vaginal delivery. • Discuss the management of breech in labour.	C1 C3/C4 C2 C2	MCQS SAQ OSCE
Covid-19 in pregnancy and immunization	• Discuss guidelines of Covid 19 in pregnancy. • Scenario based discussion regarding management of covid-19 in pregnancy according to disease severity. • Discuss guidelines of dengue in pregnancy.	C3/C4 C2 C2	MCQS SAQ
Dengue and HIV in pregnancy	• Scenario based discussion regarding management of dengue in pregnancy. • Discuss guidelines of HIV in pregnancy. • Scenario based discussion regarding management HIV in pregnancy.	C3/C4 C2 C3/C4	MCQS SAQ

Self-directed learning Gynae (SDL)

Sr. No	Content Outlines (Major Topics & Sub Topics)	Learning Objectives At the end of lecture students will be able to:	Learning Resource	Assessment tool
1.	**Renal Disease in Pregnancy**	Discuss the Effect of pregnancy on CKD 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
2.	**Heart Disease in Pregnancy**	Discuss Pre-pregnancy counseling of heart disease in pregnancy. Elaborate antenatal management of heart disease in pregnancy. Discuss 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
3.	**Respiratory Disease in Pregnancy (Asthma)**	explain the effects of pregnancy on asthma explain risk factors, clinical features and investigations to confirm diagnosis C) discuss treatment plan and appropriate medication to control asthma in pregnancy	Obstetrics by Ten Teachers (20th edition) Page 158	MCQs
4.	**Neurological Disease in Pregnancy Epilepsy**	explain how does epilepsy effects pregnancy Enlist antiepileptics 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
5.	**Hematological Abnormalities Thrombotic disorders in pregnancy**	explain etiologies and prevalence of thrombocytopenia in pregnancy management of delivery in thrombocytopenia, keeping in mind both maternal and neonatal considerations brief overview of liver diseases during pregnancy and their management individually	Obstetrics by Ten Teachers (20th edition) Page 162	MCQs
6.	**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
7.	**HIV in Pregnancy**	discuss guidelines of HIV in pregnancy. discussion regarding the management of HIV in pregnancy.	Obstetrics by Ten Teachers (20th edition) Page 184	MCQs

Horizontally Integrated Basic Sciences (Community Medicine , Pharmacology, Pathology)

Community medicine Learning objectives of large group interactive sessions (LGIS)

S.No.	Topic	Contents Outlines Sub- Topics)	Learning Objectives After the Session Students Will Be Able To:	Level of cognition	Assessment Tools
1.	**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 • Reproductive health & its components • Safe motherhood & its components • Maternal mortality rate, causes & prevention • infant mortality rate, causes & • Prevention MCH center • Child care- IMCI • 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 increase maternal mortality rate (MMR) • Develop interventions to control MMR • To understand the selection of different indicators for multi-dimensional concept of health related to MCH services • To acquire knowledge on different indicators which can be used for maternal and child health care and service.	C1 C2 C2 C2 C3 C1 C2 C3 C2 C3 C2 C2	MCQS SEQS
2.	**Preventive obstetrics**	Preventive medicine in obstetrics-II Preventive services for mothers Indicators in MCH care	• Understand the availability of preventive services for mother during antenatal period • appraise the mortality indicators related to MCH care	C1 C2	MCQS SEQS
3.	**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 C2 C1	MCQs SEQs
4.	**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 C1 C1 C2	MCQs SEQs

5.	**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 C1 C2	MCQs, SAQs,
6.	**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 Mortality Measures of fertility 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	MCQS, SEQS AND OSPE AND VIVA VOCE
7	**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 • Describe the effect of population momentum on growth of population • Discuss demographic dividend, bonus, trap • Calculate growth rate from given data • Calculate and interpret population doubling time	C2 C2 C2 C2 C2 C3 C3 C3 C3 C3	MCQS, SEQS AND OSPE AND VIVA VOCE
8.	**Demography III, Migration and urbanization Population density**	Population dynamics or change Migration and urbanization Population density Family size Replacement level fertility Life expectancy	• Discuss concept of demographic equation • Calculate population at particular time from 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 • Explain replacement level fertility • State what is meant by life expectancy and how it is calculated	C1 C3 C3 C2 C1 C2 C1 C2 C2 C3 C3	MCQs, SEQs and OSPE and Viva Voce
9.	**school health service**	functions of school health services health related problems of school children implementation strategies of school health services	• Define School health services • Enlist objectives of School Health Services. • Explain duties of School Health Team. • Enlist various health related problems of School children. • Enumerate and explain various functions of School health services. • Demonstrate importance of implementation of various aspects of school health services.	C1 C1 C2 C2 C2 C2	MCQs, SEQs and OSPE

10.	**Handicapped**	1. definition 2. difference between handicapped, impairment, disability 3. types of disability 4. 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 • Social attitude towards handicapped	C1 C1 C2 C1 C2 C2 C2	MCQ'S SAQ
11.	**Health economics I Framework**	1. Concept and definitions Types 2. Framework of health economics 3. Supply and demand 4. elasticity 5. Production possibility frontier 6. Different types of Costs 7. 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 • Describe Production possibility frontier • Explain Different types of Costs • Cost minimization analysis • Cost effectiveness analysis • Cost utility analysis • Cost Benefit analysis	C1 C2 C3 C3 C2 C3 C1 C1 C1 C3 C3	MCQ'S SAQ
12.	**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 C1 C1 C1 C1	MCQ'S SAQ
13.	**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 C1 C3	MCQs, SEQs and OSPE
14.	**Family planning II National population policy**	National population policy Unmet need of family planning Classification of Fertility regulating methods Barrier methods Natural contraceptive 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 C1 C2 C2	MCQs, SEQs and OSPE

Small Group Discussion SGD Community Medicine

S. No.	Topic	Content Outlines (Major Topics & Sub Topics)	• Learning Objectives	Level of cognition	Assessment tools
1.	**Evaluation of Family Planning methods**	Intra uterine devices Hormonal contraceptives Postconceptional methods Evaluation of contraceptive methods	• 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 • Emergency contraception • New contraceptive technology • Identify the methods for family planning evaluation	C1 C1 C1 C1 C1 C1 C1 C1 C2 C1 C2	MCQs, OSPE
2.	**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	C1 C2 C1 C1 C1 C3 C1 C3 C2 C3	MCQs, SEQs and OSPE and Viva Voce

Self-Directed Learning (SDL) Community Medicine

#	Major topic	Contents Outlines / Sub- Topics	Learning objectives. Students will be able to …	Learning resource	Assessment tool -MCQs
1	Dynamics of human behavior (Human psychology)	Intro to selected important relevant concepts of psychology relevant to community medicine	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)	2-3MCQ
2	Ottawa charter on health promotion	5 Key action areas of Ottawa charter	Students should be able to: Describe. • Explain key areas of action for health promotion	K Park Ed. 27th (30,31)	MCQ
3	Population control	National population control strategy & policy (Pakistan)	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	MCQs
4	Reproductive health	Preventive aspects of neonatal health. Elements of early neonatal care	Students should be able to: Describe. • early neonatal care • Immediate neonatal care • Early neonatal examination • Neonatal screening	K Park Ed. 27th (532-535	MCQs
5	Child Health in context of MCH Services	Monitoring of child growth & development	Students should be able to • Describe determinants of child growth & development • Describe methods assessment of physical growth of child • Explain formation of growth chart.	K Park Ed. 27th (541,42,43,44, -47	MCQs
6.	Genetics	Preventive and social measures of genetic diseases and genetic counselling	• 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
7.	Breast feeding Baby friendly hospital initiative (BFHI)	Advantages of breast feeding Weaning practices Feeding associated problems 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	MCQs

Pathology content

Learning objectives of large group interactive session (LGIS)

Topic	Contents Outlines (Major Topics & Sub- Topics)	Describe Etiology and morphology of Acute and Chronic Cervicitis (C2)	Learning domain	Assessment tool
1. Malignant diseases of cervix.	• Cervical Intraepithelial Neoplasia • Cervical Carcinomas.	• Interpret morphological diagnosis of Cervical intraepithelial Neoplasia. • Classify Cervical Carcinomas • Describe Morphological features and prognosis of cervical cancer.	C3 C2 C2	MCQs, SEQs, OSPE Viva
2. 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	MCQs, SEQs, OSPE Viva
3. 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	MCQ SEQ VIVA
4. 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 tumour • Describe Prognosis and staging of ovarian tumors • Enumerate Diagnostic work up for ovarian tumors	C2 C2 C3 C3 C2	MCQ SEQ VIVA
5. Benign Non neoplastic lesions of breast	**Non neoplastic lesions of breast** - congenital anomalies. inflammatory lesion of breast. duct ectasia, fat necrosis and granulomatous mastitis.	• The students should be able to • identify the congenital anomalies of breast • Classify and describe the in klammatory lesions of breast • explain duct ectasia fat necro sis and granulomatous mastitis	 C1 C2 C2	MCQ SEQ VIVA

6. Benign neoplasm of breast	**Benign neoplastic lesions of breast** Proliferative epithelial lesions without atypia and Proliferative epithelial lesions with atypia. fibrocystic breast disease breast stromal lesions.	• The students should be able to • Compare proliferative lesions with and without atypia • Describe the morphology and pathophysiology of fibrocystic disease and stromal lesions of breast	C2 C2	MCQ SEQ VIVA
7. Malignant neoplasm of breast	**Malignant lesions of breast** Classification of epitheial and stromal malignant lesions • invasive mammary carcinoma (NOS) • Familial Breast Cancer, with molecular Mechanisms of Carcinogenesis and • Tumor Progression	• The students Should be able to • Classify the neoplasms of breast • explain the histology • ,grading, staging, lab diagnosis of breast cancer	C2 C2	MCQ SEQ VIVA
8. 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	MCQ, SEQ.VIVA
9. Pathologies of lower urinary tract	Lower ureter,urethra,urinary bladder	• Describe pathologies of lower urinary tract in males and females	C2 C3	MCQ,SEQ, VIVA

Small Group Discussions (SGDs) pathology

TOPIC	Contents Outlines (Major Topics & Sub- Topics)	Describe Etiology and morphology of Acute and Chronic Cervicitis (C2)	Learning domain	Assessment tool
1. Early pregnancy complications & Non neoplastic placental pathology	Pathology of early pregnancy complications & Non neoplastic placental pathology	Students should be able to Explain hypopituitarism and posterior pituitary gland diseases	C3	MCQs, SEQs, OSPE Viva
2. 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 Describe incidence and pathological features of Choriocarcinoma	C2 C1 C2	MCQ, SEQ, VIVA
3. Dysfunctional uterine bleeding	Dysfunctional uterine bleeding	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 C2	MCQ, SEQ, VIVA
4. STD		Describe Etiology & pathogenesis of STDs	C2	MCQ, SEQ.VIVA
5. Benign and Premalignant **6. Lesions of Cervix**	Cervicitis	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	MCQ, SEQ.VIVA
7. Endometritis,Adenomyosis,endometriosis,	PIDs	Describe risk factors ,histopathology, pathogenesis of endometritis, adenomyosis, endometriosis	C2,C3	MCQ, SEQ.VIVA

Case Based Learning (CBL) Pathology

Topic	Learning objectives	Domain	Mode of Asses
1. Rh Incompatibility, Anemia & Diseases in Pregnancy	Enlist etiology, pathogenesis, complications, investigations	C2 C3	MCQs
2. Pathology of vulva & vagina	Categorize nonneoplastic lesion (Development anomalies, Infections and cysts) of vulva and vagina. Enlist Premalignant lesions Interpret diagnosis of Vulvar and Vaginal intra epithelial neoplasia and Malignant lesion of vulva and vagina	C2 C2 C3	MCQs
3. Testicular atrophy cryptorchidism	Causes, pathogenesis, morphology & related investigations	C2 C3	MCQs

Skill Lab Pathology

TOPIC	CONTENT	DOMAIN	MODE OF ASSESMENT
1. Cervical carcinoma and screening through cervical smears	Describe pap smear, CIN, cervical carcinoma with its histopathological features	C2 C3	MCQ SEQ OSPE VIVA
2. Ovarian teratoma and hidetiform mole	Describe gross and histopathology with introduction of the disease	C2 C3	MCQ SEQ OSPE VIVA
3. Beningn and malignant diseases of the uterus	Enlist benign and malignant diseases if uterus with their introduction describe the gross and histopathological features	C2 C3	MCQ SEQ OSPE VIVA
4. Tumours of the breast	Describe benign and malignant tumors of the breast with gross and histopathological features	C2 C3	MCQ SEQ OSPE VIVA
5. Male testicular tumors	Enlist benign and malignant tumors of testis and describe its gross and histopathological features	C2 C3	MCQ SEQ OSPE VIVA

Self-directed learning Pathology

Sr. No	TOPIC	Learning Outcomes At the end of session students will be able to:	Reference
1	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
2	prostatitis	• Categorize different types of prostatitis • Explain etiology • clinically presentation of prostatitis • diagnosis of prostitis	Robbins Basic Pathology 9th Edition Chapter 17 male genetal system Pg 658-659
3	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
4	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
5	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
6.	Epidemiology and risk factors of breast carcinoma	Epidemiology and Risk factors related to breast cancer	Robbins Basic Pathology 9th Edition Chapter 17 male genetal system Pg 658-659
7	Classification of sexually transmitted diseases	Classify important STDs according to the pathogens	Robbins Basic Pathology 9th Edition Chapter 17 male genetal system Pg 658-659

Pharmacology content
Learning objectives of Pharmacology LGIS

Topic	Learning Objectives	Learning Domains	Teaching strategy	Assessment tool
Prolactin antagonist	• Enumerate Prolactin Antagonists • Describe Mechanism of Action, Uses as well as adverse effects of Prolactin Antagonists	C1 C2	LGIS	SEQ MCQ VIVA
Gonadal hormones: I Estrogens	• Enumerate Estrogen antagonists/SERMs • Describe mechanism of action, uses & adverse effects of • Estrogen antagonists/SERMs	C1 C2	LGIS	SEQ MCQ VIVA
Gonadal hormones :II Progestin	• Describe mechanism of action, uses & adverse effects of Progesterone antagonists	C2	LGIS	SEQ MCQ VIVA
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
Hormonal contraceptives	• Classify hormonal Contraceptives • Discuss the mechanism of action of hormonal contraceptives • Discuss the adverse effects and contraindications	C1 C2 C2	LGIS	SEQ MCQ VIVA
Oxytocic drugs and Uterine Relaxants	• Describe actions of oxytocin • Describe uses and adverse effects of oxytocin • Elaborate clinical uses of prostaglandin • Enlist ergot alkaloids, their uses and adverse effects • Classify Tocolytics • Describe the pharmacodynamics of tocolytic agents • Discuss their uses & adverse effects	C2 C2 C3 C1 C1 C2 C2	LGIS	SEQ MCQ VIVA
Drug used in the	• Enlist drugs used for treatment of Infertility	C1	LGIS	SEQ. VIVA .MCQ
treatment of infertility	• Discuss Pharmacokinetics and Pharmacodynamics • Discuss adverse effects and interactions	C2 C2		

Skill Lab Pharmacology

PK Calculations I	• Calculation for loading dose • Calculation for maintenance dose	P	Practical	OSPE
PK Calculations II	• Calculations for maintenance dose • Calculations for plasma half-life & steady state concentration	P	Practical	OSPE
Drugs used in Pregnancy and Lactation	• Classify drugs according to their safety profiles during pregnancy based on the FDA's Pregnancy Risk Categories • Identify the potential impact of drugs on pregnancy outcomes, including risks of birth defects, miscarriage, preterm labor, and maternal complications. • Discuss the alterations in drug absorption, distribution, metabolism, and excretion during pregnancy and how these changes influence drug dosing and efficacy. • Acquire communication skills to effectively counsel pregnant and lactating patients about the risks and benefits of medication use, alternative therapies, and the importance of adhering to prescribed regimens.	P	Practical	OSPE
CBL Pharmacology				
Hormonal Contraceptives	• Clinical pharmacology of hormonal contraceptives • Rationale of choosing specific hormonal contraceptive in a specific scenario	C3	CBL	PBQ
P drug & Prescription writing	• P drug & prescription writing for infertility • P drug & prescription writing for premature labour	C3	CBL	PBQ

Self-Directed Learning (SDL) Pharmacology

Sr. No.	Topic	Learning objectives	Reference
1.	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.
2.	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
3.	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.
4.	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.

Clinical Sciences (Vertical Integration)

Vertical Integration LGIS

- Surgery
- Medicine
- Gynae & Obs
- Pediatrics

Learning objectives
Vertically integrated clinical subjects
arge group interactive session LGIS of Medicine

Sr.No	TOPIC	Learning objectives At the end of the lecture the student should be able to	Cognitive	Assessment tool
1.	**Infections in pregnancy (RTI's, 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	CI CI C2/C3	MCQS
2.	**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	CI C3 C2/C3	MCQS
3.	**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 Construct management plan including prevention and discuss complications of anemia for both fetus and mother	CI CI,2 C2 C3	MCQS
4.	**Liver disorders & thrombocytopenia in pregnancy**	Discuss etiologies and risk factors for common thrombotic disorders in pregnancy C1 & C2 Explain clinical features and investigations to confirm thrombotic disorders in pregnancy and post-partum period C1 & C2 Discuss appropriate anticoagulation therapy in pregnancy and breastfeeding	CI CI C2	MCQS
5.	**Epilepsy in pregnancy**	Explain how does epilepsy effects pregnancy	CI	MCQS
6.	**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	CI C2 C2	MCQS
7.	**Thrombotic disorders in pregnancy**	Explain etiologies and prevalence of thrombocytopenia in pregnancy	C2	MCQS

Learning objectives of Surgery (LGIS)

Topic	Learning objectives At the end of the lecture the student should be able to	Cognitive level	Assessment tool
Pelvic cellulitis& abscess	• Describe brief anatomy of pelvis and its structure • Enumerate possible causes of pelvic infusion in both male and female Patients • Enlist important clinical, signs and symptoms • Discuss the role of different investigation and differential diagnoses • Describe management plan for these patients	C1 C2/C3 C1 C2 C2	MCQS
Complication of laparotomy (visceral & vascular injury)	• Briefly describe anatomy of the abdominal wall and its visceral and vascular Structures • Enlist commonly performed elective + emergency laparotomy • Enumerate vulnerable vascular and visceral structures at risk of complication During laparotomy • Identify signs and symptoms to recognize these injuries • Make management plan to deal with these injuries, the role of multiple • Specialties and team work in management of these complications.	C1 C2/C3 C2 C3 C4	MCQS
Surgical intervention of Breast	• Surgical anatomy of breast, diseases of breast and their management • Briefly describe anatomy of the breast and vascular and lymphatic supply • Enlist important clinical signs and symptoms • Managing patient with breast pathology • Enlist the surgical procedure of breast diseases	C2 C2 C2 C2 C3	MCQs

Learning objectives of Pediatrics (LGIS)

Topic	Learning objectives At the end of the lecture the student should be able to	Cognitive level	Assessment tool
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	MCQS
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	MCQS
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	MCQS
Immunization	Know the importance of vaccination in prevention Know the disease covered in immunization schedule Know the extended program of immunization (EPI) in Pakistan Know the role of immunization in health of a child Know the method of administration and common side effects of vaccines used in EPI	C2/C3	MCQS

Spiral Courses

Longitudinal Themes

- Family Medicine
- Behavioral Sciences
- Biomedical Ethics
- Research

Learning objectives
Spirally Integrated Subjects
Learning Objectives of Family Medicine (LGIS)

S.NO	Broad topic	Major syllabus with sub-topics	Learning objectives At the end of the session students should be able to;	Learning domain	Assessment tools
1	Core concepts of family medicine in (antenatal care in normal pregnancy)	Discussion will cover; Family medicine and Antenatal care during pregnancy	At the end of the session students should be able to; Describe the composition of antenatal care • Identify and do surveillance of pregnant mother and expected child • Apply Preventive measures, including tetanus toxoid immunisation, de-worming, iron and folic acid • Recommend healthy behaviours in the home, including healthy lifestyles and diet, safety and injury prevention, and support and care in the home, such as advice and adherence support for preventive interventions like iron supplementation	 C1 C1 C3 C2 C3	MCQS

Learning Objectives of Bioethics (LGIS)

S.NO	Broad topic	Major syllabus with sub-topics	Learning objectives At the end of the session students should be able to;	Learning domain	Assessment tools
1	Reproduction ethics	Discussion will cover; • Legal perspective of abortion • Islamic perspective of abortion	At the end of the session students should be able to; • Discuss legal perspective of abortion in light of • Pakistan penal code • Elaborate Islamic perspective of abortion in • light of Quran & Hadith	C2 C2	MCQS

Learning Objectives of Clinically oriented integrated research curriculum IUGRC(PAL)

S.NO	Broad topic	Major syllabus with sub-topics	Learning objectives At the end of the session students should be able to;	Learning domain	Assessment tools
1	Report & manuscript writing	Discussion will cover; • Report writing / manuscript art & skills.	At the end of the session students should be able to; • Interpret & apply basic principles of manuscript writing of research report. • Explain rules of discussion on results of study • Clarify types of citations included in discussion section. • Explain how to align research objective and conclusion • Perceive authorships requirements or rules of drafting manuscript of a research report for publication in indexed journal • Elaborate the recommendation and acknowledge part of research report	C3 C2 C2 C3 C3	MCQS

Breakdown Teaching Hours of all subjects

Disciplines	LGIS	SGD	CBL	SDL	Skill Lab	PAL	Hours
Community Medicine	14	07	0	4	0	1	26
Pathology	09	06	3	4	07	0	29
Pharmacology	08	0	02	04	1	0	15
Obstetrics	36	04	04	07	1	0	52
Medicine	7	0	0	0	0	0	7
Pead's	4	0	0	0	0	0	4
Surgery	3	0	0	0	0	0	3
Total	**81**	**17**	**09**	**19**	**09**	**1**	**136**

Renal Module – II
Block - XIII

Introduction

Renal module provides integration of core concepts that underlie the foundation of basic sciences and their use in clinical medicine. This will eventually lead to developing critical thinking for integration and application of basic knowledge for clinical application.

Rationale: System based learning structure is adopted. The Renal module is designed to impart basic knowledge. This knowledge will serve as a base on which the student will construct further knowledge about the etiology, pathogenesis, prevention of diseases and the principles of their therapeutics and management.

Module outcomes:

Knowledge

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

- **Research**
- **Biomedical ethics**
- **Family medicine**
- **Artificial Intelligence**
- **Skills**

Interpret and analyze various practical & practices of clinical sciences.

Attitude

Demonstrate a professional attitude. Team building spirit and good communication skills.

This module will run in 4 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 websites.

Module TORS

The framework is based on a 35-hour work week.

A total of 1200 hours per year is allocated for teaching, learning, and assessments.

- **Module Requirements:**
  - Each module has a minimum number of hours that must be fulfilled.
  - Institutions have the flexibility to use additional hours as they see fit for teaching and assessments.

- **Content and Learning Outcomes:**
  - The specified content and intended learning outcomes are mandatory and must be taught.
  - The final assessments will focus on these outcomes to ensure alignment.

- **Cognitive Engagement:**
  - While the content is set, institutions can encourage higher-level cognitive skills, promoting deeper understanding and critical thinking among students.

- **Assessment Standards:**
  - A Table of Specifications is provided for the first professional exam and must be used for internal assessments as well.
  - This promotes consistency in evaluating student learning across different assessments

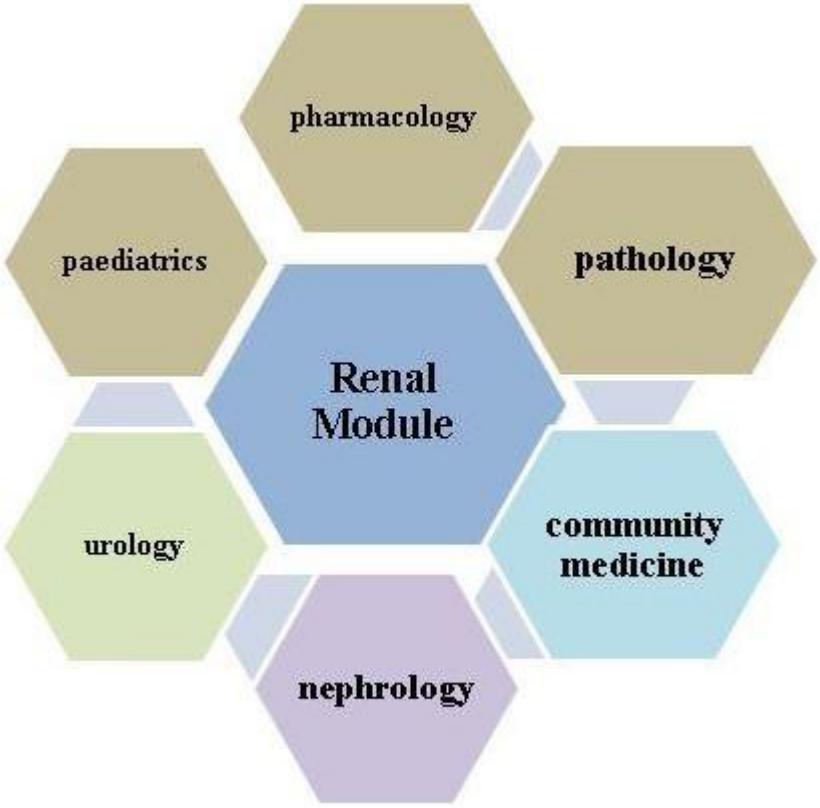
Renal Module Team

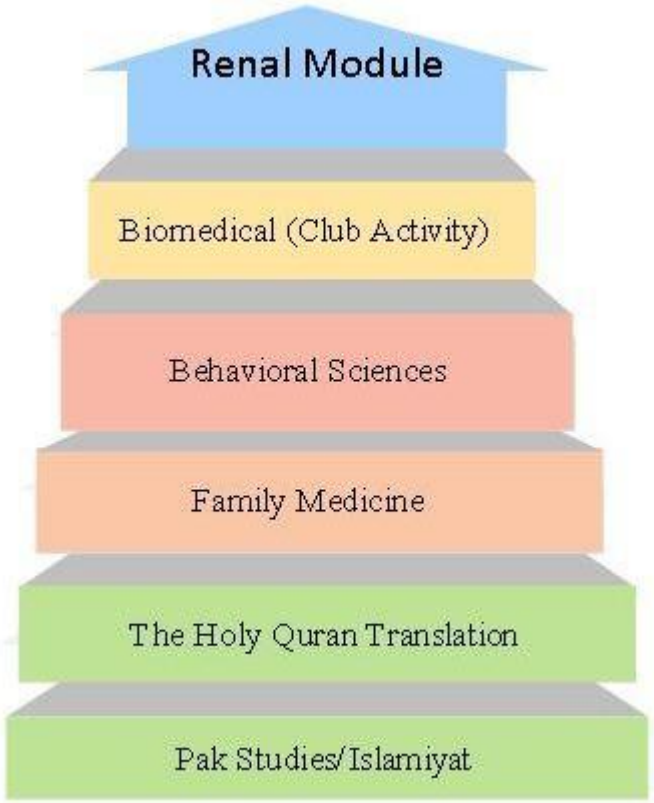
Module Name : Renal
Duration of module : 04 Weeks
Coordinator : Dr. Uzma Umar
Co-cordinator : Dr. Memuna Kanwal
Reviewed by : Module Committee

Module Committee			Module Task Force Team		
1	Vice Chancellor RMU	Prof. Dr. Muhammad Umar	1.	Coordinator & Co-coordinator	Dr. Uzma Umar Dr. Memuna Kanwal
2	Principal	Prof. Dr. Jahangir Sarwar Khan	2.	DME Focal Person	Dr Maryum Batool
3	Convener Curriculum	Prof. Dr. Naeem Akhter			
4	Dean Basic Sciences	Prof. Dr. Ayesha Yousaf			
5	Director DME	Prof. Dr. Ifra Saeed			
6	Chairperson Pharmacology	Dr Attiya Munir			
7	Chairperson Pathology	Prof. Dr Mobina Dhodi	**DME Implementation Team**		
8	Focal person community medicine	Dr Mehwish Riaz	1.	Director DME	Prof. Dr. Ifrah Saeed
9	Focal Person Pathology	Dr Asha	2.	Deputy Director DME	Prof. Dr Sadia Chaudhry
10	Focal Person Quran Translation Lectures	Mufti Abdul Wahid	3.	Module planner & Implementation coordinator	Dr. Omaima Asif
11	Focal Person Family Medicine	Dr Sadia	3.	Editor	Dr. Omaima Asif
12	Focal Person Bioethics Department	Prof. Dr. Akram Randhawa			
13	Focal Person Surgery	Dr Huma Sabir			

MBBS YEAR IV
Block – XIII
Module - II
Renal
Duration – 4 weeks

Integrated desciplines of Renal Module





Contents of the Module

- **Horizontally Integrated Basic Sciences (Pharmacology, Pathology & Community Medicine)**
- **Large Group Interactive Session:**
  - Pharmacology (LGIS)
  - Pathology (LGIS)
  - Community Medicine (LGIS)
  - Nephrology/Medicine
  - Urology/Surgery
  - Paediatrics
- **Small Group Discussions**
  - Pharmacology (SGD)
  - Pathology (SGD)
  - Community Medicine (SGD)
- **Self -Directed Topic**
  - Pharmacology (SDL)
  - Pathology (SDL)
  - Community Medicine (SDL)
- **Skill Lab**
  - Pathology
  - Community medicine
- **CBL**
  - Pathology
  - Pharmacology
- **Wards, operation theatres**
  - Surgery
  - Medicine

Horizontally Integrated Basic Sciences (Pharmacology, Pathology & Community Medicine)

Pharmacology
Large group interactive session (LGIS)

TOPIC	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives At the end of session student will be able to	Learning domain	Teaching strategy	Assessment tool
Diuretics I	Carbonic Anhydrase inhibitors	• Classify Diuretics • Discuss the kinetics and Pharmacodynamics of Carbonic Anhydrase Inhibitors • Rationale of uses of Carbonic Anhydrase Inhibitors in different clinical conditions • Discuss the Adverse Effects & drug interactions of Carbonic Anhydrase Inhibitors	C1 C2	LGIS	MCQ/SEQ
Diuretics II	Loop Diuretics	• Discuss the kinetics and Pharmacodynamics of loop diuretics • Rationale of uses of loop diuretics in different clinical conditions • Discuss the Adverse Effects & drug interactions of loop diuretics	C1 C2 C1	LGIS	MCQ/SEQ
Diuretics III	Thiazide & Thiazide Like Diuretics	• Discuss the kinetics and Pharmacodynamics of Thiazide & Thiazide likeDiuretics • Rationale of uses of Thiazide diuretics in different clinical conditions • Discuss the Adverse Effects & drug interactions of Thiazide diuretics	C1 C2	LGIS	MCQ/SEQ
Diuretics IV	Potassium Sparing Diuretics	• Discuss the kinetics and Pharmacodynamics of Potassium Sparing Diuretics • Rationale of uses of Potassium sparing diuretics in different clinical conditions • Discuss the Adverse Effects & drug interactions of Potassium Sparing diuretics	C1 C2 C2	LGIS	MCQ/SEQ

Small Group Discussion Pharmacology

TOPIC	Learning objectives At the end of sessions student will be able to:	Learning domain	Assessment tool
Drugs used in urinary tract infections	• Causes, pathogenesis, morphology & related investigations	C2	MCQ

Case based learning (CBL) pharmacology

TOPIC	Learning objectives At the end of sessions student will be able to:	Learning domain	Assessment tool
Role of diuretics in Pulmonary edema	• Clinical Pharmacology of diuretics	C3	MCQ

Self directed learning pharmacology

TOPIC	Learning objectives At the end of sessions student will be able to:	References
1.Acute Mountain Sikness	Enlist the drugs used for acute mountain sickness Describe the mechanism of action of acetazolamide Discuss the role of acetazolamide for acute mountain sickness prevention	Acetazolamide for the prevention of acute mountain sickness--a systematic review and meta-analysis https://pubmed.ncbi.nlm.nih.gov/22943270/
2.Cerebral Oedema	Enlist the drugs used for reducing cerebral oedema Describe the mechanism of action of manitol Discuss the role of manitol in reducing cerebral oedema	Cerebral Edema and its Management https://www.ncbi.nlm.nih.gov/

Community Medicine Large Group Interactive Session (LGIS)

TOPIC	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives After The Session Students Will Be Able To:	Learning domain	Teaching strategy	Assessment tool
Entomology I Introduction & Classification of Arthropods of Public Health Importance	Medical Entomology; Transmission of arthropodborne diseases	• Define Medical entomology. Define vector along with examples.Enlist and classify arthropods of medical importance. • Identify, differentiate and explain features of various classes of arthropods. • Explain with examples modes of transmission of arthropods borne diseases. • Draw and explain life cycle of plasmodium along with variousmosquito control measures • Describe importance of entomology from public health aspect.	C1 C1 C2 C2 C2	LGIS	MCQ, SEQ
Entomology II Transmission of Arthropod Infections Diseases transmitted by Arthropods integrated vector management	Medical Entomology. Principles Of ArthropodsControl	• Enlist diseases caused by house fly. Describe life cycle of housefly and its habitat along with various methods to control fly. • Identify and describe sand-fly, Tsetse fly, and black fly along with diseases caused by them. • Describe integrated approach towards control of class insect.	C1 C2 C2	LGIS	MCQ, SEQ
Vector Born Diseases-I Epidemiology of Viral Hemorrhagic fever & Malaria	Vector borne diseases; Epidemiological determinants	• Define a vector and enlist various vector borne diseases. • Explain modes of transmission and propagation of parasites. • Define host and its types with examples. • Enlist and explain mosquito borne diseases • Explain life cycle of malarial parasites and integrated approachtowards control of malaria. • Name various causes of viral hemorrhagic fever along with theirclinical features. • Enlist causes of relapsing fever and various methods towardscontrol of vector borne diseases.	C1&C2 C1&C2 C1, C2&C3 C1, C2	LGIS	MCQ, SEQ
Vector Born Disease-II Prevention of Leishmaniasis & Scabies & Modes of Transmission of Filariasis	Vector borne diseases;Prevention & control	• Define and explain filariasis and life cycle of filarial parasites,Describe modes of transmission of filariasis and assessment ofvarious mosquito control programs. • Explain Leishmaniasis, life cycle of sand-fly and integratedmeasures towards fly control. • Explain scabies, its mode of spread along with curative andpreventive measures.	C1 C1 C2	LGIS	MCQ, SEQ
Snake Bite	Epidemiology Prevention of snakebite	• Describe importance of snake bite, the epidemiology of snake bite • Differentiate between clinical manifestations of different types ofsnakes, Enumerate ways of prevention from snakebite • Management of snakebite, Enlist people more at risk	C1 C1	LGIS LGIS	MCQ, SEQ

Disaster Management	Types of disaster Disaster management Triage	• Define disaster • Differentiate between natural and man made disaster • Classify different types of disaster • Assess the magnitude of disaster • Describe all the disaster management steps • Understand triage and its importance in disaster management	C1&C2 C1&C2	LGIS	MCQ, SEQ
Zoonotic diseases I	Introduction Viral Zoonotic Disease,Rabies	• Explain introduction of zoonosis, Discuss rabies disease, its originand pathophysiology. • Identify the preventive aspects of rabies. • Enlist vaccination schedule discussion in detail.	C1 C2 C3 C1	LGIS	MCQ, SEQ
Viral & Bacterial Zoonotic Disease II	Chikungunya, Japanese encephalitis, bacterial zoonotic anthrax	• Understand chikungunya, its pathophysiology. • Discuss the preventive and health education aspects relevant to it. • Explain Japanese encephalitis, clinical features and pathophysiology • Strategize its prevention. • Explain Anthrax and classify its types • Identify clinical features , diagnose the disease • Categorize the prevention under different levels of prevention	C1 C2 C3 C1 C1 C2	LGIS	MCQ, SEQ
Zoonotic Disease III	Plague Brucellosis	• Define plague, its history and epidemiology • Demonstrate epidemiological triad of plague, types of plague with its prevention and treatment • Define brucellosis • Demonstrate epidemiological triad • Concept of control in humans, prevention and treatment	C1 C2 C3 C1 C1 C2	LGIS	MCQ, SEQ
Zoonotic Disease IV	Tetanus, Human Salmonellosis	• Identify The causative agent, pathophysiology of tetanus, Enlist • ypes of tetanus. • Understand Vaccination schedule of tetanus. • Explain Preventive approach to be adopted in tetanus. • Define human salmonellosis', its epidemiology • Demonstrate its epidemiological triad, with its type Prevention and treatment of salmonellosis	C1 C2 C2 C1 C2 C2	LGIS	MCQ, SEQ

Small Group Discussion Community Medicine

Topic	Content	Domain	MoA
Drugs used in UTI	Causes , pathogenesis, morphology & related investigations	C2	MCQs

Practical / Skill Lab Community Medicine

Topic	Content	Domain	MoA
Epidemiology of parasitic disease; amebiasis & ascariasis	• Define parasite and parasitology, Define and explain with examples concepts in parasitology, Describe classification of parasites. • Describe host factors and modes of transmission of parasitic infection. • Enlist general measures towards control of parasitic infections.	C1 C2 C2	MCQ, SEQ
Epidemiology of parasitic disease; dracunculiasis & hookworm infestation	• Describe and explain diseases along with their clinical features caused by class trematodes (Flukes), Describe diseases caused by class cestodes, Briefly explain life cycle of parasites of medical importance. • Explain epidemiological features of various parasites. • Explain integrated approach towards prevention and control of parasitic infections.	C1 C1 C2	MCQ, SEQ
Genetics	• Recognize genetics • Identify positive and negative eugenics • Define euthenics • Understand genetic counselling	C2	SEQ ,MCQ

Self Directed Learning Community Medicine

Topic	Learning Objectives At the end of session student will be able to:	Reference	Assessment
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)	2-3MCQ LMS
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	2-3MCQ LMS
Genetics	• Recognize genetics • Identify positive and negative eugenics • Define euthenics • Understand genetic counselling	K Park Ed. 27th page 858,863,865	2-3MCQ LMS

Pathology Large Group Interactive Session (LGIS)

TOPIC	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives After The Session Students Will Be Able To:	Learning domain	Teaching strategy	Assessment tool
Mechanism Of Glomerular Injury, Nephritic Syndrome(Post Streptococcal Glomerulonephritis)	• Classification of glomerular diseases • Introduction types ,causes &sign symptoms of glomerular diseases • Pathophysiology & related • Investigations of post streptococcal glomerulonephritis	The student should be able to - Classify glomerular diseases. - Differentiate between nephrotic and nephritic syndrome - Describe the pathogenic mechanisms of diseases causing nephritic syndrome - Describe the morphological changes in post streptococcal glomerulonephritis	C3 C3 C2 C2	LGIS	MCQs, SEQs, OSPE Viva
Diseases Causing Nephritic Syndrome Iga Nephropathy ,Hereditary Nephritis,Rpgn, Crescenteric Gn,Immune Complex Mediated Gn	• Introduction types ,causes &clinical features of Nephritic syndrome • Glomerular injury mechanism • Pathophysiology of nephritic syndrome • Related morphology & investigations	- Describe the morphological changes in diseases causing nephritic syndrome - Describe the lab diagnosis of nephritic syndrome	C2 C2	LGIS	MCQs, SEQs, OSPE Viva
Pathologic Basis Of Nephrotic Syndrome Primary Glomerular Diseases	• Classification of primary glomerular diseass • Mechanism of diseases causing glomerular injury • Related morphology & investigations	- Categorize glomerular diseases leading to nephrotic syndrome - Describe the pathogenic mechanisms of diseases causing nephrotic syndrome - Describe the morphological changes in diseases causing nephrotic syndrome - Formulate the lab diagnosis of nephrotic syndrome	C3 C2 C2 C3	LGIS	MCQs, SEQs, OSPE Viva
Nephrotic Syndrome In Systemic Diseases Diabetes Melitis Amyloidosis Sle Miscellaneous	• Glomerular diseases leading to nephrotic syndrome • Pathogenic mechanisms causing nephrotic syndromes • Related investigations	- Categorize systemic diseases leading to nephrotic syndrome - Describe the pathogenic mechanisms of systemic diseases causing nephrotic syndrome - Describe the morphological changes in systemic diseases causing nephrotic syndrome - Formulate the lab diagnosis of nephrotic syndrome	C3 C2 C2 C3	LGIS	MCQs, SEQs, OSPE Viva

Small Group Discussions Pathology (SGDs)

TOPIC	Contents Outlines (Major Topics & Sub- Topics)	Learning objectives After The Session Students Will Be Able To:	Learning domain	Teaching strategy	Assessment tool
Tubulointerstitial Diseases	Acute pyelonephritis causes , morphology & related investigations Chronic pyelonephritis causes ,morphology & related investigations acute tubular injury/Necrosis causes ,morphology & related investigations	- Categorise Tubulointerstitial disesases on the basis of aetiology - Correlate the pathogenic mechanisms with morphological changes in acute tubular injury - Correlate the pathogenic mechanisms with morphological changes in tubulointerstitial nephritis - Describe the gross and microscopic changes of acute and chronic pyelonephritis.	C2 C2 C3 C2	SGD	MCQs, SEQs, OSPE Viva
Renal cystic diseases	Simple cyst morphology investigations Adult polycystic kidney disease Pathogenesis, morphology, clinical features & related investigations Autosomal Recessive polycystic kidney disease Pathogenesis, morphology, clinical features & related investigations Medullary disease with cyst Pathogenesis, morphology, clinical features & related investigations	- Classify the common congenital and acquired cystic renal diseases. - Correlate the etiology with pathogenesis of simple renal cysts. - Correlate the morphological features with pathogenesis of ADPKD - Correlate the morphological features with pathogenesis of ARPKD - Correlate the pathogenesis with morphology of nephronophthisis	C3 C3 C3 C3 C2	SGD	MCQs, SEQs, OSPE Viva
Renal tumors	Pathogenesis, morphology , clinical features & related investigations of Neoplasms of kidney	- Classify renal tumors on the basis of morphology - Correlate the pathogenesis with morphology of benign and malignant tumors - Differentiate between the morphology of various renal tumors - Enlist Important prognostic markers of Renal cancers	C3 C3 C3 C1	SGD	MCQ, SEQ, VIVA
Renal vascular disease	Pathogenesis, morphology , clinical features & related investigations of renal vascular disease	- Describe the pathogenesis of renal vascular disease - Discuss its clinical features in a patient - Discuss its morphological features	C2 C2 C2	SGD	MCQ,SEQ, VIVA

Skill lab/practical Pathology

Topic	Learning Objectives	Learning Domain	Assessment tool
1. Chronic pyelonephritis	• Describe the gross morphological changes in kidneys affected by chronic pyelonephritis • Identify key microscopic features • Explain how the morphological changes relate to the underlying pathophysiology of chronic pyelonephritis	C2 C3 C3	Ospe
2. Renal Cell carcinoma and Transitional Cell carcinoma	• Identify different types of Renal cell carcinoma • Describe the gross pathological features of renal cell carcinoma • Recognize key histopathological characteristics of RCC • Describe the gross morphology and microscopic feature of transitional cell carcinoma.	C3 C2 C3 C2	Ospe
3. Wilms Tumor	• Describe the gross appearance of Wilms tumor • Identify the classic triphasic histological pattern of Wilms tumor	C2 C3	Ospe

Self Directed Learning Pathology

Contents Outlines (Major Topics & Sub-Topics)	Learning objectives	Assessment tool	Learning resource
Week 1: Pathogenesis & morphology of primary Glomerular diseases. **Week 2:** Pathogenesis & morphology of secondary Glomerular diseases. **Week 3:** Diabetic Nephropathy **Week 4:** Causes of Heamaturia and related investigations	• The student should be able to: • Describe the morphological features and pathogenesis of primary glomerular diseases • Describe the morphological features and pathogenesis of secondary glomerular diseases • Know causes , morphology & basic laboratory investigations of Diabetic Nephropathy Know causes and basic laboratory investigations Hematuria	MCQs	Robbins Basic pathology

Vertically Integrated Subjects
Learning Objectives of Urology (LGIS)

S.No	Topic	Content outline & subtopics	Learning objectives with learning domain	Teaching strategy	Assessment strategy
1	**Urinary Tract Congenital Anomalies**	Upper urinary tract congenital anomalies, pathogenesis, diagnoses	• Types of renal and ureteric anomalies • Discuss Incidence, presentation& impact on renal function • Explain Pathogeneses and clinical findings • Diagnose of upper urinary tract Anomalies • Management of various anomalies & complications	LGIS	MCQS,SEQS
2	**Congenital anomalies**	Lower urinary tract congenital anomalies, pathogenesis, diagnoses	• Describe the anomalies of urinary Bladder, Urethra& testis • Understand Clinical features, Presentation, Complications & treatment of various anomalies	LGIS	MCQS,SEQS
3	**Urinary stones upper tract**	Theories, Factors & management of urinary stones	• Describe the types of stones, various theories& factors • Understand the clinical presentation and Definitive management	LGIS	MCQS,SEQS
4	**Urinary stone disease lower tract**	Theories, Factors & management of urinary stones	• Understand the Role of metabolic and malnutrition in the formation of vesical calculi in children • Explain Clinical features & diagnosis • Discuss diagnosis & treatment of Urinary Tract Infection	LGIS	MCQ, SEQS
5	**Urinary tract trauma**	Classification, etiology, management of trauma	• Understand the etiology of Urinary tract trauma. • Classify Urinary tract traumas • Present & investigate the case • Management of Urinary tract trauma	LGIS	MCQS ,SEQS
6	**Urinary incontinence**	Types, Causes& management of incontinence	• Causes of urinary incontinence • Diagnose and identify different types incontinence • Manage urinary incontinence.	LGIS	MCQS, SEQS
7	**Benign Prostatic Hyperplasia (BPH**	Risk factors, signs symptoms	• Enlist the risk factors for BPH • Enlist LUTS (Lower Urinary Tract Symptoms), Irritative& Obstructive Symptoms • Understand IPSS (International Prostate Symptom Score) • Investigations required for Diagnosis • Discuss management on the basis of IPSS C3 • Explain the Indications and complications	LGIS	MCQS, SEQS

8	**Prostate cancers**	Incidence & Risk Factor Investigations s, management of ca prostate	• Explain Incidence & Risk Factors C2 • Present Patient with Cancer Prostate C3 • Enlist Investigations Specially PSA, TRUS/ TRUS guided biopsy and Gleason score & sum C3 • Discuss management plan on the basis of history, Clinical findings &Histopathology C3	LGIS	MCQS, SEQS
9	**Renal cell carcinoma**	Incidence & Risk Factor Investigations s, management of ca	• Classify Renal Tumors C2 • Enlist etiology &risk factors C2 • Enlist Clinical features of Renal Cell Carcinoma C2 • Discuss Investigations & Staging of Renal Cell CarcinomaC3 • Understand Management of Renal Cell Carcinoma	LGIS/CBL	MCQS, SEQS
10	**Bladder cancers**	Incidence & Risk Factor Investigations s, management of ca urinary bladder	• Classify and enlist risk factors of bladder cancers C2 • Explain Clinical Presentation C3 • Enlist Investigations & grading of tumor C3 • Discuss Management options C3	LGIS/CBL	MCQS, SEQS
11	**Urinary Tract Infections**	Incidence & Risk Factor Investigations s, management of UTI	• Define UTI C1 • Explain Common etiological agents & Risk factors of UTI • Discuss clinical features and complications c3 • Discuss treatment plan of management C3	LGIS	MCQS, SEQS

Learning Objectives Of Nephrology (LGIS)

S No	Topic	Content outline & subtopics	Learning objectives with learning domain	Teaching strategy	Assessment strategy
1	Glomerulonephritis	Pathological mechanism different types & treatment plan	• Understand etiological agents/pathological mechanism behind Glomerulonephritis C2 • Classify different types of Glomerulonephritis. C2 • Individualize treatment plan according to types of GN. C3 • Understand the role of renal biopsy in GN. C3	LGIS	MCQS, SEQS
2	Nephrotic syndrome	Etiology, clinical features& management plan	• Know etiology of nephrotic syndrome. C2 • Describe clinical features of nephrotic syndrome C2 • laboratory workup of nephrotic syndrome C3 • Explain management plan of nephrotic syndrome.C3	LGIS	MCQS, SEQS
3	Acute renal failure	Clinical features Laboratory workup& management of AKD	• Recall causes of acute renal failure.C2 • Describe clinical features of acute and chronic renal failure C3 • Enlist Laboratory workup & renal imaging in chronic kidney disease. C3 • Explain Complications of CKD and management OF CKD (Both Pharmacological & Non-pharmacological). C3	LGIS	MCQS, SEQS
4	Chronic renal failure	Clinical features Laboratory workup& management of CKD	• Recall causes of chronic renal failure. C2 • Describe clinical features of acute and chronic renal failure C2 • Enlist Laboratory workup & renal imaging in chronic kidney disease. C3 • Explain Complications of CKD and management OF CKD (Both Pharmacological & Non-pharmacological). C3	LGIS	MCQS, SEQS
5	Interstitial nephritis	Clinical features& management plan of interstitial nephritis	• Describe clinical presentation of patient with interstitial nephritis. C3 • Enlist laboratory work up and imaging modalities used for diagnosis of interstitial nephritis C3 • Explain management plan of interstitial nephritis. C3 • Identify etiology of interstitial nephritis.C2	LGIS	MCQS, SEQS
6	Urinary Tract Infection	Clinical features& management plan of UTI	• Know common microbes causing UTI, according to various age groups. C2 • Identify symptoms and physical findings in UTI. C3 • Differentiate between uncomplicated and complicated UTI. C2 • Enlist laboratory workup required in UTI and describe pharmacological treatment plan. C3	LGIS	MCQS, SEQS

Learning Objectives of Peadiatrics (LGIS)

S.No	Topic	Content outline & subtopics	Learning objectives with learning domain	Teaching strategy	Assessment strategy
1.	**Nephrotic syndrome**	Clinical presentation investigations, complications & management plan of Nephrotic syndrome	• Define Nephrotic Syndrome C2 • Discuss clinical presentation C3 • Differentiate minimal change disease from atypical nephrotic syndrome C2 • Plan pertinent investigations, interpret and take appropriate action C3 • Assess complications C3 • Manage disease and its complications C3	LGIS	MCQS, SEQS
2.	**Renal failure**	Clinical presentation investigations, complications & management plan of renal failure	• Define Acute& chronic Renal Failure c2 • Enlist common causes at different ages C2 • Describe clinical presentation C3 • Plan pertinent investigations, interpret and take appropriate action C3 • Make differential diagnosis C3 • Assess Complications C3 • Manage disease and its complication C3	LGIS	MCQS, SEQS
3.	**Urinary Tract Infections**	Clinical presentation investigations, complications & management of UTI	• Define UTI c1 • Explain Common etiological agent &Risk factors of UTI C2 • Discuss clinical features and complications C3 • Discuss treatment plan of management C3 • Define acute glomerular nephritis C3 • Discuss clinical presentation C3 • Make differential diagnosis C3 • Plan pertinent investigations, interpret and t • ake appropriate action C3 • Assess complications C3 • Make plan of Management C3	LGIS	MCQS, SEQS

Learning objectives of Bioethics LGIS

Major topic	Sub topics	Los at the end of session students will be able to	Cognitive domains	Mode of assesment
Functions of ethical review board	Discussion will cover; • Ethics Review Committee (ERC) why is it needed, historical importance, composition and working (process of review) • Review of mock research proposals	• Conceptualize the need of ERC • Elaborate the composition and function of ERC • Review the mock research proposals from ethical perspective	C1 C2	MCQS SEQ
Ethical issues for renal transplant	Discussion will cover; Ethical issues for renal transplant	• Counsel the patient regarding renal transplant & its ethics	C2	MCQs

Learning objectives of Family medicine LGIS

Major topic	Sub topics	Los at the end of session students will be able to	Cognitive domains	Mode of assesment
Urology and family medicine	Benign prostatic hyperplasia, Hematuria	• Describe the clinical features, investigations and management of enlarged prostate in primary care settings • Explain the aetiology of painful and painless haematuria • Describe the red flags in patients with haematuria	C1 C2	MCQS SEQ

Breakdown Teaching Hours of all subjects

Disciplines	LGIS	SGD	CBL	SDL	Hours
Pharmacology	4	1	1	2	8
Pathology	4	4	1	4	13
Community Medicine	11	2	-	3	15
Surgery	11	-	-	-	-
Medicine	6	-	-	-	-
Paediatrics	3	-	-	-	-
Ethics	2	-	-	-	-
Total hours	**40**	**7**	**02**	**9**	**58**

Practical & Clerkship Hours

Disciplines	Practical hours	Disciplines	Clerkship hours
Pathology	x4 = 08 hrs	Medicine	x 16= 35 hrs
Community Medicine	x4 = 08 hrs	Sub Specialty	x 16 = 35 hrs

CNS & Psychiatry Module - II
Block -XIII

Introduction

CNS module provides integration of core concepts that underlie the foundation of basic sciences and their use in clinical medicine. This will eventually lead to developing critical thinking for integration and application of basic knowledge for clinical application.

Rationale: System based learning structure is adopted. The CNS module is designed to impart basic knowledge. This knowledge will serve as a base on which the student will construct further knowledge about the etiology, pathogenesis, prevention of diseases and the principles of their therapeutics and management.

Module outcomes:

Knowledge

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

- **Research**
- **Biomedical ethics**
- **Family medicine**
- **Artificial Intelligence Skills**
- **Skills**

Interpret and analyze various practical & practices of clinical sciences.

Attitude

Demonstrate a professional attitude. Team building spirit and good communication skills.

This module will run in 6 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 websites.

Module TORS

The framework is based on a 34-hour work week.

A total of 1200 hours per year is allocated for teaching, learning, and assessments.

- **Module Requirements:**
  - Each module has a minimum number of hours that must be fulfilled.
  - Institutions have the flexibility to use additional hours as they see fit for teaching and assessments.

- **Content and Learning Outcomes:**
  - The specified content and intended learning outcomes are mandatory and must be taught.
  - The final assessments will focus on these outcomes to ensure alignment.

- **Cognitive Engagement:**
  - While the content is set, institutions can encourage higher-level cognitive skills, promoting deeper understanding and critical thinking among students.

- **Assessment Standards:**
  - A Table of Specifications is provided for the first professional exam and must be used for internal assessments as well.
  - This promotes consistency in evaluating student learning across different assessments

CNS & Psychiatry Module Team

Module Name : CNS & Psychiatry Module
Duration of module : 07 Weeks
Coordinator : Dr.Mudassira Zahid
Co-cordinator : Dr Iqbal Haider
Reviewed by : Module Committee

Module Committee		
1	Vice Chancellor RMU	Prof. Dr. Muhammad Umar
2	Director DME	Prof. Dr. Rai Muhammad Asghar
3	Convener Curriculum	Prof. Dr. Naeem Akhter
4	Dean Basic Sciences	Prof. Dr. Ayesha Yousaf
5	Additional Director DME	Prof. Dr. Ifra Saeed
6	Chairperson Pharmacology & Implementation In charge 3rd year MBBS	
7	Chairperson Pathology	Prof. Dr. Mobina Dhodhy
8	Chairperson Community Medicine	Dr Khola Noreen
9	Focal Person Pharmacology	Dr Haseeba
10	Focal Person Pathology	Dr Ayesha
11	Focal Person Community Medicine	Dr. Afifa Kulsoom
12	Focal Person Medicine	Dr. Saima Ambreen
13	Focal Person Behavioral Sciences	Dr. Saadia Yasir
14	Focal Person Dermatology	Dr. Shawana Sharif
15	Focal Person Quran Translation Lectures	Mufti abdul Wahid
16	Chairperson Family Medicine	Dr Sadia
17	Focal Person Bioethics Department	Prof. Dr. Akram Randhawa
18	Focal Person Surgery	Dr Huma Sabir

Module Task Force Team		
1.	Coordinator	Dr. Mudassira Zahid (Associate Professor of Pathology)
2.	DME Focal Person	Dr. Maryum Batool
3.	Co-coordinator	Dr. Shabih Haider

DME Implementation Team		
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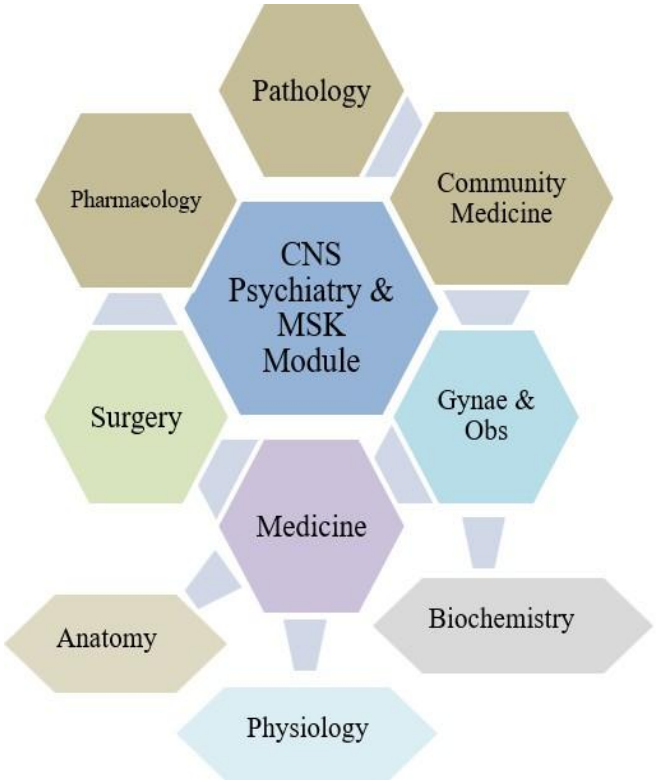
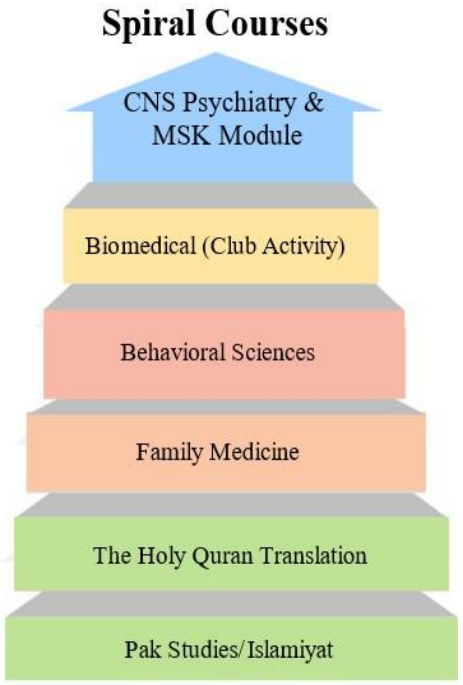
2.	Module planner & Implementation coordinator	Dr. Omaima Asif
3.	Editor	Dr. Omaima Asif

MBBS YEAR IV
Block – XIII
Module - II
CNS & Psychiatry Module
Duration – 6 weeks

Integration of disciplines in CNS & Psychiatry Module





Discipline Wise Details of Modular Contents

Subjects	Outcomes
	At the end of the module the student will have the understanding of :
Community Medicine	• Mental health • Ergonomics • Social sciences • Mental health & behavioral sciences
Pharmacology	• Central Neurotransmission • Anti –Parkinsonism • Sedative Hypnotics • Skeletal Muscle Relaxants • Local Anesthetics • General Anesthetics • Anti-seizures • Drugs used in Migraine • Anti-depressants • Anti-psychotics • Mood stabilizers • Anti-Rheumatics • Drugs used in Gout • Opioid analgesics • NSAIDs • Alcohol Drug of abuse
Pathology	• Etiology pathogenesis, morphological changes, laboratory diagnosis of various diseases affecting the brain • Etiology pathogenesis, morphological changes, laboratory diagnosis of various diseases affecting the peripheral nervous system • Etiology pathogenesis, morphological changes, laboratory diagnosis of various diseases affecting the joints • Etiology pathogenesis, morphological changes, laboratory diagnosis of various diseases affecting the bones • Etiology pathogenesis, morphological changes, laboratory diagnosis of various diseases affecting the skeletal muscles • Etiology pathogenesis, morphological changes, laboratory diagnosis of various diseases affecting the skin

Medicine	• Acute CNS infection (pyogenic Meningitis/encephalitis) • Tuberculous meningitis • Stroke • Movement disorders • Osteoarthritis • Overview of Rheumatological disorders
Psychiatry	• Anxiety and Stress • Depressive disorder • Psychosis • Bipolar Affective Disorder (BAD)
Neurosurgery	• Surgical Intervention of Head Injury • Surgical Intervention of Brain Tumours • Surgical Interventions of Cerebrovascular malformation • Surgical Intervention of CNS Infections
Orthopedics	• Classification, clinical presentation, differential diagnosis and management options of Bone infection and fractures • Classification, clinical presentation, differential diagnosis and management options of Bone tumors
Pediatrics	• Classification, clinical presentation, differential diagnosis and management options of Cerebral Palsy • Classification, clinical presentation, differential diagnosis and management options of Meningitis • Classification, clinical presentation, differential diagnosis and management options of GBS • Classification, clinical presentation, differential diagnosis and management options of Epilepsy
Dermatology	• Core concepts of cutaneous dermatosis
The Holy Quran Translation	**Translation**
Family Medicine	• Core concepts of family medicine in mental health long term debilitating diseases

Contents of the Module

- **Horizontally Integrated Basic Sciences (Physiology, Pharmacology, Pathology & Community Medicine)**
- **Large Group Interactive Session (LGIS):**
  - Pathology
  - Community Medicine
  - Pharmacology
  - Medicine
  - Surgery
  - Dermatology
  - Psychitary
- **Small Group Discussions (SGD)**
  - Pathology
  - Community Medicine
  - Pharmacology
- **Self -Directed Topic Learning Objectives & References (SDL)**
  - Pathology
  - Community Medicine
  - Pharmacology
- **PAL Community Medicine**
- **Skill Lab**
  - Pathology
  - Pharmacology
- **CBL**
  - Pathology
  - Pharmacology
- **Wards, operation theatres**
  - Surgery
  - Medicine
  - Gayne/Obe

Horizontally Integrated Basic Sciences

S No	Subjects
1	Community medicine (LGIS+SGD +SDL)
2	Pathology (LGIS+SGD+SDL,CBL)
3	Pharmacology (LGIS+SGD+SDL,CBL)

Learning Objectives

Content of Community Medicine
Learning Objectives of Large Group Interactive Sessions (LGIS)

Topics	Contents outlines (major topics & sub- topics)	Learning objectives After the session students will be able to:	Learning domain	Teaching strategy	Assessment tool
Mental Health	Components of Mental Health Etiological factors Preventive aspect of mental health	• Understand the components of mental health • Understand the etiological factors responsible for mental health • Comprehend the preventive aspect of mental health	C2 C2 C2	LGIS	MCQs, SEQs
Occupational Health	Ergonomics	• Define Occupational Health. • Enlist Occupational Hazards encountered in various occupations. • Elaborate the concept and significance of Ergonomics.	C1 C1 C2	LGIS	MCQs, SEQs
Pneumoconiosis	Silicosis Asbestosis Anthracosis Byssinosis	• Define Pneumoconiosis. • Enumerate important diseases grouped under pneumoconiosis. • Describe the occupations and common features of silicosis. • Describe the occupations and common features of anthracosis. • Describe the occupations and common features of byssinosis.	C1 C1 C2 C2 C2	LGIS	MCQs, SEQs
Dynamics of Social Sciences	Social Sciences Family Society Culture	• Define social sciences • Identify branches of social science • Define families and its types • Define Society and its types • Briefly describe culture and its components	C1 C2 C1 C1 C2	LGIS	MCQs, SEQs
Medical Anthropology	Medical anthropology and its branches Anthropological methods Research & anthropological techniques	• Describe medical anthropology and its branches • Appreciate anthropological methods • Explain Research and anthropological techniques • Briefly describe human ecology	C2 C2 C2 C2	LGIS	MCQs, SEQs

Topics	Contents outlines (major topics & sub- topics)	Learning objectives After the session students will be able to:	Learning domain	Teaching strategy	Assessment tool
	Human ecology				
Health problems due to industrialization	Lead Poisoning Sickness absenteeism Accidents in industry Health problems due to industrialization	• Explain the common features, occupations and diagnostic investigations of lead poisoning • Illustrate common causes and prevention of Sickness absenteeism. • Describe industrialization and its causes and impact on health of massive • Enlist common hazards occurring in agricultural workers. • Describe functions of occupational health service.	C2 C3 C2 C1 C2	LGIS	MCQs, SEQs
Measures of health protection of workers and prevention of occupational diseases	Measures of health protection of workers Medical measures Engineering measures Legislation	• Describe measures of health protection of workers • Discuss various aspects of prevention of occupational diseases	C2 C2	LGIS	MCQs, SEQs
Concept of Behavioral sciences & mental health	Behavioral Science & Mental Health	• Describe behavior and its dynamics • Elaborate various human needs • Define attitude and its components • Recognize learning and its types • Differentiate between behavioral medicine & behavioral sciences • Illustrate habits • Discuss the types of personality and IQ	C2 C3 C1 C2 C2 C3 C2	LGIS	MCQs, SEQs
Types of Learning	Conditions affecting learning Types of learning	• Recognize learning and its types • Discuss the types of personality • Describe IQ and its ranges • Briefly discuss factors affecting IQ	C2 C2 C2 C2	LGIS	MCQs, SEQs
Leadership in Health	Leadership and leadership in health Styles of leadership Levels of leadership Attributes of a leader	• Explain Leadership and leadership in health • Discuss Styles of leadership • Enlist Levels of leadership • Enlist Attributes of a leader	C2 C2 C1 C1	LGIS	MCQs

Topics	Contents outlines (major topics & sub- topics)	Learning objectives After the session students will be able to:	Learning domain	Teaching strategy	Assessment tool
	Leadership and community development Role of public health professional in community development WHO leadership development initiative	• Briefly describe Leadership and community development • Discuss Role of public health professional in community development • Explain WHO leadership development initiative	C2 C2 C2		
Ethics of Medical Profession	Nuremberg Code Declaration of Geneva The Helsinki Declaration Oath of Medical and Dental Practitioners by PMDC International code of medical ethics	• Define and comprehend the rationale of medical ethics. • Recognize the principle of medical ethics • Knowledge of different codes of medical ethics • Appreciate the principles of research ethics	C1 C2 C2 C3	LGIS	MCQs, SEQs
Biomedical ethics	Equity and cultural diversity The Islamic perspective Ethics and research Ethics in the curriculum and beyond	• Define Equity and cultural diversity • Discuss the Islamic perspective • Explain Ethics and research • Briefly discuss Ethics in the curriculum and beyond	C1 C2 C2 C2	LGIS	MCQs, SEQs

Community Medicine Small Group Discussion SGD

Contents outlines (major topics & sub- topics)	Learning objectives	Learning domain	Teaching strategy	Assessment tool
Behavioral Sciences & Life Style	• Understand behaviour • Identify types of emotions • Identify and analyze the various ways in which emotions are expressed and communicated. • Evaluate roles of emotions in health and disease • Elaborate control of emotions • Define motivation and incentives.	C2 C2 C2 C3 C3 C1	SGD	MCQs, SEQs
Drug abuse	• Define Drug Abuse • Discuss over the counter medication use and its side effects • Discuss Dependence producing drugs • Discuss Environmental and host factors responsible for drug abuse • Enlist Symptoms of drug abuse • Describe Prevention and rehabilitation strategies for drug addicts	C1 C2 C2 C2 C1 C2	SGD	MCQs, SEQs
Alcohol and Alcoholism	• Define Alcohol use by levels of harms • Classification of Alcohol consumption • Define Alcohol abuse • Discuss Alcoholism or Alcohol dependence • Briefly describe causes of Alcoholism • Discuss Prevention of Alcohol abuse	C1 C2 C1 C2 C2 C2	SGD	MCQs, SEQs
Tobacco and Health	• Briefly describe chemical constituents and habits related to tobacco • Discuss Health effects of Tobacco • Briefly discuss passive smoking • Discuss Tobacco control measures • Explain WHO tobacco free initiative	C2 C2 C2 C2 C2	SGD	MCQs, SEQs

Self-Directed Learning (SDL) Community Medicine

Major topic	Contents outlines / sub-topics	Learning objectives. Students will be able to …	Learning resource	Assessment tool -mcqs (tos)	Mode of assessment
Week 1					
Dynamics of human behavior (Human psychology)	Intro to selected important relevant concepts of psychology relevant to community medicine	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)	5 MCQ	LMS 1
Week 2					
Concepts of sociology relevant to community medicine	Intro to selected important relevant concepts of sociology relevant to epidemiology & medical research	Students should be able to: • Comprehend definitions of, Society, community, social structure & institution, social control mechanisms, • Comprehend customs, culture, social problems, social pathology, case study & field study.	K Park Ed. 27th (670-73)	5 MCQs	LMS 2
Week 3					
Mental Health Ethics	Ethical and legal issues related to mentally ill patient	Students should be able to: • 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)	5 MCQs	LMS 3

Week 4					
Measures of health protection of workers and prevention of occupational diseases	Measures of health protection of workers Medical measures Engineering measures Legislation	Students should be able to: • Describe measures of health protection of workers • Discuss various aspects of prevention of occupational diseases	K Park , Chapter Occupational Health(756-760)	5MCQs	LMS 4
Week 5					
Community Psychiatry	Team in community Psychiatry Community mental health center functions Subtypes of Community Psychiatry	Students should be able to: • Describe Operation of 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	K Park, Chapter Community Mental Health (678-684)	5MCQs	LMS 5
Week 6					
Alcohol related problems		Students should be able to: • Discuss socio-economic factors related to alcoholism • What are special vulnerability situations in alcoholism • Enlist major alcohol related problems	K Park, Chapter Mental Health(772-777)	5MCQs	LMS 6

Content of Pathology
Learning Objectives of Pathology (LGIS)

Topic	Subtopics	Learning objectives After the session students will be able to:	Learning domain	Assessment
Infectious diseases of CNS	• Pathophysiology of bacterial meningitis • Pathophysiology of viral meningitis • Pathophysiology of tuberculous meningitis • Lab diagnosis of meningitis	• The students should be able to • Classify the etiological organisms on the basis of type of meningitis and age group affected • Describe the pathogenesis and morphological characteristics of bacterial viral and tuberculous meningitis • Describe the lab diagnosis of meningitis	C2 C3 C3	MCQs, SEQs, OSPE Viva
Diseases of myelin and neurodegenerative diseases	• Demyelinating diseases • Neurodegenerative diseases • Alzheimer disease, Parkinson's disease	• The students should be able to • compare and differentiate between Demyelinating • Neurodegenerative • Alzheimer Parkinson's disease • describe pathophysiology and morphology of each disease.	C3 C2	MCQs, SEQs, OSPE Viva
Tumors of CNS	• Gliomas • Neuronal and Glioneuronal Tumors • Primary CNS Lymphoma • Meningiomas • Metastatic Tumors	• Students should be able to • classify tumors of brain • correlate the morphological features of brain tumors with clinical presentation • correlate the WHO grade of astrocytomas with morphological features • enlist the investigations for diagnosing brain tumors	C2 C3 C2 C2	MCQs, SEQs, OSPE Viva
Tumors of Skin	• Benign Epithelial Tumors • Premalignant skin lesions • Malignant • Epidermal Tumors • Tumors of dermis	• Describe the morphology of Benign Epithelial Tumors of skin • enlist the etiological factors for skin tumors • describe the pathogenesis of skin tumors • describe the morphology of malignant epidermal and dermal tumors	C2 C1 C3 C3	MCQs, SEQs, OSPE Viva
Dermatosis & Infections of Skin	• Acute Inflammatory • Dermatoses • Chronic Inflammatory • Dermatoses • Blistering (Bullous) Diseases • Infection	• Classify dermatosis • Describe the pathogenesis and morphology of acute inflammatory dermatoses • Describe the pathogenesis and morphology of chronic inflammatory dermatoses • Describe the pathogenesis and morphology of Blistering (Bullous) diseases • Describe the skin lesions due to viral and bacterial skin infections	C1 C2 C3 C3 C2	MCQs, SEQs, OSPE Viva

Topic	Subtopics	Learning objectives After the session students will be able to:	Learning domain	Assessment
Diseases of skeletal muscles and myopathies	• Skeletal Muscle Atrophy • Neurogenic and Myopathic Changes in Skeletal Muscle • Inflammatory Myopathies • Toxic Myopathies	• Describe the mechanisms of Skeletal Muscle Atrophy • And Neurogenic and Myopathic Changes in Skeletal Muscle • Describe the pathophysiology of Inflammatory Myopathies • Describe the pathophysiology of • Toxic Myopathies	C3 C2 C2	MCQs, SEQs, OSPE Viva
Metabolic diseases of bone	• Osteopenia and Osteoporosis • Osteomalacia and Rickets • Hyperparathyroidism • Renal Osteodystrophy • Paget Disease	• Describe the pathogenesis and morphological features of Osteopenia and Osteoporosis • Describe the pathogenesis and morphological features of Hyperparathyroidism • Renal Osteodystrophy • Describe the pathogenesis and morphological features of Paget Disease	C2 C3 C3	MCQs, SEQs, OSPE Viva
Bone Tumors And Tumor-Like Lesions	• Bone-Forming Tumors • Cartilage-Forming Tumors • Tumors of Unknown histogenesis	• Classify bone tumors • Enlist bone tumors arising from metaphysis , diaphysis and epiphysis • Describe the morphology of bone forming tumors • Describe the morphology of cartilage forming tumors • Describe the morphology of Ewing's sarcoma and giant cell tumor of bone	C1 C1 C3 C3 C3	MCQs, SEQs, OSPE Viva
Neuropathies, neuromuscular junction disorders	• Inflammatory Neuropathies • Infectious Neuropathies • Metabolic Neuropathies • Toxic Neuropathies • Diseases of the Neuromuscular • Junction	• Differentiate between the presentation of different types of neuropathies • Describe the pathophysiology and mechanisms of injury in different types of neuropathies • Describe the pathophysiology of Diseases of the Neuromuscular • Junction	C3 C2 C3 C3	MCQs, SEQs, OSPE Viva
Inflammatory And Degenerative Diseases Of The Joint	• Osteoarthritis • Rheumatoid Arthritis • Juvenile Idiopathic Arthritis • Seronegative Spondyloarthropathies • Crystal-Induced Arthritis	• Describe the pathogenesis of different types of arthritis • Differentiate between osteoarthritis and rheumatoid arthritis describe the morphological changes occurring in various types of arthritis • Correlate the x ray findings with morphological findings. • Describe the lab diagnosis for arthritis	C2 C3 C3 C2 C3	MCQs, SEQs, OSPE Viva

Pathology Small Group Discussion (SGD)

Demonstration	Contents outlines (major topics & sub- topics)	Learning objectives	Learning domain	Assessment tool
Patterns of injury in nervous system physical traumatic head injury	• Skull Fractures • Concussion • Parenchymal Injuries • Epidural Hematoma • Subdural Hematoma • Intracranial Hemorrhage	Students should be able to • Differentiate the pathophysiological patterns of different types of traumatic brain injuries • Differentiate between various hematomas in the brain and their pathogenesis • Describe the pathophysiology of concussion • Describe the effects of diffuse axonal injury and parenchymal injury	C2 C3 C2 C2	MCQs, SEQs, OSPE Viva

Pathology Case Base Learning (CBL)

Demonstration	Contents outlines (major topics & sub-topics)	Learning objectives	Learning domain	Assessment tool
Bone Infections And Fractures	• Healing of Fractures • Osteonecrosis • Osteomyelitis	Students should be able to • Describe the patterns and mechanisms involved in fracture healing and its complications • Describe the mechanisms and morphology of osteonecrosis • Elist etiology of osteomyelitis • Differentiate between pathophysiology and morphology of Pyogenic Osteomyelitis • Mycobacterial Osteomyelitis and • Skeletal Syphilis	C2 C2 C3 C3 C2	MCQs, SEQs, OSPE Viva
Arthritis	• OSTEOARTHRITIS • RHEUMATOID ARTHRITIS	• Correlate the clinical presentation with the pathophysiology of various joint diseases • Counsel a patient with arthritis regarding life style modification and prevention	C3 C3	MCQs, SEQs, OSPE Viva
Soft tissue tumors and tumor-like lesions	• Fibrous Tumors • Rhabdomyosarcoma • Smooth Muscle Tumors	• Describe the morphological patterns in soft tissue tumors • Describe the grading of soft tissue tumors • Differentiate between the morphology of various soft tissue tumors	C2 C2 C2	MCQs, SEQs, OSPE Viva
Tumors of Adipose Tissue	• Tumors of Adipose Tissue • Tumors of Uncertain Origin	• Describe the morphological patterns in lipoma and liposarcoma • Describe the grading of soft tissue tumors • Differentiate between the morphology of lipoma with liposarcoma	C2 C2 C2	MCQs, SEQs, OSPE Viva

Pathology Self-Directed Learning (SDL)

Sr. No.	Topic	Learning outcomes At the end of session students will be able to:	Reference
01	**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
02	**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
03	**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
04	**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
05	**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
06	**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; 1203-1204

Pathology Skill Lab (Skill)

Topic	Learning objectives	Learning domain	Teaching strategies	Assessment tools
Brain tumors and CNS infections	• Identify the morphology of various brain tumors • Demonstrate the collection and transport of CSF for routine analysis • Interpret report of CSF analysis	C2 C2 C2 P3	PRACTICAL	OSPE
Skin tumors	• Identify the morphology of various skin tumors	C1 C2 P3	PRACTICAL	OSPE
Tumors of bones	• Identify the morphology of bone tumors • Demonstrate the collection and transport of synovial fluid for routine analysis • Interpret report of synovial fluid analysis	C2 C2 C2 P3	PRACTICAL	OSPE
Soft tissue tumors	• Identify the morphology of various soft tissue tumors	C2 C2 P2	PRACTICAL	OSPE

Pharmacology Content
Learning Objectives Of Pharmacology LGIS

Topic	Learning objectives	Learning domains	Teaching strategy	Assessment tool
Central Neurotransmission	• Discuss the role of different neurotransmitters and their pharmacological importance	C2	LGIS	SEQ MCQ VIVA
Anti –Parkinsonism I	• Classify the drugs for the treatment of parkinsonism • Discuss important pharmacokinetic features	C1 C2	LGIS	SEQ MCQ VIVA
Anti –Parkinsonism II	• Discuss Pharmacodynamics of anti-Parkinsonism • Discuss adverse effects, drug interaction & Clinical uses	C2 C2	LGIS	SEQ MCQ VIVA
Sedative Hypnotics I	• Classify the drugs used as sedatives & Hypnotics • Discuss important pharmacokinetic features	C1 C2	LGIS	SEQ MCQ VIVA
Sedative Hypnotics II	• Discuss Pharmacodynamics of Sedatives& Hypnotics • Discuss adverse effects, drug interaction & Clinical uses	C2 C2	LGIS	SEQ MCQ VIVA
Skeletal Muscle Relaxants I	• Classify Skeletal Muscle Relaxants • Discuss important pharmacokinetic features	C1 C2	LGIS	SEQ MCQ VIVA
Skeletal Muscle Relaxants II	• Discuss Pharmacodynamics • Discuss adverse effects, drug interaction & Clinical uses	C1 C2	LGIS	SEQ MCQ VIVA
Local Anesthetics I	• Classify Local anesthetics • Discuss important pharmacokinetic features	C1 C2	LGIS	SEQ MCQ VIVA
Local Anesthetics II	• Discuss Pharmacodynamics • Discuss adverse effects, drug interaction & Clinical uses	C2 C2	LGIS	SEQ MCQ VIVA
General Anesthetics I **Inhalational Anesthetics**	• Classification of general anesthetic agents • Balanced anesthesia & MAC	C1 C2	LGIS	SEQ MCQ VIVA
General Anesthetics II **Inhalational Anesthetics**	• Discuss important pharmacokinetic features • Discuss Nitrous oxide, Diffusional Hypoxia & Second gas effects	C2 C3	LGIS	SEQ MCQ VIVA

Topic	Learning objectives	Learning domains	Teaching strategy	Assessment tool
General Anesthetics III Intravenous Anesthetics	• Discuss Pharmacokinetic & Pharmacodynamics of IV anesthetics. • Discuss adverse effects & drug interactions • Discuss anesthetic agents used in ICU with important Pharmacological features	C2 C2 C2	LGIS	SEQ MCQ VIVA
Anti-seizures I	• Classify the drugs for the seizures • Discuss important pharmacokinetic features •	C1 C2	LGIS	SEQ MCQ VIVA
Anti-seizures II	• Discuss Pharmacodynamics of anti-seizures • Discuss adverse effects, drug interaction & Clinical uses	C2 C2	LGIS	SEQ MCQ VIVA
Drugs used in Migraine	• Classify anti migraine drugs • Explain MOA of each group • Describe the other therapeutic uses of each group • Describe the adverse effects of each group	C1 C2 C2 C2	LGIS	SEQ MCQ VIVA
Anti-depressants I	• Classify the drugs for the treatment of depression • Discuss important pharmacokinetic features	C1 C2	LGIS	SEQ MCQ VIVA
Anti-depressants II	• Discuss Pharmacodynamics of anti-depressive agents • Discuss adverse effects, drug interaction • Discuss rationale of use of anti-depressive agents in • Other disorders	C2 C2 C2	LGIS	SEQ MCQ VIVA
Anti-psychotics I	• Classify the drugs for the treatment of psychosis • Differentiate between typical & atypical antipsychotics	C1 C3	LGIS	SEQ MCQ VIVA
Anti-psychotics II	• Discuss important pharmacokinetic features • Discuss Pharmacodynamics of anti-Parkinsonism • Discuss adverse effects, drug interaction & Clinical uses	C2 C2 C2	LGIS	SEQ MCQ VIVA
Mood stabilizers	• Enumerate Mood Stabilizers • Describe the mechanism of action of Lithium • Describe the Uses of Lithium • Describe the adverse effects of Lithium	C1 C2 C2 C2	LGIS	SEQ MCQ VIVA
Anti-Rheumatics	• Enlist DMARDs • Describe the mechanism of action & rationale of use of important DMARDs	C1 C2	LGIS	SEQ MCQ VIVA

Topic	Learning objectives	Learning domains	Teaching strategy	Assessment tool
Drugs used in Gout	• Classify Drugs used in the treatment of Gout • Describe the role of Corticosteroids in the treatment • Describe the role of NSAIDs in the treatment of Gout	C2 C2 C2	LGIS	SEQ MCQ VIVA
Opioid analgesics I	• Enumerate Opioid analgesics • Discuss Pain theory	C1 C2	LGIS	SEQ MCQ VIVA
Opioid analgesics II	• Discuss Pharmacokinetics & Pharmacodynamics • Discuss adverse effects, drug interaction	C2 C2	LGIS	SEQ MCQ VIVA
Opioid analgesics III	• Discuss clinical uses • Discuss Opioid antagonists	C2 C2	LGIS	SEQ MCQ VIVA
NSAIDs I	• Classify NSAIDs • Describe the mechanism of action of NSAIDs • Describe the actions of Aspirin • Discuss the Shared Toxicities of NSAIDs • Discuss the adverse effects of Aspirin	C1 C2 C2 C2 C2	LGIS	SEQ MCQ VIVA
NSAIDs II	• Differentiate between Non-Selective COX Inhibitors and Selective COX-2 Inhibitors	C3	LGIS	SEQ MCQ VIVA
Alcohol & Drug of abuse	• Describe the metabolism of Alcohol • Describe Adverse Effects of Alcohol • Describe pharmacological treatment of acute alcohol intoxication, alcohol withdrawal syndrome and alcoholism • Discuss different drugs of abuse with important pharmacological features	C2 C2 C2	LGIS	SEQ MCQ VIVA

Pharmacology CBL

Topic	Learning objectives	Learning domain	Assessment tools
Case Scenario Parkinsonism	• Apply relevant knowledge to the clinical case	C3	SEQ MCQ PBQ
Case scenario of sedatives & Hypnotics	• Apply relevant knowledge to the clinical case	C3	SEQ MCQ PBQ
Case scenario on Grand mal Epilepsy	• Apply relevant knowledge to the clinical case	C3	SEQ MCQ PBQ
Case scenario on Depression	• Apply relevant knowledge to the clinical case	C3	SEQ MCQ PBQ
Case scenario on Schizophrenia	• Apply relevant knowledge to the clinical case	C3	SEQ MCQ PBQ
Case scenario on Nicotine & Opioid poisoning	• Clinical Pharmacology of drugs used in nicotine and opioid poisoning	C3	PBQ

Self-Directed Learning (SDL) Pharmacology

Sr. No.	Topic	Learning objectives	Reference
1.	**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.
2.	**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 • 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.	**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.
4.	**Fetal outcomes of AED use during pregnancy**	• Identify different effects of antiepileptic drug on fetus taken during pregnancy • Recognize anti-epileptic drugs considered relatively safe in pregnancy	• Nie Q, Su B, Wei J. Neurological teratogenic effects of antiepileptic drugs during pregnancy. Experimental and therapeutic medicine. 2016 Oct 1;12(4):2400-4. • 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.
5.	**Cognitive enhancers**	• Define cognitive enhancers • Describe the mechanism of action of cognitive enhancers • Identify the clinical utility of different cognitive enhancers	• Malík M, Tlustoš P. 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.

Pharmacology Practical Skill Laboratory (SKL)

Topic	Teaching strategies	Assessment tools	Facilitators
Reflex time	PRACTICAL	OSPE	Dr. Zaheer Dr. saba Dr. zoefishan Dr. arsheen
CNS Depressants	PRACTICAL	OSPE	Dr. zoefishan Dr. aisha Dr. uzma Dr. arsheen
CNS Stimulants	PRACTICAL	OSPE	Dr. saba Dr. Zaheer Dr. memuna Dr. aisha
Reflex time and copy checking	PRACTICAL	OSPE	Dr. aisha Dr. memuna Dr. uzma Dr. arsheen

Clinical Sciences (Vertical Integration)

Vertical Integration LGIS

- Surgery (Neurosurgery, Orthopedics)
- Medicine
- Pediatrics
- Psychiatry
- Anesthesia
- Dermatology

Learning objectives Vertically integrated subjects

Learning Objectives of Surgery (LGIS)

Topic	Learning objectives	Learning domain	Teaching strategy	Assessment tool
Surgical Intervention of Head Injury	• Describe Pathophysiology involved in Head Injury • Classify different types of Head Injuries • Summarize the management plan for Head Injury Patients	C1,C2	LGIS	MCQS
Surgical Intervention of Brain Tumours	• Describe signs & symptoms of brain tumors • Classify the types of brain tumors • Enlist the common diagnostic modalities of brain tumors • Summarize the management options including surgery	C2,C3	LGIS	MCQS
Surgical Interventions of Cerebrovascular malformation	• Recall anaotmy of Cerebrovasuclar malformation • Classify different types of CV malformations • Compare different investigation modalities • Select appropriate surgical treatment plan • Counsel patient/attendent for post-op care and followup	C1,2,3 A	LGIS	MCQS
Surgical Intervention of CNS Infections	• Enlist different types of CNS infections • Identify different signs symptoms of CNS infections • Compare different investigation modalities • Select appropriate surgical treatment plan • Counsel patient/attendent for post-op care and followup	C2.C3 A	LGIS	MCQS

Learning Objectives of Orthopedics (LGIS)

Topic	Learning objectives	Learning domain	Teaching strategy	Assessment tool
Bone infection and fractures lms tumors	At the end of session students will be able to understand; • Introduction • WHO classification • Radiographic assessment • Clinical presentation • Clinical examination • Benign bone tumors – Age distribution • Bone scan, CT, MRI • Surgical staging • Osteoid osteoma • Osteoblastoma • Osteochondroma • Enchondroma • Chondroblastoma • Unicameral bone cyst • Aneurysmal bone cyst • Giant cell tumor • Malignant tumors of Bone • Osteosarcoma • Ewing Sarcoma • Chondrosarcoma	C2 C3	LGIS	MCQS

Learning Objectives of Medicine (LGIS)

Topic	Learning objectives	Learning domain	Teaching strategy	Assessment tool
Acute CNS infection (pyogenic Meningitis/encephalitis)	• Identify the pathological features of acute CNS infections • Differentiate between viral and bacterial CNS infections on the basis of • Clinical presentation and investigations • Interpret CSF examination report to formulate a diagnosis of CNS infections • Formulate a management plan for patients presenting with CNS infections	Cognitive	LGIS	MCQs
Tuberculous meningitis	• Identify clinical presentation and clinical signs of patients presenting with tuberculous meningitis. • Interpret CSF examination findings and neuroimaging to formulate a diagnosis of tuberculous meningitis.	Cognitive	LGIS	MCQs
Stroke	• Identify clinical presentation physical examination findings in a patient with stroke. • Describe risk factors and etiology of stroke • Differentiate between different types of stroke • Formulate a management plan for patients presenting with stroke. • Effectively counsel a patient presenting with stroke	Cognitive	LGIS	MCQs
Movement disorders	• Identify different clinical presentation of patients presenting with movement disorders • Identify medications used in management of movement disorders • Discuss the clinical variants of Parkinson's disease. • Identify the impact of movement disorders on quality of life if patient.	Cognitive	LGIS	MCQs
Osteoarthritis	• Correlate joint physiology with pathophysiology of osteoarthritis. • Formulate a differential diagnosis for patients with joint pains. • Identify clinical presentation of patients presenting with osteoarthritis • Formulate a management plan for patients presenting with osteoarthr	Cognitive	LGIS	MCQs
Overview of Rheumatological disorders	• Identify common presenting problems of various rheumatological disorders. • Differentiate between common rheumatological disorders based on their clinical presentations. • Formulate an investigation plan for diagnosis of patients presenting with rheumatologic disorders. • Formulate a management plan for patients with rheumatologic disorders.	Cognitive	LGIS	MCQs

Learning Objectives of Psychiatry (LGIS)

Topic	Learning objectives	Mot/mit
	Cognition	
Anxiety and Stress	• To be able to define anxiety and stress keeping in view ICD 11 criteria • To be able to discuss differential diagnosis and Prognosis of anxiety and stress • To be able to outline a management plan of anxiety and stress keeping in view etiological, psychopathological and epidemiological factors.	LGIS/Power point presentation
Depressive disorder	• Students should be able to define depression keeping in view ICD 11 criteria for depressive illness • To be able to discuss differential diagnosis and Prognosis of depressive patients • To be able to outline a management plan of a depressed patient keeping in view etiological, psychopathological and epidemiological factors. • To be able to identify the risk of self-harm / suicide in a depressed patients	LGIS/Power point presentation
Psychosis	• Be able to define Psychosis and describe how to recognize and diagnose psychotic condition. **(C1)** • To summarize epidemiology, diagnostic criteria, clinical features, course and complications of psychotic illness. **(C2)** • Recognize the common substances associated with psychosis. **(C2)** • Describe the pharmacological and psychosocial treatments of psychotic illnesses. **(C3)**	LGIS/Power point presentation
Bipolar Affective Disorder (BAD)	• Be able to define BAD according to ICD-11 diagnostic criteria. **(C1)** • Identify various presentations and natural history, onset, course and prognostic features of BAD. **(C2)** • Recognize the sign and symptoms of BAD and discuss its differential diagnosis with appropriate treatment plan. **(C3)**	LGIS/Power point presentation

Learning Objectives of Dermatology (LGIS)

Topic	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tool
An approach to a patient with Lichen planus	At the end of lecture, the student should be able to 1- Describe the risk factors of Lichen planus 2- Describe the types according to morphology 3- Explain the modification of Lichen planus by site 4- Describe the clinical features of Lichen planus 5- Know the treatment options of Lichen planus	C2 C3	LGIS/PPT PRESENTATION	MCQS

Learning Objectives of Pediatrics (LGIS)

Topic	Learning objectives	Learning domain	Assessment tool
Cerebral Palsy	• Define Cerebral palsy • Know etiology and classification • Describe different clinical presentation • Discuss the Differential diagnosis • Manage with multidisciplinary approach	C1 C2 C2 C2 C3	MCQs
Epilepsy	• Define epilepsy • Classification of epilepsy • Discuss differentials of epilepsy • Brief idea about epileptic syndromes • Discuss clinical features • Discuss plan of treatment • Counseling aspects of management	C1 C2 C2 C2 C3	MCQs
Polio/GBS	• Define AFP • Make differential diagnosis of AFP • Discuss various types and clinical features of poliomyelitis • Plan pertinent investigations, interpret and take appropriate action • Immediately notify the case	C1 C2 C2 C2 C3	MCQs
Bacterial meningitis	• Define meningitis • Enlist common etiological factors according to age • Describe pathogenesis and clinical features • Plan pertinent investigations, interpret and take appropriate action • Make differential diagnosis • Monitor for complications • Enlist steps of management plan	C1 C2 C2 C2 C3 C3 C1	MCQs
Muscular Dystrophy	• Define muscular dystrophy • Types of muscular dystrophy • Pathogenesis & clinical features • Make differential diagnosis • Plan investigations • Enlist steps of management of complications	C1 C2 C2 C2 C2 C3	MCQs

SECTION VIII

Clinical Clerkship

Rawalpindi Medical University
Rawalpindi

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	SEQ,
8	Perform procedures: IDL, wax removal	Mini CEX, OSCE
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

Patient Cases

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.

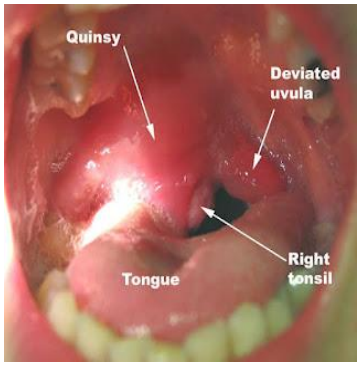
Examination:

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

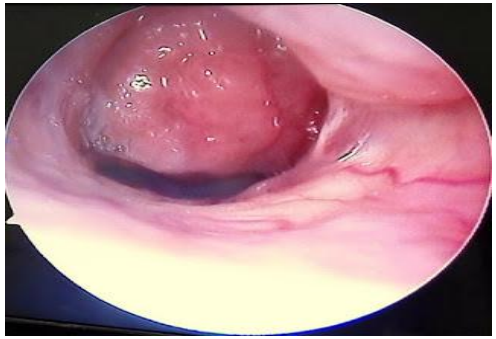
Scenario 3a

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

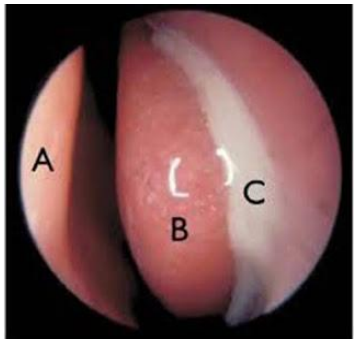
Scenario 4a

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

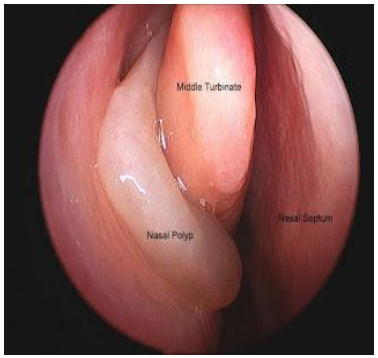
Objectives
- Formulate the differential diagnosis of nasal obstruction with and without nasal discharge based on history and examination
- Select and interpret appropriate investigations for diagnosis of nasal obstruction and discharge.
- Select appropriate treatment option (medical/surgical) for the 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:

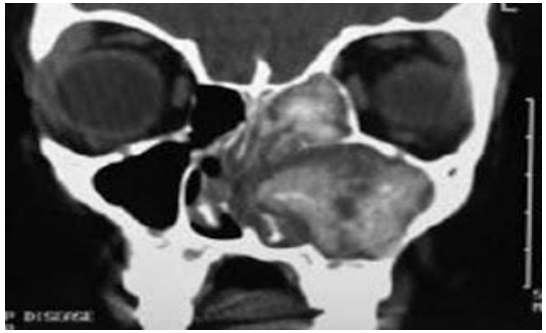
- Oral cavity is normal. Pharynx is congested and mucoid post nasal drip is seen on the posterior pharyngeal wall.
- IDL: showed normal vocal cords

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.

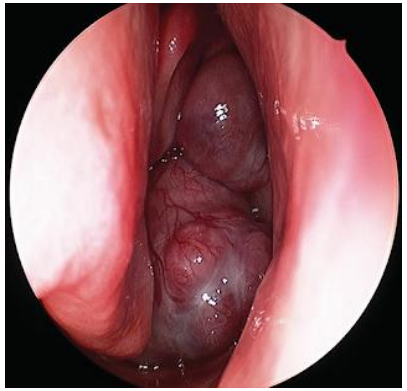
Background knowledge

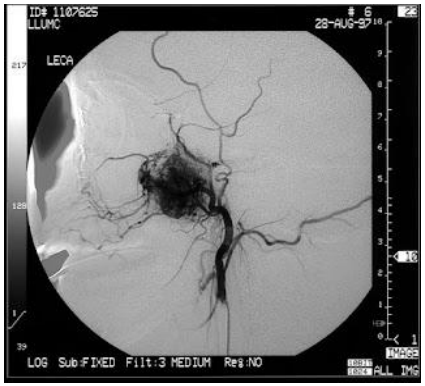
- Allergic rhinitis
- Vasomotor rhinitis

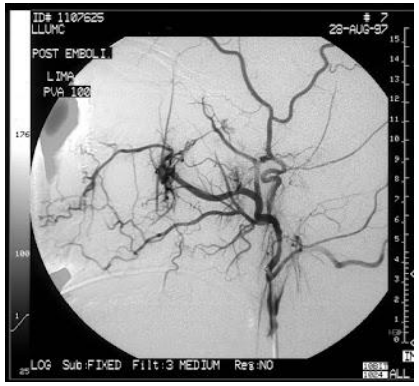
- Nasal polypi
- Foreign body nose, rhinolith
- Granulomatous diseases, including the fungal diseases of nose and paranasal sinuses

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

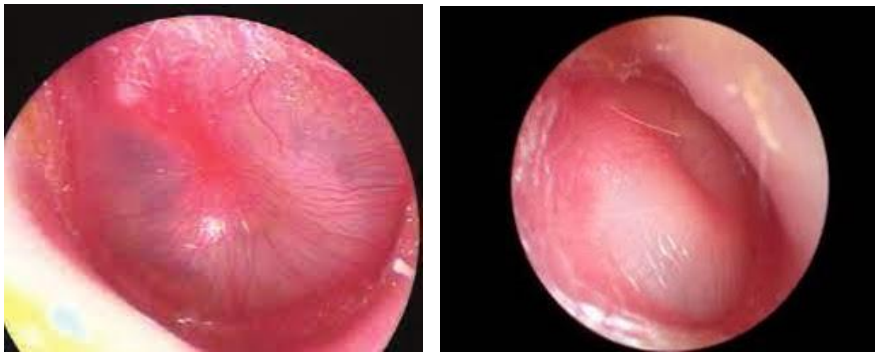
· Blood supply of nose Epistaxis

- 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.

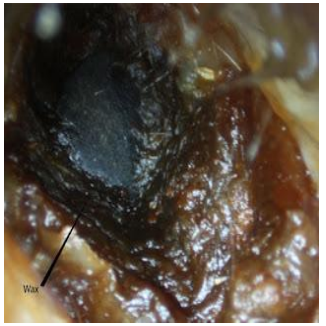
Examination

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

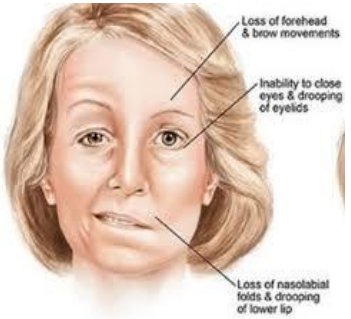
Objective

- 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:

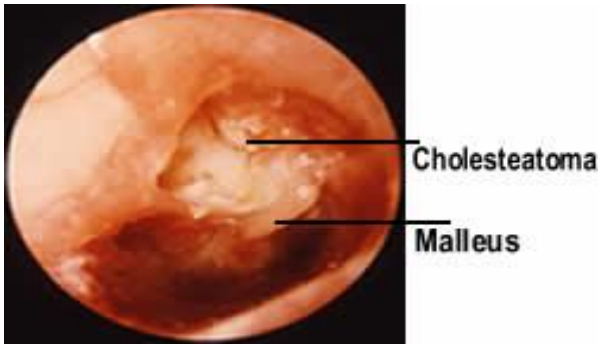
- Deflected nasal septum towards right side with left inferior turbinate hypertrophy and congested mucosa.

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:

A young female, well oriented and vitally stable.

Ear:

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

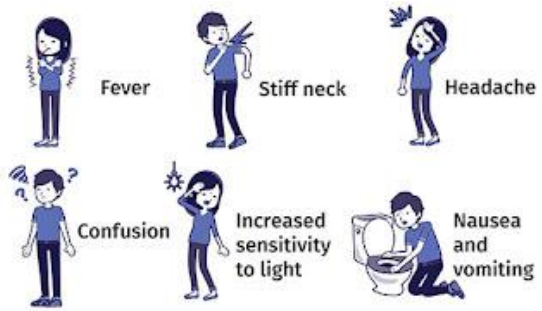
Background Knowledge:

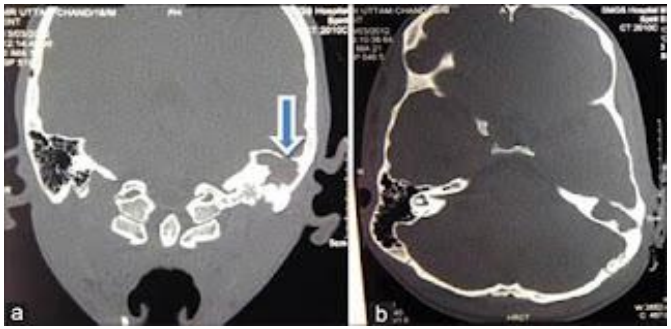
- Chronic otitis media and its types
- Complications of otitis media
- Intratemporal and intracranial complications of CSOM.
- Facial nerve and its diseases

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:

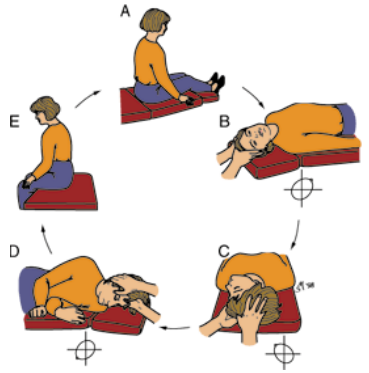
- Infant hearing loss
- Consult pediatric department for mental assessment
- Take informed consent for examination of patient
- Ear examination
- Communicate effectively with patients & peers.
- Perform and complete the given task, effectively and efficiently.
- Shows empathy towards parents

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

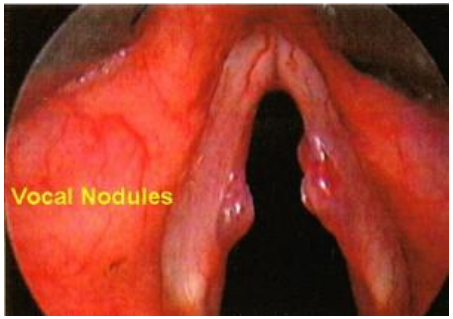
Background Knowledge:

- 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.

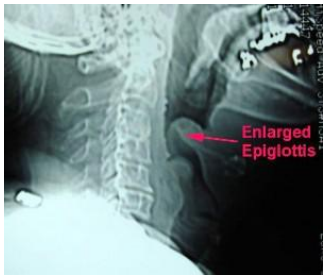
Take detailed history for:

- 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

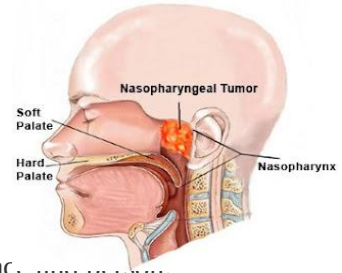
Background Knowledge:

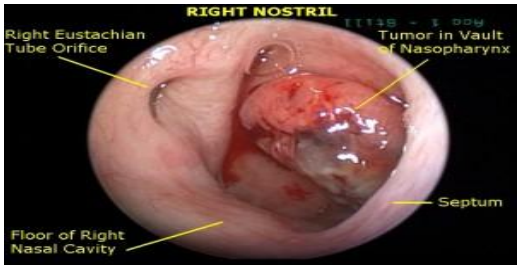
- Infective conditions of larynx (Epiglottitis, Laryngotracheobronchitis, Laryngeal diphtheria, Odema of larynx)
- Foreign body in airway
- Laryngotracheal trauma.

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.

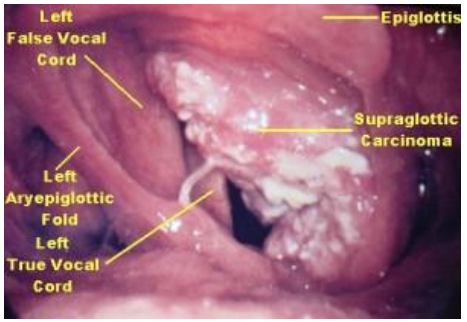
Oropharynx:

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

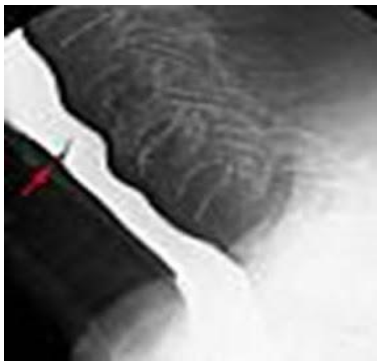
Patient with difficulty in swallowing

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:

Pooling of saliva in both pyriform sinuses. Vocal cords were mobile and normal looking.

Neck:

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:

A middle aged male, well oriented and vitally stable.

Neck:

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:

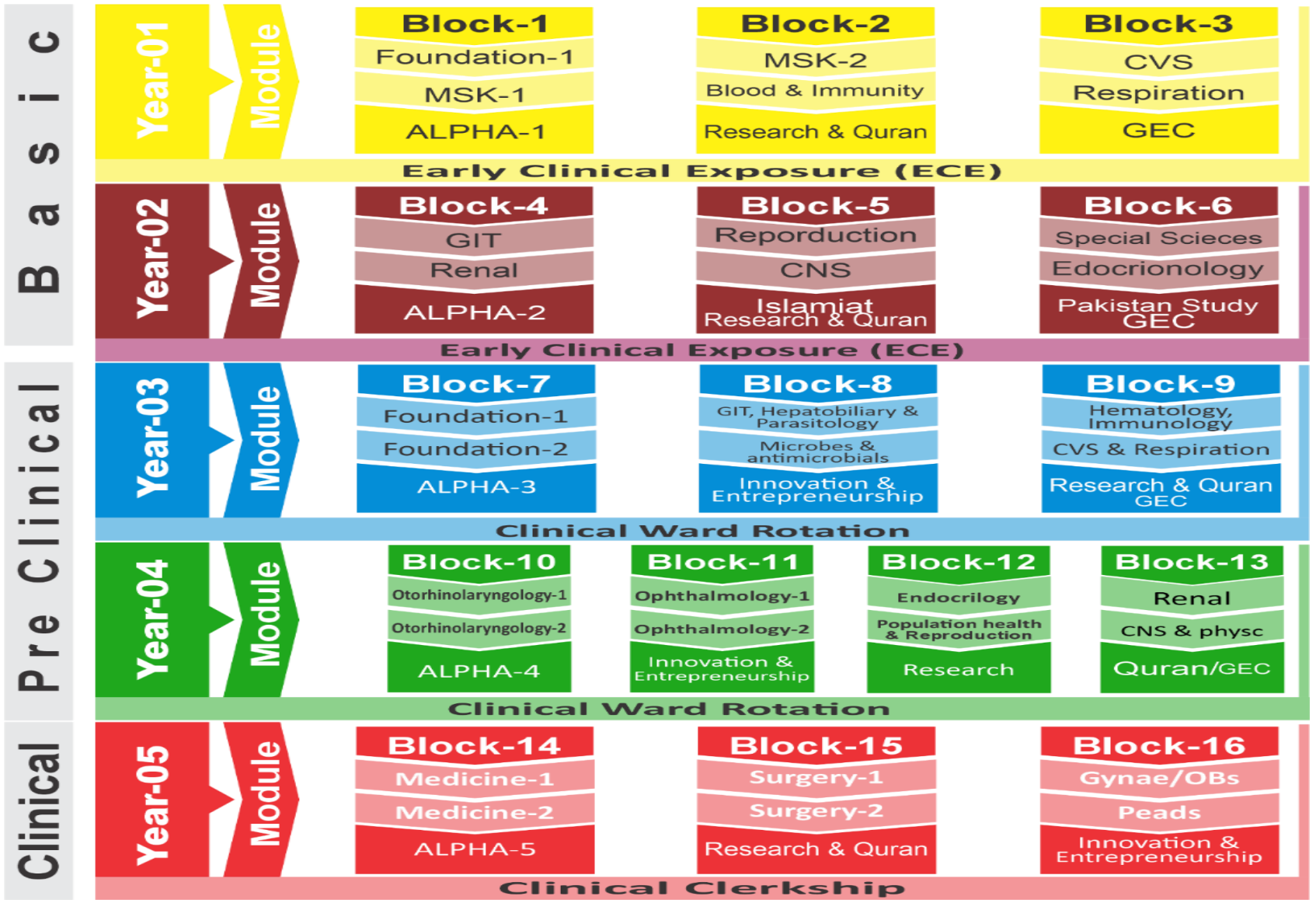
Ethical considerations are paramount when using AI in healthcare. Students **must** understand the ethical implications of AI and ensure that its application respects patient rights and autonomy.

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
Pre Clinical
Clinical
Year-01
Module
Block-1
Foundation-1
MSK-1
ALPHA-1
Block-2
MSK-2
Blood & Immunity
Research & Quran
Block-3
CVS
Respiration
GEC
Early Clinical Exposure (ECE)
Year-02
Module
Block-4
GIT
Renal
ALPHA-2
Block-5
Reporduction
CNS
Islamiat
Research & Quran
Block-6
Special Scieces
Edocrionology
Pakistan Study
GEC
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
Otorhinolaryngology-1
Otorhinolaryngology-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
Medicine-1
Medicine-2
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

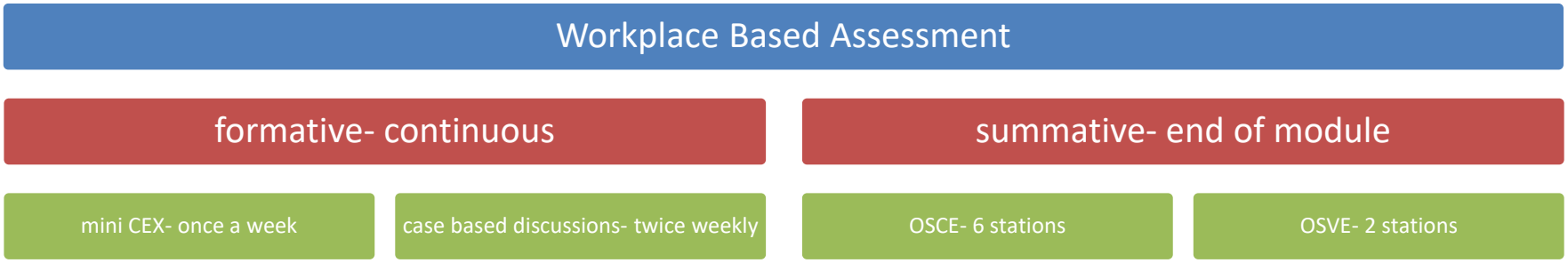
Ophthalmology Clerkship Framework

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	• Extracapsula cataract extract • Phacoemulsi 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 examin • Slit lamp examination • Auto refracto • Keratometer • Biometry • Fundus photographs	• 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 exposureing • Patient simulation Videos						OSCE, Mini CEX Self and peer assessment of the skill Evider from logbook
Thursday	• Myopia • Hyperopia • astigmatism	• Snellen’s chart, Autorefraction, Retinoscopy • Goldmann applanation tonometry	Refraction r	• Bedside teaching • Clinical exposureing			(		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 exposure ing 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 exposureing ● Patient simulation 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 •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 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 descril 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)

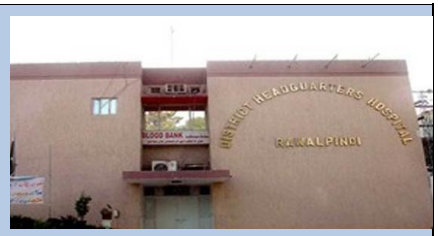
Topic	**I × F**	**Weightage (%)**	**Marks (Out of 30)**	**No. of Stations**
Conjunctivitis	9	22	7	1
Keratitis	9	22	7	1
Endophthalmitis	3	7.5	2	1
Episcleritis / Scleritis	4	10	3	
Acute Anterior Uveitis	6	15	4.5	1
Foreign Body	6	15	4.5	1
Acute Angle-Closure Glaucoma	6	15	4.5	1
Total	**43**	**100**	**30**	**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 vaccir 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 vaccir 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 Group: ☐ 0 < 1 year ☐ 1- 5 years ☐ /Lactating*Days* ☐ > 18 years – 60 years ☐ > 60 years	Telephone & e-mail:
	Date patient notified event to health system (DD/MM/YYYY): _ _/_ _/_ _ _ _
/ears - 18 years	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):***

☐ ☐ ☐ 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

Describe AEFI (Signs and symptoms):

		Life threatening					

Serious: Yes / No ; ➔ If Yes Death ☐ Recovered ☐ Recovered with seque ☐ Disability ☐ Hospitalization ☐ Congenital anomaly ☐ Other U Unknown

*Outcome: ☐
Recovering ☐
☐ Died If died, (DD/MM/YYYY
__ __ / __ __ / __ __ __ __
Not Recovered
Autopsy done

Unknown
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 :
Comments:	

**Compulsory field*

Structured Proforma of Practical Skill
Demonstrate aseptic techniques for vaccine administration (Intramuscular routes)

Place a "✓" in relevant boxes of yes and no

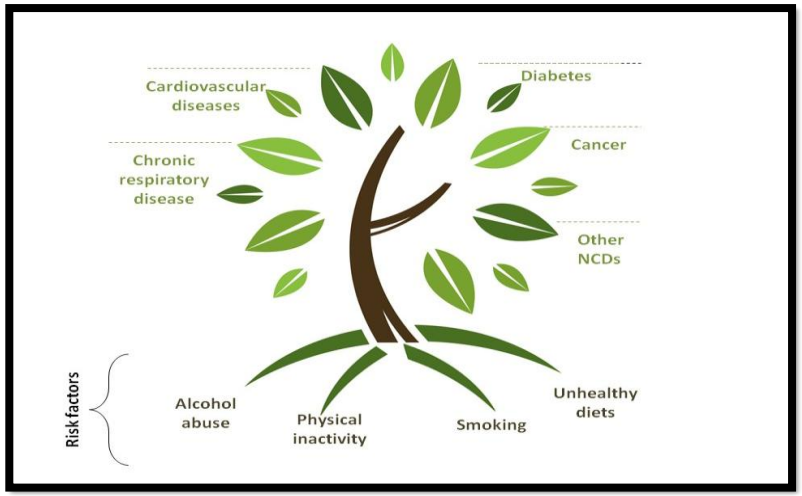
Satisfactory: Performs the step or task according to the standard procedure or guidelines

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

Structured Proforma of Practical Skill

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
Interview Language *[Insert Language]* *Select relevant response.*	English 1 *[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? *[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.*	Government employee 1 Non-government 2 Self-employed 3 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 ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋ *If Other, go to T5other, else go to T6*	T5f/T5fw
	Other (please specify): ⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋⌊_⌋	T5other/ T5otherw
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, go to T9* 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
Do you **currently use smokeless tobacco** products **daily?** *For current users of smokeless tobacco products only.*	Yes 1 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 basis*	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 home*	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 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.*	Monday ⌊__⌋⌊__⌋	A10a
	Tuesday ⌊__⌋⌊__⌋	A10b
	Wednesday ⌊__⌋⌊__⌋	A10c
	Thursday ⌊__⌋⌊__⌋	A10d
	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.* *Record for each type of alcohol the number of standard drinks. If no drinks record 0.*	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
	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	D5
	Often	2	
	Sometimes	3	
	Rarely	4	
	Never	5	
	Don't know	77	

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
How important to you is **lowering the salt** in your diet? *Select the appropriate response.*	Very important 1 Somewhat important 2 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	Yes 1	H3

(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.*	No 2	
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)? *Select the appropriate response.*	Yes 1 No 2	H17
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 *Record device ID.*	⌊_⌋⌊_⌋⌊_⌋	M13
Waist circumference *Record participant's waist circumference in centimetres with one decimal point.*	in Centimetres (cm) ⌊_⌋⌊_⌋⌊_⌋.⌊_⌋	M14

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.*		
Reading 1	Beats per minute ⌊_⌋⌊_⌋⌊_⌋	M16a
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? *It is essential that the participant did not fast prior to urine collection.*	Yes 1 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	Selftreatme 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 Smoking 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 • Not present	High fat diet preference • Present • Not present • Not judged	Low fruit diet • Present • Not present • Not judged	low water intake • Present • Not present • Not judged	Low fiber intake • Present • 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 :…………………………

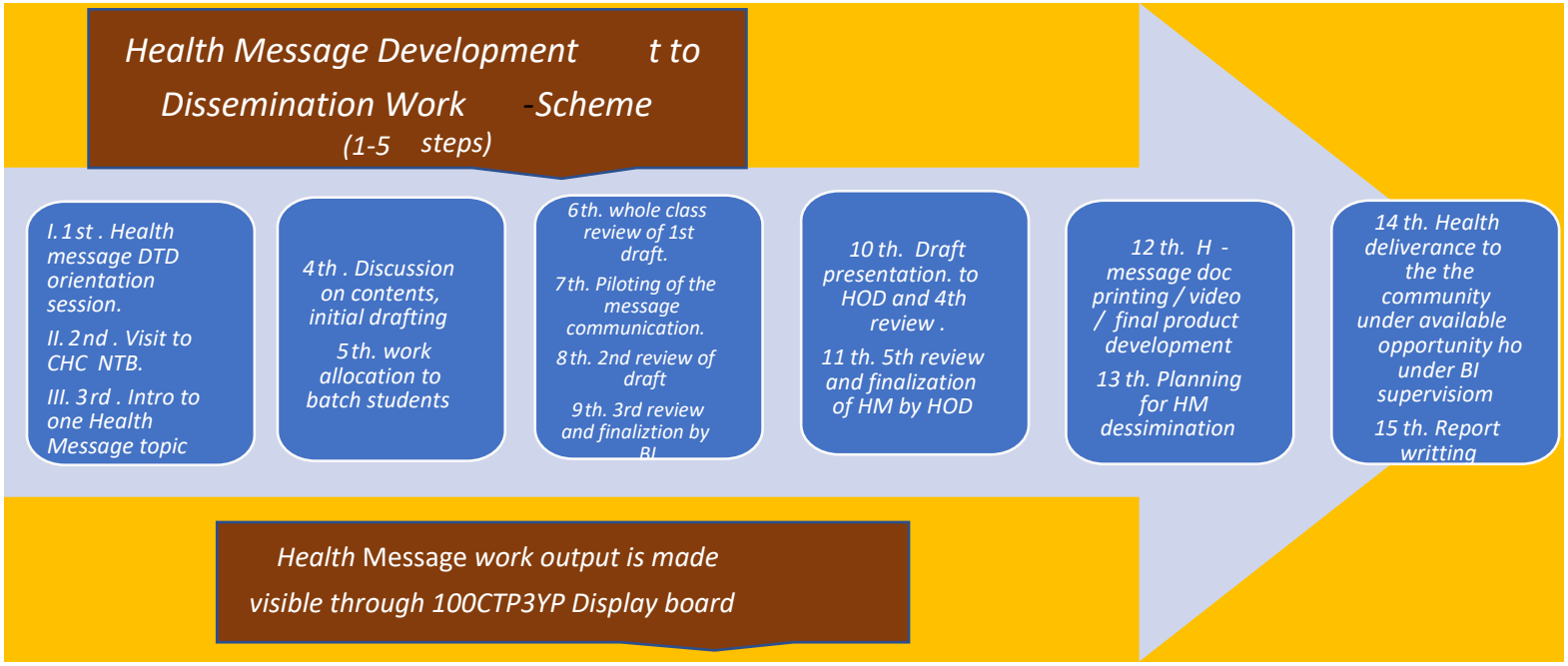
Batch in charge note: *(how student complied with PHI protocol)* **……………………………………………………………………………………………………**

Grade / Score*: (out of 10 marks):* ----------- *BI signature with date:…………………………………..*

Module III -CHC
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.

---

e. Attach copy of the health message developed by the batch.

f. Paste 1 pic of the health message deliverance work.

Learning Hospital Administration
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 budgeting, financial planning, and cost control. • Discuss the impact of insurance and billing system on hospital operation	Knows how
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 ▪ Ambulatory 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:-

The population growth rate of Pakistan is 2.1 %. Calculate the time in which population of the country will be double.

C-9:-

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) a. 15>-24Y b. 25-35Y c. 3645/49Y	90,000 80,000 70,000	1500 2000 1000	1000 1500 800
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)

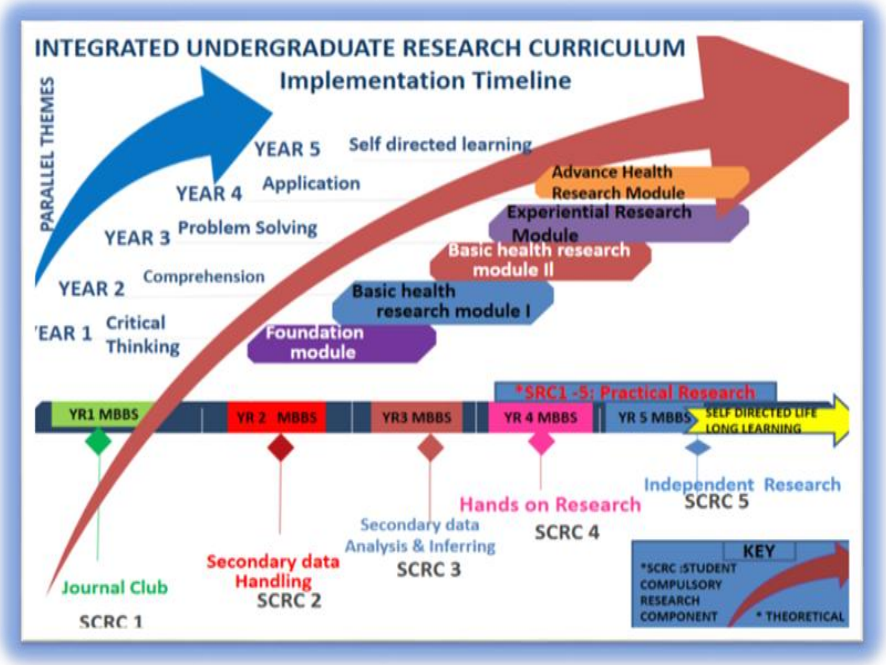
MODULE –VII
Integrated Undergraduate Research Curriculum

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	Sgis	Does
	• 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		

	• 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 o 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="4">Professional status of the service providers</td></tr>
<tr><td></td><td colspan="3"></td></tr>
<tr><td></td><td colspan="3"></td></tr>
<tr><td colspan="2">Medical Examination</td><td>Medical Lab facility</td><td rowspan="2">If yes detail of tests available:
i. .
ii. .
iii. .
iv. .
vii. .</td></tr>
<tr><td colspan="2">Y / N</td><td>Y / N</td></tr>
<tr><td colspan="2">Provision medicine Y / N</td><td colspan="2">If yes give detail</td></tr>
<tr><td>Other services / facilities</td><td colspan="3"></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 the 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.

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.

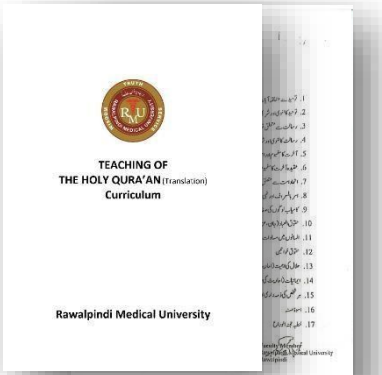
In essence, this module represents a strategic response to the evolving needs of the healthcare profession, ensuring that medical graduates are not only technically proficient but also capable of leading, innovating, and communicating effectively in a complex and dynamic field.

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

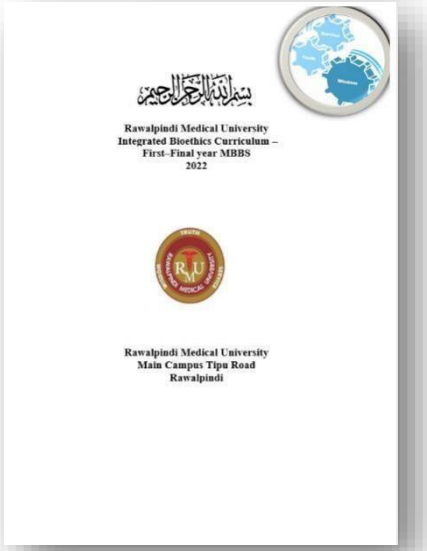
- 1 credit hour = 16 teaching hours
- The minimum requirement for the general education component is 30 credits in all the undergraduate/equivalent degree programs including associate degree. References: undergraduatepolicy-2023-1pdf/261474627

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

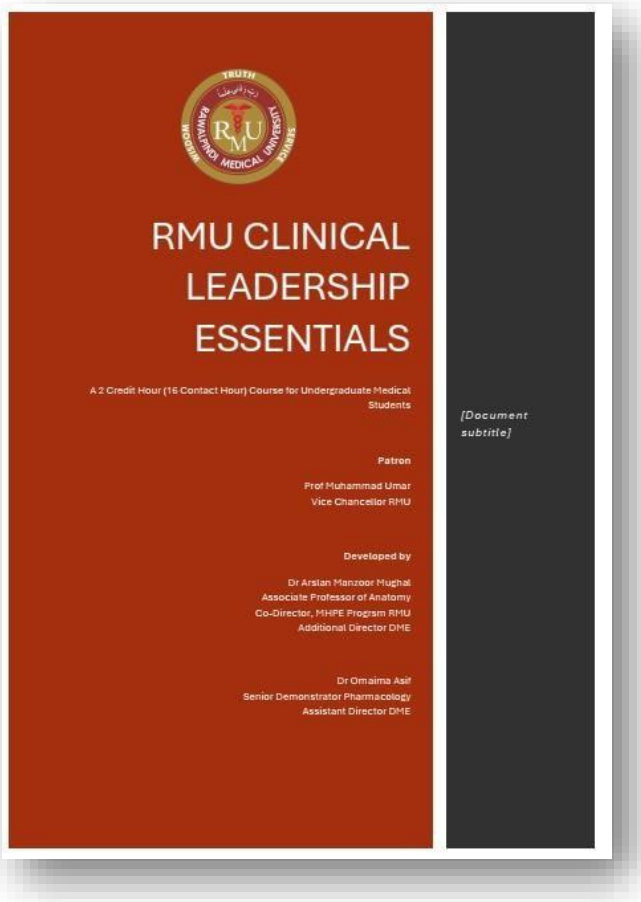


Biomedical ethics, also known as bioethics, is a field of study that addresses the ethical, social, and legal issues arising from medicine and the life sciences. It applies moral principles and decision-making frameworks to the practice of clinical medicine, biomedical research, and health policy. Biomedical 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.

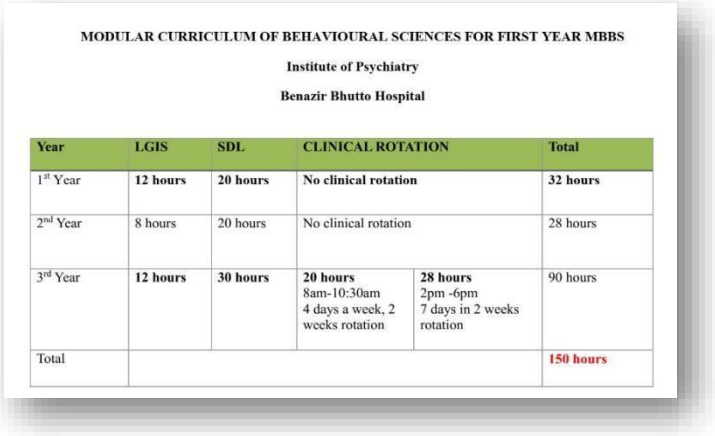
Leadership & Professionalism



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

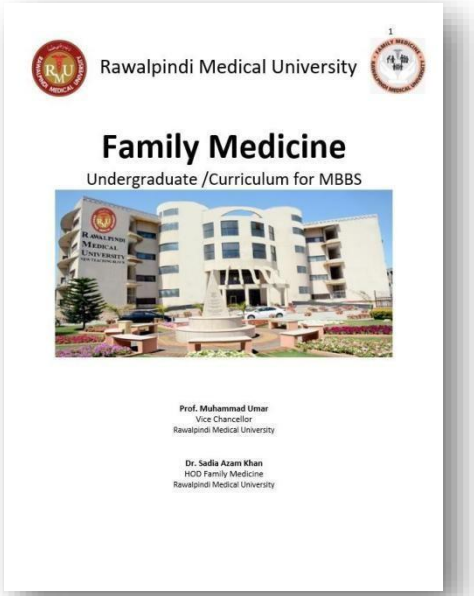
Communication skill for health professionals involves the ability to effectively convey and receive information, thoughts, and feelings with patients, their families, and other healthcare professionals. It encompasses a range of competencies including active listening, clear and compassionate verbal 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.

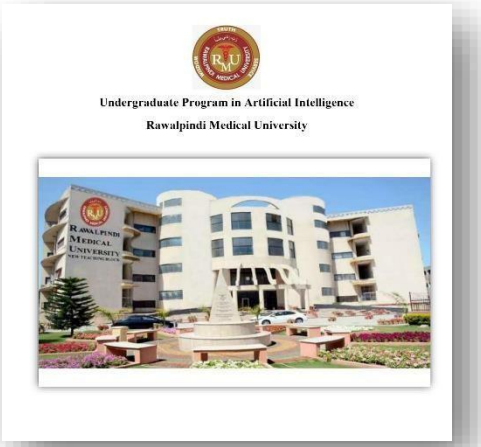
Family Medicine

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.



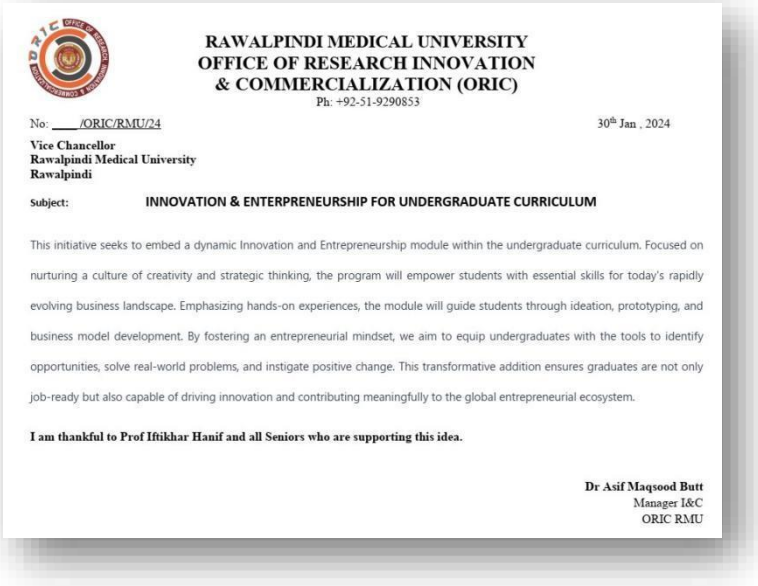
Artificial Intelligence

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.

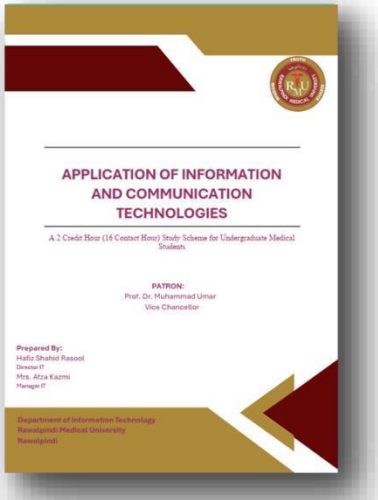
Dr Asif Maqsood Butt
Manager I&C
ORIC RMU

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.

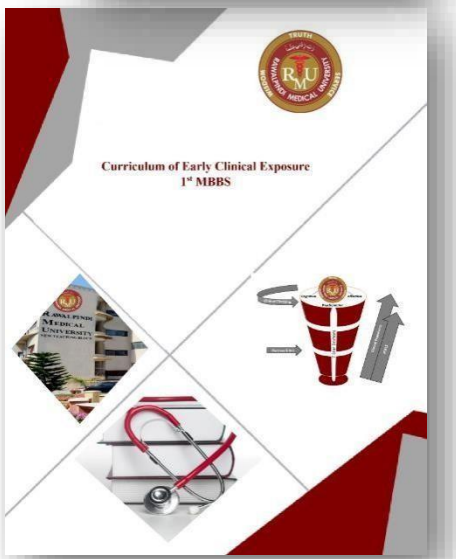
Such initiatives often lead to the creation of medical devices, digital health platforms, and therapeutic solutions that can significantly improve patient outcomes and make healthcare more accessible and efficient. Through incubators, accelerators, and partnerships with the industry, medical universities 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.

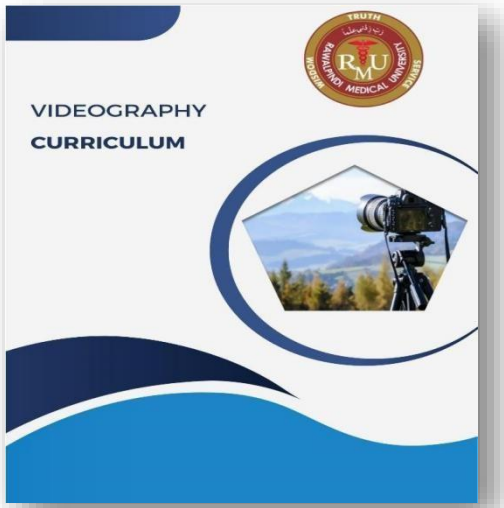
Early clinical experiences contribute to the development of a professional identity, helping students see themselves as future physicians and understand the responsibilities and ethics associated with the profession. This can help reduce the anxiety associated with clinical work by familiarizing students 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.



RMU ALPHA Curriculum

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 Dr Asif Rawalian Community hours Dr Omaima Asif Awareness Program		
	Grand Total Hours	**224 hours**	**Already Developed and Implemented 197 hours To be developed 112 hours**		

Time Table for General Educational Cluster (GEC) Module
3rd Year MBBS (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 Health Education Workshop 1	ITC Getting started with PowerPoint	Break	ARTIFICIAL INTELLIGENCE (AI) Utilizing AI algorithms for early detection of diseases	VIDEOGRAPHY Introduction to Video Editing Software	Break	SDL	
Tuesday	LEADERSHIP Health Education Workshop II	ITC Formatting & enhancing presentation skills in Microsoft PowerPoint		ARTIFICIAL INTELLIGENCE (AI) AI-driven drug discovery and development	VIDEOGRAPHY Editing Workflow and Techniques		Expository Writring	
Wednesday	LEADERSHIP Group Projects I	ITC Basics of Networking		ARTIFICIAL INTELLIGENCE (AI) Adaptive treatment planning and optimization using AI algorithms	VIDEOGRAPHY Audio Editing and Integration		Expository Writring	
Thursday	LEADERSHIP Group Projects II	ITC Security, privacy, and ethics		ARTIFICIAL INTELLIGENCE (AI) Challenges and limitations of AI adoption in medicine	VIDEOGRAPHY Advanced Editing Techniques		ENTERPRENEURSHIP Beta Launch	LEADERSHIP Reflective Journaling
Friday	ITC Types of Software	SDL		ENTERPRENEURSHIP Market Launch	VIDEOGRAPHY Color Correction and Grading			
Saturday	ITC File Management / Internet and	Expository Writring		ENTERPRENEURSHIP Growth Establishment	VIDEOGRAPHY Video Editing and Sound Design		ITC Internet & Emails	

Third Year MBBS
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 Review and Reflection	Present and discuss portfolio showcasing growth and proficiency in videography.	LGIS	MCQs
		Reflect on personal and professional development throughout the course.		

Leadership Essentials

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

القرآن بمعہ ترجمعہ برائے جماعت ایم یب یب ایس سال اول تا پنجم											
سال	ایمانیات		عبادات		خلاقیات		معاملات		معاشرت		کل لیکچرز
	فیصد	یکچر	فیصد	یکچر	فیصد	یکچر	فیصد	یکچر	فیصد	یکچر	
سال سوئم	24	4	24	4	24	4	18	3	12	2	17

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انبیاء کرام علیہم السلام کی دعائ ی

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ر

معا شت

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.

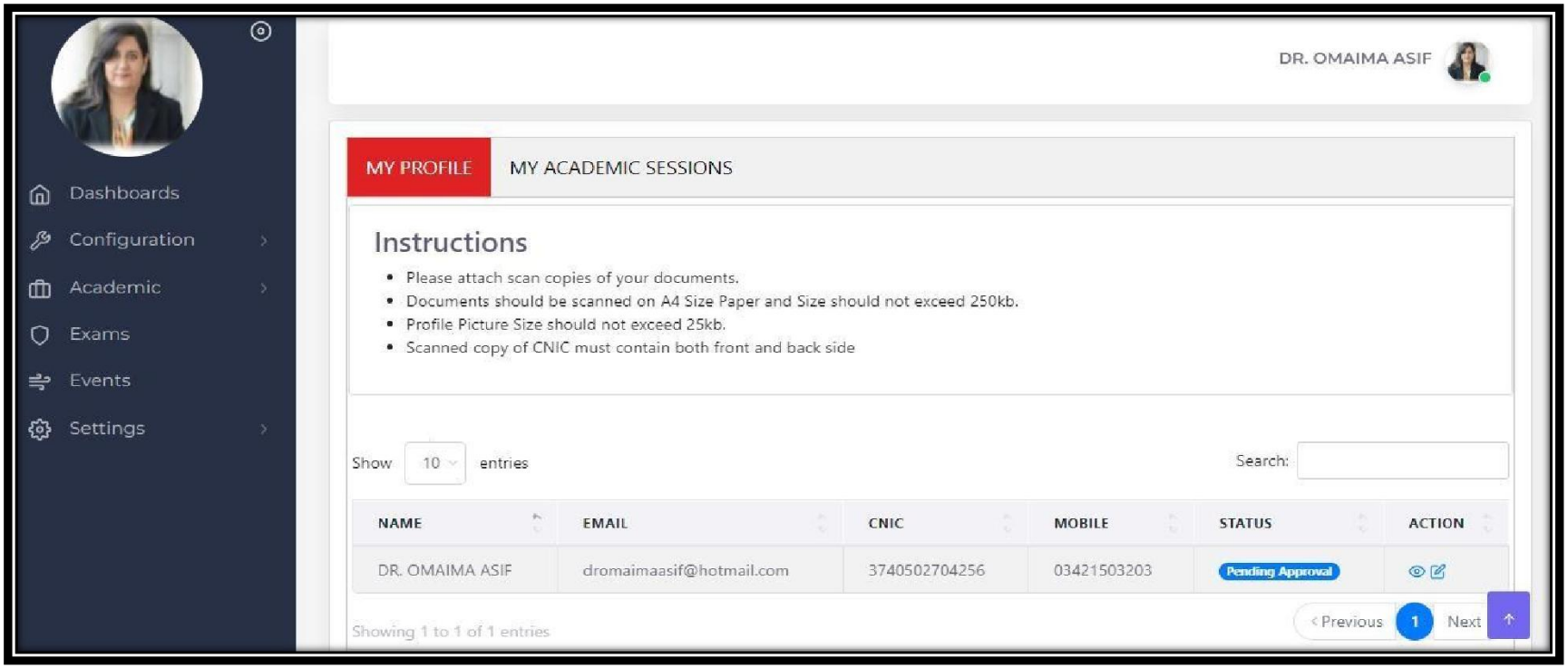
PEO3: To apply as well as create Artificial Intelligence based knowledge at par with the developments at both national and international level.

Curriculum:

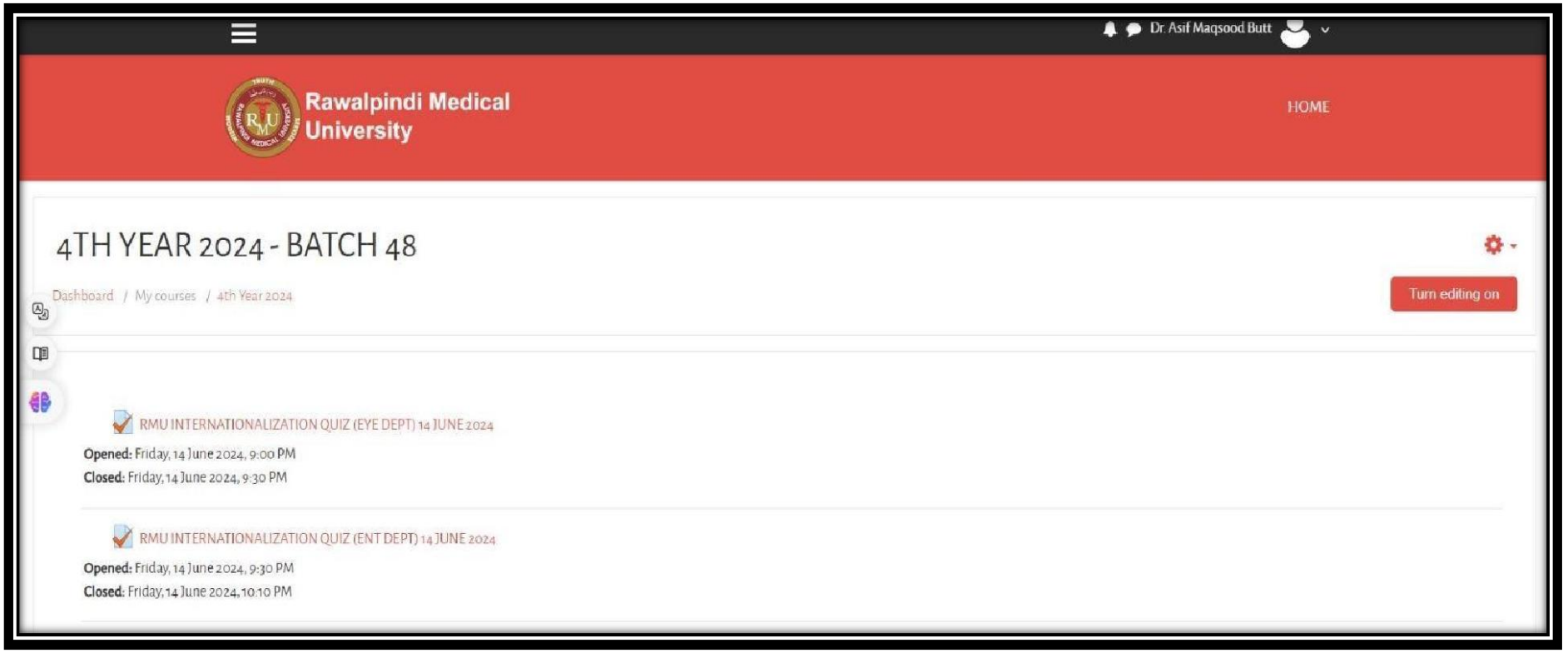
The proposed curriculum is unified for all RMU partner universities. For the sake of uniformity and ease of transfer of courses, a national course code has also been defined for each course. This will be treated as a reference for course compatibility between RMU partner institutions.

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
Below 60%	-10 marks
Below 50%	-20 marks

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="4">Continuous Internal assessment (CIA) 100%</td><td>50% end block assessment (summative)</td></tr>
<tr><td colspan="2"><u>End module-I</u> (25%)
End module 10
LMS 03
Attendance 02</td><td colspan="2"><u>End block-1</u> (25%)
End block 10
LMS 03
Attendance 02</td><td></td></tr>
<tr><td colspan="4">Work place based assessment (WPBA) 50% Further division of 50% WPBA</td><td></td></tr>
<tr><td>Ward test (50%)</td><td>Histories (20%)</td><td>Case presentation (10%)</td><td>Log books (10%)</td><td>Research (10%)</td></tr>
</table>

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
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

BLOCK	LMS Based Assessment				Lab OSPE*				Time**	OSVE***				Time
	Subjects	MCQs*			Observed	Marks	Unobserved	Marks		Module 1		Module 2		
		EYE I	EYE II	EYE 1 & II						Viva Marks	Book Marks	Viva Marks	Book Marks	
(BLOCK II)	community medicine	15	15	30	10	50	10	50	6 hrs	45	5	45	5	4 hrs

	Subjects	MCQs*			Observed	Marks	Unobserved	Marks		Module 1		Module 2		
		Endocrinolog	Reproductio	1 & II						Viva Marks	Book Marks	Viva Marks	Book Marks	
(BLOCK III)	community medicine	15	15	30	10	50	10	50	6 hrs	45	5	45	5	4 hrs

BLOCK	LMS Based Assessment				Lab OSPE*				Time**	OSVE***				Time
	Subjects	MCQs*			Observed	Marks	Unobserved	Marks		Module 1		Module 2		
		Renal	CNS	1 & II						Viva Marks	Book Marks	Viva Marks	Book Marks	
(BLOCK IV)	community medicine	15	15	30	10	50	10	50	6 hrs	45	5	45	5	4 hrs

*MCQ=1 Mark each	*EMQ= 5 Mark each	*SAQ= 5 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			
***OSVE=Time per student=5mins			

Weekly LMS Based Assessment

Table of Specification

Subjects	
No of MCQs*	15
Marks/MCQ	15
*MCQ=1 Mark each, 1 min each	

SECTION XII

LMS Assessments

Learning Management System
Rawalpindi Medical University

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.

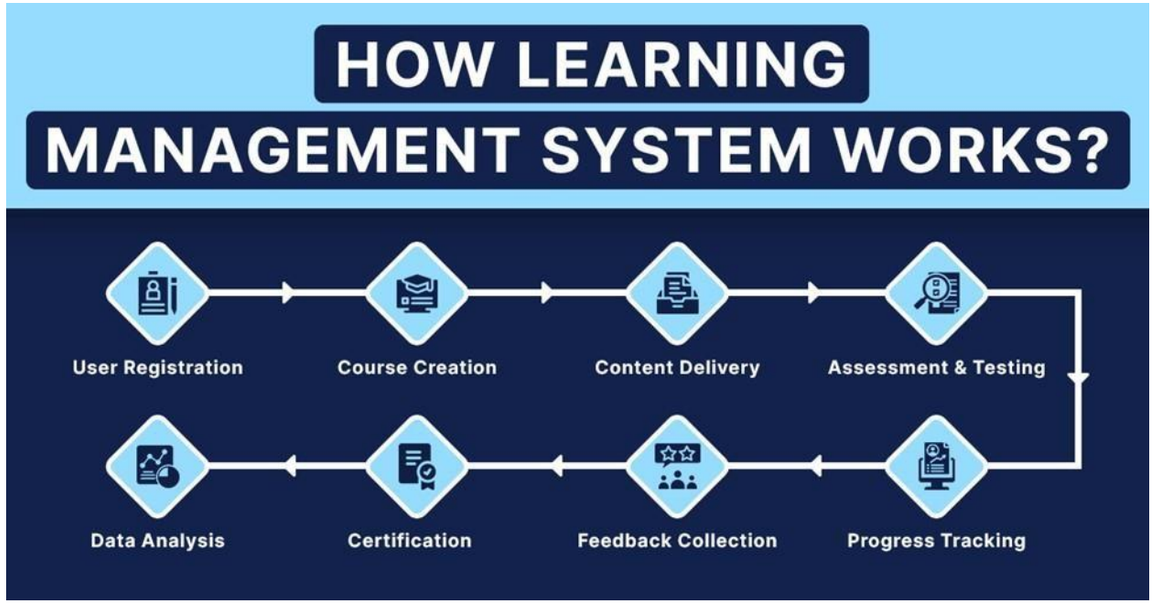
- **Integration of Technology in Medical Education:**

  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:



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:

- o 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. Differentiate between antigenic drift and antigenic shift with reference to Influenza	K. Park Ed. 27th page177	LMS Based MCQS

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 right statistical techniques	K Park Ed. 27th	LMS Based MCQS

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 disease 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

Ophthalmology Block XI

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/webinar-detail/primarysecondary-surgerycongenital-glaucoma	
3.	Wk. 3	Facial nerve palsy Otosclerosis Causes of otalgia and referred otalgia	Steroid induced Glaucoma	• Pathophysiology • Types of steroids causing glaucoma and their route of administration • Know about steroid responders Management	• Kanski's Clinical Ophthalmology 9th edition Chapter 11, Page # 388 • Clinical Ophthalmology by ShafiM.Jatoi 5th edition Chapter 11, Page # 155 https://doi.org/10.1016/j.survophthal.2020.01.002	LMS Based MCQS

Community Medicine Content

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 health & preventive medicine (15th Edi Chapter53)	LMS Based MCQS

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

Ophthalmology Content

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 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	K Park textbook of preventive & social Medicine, 26th Edition Chapter 10	LMS Based MCQS

				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

Reproductive Health & Population Medicine Block XI

Endocrinology Module

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 #	Wk s.	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%20COVI2D 19%3A%20a%20review%20on%20pathophysiological%2C%20clinical%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%20Effect%20of%20Bisphosphonates%20on%20Fracture%20Healing%20Time%20and%20Changes%20in	LMS Based MCQS

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/S002-9258(19)59316-4/fulltext#:~:text=Nuclear%20Integration%20of%20Glucocorticoid%20	LMS Based MCQS

Reproductive Health & Population Medicine

Pathology Content

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 mal e genetal system Pg 658-659	LMS Based MCQS
2.	Wk. 2	• Benign diseases of ovary • Malignant diseases of Ovary.	prostatitis	• Categorize different types o f prostatit is • Explain etiology	Robbins Basi c Pathology 9th Edition Chapter 17 mal e genetal system Pg 658-659	LMS Based MCQS
				clinically presentati 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 mal e 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 male 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 male genetal system Pg 658-659	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	• 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

Pharmacology Content

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 II				LMS Based MCQS
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	Robin Cotran Pathologic basis of disease 10th	LMS Based MCQS
				bacterial and viral skin infections	Edition Chapter The skin pages; 1166-1169	
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; 1203-1204	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	• 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 community medicine	Comprehend definitions of, Society, community, social structure & institution, social control mechanisms, Comprehend customs, culture, social problems, social pathology, case study & field study.	1. K Park Ed. 27th (670-73)	LMS Based MCQS

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 occupational diseases	Describe measures of health protection of workers • Discuss various aspects of prevention of occupational diseases	K Park , Chapter Occupational Health(756-760)	LMS Based MCQS
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	Mental K Park, Chapter 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.	
5.	Wk. 5	Local Anesthetics I Local Anesthetics II	Cognitive enhancers	• Define cognitive enhancers Describe the mechanism of action of cognitive enhancers	Malík M, Tlustoš P. Nootropics as cognitive enhancers: types, dosage 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

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**

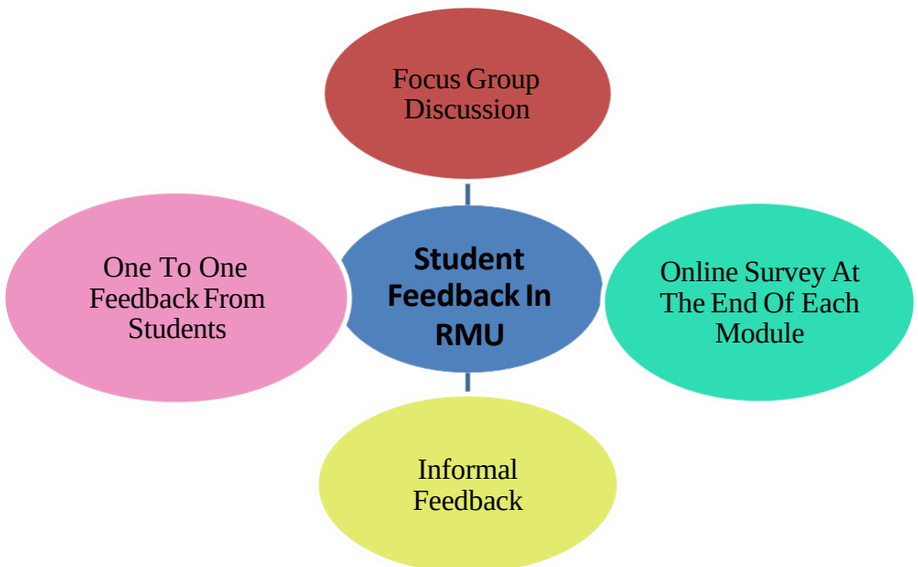
The University regularly invites students to participate in anonymous surveys (Appendix 1).

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.					
Digital / Web Based resources were available.					
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 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					

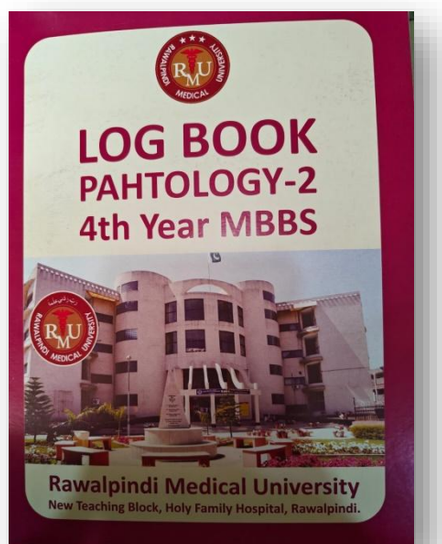
Logbooks

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:



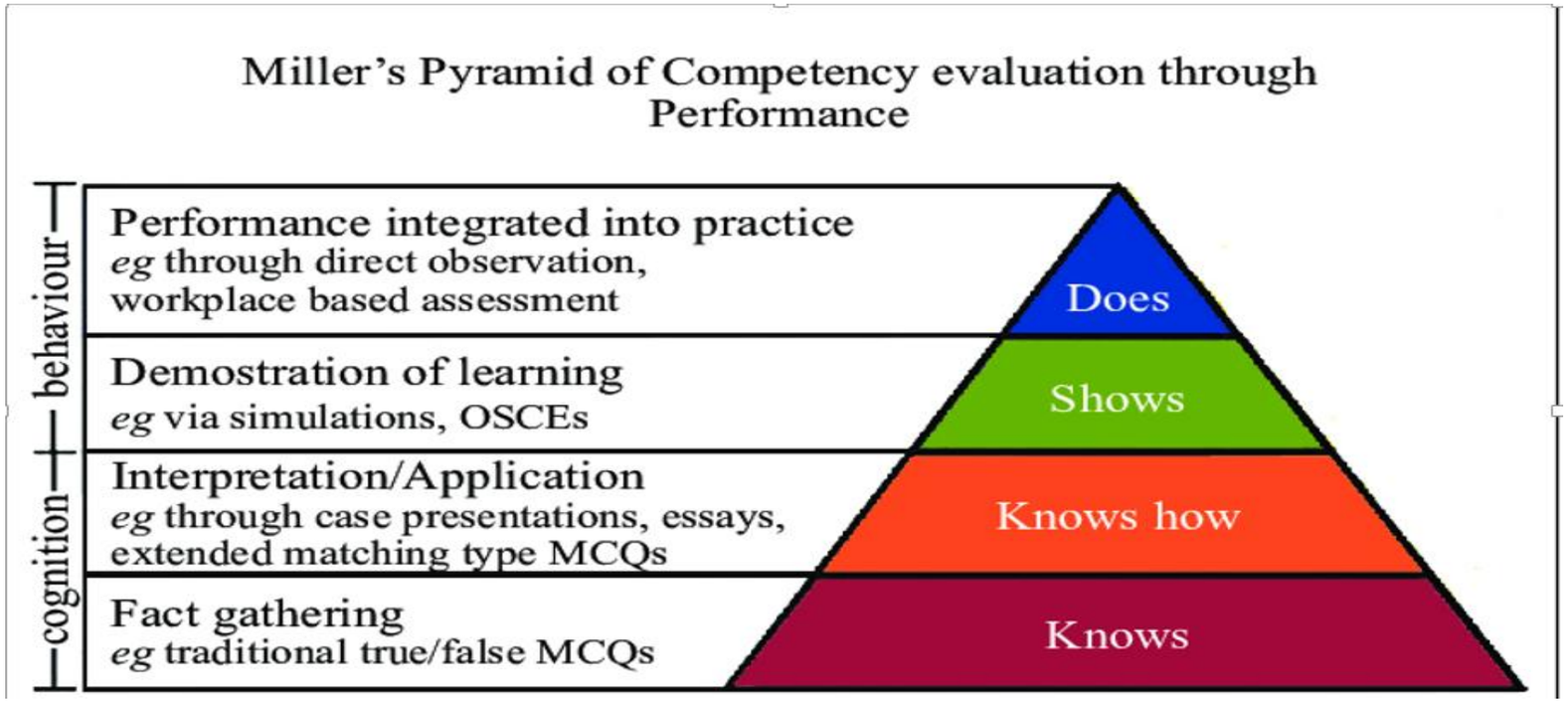
A log book for 4th year MBBS students typically consists of several structured sections to help systematically document clinical experiences and skills development. Here are the main parts commonly included:

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.


Miller's Pyramid of Competency evaluation through Performance
behaviour
cognition
Performance integrated into practice
eg through direct observation, workplace based assessment
Demostration of learning
eg via simulations, OSCEs
Interpretation/Application
eg through case presentations, essays, extended matching type MCQs
Fact gathering
eg traditional true/false MCQs
Does
Shows
Knows how
Knows

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.
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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	

Block XV

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.
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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:……

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	Total 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

on 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-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**

Rawalpindi Medical University
Department of Ophthalmology
Clinical Log Book

Student Name: _____

Roll No: _____RMU Reg. No: _____

Address_____

_____

Phone _____Email:_____

Aims and Objectives

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/Emergency	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/Emergency	Surgeon	Department	Sign

Module 3
Ophthalmology department RTH

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/Emergency	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*	Decision of Faculty *(C: Completed,*	Remarks

			expectations, E: Exceeds expectations)	*Re: Remedial)*	
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

	Space for Photo

University 4th Prof Exam Roll No .

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**	**sion outcome (level of learning)**
	sion topic	sion topic	sion topic	sion topic			
1st day	ructing / 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 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 . • Comprehend 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	Field 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	seum 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 npletion 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

Department of Community Medicine.
Rawalpindi Medical University – 2025

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… …… …… ii. Seminar in community settings . If yes, write the setting… …… …… iii. Health awareness walk . If yes, write the setting… …… ……			01- 02 OSPE/ MCQs in End of the clerkship Exam		

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. Literature 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. Literature search	B. sharing ideas	C. Peer discussion			
CS-6							
CS-7							
CS-8							
CS-9							
CS-10							

Assessment Record (IUGRC-IV) Section-5

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 _____