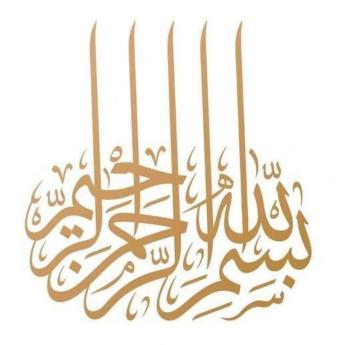




Rawalpindi Medical University Competency Based Clinically Oriented Integrated Modular Curriculum 2025 Third Year MBBS



Dedicated to Hazrat Muhammad (S.A.W)

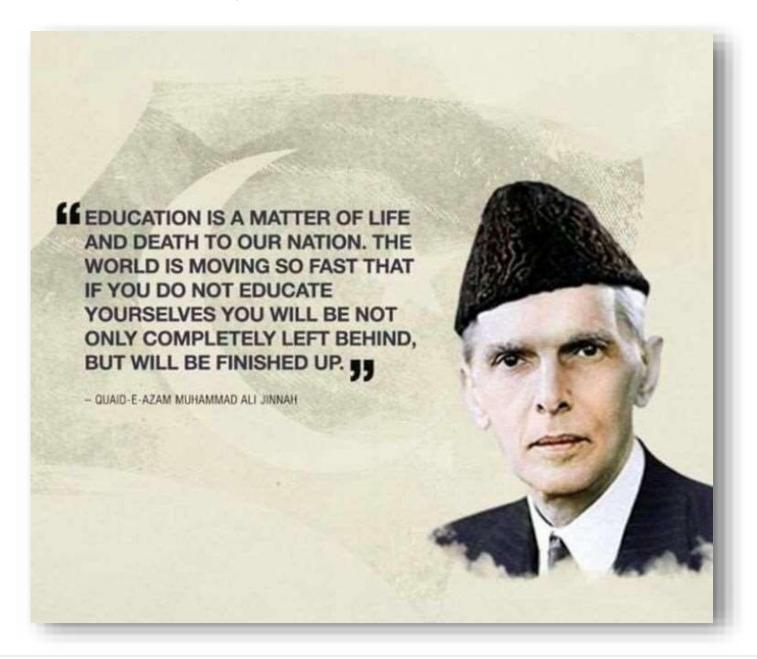


Modular Integrated Curriculum 2025

Revised September 2024

Pre 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 inPakistan, 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 modelling 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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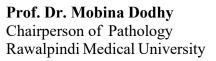
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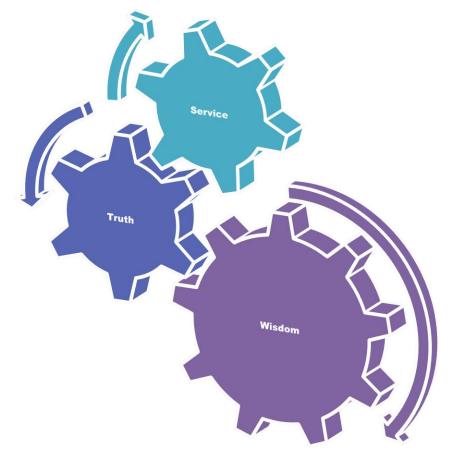
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RMU Motto



University Moto, Vision, Values & Goals

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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Dr Naeem Akhtar Dr Seemi Gull Dr Omaima Asif Dr Attiya Munir	2020- 2021	2 nd	Developed for 3 rd 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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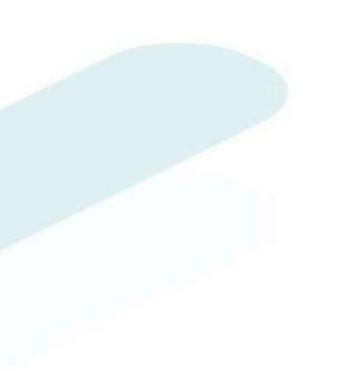


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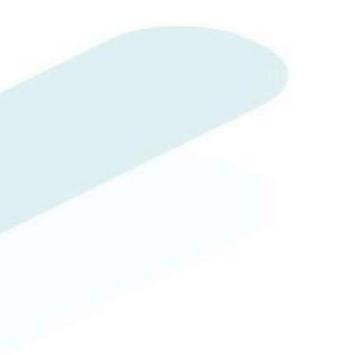
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Preamble

Integrated Modular Curriculum



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?

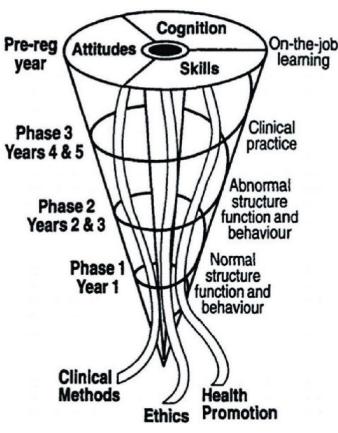
What is Integrated Medical Curriculum?

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 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

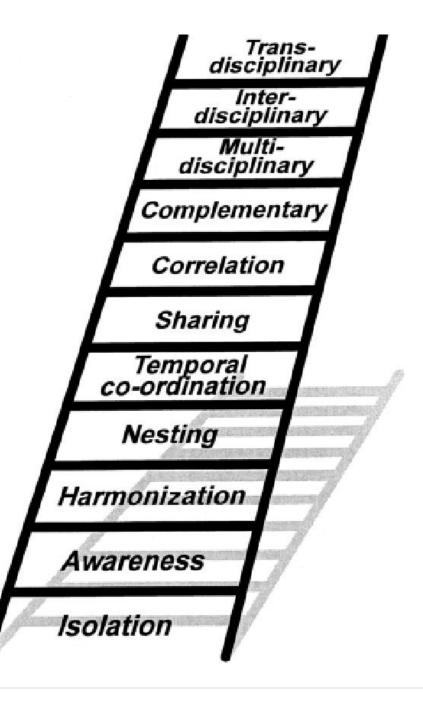


Levels of Integration

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

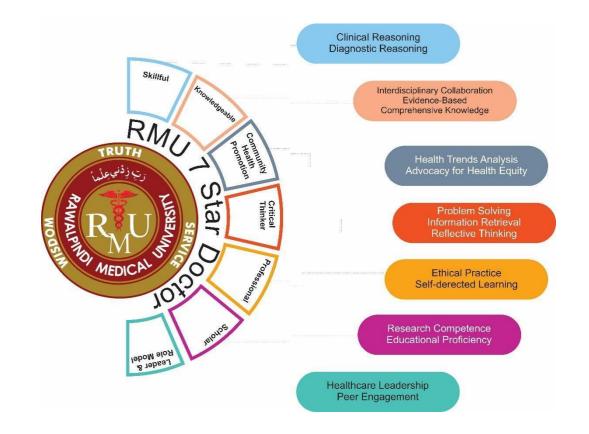
At RMU we aim to produce seven-star doctor according to PMDC Competencies having the generic competencies of "Skill, Knowledge, Community Health Promoter, Critical Thinker, Professional, Scholar, Leader and Role Model", Rawalpindi Medical University has introduced modular integrated undergraduate curriculum 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.

Horizontal Integration

Cognitive Domain

The Curriculum 2K23 framework consists of 44 modules distributed over five years. It features a modular design that allows various foundational disciplines to address themes concurrently. Each module is organized to represent all key disciplines according to their content weight. The assessment framework also incorporates applied and clinical elements into the learner's conceptual development, ensuring that clinical relevance and context remain central to the education process.

Clinical Relevance:

Each module's objectives are introduced with the relevant themes and clinical significance. This approach is based on the module's rationale, guiding the learning process toward a practical professional perspective. However, institutions have the flexibility to adopt alternative thematic approaches as long as the program outcomes are met effectively.

Integration:

The spiral arrangement of modules within the framework facilitates a revisiting of basic sciences. Initially, the applied and clinical learning objectives guide the learner, while the recurring modules align with clinical rotations, all framed by the foundational sciences. In the final year of clerkship, students have their last opportunity to integrate their learning, which is primarily workplace-based and combines elements from all three domains.

Clinical Clerkship

Psychomotor

Clinical Skills follow a spiral which is entirely skills dominant. This spiral is the core of psychomotor training. The rotations in different wards will be based on foundational developmental already commenced in yesteryears. The year 3 and year 4 which have the rotations will also have the second visit of the modules which would now be more clinically inclined with a stronger base of Pharmacology and Pathology. Community oriented practices and family medicine will also be broadening the element of systems thinking and diversity of

practice for a healthcare leader of tomorrow. Finally, Clinical Clerkships are aimed to be entirely facilitated in workplace environments. The clerkship model will involve the delegation of duties thus adding to the acquisition of professional accountability as a competency. The psychomotor training and skills acquisition will be the maximum in the year of clerkship. The entire process of C-FRC will be endorsed in a logbook which would be the training base of the learner for future references and exam evaluations.

Spiral Integration

Affective Domain

ALPHA Model:

Affective training has been formally integrated into the curricular framework through the ALPHA model, which aims to produce doctors with strong, resilient, and ethically grounded character. ALPHA stands for Artificial Intelligence, Leadership, Professionalism, Humanities & Arts, encompassing professional development for the effective application of acquired knowledge and skills. To ensure that professionals are socially accountable and capable of taking on healthcare leadership roles—such as advocacy, equity, and resource access—formal training is essential.

This training is structured through a categorical approach that includes assessing competencies and developing portfolios. The ALPHA framework will be implemented year-round through portfolio development, which promotes student-centered learning. The self-reflection involved in portfolio creation allows learners to identify and address their own educational needs.

The Medical Education department will directly oversee the ALPHA spiral, but teaching sessions and mentoring can be facilitated by other disciplines. For instance, communication skills may involve input from Family Medicine faculty, while Community Medicine and Public Health can support research training. Ethics education can be jointly provided by the Bioethics and Behavioral Sciences departments. Leadership training will benefit from the involvement of institutional leaders and successful alumni.

The Faculty of Medical Education will manage the entire process and contribute to teaching as needed. The academic council, in collaboration with the Medical Education department, should define the types of evidence, activities, and learning situations required for competency acquisition in the portfolios. A 'mentoring platform' can embody the spirit of affective learning within the ALPHA framework, leading to the recommendation for developing a mentorship program at each institution.



RMU Undergraduate 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.
 - \circ $\;$ Assess personal strengths and weaknesses.
 - \circ Implement strategies for self-improvement.
 - \circ $\;$ 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.
 - \circ 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.
 - $_{\odot}$ $\,$ 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.
- \circ 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.
 - \circ $\,$ 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.
 - $_{\odot}$ $\,$ Empower individuals to make informed health decisions.
 - \circ 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.
 - \circ $\;$ 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 & excellence.

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 wellorchestrated 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:

- 1. **Syllabi Development and Expert Consultation**: The first stage involved the formation of subjectspecific 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.

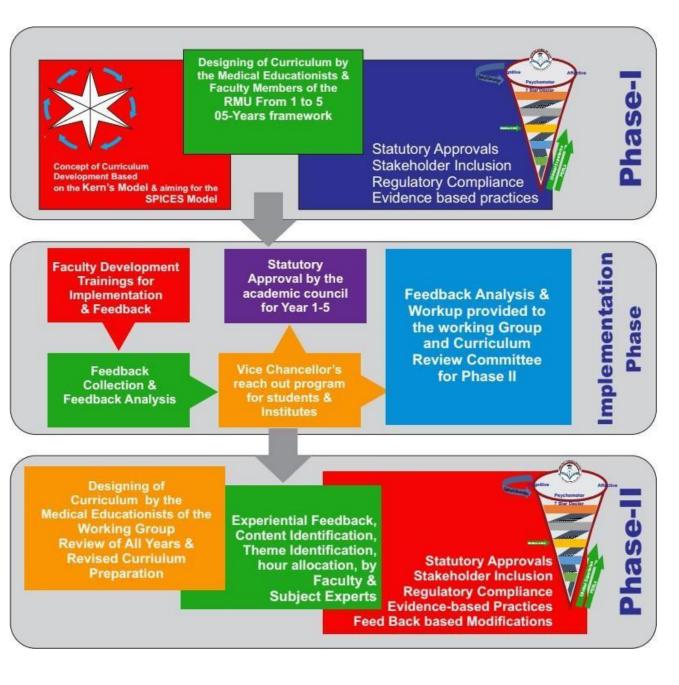


Curriculum Development Process

- 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

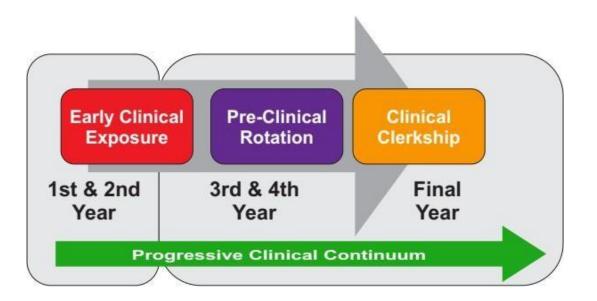


Curricular Organization and Structure

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^{II}, besides Curative Health Care. RMU has opted for system based modular curriculum.

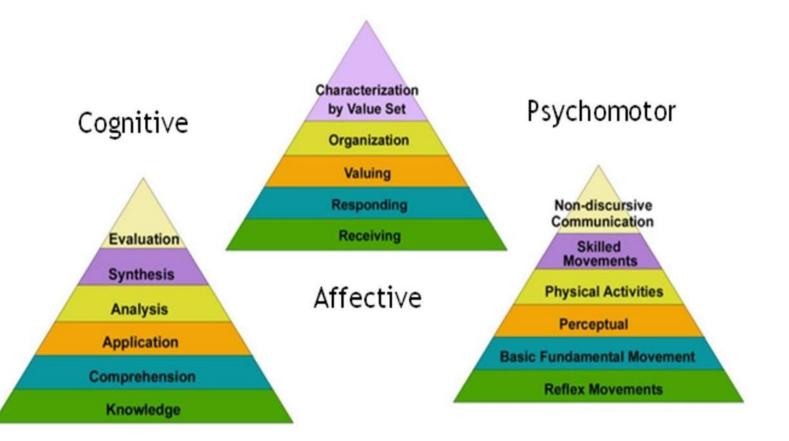


The Module: Module is the smallest unit of Curriculum both in the System- Based and Subject-Base (topic-based) Curricula. Modules are taught as a continuous block or as a longitudinal theme and assessments is carried out at the end of each module. The System-Based Curriculum made up of —Modules, where 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.

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

e. 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.

f. 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)

S Student-centred	Teacher-centred
P Presentation-based	Information-oriented
Integrated or inter-professional	Discipline-based
C Community-based	Hospital-based
E Elective-driven	
S Systematic	Opportunistic

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.

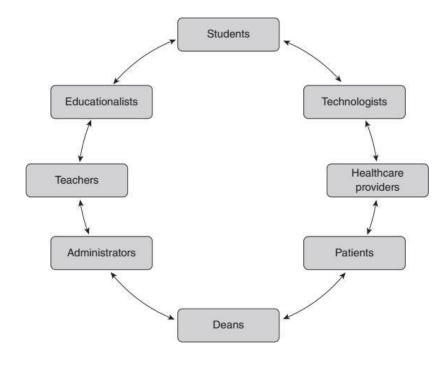
Collaborative Activities in the Curriculum

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.

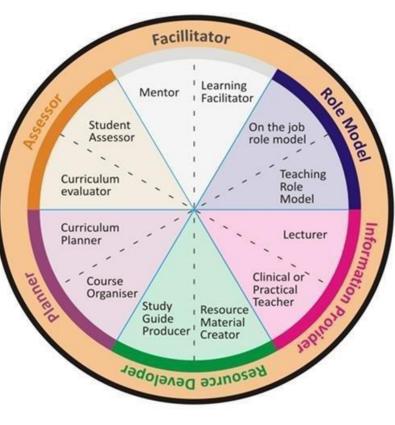
In Rawalpindi Medical University, students have the opportunity to engage in the research program, representing the school and contributing to national and international education seminars. They may also be involved in the delivery of the teaching program as peer teachers or developers of learning resources. 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)

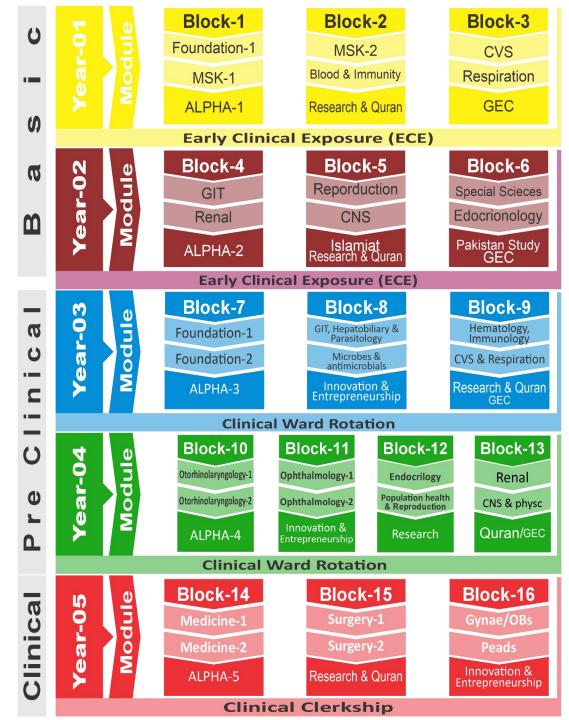
As assessors of student progress, our teachers monitor the progression of our students through the curriculum, identifying any problems related to their progress and guiding their studies to meet their individual needs. They provide feedback and support to students who may require remedial teaching, 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-IV

Structured Framework of Clinically Oriented Integrated Modular Curriculum 2024

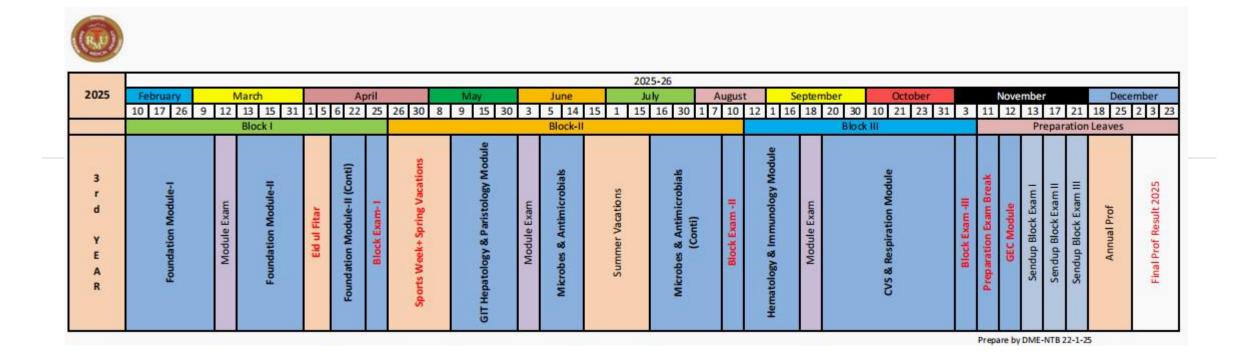


Structured Framework for Five Year of MBBS

Structured Framework of Clinically Oriented Integrated Modular Curriculum 2025

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

3rd Year Academic Calendar 2025



Contact Hour Distribution for Core Subjects Third Year MBBS

	Teaching Hours 3 rd Year MBBS							
Blocks Modules		Pharmacology	Pathology	Forensic Medicine	Total	Total Hours	Percentage	
D1 1 I	Foundation -II	35	111	15	253	469	39	
Block-I	Foundation - III	26	97	14	216			
D1 1 II	GIT Hepatobiliary & Parasitology-II	31	86	15	262	332	27	
Block-II	Microbes & Antimicrobials	41	32	20	70			
	Haematology & Immunology-II	34	98	25	252	409	34	
Block-III	CVS & Respiration-II	38	50	22	157			
Total Hours Per Subject		205		111			100	
Percentage		38	39	23	100			

Sr. No	Discipline	Contact Hours
1.	Behavioral sciences	05
2.	Community Medicine	09
3.	Pathology	13
4.	Pharmacology	08
5.	Medicine	13
6.	ENT	01
7.	DME	10
8.	Radiology	03
9.	Artificial Intelligence	01
10.	Family Medicine	03
11.	Gynae & Obs	01
12.	Quran translation	13
13.	Surgery	03
14.	Biomedical Ethics	05
15.	IUGRC	15
	Total Hours	103 Hours

Discipline Wise Clinical Teaching Hours for 3rd Year MBBS

SECTION-V

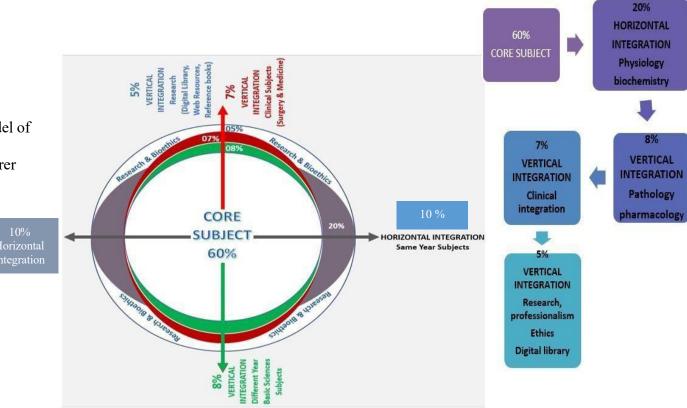
Teaching and Learning Methodologies / Strategies

- Large Group Interactive Session (LGIS)
- Small Group Discussion (SGD)
- Self-Directed Learning (SDL)
- Case Based Learning (CBL)
- 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.



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 minutes
Step	2 Asking students pre-planned questions from previous teaching session to develop co-relation (these questions will be standardized)	5minutes
Step	3 Students divided into groups of three and allocation of learning objectives	5minutes
Step	4 ACTIVITY: Students will discuss the learning objectives among themselves	15 minutes
Step	5 Each group of students will present its learning objectives	20 min
Step	6 Discussion of learning content in the main group	30min
Step	7 Clarification of concept by the facilitator by asking structured questions from learning content	15 min
Step	8 Questions on core concepts, horizontal integration, vertical integration, related research article, related ethics content	
Step	9 Students Assessment on online MS teams (5 MCQs)	5 min
Step	IO 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 (SDL)

 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-	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)

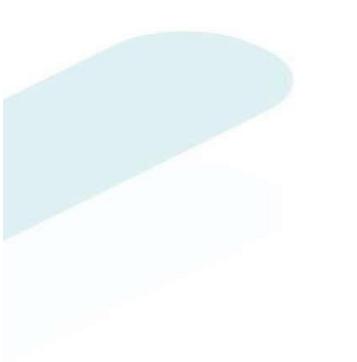
- It's a learner centered model which engages students in discussion of specific scenarios that typically resemble real world examples.
- Case scenario will be given to the students
- Will engage students in discussion of specific scenarios that resemble or typically are real-world examples.
- Learning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

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					



Course Content





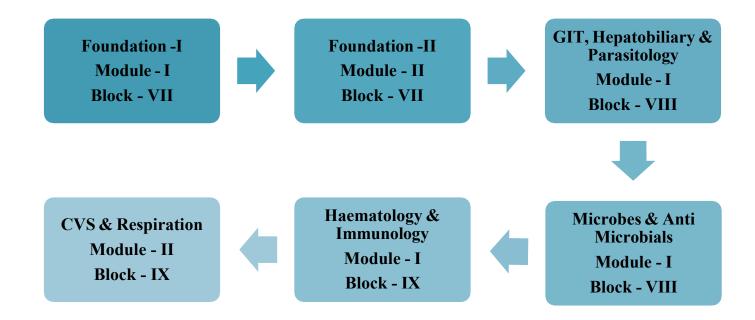
Introduction to Pre-Clinical Sciences:

The third year of the Bachelor of Medicine, Bachelor of Surgery (MBBS) program marks a pivotal transition from foundational medical knowledge to the practical application of skills in clinical settings. During this year, students will immerse themselves in clinical clerkships, which provide invaluable opportunities to engage with patients, collaborate with healthcare teams, and apply theoretical knowledge in real-world scenarios.

The curriculum is designed to enhance students' clinical reasoning and diagnostic skills through a combination of hands-on experiences and structured learning. Clinical clerkships will cover a range of specialties, allowing students to observe and participate in patient care under the guidance of experienced clinicians. This experiential learning is complemented by classroom-based education, where students will study relevant clinical topics, engage in case discussions, and develop critical thinking abilities.

Emphasizing the importance of compassionate patient care, ethical practice, and effective communication, this curriculum aims to prepare students for the complexities of modern medicine. By the end of the third year, students will have gained essential clinical skills and a deeper understanding of patient-centered care, laying a strong foundation for their subsequent years of training and future practice as medical professionals.

Through this integrated approach, we aspire to cultivate competent, empathetic, and reflective practitioners who are equipped to meet the challenges of the healthcare landscape.



Curriculum 3rd Year MBBS







Block - VII

Foundation - II Module Foundation - III Module

Foundation - II Module

MBBS YEAR III
BLOCK- VII
MODULE- I
FOUNDATION- II MODULE
DURATION- 4 WEEKS



Introduction

Introduction: Foundation module provides integration of core concepts that underline 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 foundation module is designed to impart basic knowledge about Pharmacology, Pathology, Forensic Medicine, Community Medicine, Research, Medicine & Surgery. This knowledge will serve as a base on which the student will construct further knowledge about etiology, pathogenesis and prevention of diseases, the principles of their therapeutics and management.

Each student will be able to:

Module Outcomes

Knowledge

- Acquire knowledge about the basic terminologies used in Pharmacology, Pathology & Forensic Medicine as well as the concepts of diseases in the community
- Use technology based medical education including Artificial Intelligence.
- Appreciate concepts & importance of Family Medicine Biomedical Ethics Research.

Skill

✤ Interpret and analyze various practicals of Pre-clinical Sciences

Attitude

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

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

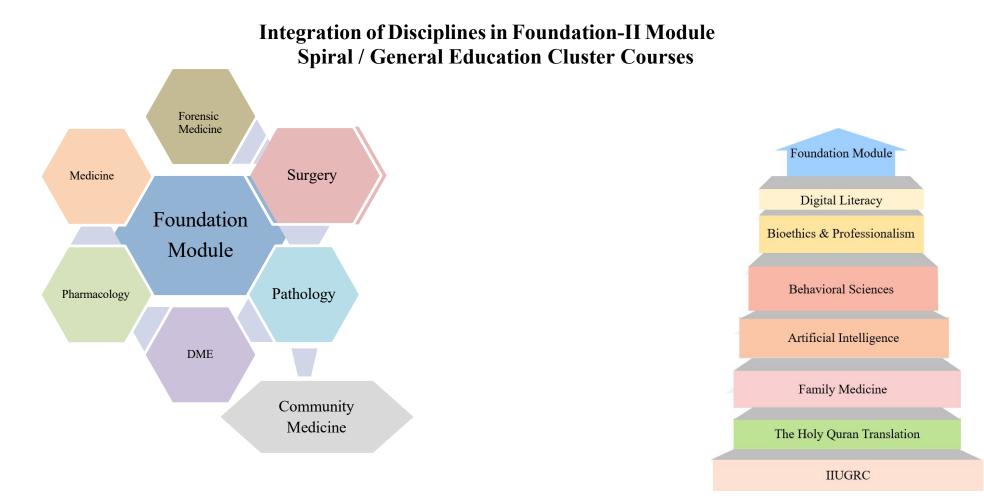
Foundation Module Team

	Module Name :	Foundation Module			
	Duration of module :	04 Weeks			
	Coordinator :	Dr. Zunera Hakim			
	Co-coordinator :	Dr. Zoefishan Fatima			
	Review by :	Module Committee			
	Module Committe	e		Modu	ıle Task Force Team
1.	Vice Chancellor RMU	Prof. Dr. Muhammad Umar	1.	Coordinator	Dr. Zunera Hakim (Assissant Professor of Pharmacology)
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. Zoefishan Fatima (Demonstrator of Pharmacology)
4.	Dean BasicSciences	Prof. Dr. Ayesha Yousaf			
5.	Director DME	Prof. Dr. Ifra Saeed			
6.	Chairperson Pharmacology &	Dr. Asma Khan			
	Implementation Incharge 3 rd year MBBS				
7.	Implementation Incharge 3 rd year MBBS Chairperson Pathology	Prof. Dr. Mobina Dhodhy		DME	mplementation Team
7.		Prof. Dr. Mobina Dhodhy	1.	DME Director DME	mplementation Team Prof. Dr. Ifrah Saeed
7. 8.		Prof. Dr. Mobina Dhodhy Dr Romana	1. 2.		
	Chairperson Pathology	-	1. 2. 3.	Director DME	Prof. Dr. Ifrah Saeed
8.	Chairperson Pathology Chairperson Forensic Medicine	Dr Romana		Director DME Additional Director DME Module planner & Implementation	Prof. Dr. Ifrah Saeed Assoc.Prof Dr Asma Khan
8. 10.	Chairperson Pathology Chairperson Forensic Medicine Focal Person Pathology	Dr Romana Dr Faiza		Director DME Additional Director DME Module planner & Implementation coordinator	Prof. Dr. Ifrah Saeed Assoc.Prof Dr Asma Khan Dr. Omaima Asif
8. 10. 11.	Chairperson Pathology Chairperson Forensic Medicine Focal Person Pathology Focal Person Forensic Medicine	Dr Romana Dr Faiza Dr. Filza		Director DME Additional Director DME Module planner & Implementation coordinator	Prof. Dr. Ifrah Saeed Assoc.Prof Dr Asma Khan Dr. Omaima Asif
8. 10. 11. 12.	Chairperson Pathology Chairperson Forensic Medicine Focal Person Pathology Focal Person Forensic Medicine Focal Person Medicine Focal Person Behavioral Sciences	Dr Romana Dr Faiza Dr. Filza Dr. Saima Ambreen		Director DME Additional Director DME Module planner & Implementation coordinator	Prof. Dr. Ifrah Saeed Assoc.Prof Dr Asma Khan Dr. Omaima Asif
8. 10. 11. 12. 13.	Chairperson Pathology Chairperson Forensic Medicine Focal Person Pathology Focal Person Forensic Medicine Focal Person Medicine	Dr Romana Dr Faiza Dr. Filza Dr. Saima Ambreen Dr. Saadia Yasir		Director DME Additional Director DME Module planner & Implementation coordinator	Prof. Dr. Ifrah Saeed Assoc.Prof Dr Asma Khan Dr. Omaima Asif
8. 10. 11. 12. 13. 14.	Chairperson Pathology Chairperson Forensic Medicine Focal Person Pathology Focal Person Forensic Medicine Focal Person Medicine Focal Person Behavioral Sciences Focal Person Community Medicine	Dr Romana Dr Faiza Dr. Filza Dr. Saima Ambreen Dr. Saadia Yasir Dr. Afifa Kulsoom		Director DME Additional Director DME Module planner & Implementation coordinator	Prof. Dr. Ifrah Saeed Assoc.Prof Dr Asma Khan Dr. Omaima Asif
8. 10. 11. 12. 13. 14. 15.	Chairperson Pathology Chairperson Forensic Medicine Focal Person Pathology Focal Person Forensic Medicine Focal Person Medicine Focal Person Behavioral Sciences Focal Person Community Medicine Focal Person Quran Translation Lectures	Dr Romana Dr Faiza Dr. Filza Dr. Saima Ambreen Dr. Saadia Yasir Dr. Afifa Kulsoom Mufti abdul Wahid		Director DME Additional Director DME Module planner & Implementation coordinator	Prof. Dr. Ifrah Saeed Assoc.Prof Dr Asma Khan Dr. Omaima Asif

Dr Huma Sabir

18.

Focal Person Surgery



Contents

- Horizontally Integrated Basic Sciences (Pharmacology, Pathology & Forensic Medicine)
- Large Group Interactive Session:
 - Pharmacology (LGIS)
 - Pathology (LGIS)
 - Forensic Medicine (LGIS)
- Small Group Discussions
 - Pharmacology (SGD)
 - Pathology (SGD)
 - Forensic Medicine (SGD)
- Self -Directed Topic, Learning Objectives & References
 - Pharmacology (SDL)
 - Pathology (SDL)
 - Forensic Medicine (SDL)
- Skill Laboratory
 - Pharmacology (SDL)
 - Pathology (SDL)
 - Forensic Medicine (SDL)

Orientation Day Introduction to New Teaching Block & Hospital Disciplines

Торіс	Facilitator	Learning Objectives	Teaching Strategy
Introduction to RMUand Allied Hospitals	Vice Chancellor	Honorable VC will welcome and introduce the University and Allied Hospitals.	LGIS
Introduction to MedicalEducation Department	Assistant Director DME	 Introduce DME 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 	LGIS
Introduction to Pre-Clinical Sciences	Implementation Incharge 3 rd Year MBBS	 Introduction to Departments Introduction to Hospitals Discussion about Teaching & Learning strategies Assessment Model Discipline 	LGIS
Introduction to Medicine & Allied	Lecture by Dean of Medicine &Allied	 Define medicine Discuss History of medicine Describe Islamic concepts of medicine Identify Basic sciences involved in medicine Identify Clinical subjects and their role Describe practice of medicine Describe the process 	LGIS

SYLLABUS OF FOUNDATION MODULE –I 3rd Year MBBS

Syllabus of Horizontally Integrated Basic Sciences

	Pharmacology			
Theory				
Торіс	Learning Objectives	Learning Domain	Teaching strategies	Assessment tools
Pharmacokinetics	At the end of the lecture students should be able to			
	• Define absorption of drugs.	C1		MCQs
Absorption of drugs	• Describe the processes by which drugs are absorbed through different barriers.	C2	LGIS	SAQs VIVA
	Define drug distribution	C1		
	• Describe the distribution of a drug through various body compartments	C2		
Distribution of drugs I	Define volume of distribution	C1	LGIS	MCQs
Distribution of drugs -I	• Express volume of distribution mathematically	C1		SAQs VIVA
	•			
	• Discuss the characteristics of plasma protein binding & their clinical significance.	C2		
Distribution of drugs-II	• Describe relationship among volume of distribution & PPB.	C2	LGIS	MCQs SAQs
C	• Discuss the drug reservoirs in the body.	C2		VIVA
	• Discuss different factors affecting distribution of drugs	C2		
	Define Biotransformation	C1		
	• Describe the outcomes and clinical significance of Biotransformation	C2		MCQs
Biotransformation I	• Enlist types of biotransformation (microsomal and non –microsomal)	C1	LGIS	SAQs VIVA

	 Describe characteristics of Phase 1 and Phase 2 biotransformation reactions Discuss different factors affecting biotransformation 	C2 <u>2</u> <u>2</u> <u>2</u>		MCO
Biotransformation II	Discuss enzyme induction and inhibition	C2	LGIS	MCQs SAQs VIVA
Торіс	Learning Objectives	Learning Domain	Teaching strategies	Assessment tools
	Define bioavailability	C1	<u> </u>	
	Express it mathematically and graphically	C1		
	• Describe the clinical significance of bioavailability	C2		MCQs
	Define first pass metabolism	C1		SAQs
Bioavailability	• Recognize the effect of first pass metabolism on bioavailability of drugs	C2	LGIS	VIVA
	Discuss the factors affecting bioavailability of drugs	C2		
	• Differentiate between bioequivalence, therapeutic equivalence & chemical equivalence	C3		
	Define half-life	C1		
	Express it mathematically	C1		
	• Discuss phases with graphical representation of half-life.(alpha and beta half life)	C2		MCQs SAQs
11-161:6 6 1	Discuss first and zero order kinetics	C2		VIV
Half life of drugs	Describe factors affecting half-life.	C2	LGIS	
	• Discuss the clinical significance of half-life.	C2		
	• Discuss steady state concentration and its importance	C2		
	• Determine the half life of the given drug.			
	Define excretion of drug	C1		
	Identify sites of drug excretion	C1		
	Discuss processes involved in drug excretion	C2		
	Define drug clearance	C1		MCQs
	Express it mathematically	Cl		SAQs
	 Define extraction ratio Describe factors affecting CL 	<u>C1</u>		VIVA
	Describe factors affecting CL	C2		

Excretion Of drugs	• Outline the significance of clearance		LGIS	
		C2		
Торіс	Learning Objectives	Learning Domain	Teaching strategies	Assessment tools
	Pharmacodynamics			
	 Discuss different ways of drug interactions Chemical & physical interaction Drug –Receptor interaction 	C2	LGIS	MCQs
Mechanism of drug action- I	• Define receptor, its types and distribution	C1		SAQs VIVA
	Define ligand	C1		VIVA
	• Discuss different receptor ligand interaction (agonist, partial agonist, inverse agonist and antagonist)	C2		
Mechanism of drug action- II	Discuss different receptor signal transduction mechanisms	C2	LGIS	MCQs SAQs
_	Define Dose response curve	C1		
	• Discuss different types of dose response curve	C2		MCQs
Dose response curve -I	• Describe the information that can be obtained from a Graded Dose Response Curve with its clinical significance	C2	LGIS	SAQs VIVA
_	Explain Quantal Dose Response Curve	C2		
_	Describe the information that can be obtained from a Quantal Dose Response Curve	C2		MCQs
Dose response curve-II	Describe differences between Graded and Quantal Dose Response Curve	C2	LGIS	SAQs VIVA
	• Value the role of basic investigations in clinical management	A3		
	Define Tolerance & Tachyphylaxis with clinical examples	C2		MCQs
-	• Differentiate between Tolerance and Tachyphylaxis	C2		SAQs VIVA
	• Discuss different types and mechanism of drug tolerance	C2		

Tolerance and tachyphylaxis	Define drug dependenceDiscuss the stages of drug dependence	C1	LGIS	
		C2		
Торіс	Learning Objectives	Learning Domain	Teaching strategies	Assessment tools
Factors affecting drug actions I	 Discuss different factors affecting drug dose and action Physiological Pathological Psychological Genetic Drug related (drug interactions) Environmental 	C2	LGIS	MCQs SAQs VIVA
Factors affecting drug actions II	• Explain Synergism, Summation and Potentiation Accumulation	C2	LGIS	MCQs SAQs VIVA
	• Define adverse drug reaction (ADR)	C1		
	Classify ADRs based on type and severity	C1		
Adverse drug reactions	• Describe the characteristic of each type of ADR	C2	LGIS	MCQs
	• Identify predisposing risk factors and approaches to ADR prevention	C2		SAQs VIVA
	Illustrate ways of ADR detection during pre & post marketing evaluation of drugs	C2		

PRACTICAL				
Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tool
	• Explain the concept of central tendency in pharmacology and its relevance in analyzing drug response data.			
	• Practice calculating the mean, median, and mode			
Biostatistics-I	• Interpret the calculated central tendencies in the context of drug efficacy and safety.	Р	Skill	OSPE
	 Differentiate between mean, median, and mode, and understand when each measure is most appropriate in pharmacological data analysis 			
	 Clearly define variance, standard deviation, and standard error of the mean, and understand the distinctions between these measures. 			
Biostatistics-II	• Practice calculating variance as a measure of the spread of drug concentration data and interpret the results.	Р	Skill	OSPE
	 Learn to compute standard deviation as a more interpretable measure of the variability in drug response data. 			
	• Master fundamental skills in calculating drug dosages based on patient weight, age, and other relevant factors.			
Pharmacological Calculations-I	 Develop proficiency in calculating pediatric drug dosages, considering age-appropriate formulations and dosage forms. 	Р	Skill	OSPE
	 Clearly define and understand the concepts of fractions and percentages in the context of pharmacological solutions 			
Pharmacological Calculations-II	• Develop proficiency in calculating fractional concentrations for drug solutions, considering both mass/volume and volume/volume ratios.	Р	Skill	OSPE
	 Calculate percentage concentrations of drug solutions using different weight/volume and volume/volume formulations. 			

SMALL GROUP DISCUSSION				
Торіс	Learning objectives	Learning Domain	Teaching Strategy	Assessment tool
	• Enlist different routes of drug administration	C1		
Routes of drug administration and	• Discuss the merits and demerits of each route of administration	C2	SGD	MCQ SAQ
dosage forms	Enumerate different dosage forms	C1		VIVA
	• Discuss the utility of different dosage form in different clinical situations	C2		OSPE
Factors affecting absorption of drugs	• Discuss different drug and body based factors affecting absorption of drugs	C2	SGD	MCQ SAQ VIVA OSPE
Dala af an ann a in duation an d	• Recall the phenomenon of enzyme induction and inhibition	C1		MCQ
Role of enzyme induction and inhibition	 Recognize the effect of enzyme induction and enzyme inhibition on co administered drugs 	C2	SGD	SAQ VIVA OSPE
	• Define therapeutic drug monitoring	C1		
	• Identify the need/significance of therapeutic drug monitoring	C1		MCQ
Therapeutic Drug Monitoring	• Discuss the characteristics and process of therapeutic drug monitoring	C2	SGD	SAQ VIVA
	• Enumerate the factors affecting therapeutic drug monitoring	C1		OSPE

Case Based Learning (CBL)				
Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tools
Clinical Applications of Dose Response Curve	• Discuss the clinical application of different types of dose response curves	C3	CBL	PBQ
Pharmacogenetics	• Describe the importance of Pharmacogenetics in this specific case	C3	CBL	PBQ

Self Directed Learning (SDL)				
Торіс	Learning Objectives	References		
Drug development and new therapeutic approaches	 Define drug Identify sources of drug Discuss the phases of drug development Outline the new therapeutic approaches 	 Basic and Clinical Pharmacology by Bertram Z. Katzung 15th Edition Chapter 1, Page 2-6, 15-24 Goodman and Gillmans The Pharmacological basics of Therapeutics, 13th Edition, Chapter 1, Pg 18 Alamgir, A.N.M. (2017). Drugs: Their Natural, Synthetic, and Biosynthetic Sources. In: Therapeutic Use of Medicinal Plants and Their Extracts: Volume 1. Progress in Drug Research, vol 73. Springer, Cham. https://doi.org/10.1007/978-3-319-63862-1 		
Pharmacokinetic interactions & Their mechanisms	 Define drug interactions and its types Classify drug interactions at different pharmacokinetic processes with examples absorption, distribution, metabolism and excretion Discuss clinical implications of these interactions 	 Important Drug Interactions & Their Mechanisms, Chapter 67, Page No:1156,1173, Basic & Clinical Pharmacology, Katzung DuBuske, L.M., 2005. The role of P-glycoprotein and organic anion-transporting polypeptides in drug interactions. <i>Drug safety</i>, 28, pp.789-801 		

Principles of Prescription Order Writing and Patient Compliance	 Describe different steps of writing a rational prescription Identify different components of prescription Enlist and discuss different abbreviations and terms used in prescriptions and chart orders Recognize main prescription errors 	 Rational Prescribing & Prescription Writing, Chapter 66, Page Number:1146-1150 Basic & Clinical Pharmacology, Katzung Ozavci, G., Bucknall, T., Woodward-Kron, R., Hughes, C., Jorm, C., Joseph, K. and Manias, E., 2021. A systematic review of older patients' experiences and perceptions of communication about managing medication across transitions of care. Research in Social and Administrative Pharmacy, 17(2), pp.273-291.
Therapeutic drug monitoring	 Define therapeutic drug monitoring Identify the need/significance of therapeutic drug monitoring Discuss the characteristics and process of therapeutic drug monitoring Enumerate the factors affecting therapeutic drug monitoring 	 Ali, A.S., Abdel-Rhaman, M.S., Rahman, A.F., & Osman, O.H. (2013). Basic Principles of Therapeutic Drug Monitoring. Goodman and Gillmans The Pharmacological basics of Therapeutics, 15th Edition, Chapter 2, Pg 29

	PATHOLOGY			
THEORY				
Торіс	At the end of the lecture student should be able to	C/P/A	Teaching strategies	Assessment tools
	Define Ischemia and cell injury,	C1		
-	Define Reversible and Irreversible Cell injury	C1		
-	• Describe causes of cell injury and ischemia,	C2		
	Describe morphology of reversible & irreversible cell injury	C2		
Reversible and irreversible	• Explain depletion of ATP, mitochondrial damage and dysfunction, influx of Calcium and loss of calcium, hemostasis, free radical injury (oxidative stresses), defects in membrane permeability, damage to DNA and protein.	C2	LGIS	MCQs SAQs VIVA
cell injury	Define adaptation	C1		
_	Classify types of adaptation	C1		
	• Describe mechanism of hypertrophy hyperplasia, atrophy and metaplasia	C2		
	Describe Stimuli for acute inflammation	C2		
	• Explain vascular Changes including vascular flow, caliber, and increased vascular permeability. (vascular Leakage)	C2	LGIS	MCQs SAQs
Acute inflammation vascular events	Recognize the effect of first pass metabolism on bioavailability of drugs	C2		VIVA
-	Discuss the factors affecting bioavailability of drugs	C2		
	Describe cellular events (Extravasation and phagocytosis)	C2		
Cellular Events of Acute	Describe Leukocytes Adhesions and Transmigration	C2	LGIS	MCQs SAQs
	Describe Chemotaxis, Leukocyte Activation,	C2		VIVA
Inflammation	Phagocytosis and Release of Leukocytes Products	C2		
	Describe Leukocyte-Induced Tissue injury and Defects in Leukocytes Function	C2		

PRACTICAL				
Торіс	Learning Objectives	Learning Domain	Teaching strategies	Assessment tools
	Classify various cellular adaptations to stress	C1		
	• Identify various clinical conditions which lead to hypertrophy, atrophy and metaplasia	P2		
Cellular adaptations to stress	• Identify the morphology of hypertrophy, atrophy and metaplasia	P3	Practical	OSPE
	Demonstrate positive attitude towards safe handling of laboratory specimens	A3		
	• Enlist various conditions which can lead to fatty change calcification and pigmentation	C1		OSPE
Fatty change, Calcification, Pigmentation	• Identify various clinical conditions which lead to fatty change, calcification and pigmentation	P2	Practical	
	• Identify the morphology of fatty change, calcification and pigmentation	P3		
	Demonstrate collaborative working skills	A2		
	• Identify acute inflammatory condition on the basis of gross and microscopic findings.	P3		OCDE
Diagnosis of Acute inflammation	Value the role of basic investigations in clinical management	A3	– Practical	OSPE
	• Identify the microscopic features and gross appearance of Chronic and Granulomatous Inflammation	Р3	Practical	OSPE
Chronic and granulomatous inflammation.	• Value the role of basic investigations in clinical management	A3		

Small Group Discussion (SGDs)				
Торіс	At the end of the lecture students should be able to	C/P/A	Teaching strategy	Assessment tools
Cellular adaptation	Classify various cellular adaptations to stress	C1	SGD	MCOs SAQs
	• Define the Mechanisms that causes and counteracts cellular aging	C1		
	Discuss the causes of DNA damage	C2		
	Describe mechanism of decreased cellular	C2		
Cellular aging & intracellular accumulations	• Explain role of telomers and telomerase and defective protein homeostasis leading to	C2	SGD	MCQs SAQs
accumulations	Define intracellular accumulations	C1		VIVA
	• Describe causes, mechanisms and clinical correlations of the following abnormal accumulations in cells and	C2		
	Classify Cell Derived Mediators	C1		MCQs SAQs VIVA
	Discuss mechanism of actions of all mediators	C2		
Chemical Mediators of inflammation	• Demonstrate effective collaboration within the group as a member or leader	A3	SGD	
	• Describe the causes of chronic Inflammation.	C2		MCQs
Chronic Inflammation	Describe Role of Macrophages	C2	SGD	SAQs VIVA
	• Explain Systemic effects of inflammation	C2		MCQs
Consequences of inflammation	Describe consequences of defective or excessive inflammation	C2	SGD	SAQs VIVA
	• Explain tissue proliferative activity of Stem cell	C2		
Control of normal cell Proliferation	Explain signaling Mechanism in Cell Growth	C2		MCQs SAOs
and Tissue Growth	Describe cell Cycle and the Regulation of cell Replication	C2	SGD	SAQs VIVA
Mechanism of Tissue Regeneration	Describe mechanism of tissue regeneration	C2		
	Define: Collagen, Elastin, Fibrillin,cell adhesion Proteins, Glycosaminoglycans, Proteoglycans	C1	SGD	MCQs SAQs
	Demonstrate collaborative team work and problem solving aptitude	A3		VIVA

Case Based Learning (CBL)				
Торіс	Learning Objectives At the end of the lecture student should be able to	Learning Domain	Teaching strategy	Assessment tools
	• Explain causes of calcification in given scenario	C2		
	Discuss other sites and types of calcification	C2		
	• Discuss morphological appearance and complications of calcification	C2		
Pathological calcification	• Differentiate between various types of calcifications with respect to their sites and association with different pathological conditions	C2	CBL	PBQs
	• Apply knowledge in identifying the significance of calcification with normal and abnormal pathological circumstances	Р2		
	• Demonstrate collaborative team work and problem solving aptitude	A3		
	• Demonstrate the pathogenesis , morphology , etiology, and causes and reasons of granulomatous inflammation C2	C2	– – CBL	PBQs
Granulomatous inflammation	• Differentiate between different granulomatous diseases C4	C4		
Granulomatous inflammation	• Identify diagnostic criteria for granulomatous inflammation P2	P2		
	• Demonstrate clinical reasoning and problem-solving attitude with collaborative team work	A3		
	Differentiate between repair and regeneration	C4		
	Describe Mechanism of Angiogenesis	C2		
	Wound healing by first and second intention	C2		
	• Describe factors that influence the inflammatory reparative response.	C2		
Healing by secondary intention	• Describe wound remodeling, formation of granulation tissue and complications of wound healing.	C2	CBL	PBQs
	• Apply his/her knowledge to identify the mechanism of healing in different circumstances	A2		
	• Demonstrate critical thinking attitude needed for application of basic knowledge into clinical situations.	A3		

	Self Directed Learning (SDL)					
Торіс	Learning Objectives	References				
The genome and cellular house keeping	 Describe the components and regulators of gene function Describe the functions of coding and non-coding genome Describe the components of cell and regulation of cell function 	Robbins & Cotran Pathologic Basis OF Disease 10 th Edition, Chapter 1 Pg 115				
Cell Growth	 Describe the cell signaling pathways Describe the cell cycle and its regulators Describe the role of growth factors and their receptors in cell growth Describe the role of extracellular matrix in cell growth Describe the role of stem cells in replenishing cellular populations 	Robbins & COTRAN Pathologic Basis OF Disease 10th Edition, Chapter 1 Pg 1529				
Morphological Patterns and complications of Acute inflammation	 Identify Morphologic Patterns of Acute inflammation Describe the termination events of acute inflammation Describe complications of Acute inflammation Demonstrate responsibility for self-learning 	Robbins & Cotran Pathologic Basis OF Disease 10th Edition , Chapter 3 Pg 9396				
Phagocytosis and Clearance of the Offending Agent	 Describe the role of cells involved in Phagocytosis and Clearance of the Offending Agent Describe the process of phagocytosis and opsonization Describe the mechanism of action of NETs 	Robbins & Cotran Pathologic Basis OF Disease 10th Edition ,Chapter 3 Pg 8085				

Large Group Interactive Session (LGIS)

Forensic Medicine & Toxicology					
THEORY					
Торіс	Learning objectives	Learning Domain	Teaching Strategy	Assessment Tools	
	• Define forensic medicine , state medicine & medical jurisprudence	C1			
Introduction to Forensic Medicine	Enlist different branches of forensic medicine.	C1	LGIS	MCQs SAQs	
Medicine	• State the importance of medicolegal clinics, autopsy room, laboratory services.	C2		VIVA	
	• Briefly describe the requirements of autopsy room.	C2			
	• Describe the importance of personal identity.	C2			
	• Enumerate different Parameters of personal identity (Age, sex, race, stature, Tattoo marks, occupational status, Anthroprometry etc)	C1		MCQs	
Personal Identity-I Parameters of Identity	• Briefly explain different methods to determine the personal identity.	C2	LGIS	SAQs VIVA	
	Define Poroscopy, Cheiloscopy, Dactylography, Anthropometry, Trace evidence and Locard's Principle of exchange w.r.t Personal Identity.	C1			
	• Define law, Statute law, Common law, civil law and criminal law.	C1			
	• Define Inquest with examples of its application in medico-legal work.	C2		MCQs	
	Describe various methods of judicial investigations	C2		SAQs	

Legal Aspects of Medical practice-I Courts and legal procedures in Pakistan	• State Different types of Courts and their power of jurisdiction	C2	LGIS	VIVA
Торіс	Learning objectives	Learning Domain	Teaching Strategy	Assessment Tools
Legal Aspects of Medical practice-II Medico-legal	• Enumerate and briefly describe the different types of evidence.	C1	LGIS	MCQs SAQs
Importance of Evidence and witness	• Briefly explain the admissibility of evidence in court.	C2	LOIS	VIVA
	• Differentiate between dying declaration and dying deposition.	C2	LGIS	
	Briefly explain the stages of evidence in court.	C2		MCQs SAQs VIVA
Personal Identity-II Osteology	Define ossification centers	C1		
	• Enlist the ossification centers in bones and their appearance with relation to age.	C2		
	• Briefly describe the medicolegal importance of	C2		
	Introduction to Medical Ethics	C1		MCQs
Legal Aspects of Medical	• Define consent and briefly describe its various types	C2		
practice-III	• Define and describe the medical negligence with examples	C2		
Negligence Consent PM& DC rules and regulation	• Enlist and describe the different types of negligence and precautions against medical negligence	C2	LGIS	SAQs VIVA
	• Enlist the duties of a Medical practitioner and patient w.r.t medical negligence.	C2		
	• Briefly describe the structure & function of PMDC	C2		
	 Define Professional misconduct Briefly describe different types of Abuse comes under professional misconduct. 	C1 C2		

	Define Professional secrecy.	C2		
Legal Aspects of Medical	• Define privileged communication and briefly explain	C2	LGIS	MCQs
practice-IV Confidentiality and legal medical practice	its types.Briefly describe different types of medical	C2		SAQs VIVA
	documentation.(Medical prescription, medical report,			
	medical certificate and medical notification).			

PRACTICAL					
Торіс			earning objectives		
Medicolegal Certificates for (Age estimation, Examination of Injuries, Rape survivors, death certificate, Consent form)	 Knowledge Briefly describe Importance of Medicolegal Certificates. Enlist various types of medicolegal certificates. 	С/Р/А С2 С2	 Skills The student will be able to Enlist various types of medicolegal certificates. Fill different types of Medicolegal Certificates 	Attitude The student will be able to : Recognize the need and make different types of medicolegal certificates when required.	Assessment Tools OSPE
Osteology Identification of male and female skull & pelvis	 Describe the distinguishing features of male and female skull Knowledge of estimation of stature, Race, Age and anatomical details of skull with special reference of MLC/Autopsy Describe the distinguishing features of male and female pelvis Knowledge of estimation of Age and anatomical details of pelvis with special reference of MLC/Autopsy 	C2 C2 C2 C2 C2	 The student will be able to Distinguish male and female skull. Relate anatomical details of skull with reference to personal identity. Distinguish male and female pelvis. Relate anatomical details of pelvis with reference to personal identity. 	The student keen enough to Utilize the basic anatomical details of skull & Pelvis for their Medicolegal utilization	OSPE
Dactylography	 Briefly describe Poroscopy, Cheiloscopy, Dactylography and Anthropomentary. 	C1 C1 C2 C2	 The student will be able to Define Poroscopy, Cheiloscopy, Dactylography and Anthropomentary. 	The student keen enough to utilize the basic anatomical details of pelvis for its Medicolegal utilization	OSPE

	 Enlist various types of finger prints State medico legal importance of Dactlography Hasse's Rule, Trace evidence and Locard's Principle of exchange. 		 Enlist and identify various types of finger prints 		
Odontology	 Define forensic odontology and determine the age of a person w.r.t teeth. Briefly explain the importance of Gustafson's and Boyd's method. Differentiate between temporary and permanent teeth State the medico-legal importance of teeth. 	C1 C2 C2	 The student will be able to Identify the medicolegal importance of teeth. Differentiate between temporary and permanent teeth 	The student keen enough to utilize the basic fingerprint details and their Medicolegal utilization	OSPE

	Self Directed Learning (SDL)					
Торіс	Learning Objectives	References				
Importance of Medical consent	 Describe various types of medical evidences and consent Describe principles of a medical witness 	Parikh "text book of medical jurisprudence forensic medicine and toxicology addition 9				
Professional Medical negligence	 Introduction to Medical Ethics Define and describe the medical negligence with examples Define and describe contributory negligence and precautions against medical negligence 	Parikh "text book of medical jurisprudence forensic medicine and toxicology addition 9				
Personal identity	 Describe Importance of personal identity. Describe the Parameters of personal identity with special emphasis on the following Teeth, Age, Sex, Race and communal characters, Complexion, Features, Hairs, Stature, Deformities, Tattoo marks, Scars, Occupational, stigmata, Anthropometry, 	Parikh "text book of medical jurisprudence forensic medicine and toxicology addition 9				
Identification in mass disasters	 Define mass disaster Mention the objective of Forensic investigations Describe the importance of fragmentary remains Role of photography in mass disasters 	Parikh "text book of medical jurisprudence forensic medicine and toxicology addition 9				

Basic and Clinical Sciences (Vertical Integration)

• Content

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

Clinical Science Integration (Vertical Integration) Medicine Large Group Interactive Sessions (LGIS)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tool
	• Recognize importance of clinical medicine and context for theoretical learning so that one can see how learning about body system and social sciences are applied to care of patient.	C3		
	Recognize importance of clinical decision making.	C3		
Medicine in Practice	Explain clinical reasoning and clinical skills.	C2	LGIS	MCQs
Wedlettie in Tractice	Understands problems with diagnostic errors.	C3	LOIS	SAQs
	• Explain the use and interpretation of diagnostic tests.	C2		
	Analysis of patient- physician relationship.	C4		
	Explain evidence based medicine.	C2		
	Explain expanding role of physician	C2		
	• Recognize and evaluate different ethical problems including gap block, priority setting, moral dilemma and resolving conflict.	C1		
	• Analysis different ethical problems and knows different approaches.	C4		
Medical ethics	• Recognize importance of informed consent before examining a patient or any procedure.	C1	LGIS	MCQs
introduction	• Recognize importance of counseling of patients and attendants in different clinical settings.	C1		SAQs
	• Recognize respect for patient autonomy and acting in best interest of patient and maintaining confidentiality.	C1		
	Recognize mechanism of acute inflammation.	C1		
	Describe what acute phase response are.	C2		
Acute and Chronic	• Explain acute phase proteins.	C2		
Inflammation Medical	• Explain mechanism of sepsis and septic shock.	C2	LGIS	MCQs
Perspective	• Differentiate between acute and chronic inflammation.	C4	LOIS	SAQs
Terspective	Recognize the investigations involved in inflammation.	C1		
	• Describe presenting modes of inflammation and problems related to it.	C2		
Physiological response to infection	• Recall infectious agents including prions, viruses, prokaryotes and eukaryotes.	C1	LGIS	MCQs SAQs

Recognize the meaning of normal flora.	C1		
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Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tool
	Describe host pathogen interactions.	C2		
	Explain pathogenesis of infectious diseases.	C2		
Physiological response to infection	• Recognize investigations required for diagnosis of infections.	C1		
	Recall epidemiology of infection.	C1		
	• Know modes of transmission of infections.	C1		
	Describe patho-physiology of pain.	C2		MCQs
Common Medical Issue-I	• Describe evaluation of patient with pain.	C2	LGIS	SAQs
	• Evaluate cause of chest discomfort and describe approach to a patient with fever.	С3		
	• Differentiate between faintness, syncope, dizziness and vertigo.	C4		
	• Describe approach to a patient with hypertension.	C2		
Common Medical Issue-II	• Describe approach to a patient with lymphadenopathy and splenomegaly	C2	LGIS	MCQs SAQs
	• Evaluate cause of chest discomfort and describe approach to a patient with fever.	С3		
	• Differentiate between faintness, syncope, dizziness and vertigo.	C4		

Surgery Large Group Interactive Sessions (LGIS)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tool
	Establish importance of ethics in operating room	C3		
Surgical ethics	 Establish common ethical issues in operating room (Exposure of body, Dress, People gathering and traffic, Noise, Comments and behavior, Honesty, Consent.) 	C3	LGIS	MQs SAQs
	• Discuss the importance of understanding human behavior if patient care is to improve.	C2		
	• Describe the importance of patient safety and the scale of the problem.	C2	LGIS	MCQs
Patient safety and quality improvement	• Explain medical error and its definitions including adverse events and near misses.	C2		SAQs
	Discuss patient safety strategies and solutions.	C3		
	• Discuss the importance of understanding human behavior if patient care is to improve	C2	LGIS	MCQs SAQs
Sterilization and Disinfection	• Understand the concept of sterilization and disinfection.		LGIS	
Stermzation and Disinfection	Recognize the importance of aseptic and antiseptic techniques.			
	• The characteristics of the common surgical pathogens and their sensitivities	C3	LGIS	MCQs
Surgical Infections	• The classification of sources of infection and their severity.	C2		
	The clinical presentation of surgical infections.	C2		SAQs
	• The indications for and choice of prophylactic antibiotic.	C2		
	Classical concepts of homeostasis.	C2		
	Mediators of metabolic response to injury	C2		MCOr
Metabolic response to injury	Physiological and biochemical changes that occur during injury.	C2	LGIS	MCQs SAQs
	Avoidable factors that enhance metabolic response to injury	C2		
Wound repair and healing	Normal healing and how it can be adversely affected.	C2		
	Management of wounds of different types.	С3	LGIS	MCQs
	Differentiation between acute and chronic wounds	C3		SAQs
	Differentiate between repair and regeneration	C4		

Spirally Integrated Curriculum Bioethics & Professionalism

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tools
Duties of Medical and Dental	 Outlines the ethical principles and Standards in Pakistan Medical and Dental Council (PMDC) Code of Ethics 	C1		
Practitioners (International Code	Enlist the duties of Physicians in General	C1	LGIS	MCQs
of Medical Ethics)	Enlist the duties of Physicians to the Sick	C1		
	Enlist the duties of Physicians to each other	C1		
	Conceptualize the Pharmacovigilance	C3		
Pharmacovigilance	 Define Pharmacovigilance (WHO,DRAP) guidelines on the management of high alert medication 	C1		
	Elaborate adverse events reporting guidelines for healthcare professionals	C3	LGIS	MCQs
	Enlist the various tools available to minimize the medical errors	C1		
	Elaborate the disclosure policy	C3		

Family Medicine

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tools
	• Identify and analyse ethically problematic decision -making situations in health care and other related services	C1		
	Present appropriate and sound bioethical arguments	C2		
Ethics in primary care	Evaluate his personal values and professional duties	C3	LGIS	MCQs
	 Base his arguments on scientifically sound empirical knowledge 	C3		megs
	 Understand the ethical principles in scientific inquiry and in scientific data reporting 	C2		

Problem oriented history taking	Identify the essential components of history	C1		
	Recognize chief complaints in history	C1	LGIS	MCQs
	Probe chief complaints with relevant questions	C3		

Integrated Undergraduate Research Curriculum (IUGRC)

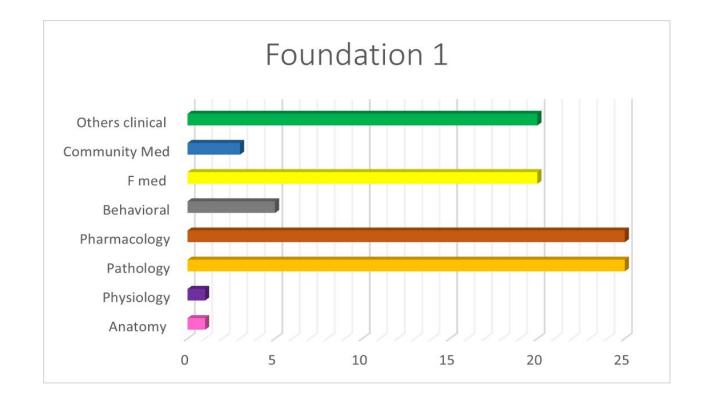
Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tools
	Define inferential statistics	C1		
	• Explain role of inferential statistics in health research decision making	C2		
	Appreciate concept of normal distribution curve and standard normal curve	C2		
Normal distribution curve	• Enlist properties of normal distribution curve and application of concept of normal distribution curve to solve community problems	C2	LGIS	MCQs SAQs VIVA
	• Conceptualize the methods of generalization of result of sample over population	C3	_	
	• Explain concept standard error, confidence interval, coefficient of variation and degree of freedom with interpretation.	C2		
	• Elaborate the concept of hypothesis testing	C2		
	• Enlist the steps of hypothesis testing	C1		
	• Explain role of statistical test of significance in hypothesis testing	C2		MCQs SAQs VIVA
Hypothesis Testing	Differentiate between parametric , non-parametric	C2	LGIS	
	• Interpret p-value and Confidence Interval in published research result	C3		
	• Describe concept of generalization of results to the population	C2		
	Illustrate source of type I and type II errors	C2	1	
Tests of significance	• Explain application of sampling distribution of means in calculating SE and 95% Cl for sample mean	A2	LGIS	MCQs SAQs VIVA
	Compute SE of difference between two sample means	C3		

 Apply student t-test for computing difference between 2 means and interpret the results 	A3
Elaborate types of t-test	C3
Differentiate between one sample, independent and paired t test	C3

Behavioral Sciences

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tools
Psychosocial Assessment -I	 To be able to do a detailed interview keeping in mind the psychological and Social aspects of illness. 	C3	LGIS	MCQs
	 To be able to inquire about the illness's predisposing, precipitating and maintaining factors. 	C3	LOIS	SAQs
Psychosocial Assessment -II	• To be able to do detailed mental state examination including thought process and cognitive functions.	C3		MCQs
	 To be able to incorporate the bio-psychosocial model of healthcare in the management of the patient 	C3	LGIS	SAQs

Foundation Module-II Summary of Subjects



Sr. No.	Disciplines	LGIS	SGD	CBL	SDL	Hours
1.	Pharmacology	16	05	02	04	27
2.	Pathology	03	07	03	04	17
3.	Forensic Medicine	07	04	0	04	15
4.	Surgery	06	0	0	0	06
5.	Medicine	06	0	0	0	06
6.	Family Medicine	02	0	0	0	02
7.	Research	03	0	0	0	03
8.	Ethics	02	0	0	0	02
9.	Behavioral Sciences	02	0	0	0	02
10.	Quran	03	0	0	0	
	Total hours	51	12	05	12	80

Distribution of Teaching Hours of Disciplines

Practical & Clerkship Hours

Disciplines	Practical hours	Disciplines	Clerkship hours
Pharmacology	2x4 = 08 hrs	Surgery	$2.5 \times 16 = 35 \text{ hrs}$
Pathology	2x4 = 08 hrs	Medicine	2.5 x 16= 35 hrs
Forensic Medicine	2x4 = 08 hrs	Sub Specialty	$2.5 \times 16 = 35 \text{ hrs}$

Foundation - III

MBBS YEAR III
BLOCK- VIII
DLOCK- VIII
MODULE- II
FOUNDATION III MODULE
DUDATION AWEEVS
DURATION- 4 WEEKS



Introduction

Foundation module II 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 foundation module is designed to impart basic knowledge about Pharmacology, Pathology, Forensic Medicine, Community Medicine, 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 & Forensic 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

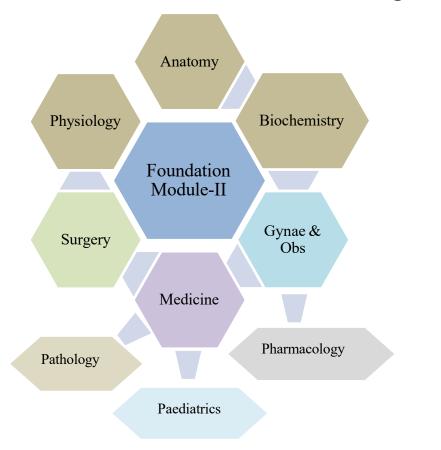
Attitude

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

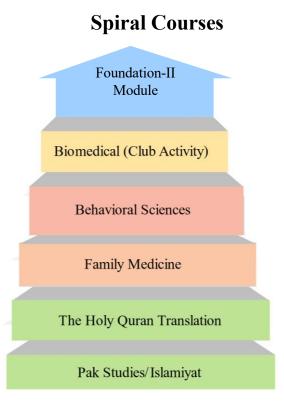
This module will run in 3.5 weeks duration. The content will be covered through introduction of topics. Instructional strategies are given in the time table and learning objectives are given in the study guides. Study guides will be uploaded on the university website. Good luck

Foundation -III Module Team

Module 1	Name :	Foundation II Module					
Duration	of module :	3.5 Weeks					
Coordina	ator :	Dr.Attiya Munir					
Co-coord	dinator :	Dr.Muhammad Zaheer Sheikh					
Review l	bv :	Module Committee					
	Module Commit	tee	Module Task Force Team				
1.	Vice Chancellor RMU	Prof. Dr. Muhammad Umar	1.	Coordinator	Dr. Attiya Munir (Assissant Professor of Pharmacology)		
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. Zaheer Sheikh (Demonstrator of Pharmacology)		
4.	Dean Basic Sciences	Prof. Dr. Ayesha Yousaf					
5.	Director DME	Prof. Dr. Ifra Saeed					
6.	Chairperson Pharmacology & Implementation Incharge 3 rd year MBBS	Dr. Asma Khan					
7.	Chairperson Pathology	Prof. Dr. Mobina Dhodhy		DME	Implementation Team		
			1.	Director DME	Prof. Dr. Ifrah Saeed		
8.	Chairperson Forensic Medicine	Dr Romana	2.	Additional Director DME	Assoc.Prof Dr Asma Khan		
10.	Focal Person Pathology	Dr Faiza	3.	Module planner & Implementation	Dr. Omaima Asif		
				coordinator			
11.	Focal Person Forensic Medicine	Dr. Filza	4.		Dr Omaima Asif		
11. 12.	Focal Person Medicine	Dr. Saima Ambreen	4.		Dr Omaima Asif		
12. 13.	Focal Person Medicine Focal Person Behavioral Sciences	Dr. Saima Ambreen Dr. Saadia Yasir	4.		Dr Omaima Asif		
12.	Focal Person Medicine Focal Person Behavioral Sciences Focal Person Community Medicine	Dr. Saima Ambreen Dr. Saadia Yasir Dr. Afifa Kulsoom	4.		Dr Omaima Asif		
12. 13.	Focal Person MedicineFocal Person Behavioral SciencesFocal Person Community MedicineFocal Person Quran Translation Lectures	Dr. Saima Ambreen Dr. Saadia Yasir Dr. Afifa Kulsoom Mufti Abdul Wahid	4.		Dr Omaima Asif		
12. 13. 14. 15. 16.	 Focal Person Medicine Focal Person Behavioral Sciences Focal Person Community Medicine Focal Person Quran Translation Lectures Chairperson Family Medicine 	Dr. Saima Ambreen Dr. Saadia Yasir Dr. Afifa Kulsoom Mufti Abdul Wahid Dr Sadia	4.		Dr Omaima Asif		
12. 13. 14. 15.	Focal Person MedicineFocal Person Behavioral SciencesFocal Person Community MedicineFocal Person Quran Translation Lectures	Dr. Saima Ambreen Dr. Saadia Yasir Dr. Afifa Kulsoom Mufti Abdul Wahid	4.		Dr Omaima Asif		



Integration of Disciplines in Foundation Module-III



Contents

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 - Pharmacology (SGD)
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- Self -Directed Topic, Learning Objectives & References
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- Skill Laboratory
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Learning Objectives

Horizontally Integrated Basic Sciences

Pharmacology Large Group Interactive Session (LGIS)

Торіс	Learning Objectives At the end of the lecture student should be able to	Learning Domain	Teaching strategies	Assessment tools
Introduction to ANS	Describe the general organization of autonomic nervous system	C1	LGIS	MCQs SAQs
Introduction to Aivo	• Describe the basic characteristic of sympathetic and parasympathetic systems	C2		VIVA
	Identify location of cholinergic receptors and molecular mechanism of their activation	C1		
	Classify cholinomimetics	C1		
Parasympathomimetics-I (directly acting)	• Describe the pharmacological effects produced by the activation of these receptors	C2	LGIS	MCQs SAQs
(directly acting)	Describe uses and adverse effects of cholinomimetics.	C2		VIVA
	Identify location of cholinergic receptors and molecular mechanism of their activation	C1		
Democratic attaction 11	Classify anticholinesterases	C1		MCQs
Parasympathomimetics-11 (indirectly acting)	• Describe the mechanism of action and adverse effects of anticholinesterases	C2	LGIS	SAQs VIVA
	Identify location of cholinergic receptors and molecular mechanism of their activation	C1		
Anti cholinergics-I	Classify cholinomimetics	C1		MCQs
(classification and mechanism of action)	• Describe the pharmacological effects produced by the activation of these receptors	C2	LGIS	SAQs VIVA
	Describe uses and adverse effects of cholinomimetics.	C2		
Anti cholinergics-II	• Compare & contrast hyoscine & atropine.	C3	LGIS	MCQs SAQs VIVA

Торіс	Learning Objectives At the end of the lecture student should be able to	Learning Domain	Teaching strategies	Assessment tools
	Classify Sympathomimetics	C1		
Sympathmimetics I (classification)	 Identify receptors selectivity of sympathomimetic drugs Discuss structure activity relationship of sympathomimetics Differentiate between catecholamines and non catecholamines 	C1	LGIS	MCQs SAQs VIVA
Sympathomimetics-II (directly acting drugs)	• Describe the pharmacological affects, produced by sympathomimetics	C2	LGIS	MCQs SAQs VIVA
Sympathomimetics-III (indirectly acting drugs)	• Compare different sympathomimetics in relation with epinephrine	C1	LGIS	MCQs SAQs VIVA
	Classify alpha adrenergic blockers	C1		
$\alpha - Blockers$	 Describe the mechanism of action, pharmacological effects, uses and adverse effects of α – blockers. 	C2	LGIS	MCQs SAQs VIVA
	Discuss "epinephrine reversal"	C2	-	VIVIX
Beta blockers-I (classification)	 Classify beta adrenergic blockers Describe the mechanism of action of beta adrenergic blockers 	C1	LGIS	MCQs SAQs
Beta blockers-II (mechanism of action)	• Describe the pharmacological effects of beta adrenergic blockers	C2	LGIS	MCQs SAQs VIVA
Beta Blockers-III (clinical uses and adverse effects)	• Describe the uses and adverse effects of beta blockers	C1	LGIS	MCQs SAQs VIVA

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tool
Pharmacological calculations III	• Solve the pharmacological calculations using the basic formulae	P2	Skill	OSPE
Effect of mydriatics on frog's eye	Recall the mydriatic groupsInterpret the results of the drug instilled in rabbit's eye	P3	Skill	OSPE
Effect of miotics on frog's eye	Recall the miotic drug groupsInterpret the results of the drug instilled in rabbit's eye	P3	Skill	OSPE

Pharmacology Case Based Learning (CBL)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tools
	Recognize the clinical features of both poisonings	C2		
	• Evaluate the role of anticholinergics in both poisonings	C2	CBL	PBQ
Mushroom and dhatura poisoning	• Design the management plan for both poisonings	C3	CBL	TDQ
	Recognize the clinical features of Organophosphate Poisoning	C2	CDI	DD C
Organophosphate poisoning	• Evaluate the role of oximes in organophosphate poisoning	C2	CBL	PBQ
	• Design the management plan for organophosphate poisoning	C3		
	Manage the given case	C3		
A nonhylastia shooly	• Describe the effect of epinephrine on vascular and pulmonary systems and the receptors involved	C2	CBL	PBQ
Anaphylactic shock	Enlist other uses and adverse effects of epinephrine	C1		-
	Explain the epinephrine reversal phenomenon	C2		
	•			
	Discuss the clinical pharmacology of beta blockers	C2		
Beta blockers	• Rationalize the use of specific beta blockers in specific clinical situations	С3	CBL	PBQ

Pharmacology Self Directed Learning (SDL)

Торіс	Learning Objectives	References
Receptors and neurotransmitters involved in ANS	• Revise the knowledge of receptors and neurotransmitters regarding their functional roles	 Basic and Clinical Pharmacology by Bertram Z. Katzung 15th Edition, Chapter 6, Page 2-6, 15-24 Goodman and Gillmans The Pharmacological basics of Therapeutics, 13th Edition, Chapter, Pg 43
Pheochromocytoma	 Discuss the signs and symptoms of pheochromocytoma Discuss the pharmacological management of pheochromocytoma 	Basic and Clinical Pharmacology by Bertram Z. Katzung 15th Edition, Chapter 10, Page 165-166
Ganglion blockers	 Enumerate Ganglion blockers Explain mechanism of action Discuss different organ system effects Enumerate clinical applications and toxicity of the drugs 	Basic and Clinical Pharmacology by Bertram Z. Katzung 15th Edition, Chapter 8, Page 139-140
Use of botulinum in aesthetics	 Discuss mechanism of action of botulinum Enumerate uses and adverse effects of botulinum 	Basic and Clinical Pharmacology by Bertram Z. Katzung 15th Edition, Chapter 6, Page 99 pg 136,1232

Pathology Large Group Interactive Session (LGIS)

Торіс	Learning Objectives At the end of the lecture student should be able to	C/P/A	Teaching strategies	Assessment tools
	Define Thrombus &Virchow's triad	C1		
	Describe Causes of hypercoagulability	C2		
Pathophysiology of Thrombo-	Explain fate of thrombus, morphology of venous thrombosis	C2		MCQs
embolism	Differentiate between arterial and venous thrombosis	C3	LGIS	SAQs
	Correlate pathogenesis of Disseminated-intravascular coagulation clinical presentation	C3		VIVA
	Classify embolism on the basis of etiology	C1		
	Explain Mendalian's laws of genetics.	C2		MCQs
Mendalian Disorders	Correlate inheritance with pathogenesis of various genetic disorders	C3	LGIS	SAQs VIVA
	Define and classify neoplasia	C1		MCQs
Nomenclature &	Describe nomenclature of neoplasms	C2	LGIS	SAQs
Characteristics of neoplasms	Differentiate between benign and malignant tumors	C3		VIVA
Diagnostic approach of malignant tumors	• Diagnose a case of malignant tumor on the basis of different laboratory tests	C2	L CIQ	MCQs
	Describe morphology of malignant tumors (gross & microscopy)	C2	LGIS	SAQs VIVA
-	Demonstrate adequate interpersonal skills and collaborative team work	A2		VIVA

Pathology Practical Skill Laboratory (SKL)

Торіс	Learning Objectives	Learning Domain	Teaching strategies	Assessment tools
	• Illustrate morphology of Chronic Venous Congestion, Thrombosis and Infarction with help of diagram	Р3		
Chronic Venous Congestion,	Interpret report of coagulation profile	Р3	Practical	OSPE
Thrombosis, Infarction	• Be considerate of cost effectiveness and risk-benefit analysis while ordering investigations in a patient	A2		
	• Diagnose a case of benign tumor on the basis of different laboratory tests	P3		
Diagnosis of benign Neoplasia	Describe morphology of benign tumors (gross & microscopy)	P2	Practical	OSPE
	• Demonstrate adequate interpersonal skills and collaborative team work	A2		
Diagnosis of malignant Neoplasia	• Identify the microscopic features and gross appearance of Chronic and Granulomatous Inflammation	P1	Practical	OSPE
	• Value the role of basic investigations in clinical management	A3	Tuotiour	

Торіс	Learning Objectives At the end of the lecture student should be able to	C/P/A	Teaching strategy	Assessment tools
	Classify edema on the basis of etiology and pathogenesis	С3		MCQs
Edema	• Differentiate b/w edema in various clinical settings	C3	SGD	SAQs VIVA
	Define Infarct.	C1		
Morphological changes in Infarction	• Explain types of infarct.	C2	SGD	MCQs SAQs
worphological changes in infarction	• Explain causes, of infarct.	C2	30D	VIVA
	Describe morphology of infarct.	C2		VIV1X
	Define Hemorrhage.	C1		
Types of hemorrhage	Describe Normal coagulation cascade.	C2	CCD	MCQs
	• Enlist Types of haemorrhages with examples.	C1	SGD	SAQs VIVA
	Describe Concept of Petechiae, ecchymosis, bruises	C2		VIVA
	Define Genetics	C1		MCQs SAQs VIVA
	Describe history and branches of genetics	C2	SGD	
	Explain relationship between genes and human diseases	C2		
Introduction to genetics	• Enlist different types of changes in DNA which lead to genetic disease	C2		
	Demonstrate the importance of patient confidentiality.	A2		
	Classify normal Karyotype	C1		MCQs
	Explain chromosomal disorders of autosomes and sex chromosomes	C2	-	SAQs VIVA
	Explain Down' syndrome and turner's syndrome	C2		
	• Explain single gene disorders with non-classical inheritance.	C2		
	Explain multifactorial genetic disorders	C2		
Types of gene disorders and Prenatal diagnosis	Identify diseases caused by triplet repeat mutation	C2	SGD	
	• Identify diagnostic test related to genetic diseases	C2		

Pathology Small Group Discussion (SGDs)

Торіс	Learning Objectives At the end of the lecture student should be able to	C/P/A	Teaching strategy	Assessment tools
	Enlist various single gene disorders	C1		MCQs
Single-Gene Disorders	• Describe the mechanisms involved in single gene disorders	C2	SGD	SAQs VIVA
	• Explain cancer incidence along with environmental and geographic distribution C2	C2		
Epidemiology of neoplasia	Explain Genetic predisposition to cancer and Non hereditary predisposing conditions	C2	SGD	MCQs SAQs
	• Design the management plan for both poisonings	C2		VIVA
Molecular basis of cancer	Describe essential alterations for malignant transformation	C2		1/60
	Define oncogenes, proto-oncogenes and oncoproteins	C1	SGD	MCQs SAQs
	• Explain role of RAS oncogenes, BRAF ,MYC oncogenes ,Cyclin and cyclin dependent kinase in carcinogenesis	C2	50D	VIVA
Tumor suppressor genes in cancer	• Explain carcinogenesis by Tumor suppressor genes ,RB gene ,P53 gene	C2	SGD	MCQs SAQs
	Explain role of ApC /b-catenin pathway in carcinogenesis	C2		VIVÀ
	Enlist examples of microbial and radiation carcinogenesis	C2		MCQs SAQs VIVA
	• Correlate the etio-pathogenesis of microbial carcinogenesis with the genetic alterations in tumor genomics	С3	SGD	
Microbial & radiation carcinogenesis	Correlate the mechanism of radiation oncogenesis with predisposing environment for carcinogenesis	C3		
	Describe the genetic pathways involved in the radiation oncogenesis	C2		
	Classify carcinogenesis on the basis of various mechanism involved	C2		
Carcinogenic agents and Tumor	Describe the steps involved in carcinogenesis	C2	SGD	MCQs SAQs
immunity	Explain chemical, radiational and microbial carcinogenesis	C2		VIVA
	Explain Immune surveillance	C2	_	
Pathophysiology of Environmental	Environmental Effects on Global Disease Burden,	C1		MCQs
Diseases	Explain Health effects of Climate changes	C1	SGD	SAQs VIVA
	Describe Toxicity of chemical and physical agents	C2		

Pathology Case Based Learning (CBL)

Торіс	Learning Objectives At the end of the lecture student should be able to	Learning Domain	Teaching strategy	Assessment tools
	Define shock	C1		
	Classify shock on the basis of etio-pathogenesis	C3		
Etia nathaganagig of Shaak	• Correlate the stages of shock with underlying pathogenic mechanisms	C3	CBL	PBQs
Etio-pathogenesis of Shock	• Identify the type of shock in clinical setting and the stage	C2	CDL	rdQs
	Describe the Biochemical and immune-abnormalities in shock	C3		
	Relate the need of diagnosis in emergency situations	C2		
	Explain causes and evaluation of chromosomal abnormalities	C2	CBL	
	Explain causes of facial features and complication of this syndrome	C2		
Diagnosis of Klinefelter Syndrome	Correlate the clinical features with genetic basis	C2		PBQs
Syndrome	• Identify different Chromosomal abnormalities on the basis of history taking and physical examination	C3		
	Discuss causes of lead poisoning	C2		
Lead poisoning	Describe the pathogenic effects of lead poisoning	C2	CBL	PBQs
	• Discuss clinical and morphological features of lead poisoning anemia	C2	CBL	1 DQs

Pathology Self Directed Learning (SDL)

Торіс	Learning Objectives	References
Embolism and types of embolism	 Define and classify embolism 	Robbins & Cotran Pathologic Basis OF
	• Explain clinical Importance and treatment of different	Disease, 10th Edition, Chapter 1, Pg 112
	types of embolism.	114
	• Describe morphology of different types of emboli.	
	• Diagnose a case of embolism on the basis of different	
	laboratory tests.	
Cytogenetic disorders	 Explain General Features of Chrosomal Disorders 	Robbins & Cotran Pathologic Basis of
	 Explain numeric and structural abnormalities 	Disease, 10 th Edition, Chapter 1, Pg 262-
	 Explain Cytogenetic Disorders Involving 	269-
Nutritional disorder	Explain Macronutrient/Micro-nutrient insufficiency	Robbins & Cotran Pathologic Basis OF
Macronutrients/Micronutrient insufficiency	 Explain Dietary insufficiency, Protein energy 	Disease 10th Edition Chapter 3 Pg 80-85

	 Malnutrition, Anorexia Nervosa and Bulimia, Vitamin Deficiency, Obesity, Diets, Cancers and Atherosclerosis. Demonstrate understanding of team work in diagnosing a patient with multiple health issues 	
Environmental pollution	 Outline salient features of environmental pollution in an article. Demonstrate responsible behavior toward self- learning. 	Robbins & COTRAN Pathologic Basis OF Disease, 10 th Edition, Chapter 1, Pg 302 307

Forensic Medicine Large Group Interactive Session (LGIS)

Торіс	Learning objectives	C/P/A	Teaching Strategies	Assessment Tools
	Define mass disaster	C1		
	• Mention the objectives of Forensic investigation in mass disaster.	C1		
Personal Identity-III	• State different ways through which a dead body can be obliterated	C2		MCQs
Identification in mass Disasters	• Outline briefly special techniques for identification in mass disaster.	C2	LGIS	SAQs
& Role of radiology	• Briefly explain the method of assessment of age, sex and skeletal injury by using radiology.	C2		VIVA
	• Define superimposition and describe the role of photography in identification			
Personal Identity-IV D.N.A finger printing	• Define DNA finger printing and enlist its different types.	C1		
	• State the scope /objectives of DNA finger profiling in forensic Medicine	C2		MCQs
	• Briefly describe the storage of samples of for DNA fingerprinting.	C2	LGIS	SAQs
	• Briefly describe the Method of collection preservation and dispatch of samples.	C2		VIVA
	• Sate the effect of environment on integrity of DNA	C1		
Forensic serology	• Appraise the forensic importance of Biological specimens (Blood, Semen, Salvia, Vomitus, Breath, Urine, Hair).	C2 C2		MCQs
Trace evidence	 Collects, preserve, dispatch various human body specimens Appraise the forensic importance of Biological specimens (Blood, Semen, Salvia, Vomitus, Breath, Urine, Hair). 	C2	LGIS	SAQs VIVA
	Collects, preserve, dispatch various human body specimens	C2		
	• Define death and Classify its types	C1		
	• State the WHO criteria & and indicators to diagnose death.			
Thanatology- I (Introduction & Types of death) Immediate & Early changes of death)	• Briefly describe the the causes, manner, mode, mechanisms, medico legal aspects of death	C2		MCQs SAQs
	• Define Algor mortis and state its medico-legal importance	C2	LGIS	VIVA
	Briefly explain the method to measure the temperature of body after death.Enlist various factors affecting algor mortis.	C2		
	Briefly describe postmortem caloricity.	C2		

Торіс	Learning objectives	C/P/A	Teaching Strategies	Assessment Tools
Thanatology- II (Livor mortis & Rigor mortis)	 Define Livor mortis and state its medico legal importance. Differentiate between Livor mortis and bruise. State the mechanism of Rigor Mortis in the body after death and its medico legal importance? Enumerate the factors which modify the onset & duration of rigor mortis? Enlist the conditions simulating rigor mortis and differentiate them 	C1 C2 C2 C3 C2 C2 C2	LGIS	MCQs SAQs VIVA
Thanatology- III (Late changes of Death Putrefaction)	 Enlist the bacteria participates in putrefaction Briefly describe the features of putrefaction and its mechanism State the medicolegal importance of maggots. 	C1 C2 C2	LGIS	MCQs SAQs VIVA
Thanatology- IV (Adipocere, Mummification & Estimation of time since death)	 Define Adipocere and state its medicolegal importance. Define mummification and state its medicolegal importance. Briefly describe the method to calculate the time since death. Enumerate different changes after death which helps to calculate the time since death. 	C2 C2 C2 C2 C2	LGIS	MCQs SAQs VIVA
General Toxicology-I Introduction and classification of poisons	 Define Poison, Drug, Therapeutic dose and lethal dose. Enlist different routes of administration and elimination of poison. Briefly explain the actions and factors affecting the absorption of poison. Classify the poisons according to the nature, mode, source, manner and medicolegal importance with example of each group. 	C1 C2 C2 C2 C2		MCQs SAQs VIVA

Forensic Medicine Practical Skill Laboratory (SKL)

Торіс			Learning objectives		
	Knowledge	C/P/A	Skills	Attitude	Assessment Tools
Examination of Blood Stain (Practical)	 State the medicolegal importance of Biological specimens(Blood) Briefly describe the method to Collect, preserve and dispatch 	C2 C2	 Identify the Medicolegal importance of Biological specimens (Blood) Demonstrate the method of collection, preservation and 	The student will be able to they identify different types of stains including blood.	OSPE

	various human body specimens		dispatch of specimens		
Examination of Hair & Fiber (Practical)	 Differentiate between human & animal Hair and Hair & Fiber State the medicolegal importance of hair in identification. State the importance of hair as trace evidence 	C2 C2 C2	 The student will be able to: Differentiate between human & animal Hair and Hair & Fiber 	The student will utilize the microscope to differentiate between hair, fiber and different types of hair	OSPE
Examination of Seminal Stain (Practical)	 State the medicolegal importance of Biological specimens(Blood) Briefly describe the method to Collect, preserve and dispatch various human body specimens 	C2 C2	 Identify the Medicolegal importance of Biological specimens (Semen & Salvia). Demonstrate the method of collection, preservation and dispatch of specimens 	The student will be able to they identify different types of stains including Semen & saliva	OSPE

Forensic Medicine Self Directed Learning (SDL)

Торіс	Learning Objectives	References
Role of Radiology	 The list of ossification centers in bones and their appearance with relation to age. Assessment of age of an individual using radiology Assessment of sex of skeletal remains Medicollegal importance of x-rays in age estimation 	Parikhs"text book of forensic and toxicology Edition 9 Personal identification Page no 65 to 68
D.N.A Finger Printing	 Define DNA finger printing Define the forensic importance and application of DNA finger printing Identification in mass disaster 	Parikhs"text book of forensic and toxicology Edition 9 Personal identification Page no 71 to 74 Identification in mass disaster Page no 90 to 93

Thanatology Types of death Immediate & Early changes of death	 Define death and Classify its types State the WHO criteria & and indicators to diagnose death. Briefly describe the the causes, manner, mode, mechanisms, medico legal aspects of death Define Algor mortis and state its medico-legal importance Briefly explain the method to measure the temperature of body after death. Enlist various factors affecting algor mortis. Briefly describe postmortem caloricity. 	Essential:Parikhs"text book of forensic and toxicology Recommended: Principles of Forensic Medicine & Toxicology by Gautam Biswas
Thanatology Adipocere Mummification Estimation of time since death	 Define Adipocere and state its medicolegal importance. Define mummification and state its medicolegal importance Briefly describe the method to calculate the time since death. Enumerate different changes after death which helps to calculate the time since death. 	Essential:Parikhs"text book of forensic and toxicology Recommended: Principles of Forensic Medicine & Toxicology by Gautam Biswas

Clinical Sciences (Vertical Integration)

Content

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

Surgery Large Group Interactive Sessions (LGIS)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tool	
	Different presenting symptoms in surgical patients	C2			
Symmetry at a logy in gymany and their	Construction of Differential diagnosis	C2		MCOa	
Symptomatology in surgery and their diagnostic investigations	The Logical approach to lab investigations	C2	LGIS	MCQs SAQs	
diagnostic investigations	• The logical approach to radiological and histopathological investigation	C2		SAQS	
Wound Healing and Tissue Repair	• Normal healing and how it can be adversely affected.	C2			
	Management of wounds of different types.	C3	LGIS	MCQs	
	Differentiation between acute and chronic wounds	C3	LGIS	SAQs	
	Differentiate between repair and regeneration	C4			
	• Discuss the importance of understanding human behavior if patient care is to improve.	C2			
Patient safety and quality	• Describe the importance of patient safety and the scale of the problem.	C2	LGIS	MCQs	
improvement	• Explain medical error and its definitions including adverse events and near misses.	C2	-	SAQs	
	Discuss patient safety strategies and solutions.	C3			
	Pre-operative care including the high risk surgical patients	C1			
Perioperative management of patients	Understand the principles of post-operative care of surgical patients	C2	LGIS	MCQs SAQs	
	Understand the principles of nutrition and fluid therapy	C2			
	Understand the timeline concept in trauma management	C2			
	Understand to select early total care and damage control	C2		MCQs	
Initial management of trauma	strategies		LGIS		
	To identify and asses the severely injured patient	C2, C3		SAQs	
	Understand the concept of primary survey and secondary survey	C2, C3			

Medicine Large Group Interactive Sessions (LGIS)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tool
Symptomology- 1 (common symptoms)	• Recognize common symptoms including dyspnea, chest pain, cough, palpitations, vomiting, fever, edema, dysuria and fatigue.	C1		
	Distinguish between acute, chronic and persistent symptoms.	C4	LGIS	MCQs
	Knows important steps involved in history taking of common symptoms.	C1		SAQs
	Recognize abnormal lab findings in common symptoms	C1		
Symptomology- II	Recognize important signs during clinical examination.	C1		MCQs
(specific symptoms and lab investigations)	Recognize abnormal lab findings in common symptoms	C1	LGIS	SAQs

Paediatrics Large Group Interactive Sessions (LGIS)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tools
Introduction to child	• Describe the developmental milestones according to gross motor, fine motor, vision, hearing, speech and social behavior at different ages.	C2		
growth and development	Assess developmental age.	C3	LGIS	MCQs
	Recognize warning signs for developmental delay.	C3		
	Define Malnutrition	C1		
Malnutrition: Assessment	Enlist common etiological factors	C1		
and management	Evaluate malnourished child from history and physical examination	C3		MCO
	Plot Growth parameters on the percentile charts	C5	LGIS	MCQs
	Know WHO management protocol for severe malnutrition	C2		
	Enlist the steps of nutritional rehabilitation	C1		

Spirally Integrated Curriculum Family Medicine Large Group Interactive Sessions (LGIS)

opic	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tools
	Define communication skills	C1		
Communication Skills in	• Elaborate the significance of good communications for doctors	C2	LGIS	MCQs
patient care	• Describe the essential components of effective communication with patients	A1		
patient care	• Apply a communication theory in clinical practice			
	• Enlist components of history taking from patients	C2		
Fundamentals of history taking	Elaborate Red Flag Symptoms	C2	LGIS	MCQs
	• Understand the basis of differential diagnosis from patients interview.	C3		

Behavioral Sciences Large Group Interactive Sessions (LGIS)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tools
Non-Pharmacological	Understand importance of effective communication	C3	LGIS	MCQs
interventions: Communication skill	 Verbal and Non-verbal techniques To focus on essentials in informational care 	C3		SAQs
Informational Care	• To give a comprehensive explanation of seven steps of informational care regarding the three Ds	C3	LGIS	MCQs SAQs
	To provide Informational care in clinical settings based on the clinical issues	C3		

Behavioral Sciences (SDL)

Торіс	Learning Objectives	References
Psychosocial Aspect in different hospital	The students should be able to	
settings Dialysis unit	 Understand the psychosocial impact of chronic kidney disease and dialysis treatment on patients and their families. Develop skills in assessing and addressing psychosocial needs, including coping with illness, treatment adherence, and lifestyle 	Behavioral Sciences textbook, second edition
	 changes. Collaborate with healthcare teams to address psychosocial barriers to optimal dialysis outcomes, such as depression, anxiety, and social isolation. Advocate for patient-centered care practices that promote dignity, autonomy, and quality of life for individuals undergoing dialysis treatment. 	Mowadat Rana
Psychosocial Aspect in different hospital	The students should be able to	Behavioral Sciences textbook,
settings	• Understand the psychosocial impact of organ transplantation on patients, donors, and their families.	second edition
	• Develop skills in assessing psychosocial factors influencing transplant candidacy, including emotional stability, social	Mowadat Rana
Organ Transplantation	 support, and adherence to post-transplant care. Implement strategies to address pre-transplant anxiety, coping with waiting periods, and post-transplant adjustment challenges. Collaborate with transplant teams to provide comprehensive psychosocial support throughout the transplantation process, including education, counseling, and support groups. 5. Advocate for patient rights and ethical considerations in organ allocation, informed consent, and end-of-life decisions in the context of transplantation 	
Psychosocial Aspect in different hospital	The students should be able to	Behavioral Sciences textbook,
settings	• Understand the unique psychosocial needs of pediatric patients,	second edition
Paediatrics Ward	 their families, and caregivers in the hospital setting. Develop skills in communicating effectively with children and their families about medical procedures, diagnoses, and 	Mowadat Rana
	 treatment plans. Implement strategies to support children and families coping with hospitalization, illness, and treatment-related stressors, including play therapy, distraction techniques, and family- centered care approaches. 	

	 Collaborate with pediatric healthcare teams to address psychosocial factors impacting child health outcomes, such as parental stress, sibling adjustment, and developmental needs. Advocate for child-friendly healthcare environments, age-appropriate communication, and holistic psychosocial support services in pediatric care settings. 	
Psychosocial Aspect in different hospital settings Reproductive Health	 The students should be able to Understand the psychosocial factors influencing reproductive health decisions, experiences, and outcomes across the lifespan. Develop skills in conducting sensitive assessments and providing counseling on reproductive health issues, including contraception, fertility, pregnancy loss, and infertility. 	Behavioral Sciences textbook, second edition Mowadat Rana
	 Implement strategies to support individuals and couples facing reproductive challenges, including grief and loss counseling, decision-making support, and access to reproductive technologies. Collaborate with interdisciplinary teams to address psychosocial factors impacting reproductive health outcomes, such as cultural beliefs, socioeconomic factors, and access to care. Advocate for reproductive rights, informed consent, and patient autonomy in reproductive healthcare delivery and policy development 	

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tools
	• Explain principles of sampling distribution of proportion and standard error proportion	C2		
	Calculate SEP for a given sample proportion	C3		
Inferential Statistics 4	Calculate standard error of difference between two proportions	C3		MCQs
(Chi square test)	• Do hypothesis testing by applying chi-square test	C3	LGIS	SAQs VIVA
	Interpret results of chi-square test	C4		
	Elaborate fisher's exact test	C3		
	• Explain principles of correlation analysis for comparing two continuous variables in same subjects in given data set	C1	_	
	• Explain with examples concept of correlation and association in research data	C1		
	Compute co efficient of correlation and interpret results	C2		
Inferential Statistics 5 (Correlation)	• Explain principles of correlation analysis for comparing two continuous variables in same subjects in given data set	C1	LGIS	MCQs SAQs VIVA
	• Explain with examples concept of correlation and association in research data	C1		VIVA
	Compute co efficient of correlation and interpret results	C2	_	
	• Explain principles of correlation analysis for comparing two continuous variables in same subjects in given data set	C1		

Integrated Undergraduate Research Curriculum (IUGRC)

Spiral Courses

- Longitudinal Themes
 - The Holy Quran Translation
 - Family Medicine
 - Behavioral Sciences
 - **Biomedical Ethics**
 - Research

	Biomedical Ethics						
Topic	Topic At The End Of Lecture Students Should Be Able To Learning Teaching Strategy Domain Domain Domain Description						
	• To be able to define emotions.	C1		MCQs			
Emotions	• To understand the neuroanatomy and neurochemistry of emotion way to deal with emotion	C2	LGIS				
	• To be able to outline the types of memory.	C2					
Memory	• To be able to explain the areas in brain responsible for memory storage and Retrieval	C2	LGIS	MCQs			

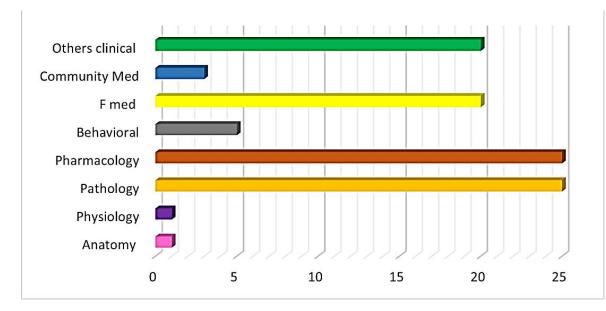
Behavioral sciences						
Topics	At the end of session students should be able to:	Learning Domains	Teaching Strategy	Assessment Tools		
Ethical dilemmas in healthcare practice involving breach in principle of autonomy	 Analyze ethical dilemmas in healthcare practice involving breach in principle of autonomy. Explain what procedures adopted to maintain patient autonomy. Identify situations in which doctor may have to take decisions in the best interest of the patients 	C3 C2 C1	Short video demonstration on violation of Ethical principle of autonomy from suit CBEC Video resources	 Assignment based assessment involving real life case scenarios under aggregate Marks. (Internal Assessment) Assignment to be uploaded on LMS 		

Ethical dilemmas in healthcare practice involving breach in principle of beneficence and non- maleficence	 Analyze ethical dilemmas in healthcare practice involving breach in principle of beneficence and non- maleficence Explain what procedures adopted to maintain the principle of beneficence and non-maleficence in challenging situations Identify situations in which a doctor may have to take decisions in the best interests of the patient considering the principle of beneficence and non- maleficence 	C3 C2 C1	Short video demonstration on violation of Ethical principle of beneficence and non-maleficence from suit CBEC Video resources Students deliberations and reflections Reflective writing	 Assignment based assessment involving real life case scenarios under aggregate Marks (Internal Assessment) Assignment to be uploaded on LMS
Ethical dilemmas practice involving breach in principle of justice	 Analyze ethical dilemmas in healthcare practice involving breach in principle of justice Explain what procedures adopted to maintain the principle of justice in challenging situations Identify situations in which a doctor may have to take decisions in the best interests of the patient considering the principle of justice 	C3 C2 C1	Short video demonstration on violation of Ethical principle of beneficence and non-maleficence from suit CBEC Video resources Students deliberations and reflections Reflective writing	 Assignment based assessment involving real life case scenarios under aggregate Marks (Internal Assessment) Assignment to be uploaded on LMS

Family Medicine

Topic	Learning Objectives At the end of the lecture the student should be able to	Learning Domain	Teaching Strategy	Assessment Tool
Approach to a patient with	 Describe presenting complains of patients with Headache Discuss complications of Headache 	C3	LGIS-1	MCQs
headache	 Describe initial treatment of patients with Headache Know when to refer patient to consultant/ Hospital 		LOIS-I	MCQs

Foundation -II Summary of Subjects



<u>I caching fiours</u>								
. No.	Disciplines	LGIS	SGD	CBL	SDL	Hours		
1.	Pharmacology	12	0	04	04	20		
2.	Pathology	04	12	03	04	23		
3.	Forensic Medicine	08	0	0	04	12		
4.	Research	02	0	0	0	02		
5.	Surgery	05	0	0	0	05		
6.	Medicine	02	0	0	0	02		
7.	Pediatrics	02	0	0	0	02		
8.	Quran	02	0	0	0	02		
9.	Family Medicine	02	0	0	0	02		
10.	Behavioral Sciences	02	0	0	4	06		
11.	Bioethics	01	0	0	0	01		
	Total hours	42	12	07	16	77		

Teaching Hours

Practical & Clerkship Hours

Disciplines	Practical hours	Disciplines	Clerkship hours
Pharmacology	2x3 = 06 hrs	Surgery	$2.5 \ge 15 = 37.5$ hrs
Pathology	2x3 = 06 hrs	Medicine	$2.5 \times 15 = 37.5$ hrs
Forensic Medicine	2x3 = 06 hrs	Sub Specialty	2.5 x 15= 37.5hrs

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Block - VIII

GIT, Hepatobiliary & Parasitology Module

Microbes & Anti Microbials Module

Module – I

GIT Hepatobiliary & Parasitology Module

Introduction

GI and parasitology module provides integration of core concepts that underlie the basic science/pathology of GI 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: gastrointestinal tract & hepatobiliary system plays a pivotal role in the body of human being. There are three main functions of the gastrointestinal tract, including transportation, digestion, and absorption of food. The mucosal integrity of the gastrointestinal tract and the functioning of its accessory organs are vital in maintaining the health of the person. Alongside hepatobiliary system aids in this process of digestion and absorption. Students at this level have profound knowledge of anatomical, physiological and biochemical aspects of this system as they have gone through it in the GIT module in 1st & 2nd year MBBS. students in the current module shall be able acquire the understanding of diseases of git and liver and their management. Parasitology is the branch of pathology which deals with the study of certain parasites and the diseases caused by them. Students in this section will also get knowledge regarding parasites and diseases pertaining to it. Students will also attend seminar related to diseases Pakistan is facing i.e hepatitis

Module Outcomes

Each student will be able to

Knowledge

- Acquire knowledge about the basic terminologies used in Pharmacology, Pathology & Forensic 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

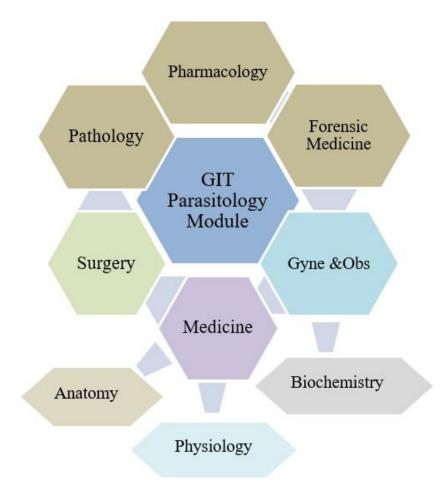
- Demonstrate a professional attitude, team building spirit and good communication skills
- This module will run in 5/6 weeks duration. The content will be covered through introduction of topics. Instructional strategies are given in the time table and learning objectives are given in the study guide. Study guide will be uploaded on the university website. Good luck

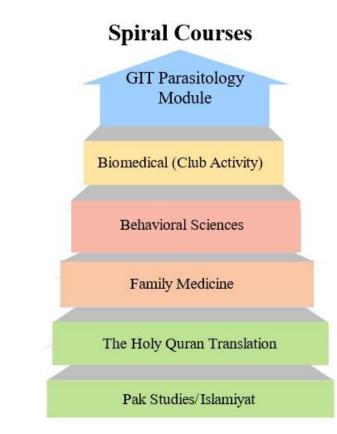
GIT & Parasitology Module Team

Module Name	:	GIT & Parasitology Module
Duration of module	:	05 Weeks
Coordinator	:	Dr. Mudassira Zahid
Co-coordinator	:	Dr Iqbal Haider
Review by	:	Module Committee

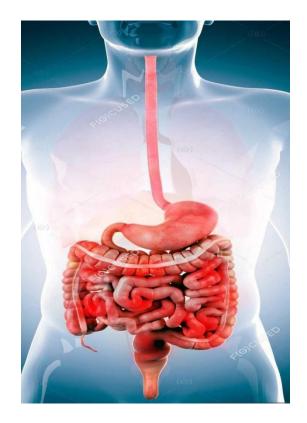
Module Committee				Module Task Force TEAM			
1.	Vice Chancellor RMU	Prof. Dr. Muhammad Umar	1.	Coordinator	Dr. Mudassira Zahid (Associate Professor of Pathology)		
2.	Principal	Prof. Dr. Jahangir Sarwar Khan	2.	DME Focal Person	Dr. Maryum Batool		
3.	Convener Curriculum	Prof. Dr. Naeem Akhter	3.	Co-coordinator	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 3 rd year MBBS	Dr. Asma Khan					
7.	Chairperson Pathology	Prof. Dr. Mobina Dhodhy	1.	DME Implementation Director DME	Feam Prof. Dr. Ifrah Saeed		
8.	Chairperson Forensic Medicine	Dr Romana	2.	Additional Director DME	Assoc.Prof Dr Asma Khan		
10.	Focal Person Pathology	Dr Faiza	3.	Module planner & Implementation coordinator	Dr. Omaima Asif		
11.	Focal Person Forensic Medicine	Dr. Filza	4.	Editor	Dr Omaima Asif		
12.	Focal Person Medicine	Dr. Saima Ambreen					
13.	Focal Person Behavioral Sciences	Dr. Saadia Yasir]				
14.	Focal Person Community Medicine	Dr. Afifa Kulsoom					
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					

Integration Of Disciplines GIT & Parasitology Module





MBBS YEAR III
BLOCK-VIII
MODULE-I
GIT HEPATOBILIARY & PARASITOLOGY MODULE -II
DURATION- 5 WEEKS



Content Organization

- Horizontally Integrated Basic Sciences (Pharmacology, Pathology & Forensic Medicine)
- Large Group Interactive Session:
 - Pharmacology (LGIS)
 - Pathology (LGIS)
 - Forensic Medicine (LGIS)
- Small Group Discussions
 - Pharmacology (SGD)
 - Pathology (SGD)
- Self -Directed Topic, Learning Objectives & References
 - Pharmacology (SDL)
 - Pathology (SDL)
 - Forensic Medicine (SDL)
 - Behavior sciences SDL
- Skill Laboratory
 - Pharmacology (SKL)
 - Pathology (SKL)
 - Forensic Medicine (SKL)

Learning Objectives Horizontally Integrated Basic Sciences Pharmacology Large Group Interactive Session (LGIS)

Торіс	Learning Objectives At the end of the sessions students will be able to:	Learning domain	Teaching strategies	Assessment tools
Antiemetic drugs	 Describe the uses & adverse effects of metoclopramide. Describe mechanism of action and adverse effects of other anti- emetics (5HT3 antagonists, H1 antagonists & hyoscine. 	C2 C2	LGIS	MCQs SAQs SEQs EMQs VIVA
Drugs used in peptic ulcers	 Classify drugs used in the treatment of Peptic Ulcer. Describe the mechanism of action of antacids used in the treatment of Peptic Ulcer. Describe the adverse effects of antacids. Describe the mechanism of action of H2 receptor blockers. Describe the adverse effects of H2 Receptor Blockers. Tabulate differences between cimetidine & other H2receptor blockers. 	C1 C2 C3 C2 C2 C2 C4	LGIS	MCQs SAQs SEQs EMQs VIVA
Antiamoebic drugs	 Classify amoebic drugs C1 Describe their mechanism of action C2 Describe MOA, other uses and adverse effect of metronidazole C2 Discuss important drug interactions of metronidazole. C2 Identify the egg/ova on stool examination 	C1 C2 C2 C2 P3	LGIS	MCQs SAQs SEQs EMQs VIVA
Prokinetics	 Define Prokinetic drugs. Classify the group of drugs that are used as Prokinetics. explain the , MOA uses and adverse effects of D2 blockers drugs. 	C1 C1 C2	LGIS	MCQs SAQs SEQs EMQs VIVA
Drugs used in IBD	 Enlist drugs used in IBD. Describe the therapeutic pyramid approach to inflammatory bowel disease and how treatment choice is made. Enlist drugs used in IBD. Describe the therapeutic pyramid approach to inflammatory bowel disease and how treatment choice is made. 	C1 C2 C1 C2	LGIS	MCQs SAQs SEQs EMQs VIVA
Antihelminthic drugs	Classify anthelmintic therapeutically.Explain mechanism of action of each group.	C1 C2	LGIS	MCQs SAQs SEQs EMQs VIVA

Торіс	Learning Objectives At the end of the sessions students will be able to:	Learning domain	Teaching strategies	Assessment tools
Antiemetic drugs	 Describe the uses & adverse effects of metoclopramide. Describe mechanism of action and adverse effects of other anti- emetics (5HT3 antagonists, H1 antagonists & hyoscine. 	C2 C2	LGIS	MCQs SAQs SEQs EMQs VIVA
	Explain their advance effects.Explain their mode of administration.	C2 C2		
Antidiarrheal drugs	 Classification of anti-diarrheal agents Describe important pharmacological features Discuss adverse effects and clinical uses 	C2 C2 C2 C2	LGIS	MCQs SAQs SEQs EMQs VIVA
Laxatives	 Classify Purgatives. Discuss the important pharmacological features of purgatives & Laxatives. Enumerate uses& adverse effects. Use of lactulose in Hepatic Encephalopathy. 	C1 C2 C3 C2	LGIS	MCQs SAQs SEQs EMQs VIVA
Antiviral drugs focusing hepatitis C	 Discuss drug used for treatment of Hepatitis C viral infections Discuss the mechanism of action, uses and adverse effects of interferon 	C2 C2	LGIS	MCQs SAQs SEQs EMQs VIVA
Drugs used in hepatitis B	 Discuss drug used for treatment of Hepatitis B viral infections Discuss the mechanism of action, uses and adverse effects of interferon 	C2 C2	LGIS	MCQs SAQs SEQs EMQs VIVA

Small Group Discussion (SGDs)

Торіс	Learning Objectives At the end of the lecture student should be able to	C/P/A	Teaching strategy	Assessment tools
Pharmacological and life style modification in IBS	 Define IBS Discuss pathophysiology of IBS Classify drugs used in IBS Discuss the role of lifestyle modification in IBS 	C1 C2 C3 C2	SGD	MCQs SAQs SEQs EMQs VIVA
Role of prebiotics and post biotics in gut motility	 Classify opioids receptors Enumerate opioids receptor functions Discuss the role of opioids in git physiology and pathology Enumerate drugs acting through opioid receptors 	C3 C1 C3 C1	SGD	MCQs SAQs SEQs EMQs VIVA

Self Directed Learning (SDL)

Торіс	Learning objectives	References
Role of serotonin receptors in GIT motility	• Revise the knowledge of receptors and neurotransmittersregarding their functional roles	 Basic and Clinical Pharmacology by Bertram Z. Katzung 15thEdition, Chapter 6, Page 2-6, 15-24 Goodman and Gillman's The Pharmacological basics of Therapeutics, 13th Edition, Chapter, Pg.
Role of opioids receptors in Gut motility	 Classify opioids receptors Enumerate opioids receptor functions Discuss the role of opioids in git physiology and pathology Enumerate drugs acting through opioid receptors 	Opioid receptors in the gastrointestinal tract <u>Peter Holzer</u> * <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3163293/#:~:text=O</u> <u>pioid</u> <u>%20receptors%20in%20the%20gastrointestinal%20tract</u>

Торіс	Learning objectives	References
Probiotics and prebiotics helpful in gut health	 Classify opioids receptors Enumerate opioids receptor functions Discuss the role of opioids in git physiology and pathology Enumerate drugs acting through opioid receptors 	https://www.frontiersin.org/articles/10.3389/fimmu.2013.00445/fullThe role of probiotics and prebiotics in gut immunityhttps://www.jmb.or.kr/journal/view.html?uid=5262&vmd=FullRole ofProbiotics in Human Gut Microbiome-Associated Diseases
Life style modification in IBS	 Define IBS Discuss pathophysiology of IBS Classify drugs used in IBS Discuss the role of lifestyle modification in IBS 	https://www.mayoclinic.org/medical-professionals/digestive- diseases/news/the-role-of-lifestyle-related-treatments-for- ibs/mac- 20431272#:~:text=Calculators- ,The%20role%20of%20lifestyle%2Drelated%20treatments%20for%2 0IBS,- March%2028%2C%202017

Practical Skill Laboratory (SKILL)

Торіс	Learning Objectives	Learning Domain	Teaching Strategies	Assessment Tools
Selection of P drug and prescription writing in hyperemesis gravidarum and peptic ulcer	 illustrate P drug & prescription writing for motion sickness illustrate P drug & prescription writing for vomiting inpregnancy illustrate P drug & prescription writing for peptic ulcer disease 	P1 P1	PRACTICAL	OSPE
Demonstration of dose response relationship using rabbit ileum	•. identification of all the parts of chymograph Demonstrate the effects of gradually increasing doses of acetylcholine on dose response curve.	P1 P3	PRACTICAL	OSPE
Demonstration of drug antagonism using rabbit ileum	• demonstrate the effects on dose response curve of different doses of acetylcholine in the presence of atropine Demonstrate the surmountable antagonism between acetylcholine and	P1 P2	PRACTICAL	OSPE

Торіс	Learning Objectives	Learning Domain	Teaching Strategies	Assessment Tools
P drugs and prescription writing amoebic dysentery and worm infestation	 Recall the drugs used in amoebic dysentery Describe suitable drugs for the patient with amoebic dysenteryRecall the drugs used in worm infestations. Write a suitable prescription for patient with Ascariasis & EnterobiousVermicularis. 	P1 P2	PRACTICAL	OSPE
Reinforcement of counselling and practical skills	 Develop effective communication skills to counsel patients and caregivers about medication use, including dosage, administration, potential side effects, and adherence. Provide patient education on the mechanism of action and therapeutic goals of prescribed medications, facilitating informed decision-making and treatment understanding. Address patient concerns and misconceptions about medication therapy, promoting trust, collaboration, and shared decision-making in healthcare decisions. 	P1 P2 P2	PRACTICAL	OSPE

Case Based Learning (CBL)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tools
Chemotherapy induced nausea and vomiting	 Describe the pathophysiology of chemotherapy-induced nausea and vomiting (CINV), including the role of neurotransmitters such as serotonin, dopamine, and substance P. Recognize the different phases of CINV (acute, delayed, and anticipatory) and their clinical implications. Discuss the principles of pharmacological management of CINV, including the use of antiemetic medications such as 5-HT3 receptor antagonists, NK1 receptor antagonists, corticosteroids, and dopamine receptor antagonists. Discuss the importance of patient education and proactive management strategies to prevent and minimize CINV throughout the course of chemotherapy treatment. 	C2 C2 C2 C2	CBL	MCQ SEQ
Clinical presentation of Extrapyramidal effects of metoclopramide	 Identify the clinical manifestations of extrapyramidal symptoms (EPS) associated with metoclopramide Recognize the pathophysiological mechanisms underlying EPS induced by metoclopramide, including its dopamine-receptor antagonistic effects 	C1 C2	CBL	MCQ SEQ

 and interactions with central nervous system neurotransmitter systems Describe pharmacological interventions for managing EPS induced by metoclopramide, including the use of anticholinergic agents (e.g., diphenbudgeming, hengtroping) to reverse coute dystemic reactions and 	C2	
diphenhydramine, benztropine) to reverse acute dystonic reactions and akathisia.	C2	
• Discuss the rationale for selecting specific pharmacological agents based on the type and severity of EPS, patient comorbidities, and potential drug interactions.		

Pathology Large Group Interactive Session (LGIS)

Торіс	Learning Objectives At the end of the lecture student should be able to	Learning domain	Teaching strategies	Assessment tools
Non neoplastic lesions of esophagus	 Describe the types of esophagitis Describe the morphology and pathogenesis of different types of esophagitis . 	C2 C2	LGIS	MCQs SAQs SEQs EMQs VIVA
Neoplasticlesions of esophagus	 Describe etiology, pathogenesis and morphological features of Reflux Esophagitis, Esophageal Varices, Barrett's Esophagus. enlist the risk factors for carcinoma of esophagus. Classify different types of esophageal tumors on the basis of morphology. correlate the pathogenesis of Barrett's esophagitis with GERD 	C2 C2 C3 C3	LGIS	MCQs SAQs SEQs EMQs VIVA
Gastritis and Peptic Ulcer	 Correlate pathogenesis of Peptic ulcer disease with its morphology and clinical presentation. Correlate the etiology & pathogenesis of Helicobacter pylori-associated chronic gastritis with clinical presentation. Enlist the complications and other diseases caused by H Pylori infection. 	C3 C3 C1	LGIS	MCQs SAQs SEQs EMQs VIVA
Neoplasms and polyps of stomach	 Classify different types of gastric Polyps. Explain epidemiology, etiology, Pathogenesis of CA Stomach. Diagnosis of Gastric adenocarcinoma Morphology. Identify microscopic images of inflammatory bowel disease. 	C2 C2 C3 C3	LGIS	MCQs SAQs SEQs EMQs VIVA
Inflammatory bowel disease	 Describe causes, pathogenesis and morphological features of Inflammatory Bowel Disease. Differentiate between Ulcerative colitis and crohn's disease, Microscopic Colitis and Graft- Versus-Host Disease. 	C2 C3	LGIS	MCQs SAQs SEQs EMQs VIVA
Colorectal carcinoma	 Discuss differential diagnosis based on clinical and morphological features. Classify colonic neoplasms Explain genetic etiology and molecular pathogenesis of colorectal adenocarcinoma. Describe hereditary Non-Polyposis Colorectal carcinoma. Enumerate staging of colorectal Adenocarcinoma. Identify tumor of colon on gross and microscopy 	C3 C2 C2 C2 C2 C1 C3	LGIS	MCQs SAQs SEQs EMQs VIVA
Types of hepatitis and metabolic liver diseases	 Discuss etiology, pathogenesis, laboratory diagnosis of autoimmune Hepatitis Describe Drug- and Toxin-Induced Liver Injury. Enumerate morphological features of alcoholic Liver Disease Non-alcoholic Fatty Liver Disease (NAFLD). Enlist causes and morphological features of metabolic Liver Disease (Hemochromatosis, 	C2 C2 C3 C1	LGIS	MCQs SAQs SEQs EMQs VIVA

	Wilson disease, a1-Antitrypsin Deficiency).				
	• Discuss pathophysiology of Jaundice, Cholestasis, large Bile Duct Obstruction autoimmune Cholangiopathies.	C2			
Cholestasis and biliary diseases	• Differentiate between pathological features of Primary Biliary Cirrhosis (PBC) and Primary Sclerosing Cholangitis (PSC).		LGIS	MCQs SAQs SEQs	
	Discuss Structural Anomalies of the Biliary tree, biliary atresia.	C2		EMQs VIVA	
	• Explain Portal Vein Obstruction and hepatic vein Thrombosis.	C2			
	• Correlate immunological basis with Graft-Versus-Host Disease and Liver Graft Rejection.	C3			
	Discuss causes, Pathogenesis and morphological features of Cirrhosis and Portal	C2			
	Hypertension.	C2			
Liver Cirrhosis	Enumerate causes of chronic hepatitis.	C3	LGIS	MCQs SAQs SEQ	
Liver Climosis	• Interpret morphological diagnosis of cirrhosis by neuroinflammatory grade and stage.	C3	LGIS	EMQs VIVA	
	• Correlate morphological diagnosis of cirrhosis with clinical outcome of disease.	C3			
	• correlate the hepatocellular and sinusoidal injury with complications of cirrhosis.				
	• Enumerate the important properties & Diseases caused by these viruses.	C2			
	Describe the Replicative cycle.	C2			
	• Explain the transmission of the diseases caused by these viruses.	C2		MCQs SAQs SEQs	
Hepatitis B &C	• Relate the interaction of pathogenesis of viruses & immunity of individuals.	C3	LGIS	EMQs VIVA	
-	 Identify clinical findings of the diseases caused by these viruses. 	C1		EMQS VIVA	
	• List the laboratory identification.	C1			
	Describe the treatment & Prevention.	C2			
	• Discuss etiology, pathogenesis and morphology of Nodular Hyperplasia's, Hepatocellular Adenomas and Hepatoblastoma.	C2	MCO-SAO-		
Neoplastic liver diseases	• correlate the etiopathogenesis of HCC with changes in its precursor lesions.	C3	LGIS	MCQs SAQs SEQ	
•	• Describe the morphology of liver neoplasm.	C2		EMQs VIVA	
	Describe the lab diagnosis of liver neoplasm.	C2			
	Discuss morphological features of Congenital Anomalies.	C2			
	Describe etiology and pathogenesis and morphology of Cholelithiasis (Gallstones)	C2		MCQs SAQs SEQ	
Gallbladder diseases	and chole cystitis.		LGIS	EMQs VIVA	
	Classify neoplastic lesions of gall bladder.	C2			
	Describe the morphology of gall bladder neoplasms	C2			
	Describe morphological features of Congenital Anomalies.	C2			
	Discuss etiology, pathogenesis and morphological features of acute Pancreatitis and	C2			
Diseases of Pancreas	chronic Pancreatitis		LGIS	MCQs SAQs SEQ	
Discuses of Functions	Classify pancreatic Cysts.	C1	LOIS	EMQs VIVA	
	Classify pancreatic benign and malignant tumors.	C1			
	Describe the lab diagnosis of pancreatitis.	C2			
	• Enlist the protozoa causing disease in intestine and urogenital tract	C2			
Intestinal and urogenital	Describe transmission & Life cycle	C2		MCQs SAQs SEQ	
protozoa	Enlist Clinical features of intestinal Amoebiasis	C2	LGIS	EMQs VIVA	
protozou	Explain Extra intestinal amoebiasis	C1			
	Interpret Lab diagnosis	C1			

	 Differentiate between amebic and bacillary dysentery Plan treatment & prevention Describe life cycle and diseases caused by Giardia and enlist other non-pathogenic amoebas. Describe clinical features of diarrhea caused by different protozoa Identify etiological cause of diarrhea on the basis of clinical features andmorphology of fecal specimen. 	C2		
Blood and tissue protozoa Plasmodium	 Enlist the protozoa residing in blood and tissues Describe transmission & Life cycle Enlist Clinical features of plasmodium infection Interpret Lab diagnosis Plan treatment & prevention Identify different forms of parasite species 	C2 C2 C2 C1 C1 C1 C2	LGIS	MCQs SAQs SEQs EMQs VIVA
Blood and tissue protozoa leishmania and Trypanosoma	 Enlist the protozoa residing in blood and tissues Describe transmission & Life cycle Enlist Clinical features of leishmaniasis and trypanosomiases Interpret Lab diagnosis Plan treatment & prevention Identify different forms of parasite species 	C2 C2 C2 C1 C2	LGIS	MCQs SAQs SEQs EMQs VIVA

Pathology Small Group Discussion (SGDs)

Торіс	Learning Objectives At the end of the lecture student should be able to	C/P/A	Teaching strategy	Assessment tools
Oral Cavity & Salivary Gland diseases	 Describe Causes and pathological features of Inflammatory/ reactive Lesions of oral cavity . Explain oral Manifestations of Systemic Disease with examples. Explain causes and pathogenesis of Precancerous and Cancerous Lesion. Discuss epidemiology, pathogenesis morphology of Squamous Cell Carcinoma. Classify salivary gland non neoplastic lesions. Discuss Xerostomia and Sialadenitis. 	C2 C2 C2 C2 C2 C2 C3 C2	SGD	MCQs SAQs SEQs EMQs VIVA
Introduction to parasitology	 Define and Differentiate between, Definitive host, Intermediate host, Vector, Carrier state, Reservoir, Symbiosis, Mutualism, Forms in which parasites exist. Classify medically important parasites. 	C2 C2	SGD	MCQs SAQs SEQs EMQs VIVA
Intestinal obstruction & Vascular diseases of small intestine	 Describes the diseases causing intestinal obstruction Describe the pathogenesis and morphological features Describe the vascular diseases of small intestine 		SGD	MCQs SAQs SEQs EMQs VIVA
Malabsorptive diarrhea	 Discuss causes, pathogenesis and diagnosis of Malabsorption and Diarrhea. Explain Pathogenesis and diagnosis of Cystic Fibrosis. Describe the pathogenesis and morphology of Celiac disease. 		SGD	MCQs SAQs SEQs EMQs VIVA
Colonic polyps and appendix	 Classify intestinal inflammatory and neoplastic Polyps. Describe syndromic association of polyps. Discuss epidemiology, etiology, Pathogenesis and morphological features ofpolyps Describe the pathogenesis morphology of different lesions of appendix 	C3 C3 C2 C2	SGD	MCQs SAQs SEQs EMQs VIVA
Tissue cestodes	 Classify the cestodes. Describe morphological features of cestodes. Enlist diseases caused by each type. 	C1 C2 C1	SGD	MCQs SAQs SEQs

Торіс	Learning Objectives At the end of the lecture student should be able to	C/P/A	Teaching strategy	Assessment tool
	Describe life cycle of these parasites.	C2		EMQs
	• Explain transmission, epidemiology and Pathogenesis of diseases caused by them.	C2		VIVA
	• Establish the diagnosis on the basis of clinical features and laboratory findings.			
	Describe treatment and prevention.	C3		
		C2		
	• Classify the cestodes.	C2 C2		MCQs
	• Describe morphological features of cestodes.	$\begin{array}{c} C2\\ C2\end{array}$		SAQs
	Enlist diseases caused by each typeDescribe life cycle of these parasites.	C2 C2		SEQs
Intestinal cestodes	 Explain transmission, epidemiology and Pathogenesis of diseasescaused by them. 		SGD	EMQs
	 Explain transmission, epidemiology and ratiogenesis of diseasescaused by mem. Explain the diagnosis on the basis of clinical features and laboratory 	C2		VIVA
	findings.	C2		
	Describe treatment and prevention.	C2		
	Enumerate Nematodes of intestine.	C1		MCOr
	• Describe the morphological features.	C3		MCQs
	• Enlist diseases caused by each type.	C2		SAQs
Intestinal nematodes	• Describe life cycle of these parasites.	C2	SGD	SEQs
intestinui nematodes	 Explain transmission, epidemiology and Pathogenesis of diseases caused by 	C3	565	EMQs VIVA
	them.	C3		VIVA
	• Explain the diagnosis on the basis of clinical features and laboratory findings.			
	Enumerate Nematodes of tissues.	C1		MCQs
	• Describe the morphological features.	C3		SAQs
	• Enlist diseases caused by each type.	C2		SAQS
Tissue nematodes	• Describe life cycle of these parasites.	C2	SGD	EMQs
	• Explain transmission, epidemiology and Pathogenesis of diseases caused by	C3		VIVA
	them.	C3		VIVA
	• Explain the diagnosis on the basis of clinical features and laboratory findings.			
	• Enlist Diseases caused by each type with Characteristics.	C1		MCQs
	Comprehend life cycle, transmission epidemiology& pathogenesis.	C3		SAQs
Trematodes	Interpret Laboratory diagnosis.	C2	SGD	SEQs
- 10111000 000	• Plan treatment and prevention.	C3		EMQs
				VIVA

Pathology Self Directed Learning (SDL)

Торіс	Learning objectives	References
Oral lesions	 Enlist cause of Aphthous Ulcers (Canker Sores) Define pathogenesis of Herpes Simplex Virus Infections of oral cavity Describe the Pathogenesis of Oral Candidiasis (Thrush). Describe the pathogenesis and morphology of oral benign and malignant lesions 	Robbins & Cotran Pathologic Basis of Disease, 10th Edition, , Pg. 552
Odontogenic cysts and Tumors		
Diarrheal disease	 Enlist diseases causing diarrhea Describe the pathogenesis of infectious diarrhea Enlist the lab diagnosis of diarrhea 	Robins Basic Pathology 10th Edition Page # 559-562
Jaundice and Cholestasis	 Define Jaundice and revise LFTs Describe the pathophysiology/of bilirubin metabolism Explain Pathogenesis of Gilbert syndrome & Dubbin-Johnson syndrome Enlist disease causing jaundice in different age groups 	Robbins & COTRAN Pathologic Basis OF Disease, 10 th Edition, Chapter 1, Pg. 605/606

Pathology Practical Skill Laboratory (SKILL)

Торіс	Learning Objectives	Learning Domain	Teaching Strategies	Assessment Tools
	• Recognize and draw histopathological features of pleomorphic adenoma of parotid gland.	C2		
Salivary tumor, CA esophagus, peptic ulcer, CA stomach	• Describe the pathological features of gastric ulcers and carcinoma of esophagus and stomach.	C2	PRACTICAL	OSPE
	• Identify the slides and recognize two points of identification of pleomorphic adenoma, CA stomach and CA esophagus.	P3		
Acute appendicitis Intestinal TB Crohn' disease CA colon	 Recall pathological features of acute appendicitis. Differentiate between Intestinal tuberculosis and IBD. Identify the slides and recognize two important points of identification of acute appendicitis Intestinal TB, Crohn' disease and CA colon. 	C1 C2 P3	PRACTICAL	OSPE
Stool examination/ Parasitology (practical)	 Describe importance of stool examination. Differentiate common parasite ova on basis of morphology. Describe sample collection and transportation. Identification of common pathogens and parasites & eggs/ ova 	C2 C2 C2 P2	PRACTICAL	OSPE
Fatty change, Cirrhosis, CA liver	 Recall important histomorphology features for diagnosis of fatty change, Cirrhosis, CA liver Identify the slides and recognize two points of identification of Fatty change, Cirrhosis, CA liver 	C2 C2 P2	PRACTICAL	OSPE
Laboratory diagnosis of hepatobiliary diseases	 Interpret lab report of a patient with chronic viral, hepatitis, acute viral hepatitis. Interpret lab report of a patient with jaundice. Describe the role of advance lab tests in diagnosing liver disease Value the role of basic investigations in clinical management 	C3 C3 P2 A3	PRACTICAL	OSPE

Pathology Case Based Learning (CBL)

Торіс	Learning Objectives At the end of the lecture student should be able to	Learning Domain	Teaching Strategy	Assessment Tools
Diarrhea causing protozoa	 Describe transmission & Life cycle Enlist Clinical features of intestinal Amoebiasis Explain Extra intestinal amoebiasis Explain Extra intestinal amoebiasis Interpret Lab diagnosis Differentiate between amebic and bacillary dysentery Plan treatment & prevention Describe life cycle and diseases caused by Giardia and enlist other nonpathogenic amoebas. Describe clinical features of diarrhea caused by different protozoa 	C2 C1 C2 C3 C2 C3 C2 C2	CBL	PBQS
	 Identify etiological cause of diarrhea on the basis of clinical features and morphology of fecal specimen. Describe responsibilities of physicians & public health authorities in communicable diseases 	C2 P3		
Appendix diseases	 Describe etio-Pathogenesis and morphology of appendicitis Correlate clinical features of appendicitis with its pathogenesis Counsel a patient with abdominal pain regarding need for surgery Apply morphological diagnosis of acute Appendicitis. Classify tumors of the Appendix on the basis of morphology. 	C2 C2 C2 C2 C2 C2 C2	CBL	\PBQS
Food intolerance	 Describe the clinical features of food intolerance Correlate the clinical features with pathogenesis and morphological features of food intolerance Counsel a patient with food intolerance regarding dietary habits and life style modification 	C3 C1 P3	CBL	\PBQS
Hydatid disease	 Enlist diseases caused by each type. Describe important features of life cycle of these parasites. Explain transmission, epidemiology and Pathogenesis of diseases caused by them. Explain the diagnosis on the basis of clinical features and laboratory findings. Describe treatment and prevention. 	C3 C1 C2 C2 C2 C2	CBL	PBQS
Fatty liver disease	 Correlate the clinical features of fatty liver disease with its pathogenesis and morphology Describe the etiopathogenesis of fatty liver disease Describe the lab findings Council a patient with fatty liver. 	C2 C2 C3 P3	CBL	PBQS

Forensic Medicine Large Group Interactive Session (LGIS)

Торіс	Discipline	Learning Objectives	C/P/A	Content	Assessment tools
General Toxicology-II Signs and symptoms of common poisoning	General Toxicology	 Enlist different sign and symptoms of poisoning Briefly describe the diagnostic criteria of poisoning both in living and dead. Define an antidote and Classify antidotes Describe the uses of various antidotes in respective poisoning. State the composition of a universal antidote and its uses 	C2 C2 C1 C2 C2 C2	 Identify a case of poisoning. Diagnostic criteria for a case of poisoning both in living and dead Antidote, universal antidote, Classification of antidotes 	MCQs SAQs VIVA
General Toxicology- III Management of poisoning & Medico legal duties of a Doctor in case of poisoning	General Toxicology	 Enlist the steps of management of a case of poisoning Describe the role of elimination of unabsorbed poison Brief description of procedure of gastric lavage along with its indications, contraindications and complications State the role of elimination of absorbed poison with special emphasis on forced diuresis and exchange transfusion Briefly describe the duties of medical practitioner in a case of suspected poisoning 	C1 C2 C2 C2 C2 C2	 Management of a case of poisoning Elimination of unabsorbed poison procedure of gastric lavage along with its indication, contraindication and complications Duties of medical practitioner in a case of suspected poisoning 	MCQs SAQs VIVA
Medicolegal Autopsy-I Introduction, Types, Protocol, Objectives & procedure of autopsy	Forensic Medicine	 Define medicolegal autopsy Classify autopsy and narrate the objectives of medicolegal autopsy. Briefly state the autopsy protocol and its requirements. Describe the contents of a medicolegal autopsy report and its procedure. 	C1 C2 C2 C2	 Medico-legal Autopsy: Types, Objectives, rules, and techniques Describe procedure for post-mortem; Methods for Assessment of Fatal period and post-mortem interval. Autopsy Protocol 	MCQs SAQs VIVA
Medicolegal Autopsy-II (Exhumation & postmortem artifacts)	Forensic Medicine	 Describe the preservation of viscera and other articles during an autopsy. Define negative and obscure autopsy and write its causes. Describe the procedure of exhumation and its Forensic Importance. Briefly explain examination of mutilated and decomposed bodies Define Postmortem artifacts and its type w.r.t their medico-legal importance 	C1 C1 C2 C2 C2	 Procedure for selection and preservation, labeling and dispatch of Biological and non-Biological materials for laboratory examination Collection relevant samples. Exhumation procedures, and its value and limitations 	MCQs SAQs VIVA

Forensic Medicine Self Directed Learning (SDL)

Topic	Learning objectives	References
Medicolegal Autopsy-I & II	 Define medicolegal autopsy Classify autopsy and narrate the objectives of medicolegal autopsy. Briefly state the autopsy protocol and its requirements. Describe the contents of a medicolegal autopsy report. Describe autopsy procedure. Enumerate different autopsy incisions Briefly describe the functions and uses of different autopsy instruments. Describe the preservation of viscera and other articles during an autopsy. Define negative and obscure autopsy and write its causes. Describe the procedure of exhumation and its Forensic Importance. Briefly explain examination of mutilated and decomposed bodies Define Postmortem artifacts and its type w.r.t their medico-legal importance 	Essential: Parikh's" text book of forensic and toxicology PAGE NO 94 TO 112 Recommende d: Principles of Forensic Medicine & Toxicology by Gautam Biswas
General Toxicology	 Enlist different sign and symptoms of poisoning Briefly describe the diagnostic criteria of poisoning both in living and dead. Define an antidote and Classify antidotes Describe the uses of various antidotes in respective poisoning. State the composition of a universal antidote and its uses 	Essential: Parikh's" text book of forensic and toxicology PAGE NO 507-519 Recommended: Principles of Forensic Medicine & Toxicology by Gautam Biswas
General Toxicology	 Enlist the steps of management of a case of poisoning Describe the role of elimination of unabsorbed poison Briefly describe the duties of medical practitioner in a case of suspected poisoning Briefly describe the procedure of gastric lavage along with its indications, contraindications and complications State the role of elimination of absorbed poison with special emphasis on forced diuresis and exchange transfusion 	Essential: Parikh's" text book of forensic and toxicology PAGE NO 507-519 Recommended: Principles of Forensic Medicine & Toxicology by Gautam Biswas
Analgesics (Paracetamol & Aspirin) Food poisoning Botulism & Cholera	 Enlist the types of Analgesics used commonly as self-harm Briefly describe the clinical presentation of analgesic intoxication State the medicolegal importance of analgesic intoxication. Explain the management of acute analgesic intoxication in general Classify the microbial classification implicated in Food poisoning. Briefly describe the non-microbial contamination of Food. Enlist the symptoms of food poisoning Enumerate the guidelines for stool collection and preservation in case of suspected food poisoning. State the medico-legal importance of Food poisoning. 	Essential: Parikh's" text book of forensic and toxicology PAGE NO 689 TO 691 Recommended: Principles of Forensic Medicine & Toxicology by Gautam Biswas

Forensic Medicine Practical Skill Laboratory (SKILL)

Торіс	Learning Objectives				Assessment Tools
горс	Knowledge		Skill	Attitude	Assessment roots
1. General Management Of poisoning (Practical)	 Enlist the steps of management of a case of poisoning Describe the role of elimination of unabsorbed poison Brief description of procedure of gastric lavage along with its indications, contraindications and complication 	C1 C2 C2 C2	The student will be able to • Manage a case of poisoning and their clinical/Medicolegal importance.	student will be able to: • Identify a poison and managed it.	OSPE
2. Medicolegal Autopsy (Autopsy instruments, Autopsy incisions, Collection , preservation & dispatch of materials after autopsy (Practical)	 Enumerate different autopsy incisions Briefly describe the functions and uses of different autopsy instruments. Briefly describe the method of collection, preservation and dispatch of material for chemical ,histopathological examination and toxicological analysis after autopsy. 	C1 C2 C2	 The student will be able to: Demonstrate autopsy incision on dummy Identify autopsy instruments State the method of collection, preservation and dispatch of material for chemical ,histopathological examination and toxicological analysis after autopsy. 	The student will be able to Mention his/her obligations towards cases of Medicolegal injuries and deaths	OSPE
3. Autopsy Visit to mortuary (Practical)	 Enumerate the contents of Medico-legal & postmortem reports. Briefly describe different sections of mortuary. State the requirements of a mortuary. Classify the hazards of autopsy. 	C1 C2 C2 C2 C2	 Preparation of MLC/autopsy report. Observe autopsy and Medicolegal case management at DHQ, Hospital 	 The student will be able to Mention his/her obligations towards cases of Medicolegal injuries and deaths 	OSPE

Forensic Medicine Case Based Learning (CBL)

Торіс		Learnin	g Objectives		Assessment tools
Topic	Knowledge		Skill	Attitude	
Medicinal poisons (Paracetamol & Aspirin) (CBL)	 Enlist the types of Analgesics used commonly as self-harm Briefly describe the clinical presentation of analgesic intoxication Explain the management of acute analgesic intoxication in general State the Medicolegal importance of analgesic intoxication 	C1 C2 C2 C2 C2	 Student will be able to Identify and manage a case of medicinal poisoning whether it is homicidal or suicidal. 	 Students will be able to Assess and Manage a case of suicidal and homicidal medicinal poisoning by applying the knowledge of analgesic poisoning 	OSPE
Food poisoning Botulism & Cholera (CBL)	 Classify the microbial classification implicated in Food poisoning. Briefly describe the non-microbial contamination of Food. Enlist the symptoms of food poisoning Enumerate the guidelines for stool collection and preservation in case of suspected food poisoning. State the medico-legal importance of Food poisoning. 	C1 C2 C2 C2 C2 C2	 Student will be able to identify Sources of poisons Mechanism of action of poisons Sign and symptoms of poisoning Management of poisoning. Autopsy findings of death due to poisoning Medico legal aspects 	 Students will be able to Assess and Manage a case of suicidal and homicidal medicinal poisoning by applying the knowledge of food poisoning 	OSPE

Clinical Sciences (Vertical & Spiral Integration)

Content Organization

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

Clinical Sciences (Vertical Integration) MEDICINE Large Group Interactive Sessions (LGIS)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tool
Introduction, symptoms and analysis of GI investigations	 a) Define this condition and Discuss epidemiology and risk factors associated with this condition) b) Discuss relevant qualifications in history of common presentations in Gastroenterology c) Describe important investigations e.g. endoscopy) in Gastroenterology and their indications and interpretation of results 	C2 A 3	LGIS/PPT/ Case Vignette	SEQS, MCQs, OSPE
Approach to a patient with Dyspepsia	Define dyspepsia. Describe pathophysiology of gastric acid secretion. Describe and discuss different clinical presentations and treatment options for Dyspepsia	C2 A 3		SEQS, MCQs, OSPE
Approach to a patient with upper GI bleed	Should know the definition of hematemesis, Malena and hematochezia. Describe anatomical basis and patho -physiological correlation of GI. bleed e.g. potential bleeding areas and mechanism of bleeding from the gut. Discuss common causes of GI bleeding including common life	C2 A 3	LGIS/PPT	SEQS, MCQs, OSPE
Approach to a patient with Ascites	Able to define Ascites. Explain pathophysiology of Ascites. Describe etiology of Ascites. Classify different types of Ascites.	C2 A 3	LGIS/PPT	SEQS, MCQs, OSPE
Approach to a patient with Jaundice	Should be able to discuss and describe Bilirubin metabolism and pathophysiology of Jaundice as increased bilirubin production, decrease bilirubin uptake, obstruction in biliary tree. Relevant questions to elaborate and differentiate between different causes of jaundice for example Pre-hepatic, hepatic and post hepatic Associated symptoms of jaundice that clarify cause like anemia, loss of appetite, fever, dark urine, clay stools and pruritus	C2 A 3	LGIS/PPT	SEQS, MCQs, OSPE
Medical aspect of parasitology	Discuss common intestinal parasitic infections e.g. amebiasis, giardiasis, ascariasis, schistosomiasis Describe and discuss clinical features of common parasitic infections Discuss relevant questions on history to differentiate between different parasitic infections. Overview of treatment	C2 A 3	LGIS/PPT	SEQS, MCQs, OSPE
Seminar on Hepatitis	able to define acute and chronic viral hepatitis and Different types of viruses causing Hepatitis and their natural course of disease. Describe Clinical features and complications of viral hepatitis. Describe Investigations to diagnosis different viral hepatitis and for complications.	C2 A 3	LGIS/PPT	SEQS, MCQs, OSPE

SURGERY Large Group Interactive Sessions (LGIS)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tool
Approach to a patient with Esophageal Disease	 Outline differential diagnosis of dysphagia Describe different types of Motility disorders of esophagus. Explain clinical features, diagnosis, treatment and complications associated with GERD. Describe pathophysiology, diagnosis and treatment options for different benign causes of dysphagia Describe pathophysiology, diagnosis and treatment options for carcinoma esophagus. 	C2 C2 C3 C2 C2 C2	LGIS	SEQS, MCQs , OSPE
Approach to a patient with Acute abdomen	 Describe clinical presentation (S/S) of acute surgical abdomen. (peritonitis, intestinal obstruction, appendicitis etc.) Enlist differential diagnosis of acute abdominal presentations based on clinical presentation. Apply this theoretical knowledge to make management plan including diagnosis and treatment plan for traumatic (blunt and penetrating) and non-traumatic presentations of acute abdomen. 	C2 C1 C3	LGIS	SEQS, MCQs , OSPE
Approach to a patient with Abdominal hernias	 Recognize different types of abdominal hernias Describes management plan for each type of hernia. Explain possible complications associated with hernias 	C2 C2 C2	LGIS	SEQS, MCQs OSPE
Approach to a patient with Obstructive jaundice and hepatobiliary diseases	 Explain signs and symptoms of cholelithiasis, chronic cholecystitis, acute cholecystitis, cholangitis, pancreatitis and obstructive jaundice. Enlist a D/D for upper abdominal pain. Enlist a D/D for obstructive jaundice. Apply his theoretical knowledge to make a management plan for hepatobiliary diseases. 	C2 C1 C1 C3	LGIS	SEQS, MCQs , OSPE
Approach to a patient with GI malignancy	 enlist various GI malignancy Describe the pathophysiology of different GI malignancies Describe the diagnostic and staging investigations in a patient with GI malignancy Outline the best treatment plan for these patients Describe the concepts of neoadjuvant , adjuvant therapy and surgical options in a patient with GI malignancies 	C2 C1 C2 C2	LGIS	SEQS, MCQs , OSPE

COMMUNITY MEDICINE Large Group Interactive Sessions (LGIS)

Торіс	Learning Objectives		Assessment Tools
Nutrition 1 Classification of Foods	 Define nutrition describe food pyramid utilize food pyramid classify food according to function classify food according to nutritive value classify food according to origin classify food by chemical composition 	LGIS	MCQ/SEQ
Nutrition 2 Major Food Groups	 Describe major food groups Discuss functions of proteins Describe requirements and sources of proteins Explain functions of carbohydrates Describe requirements and sources of carbohydrates Discuss functions of fats State requirements and sources of fats 	LGIS	MCQ/SEQ
Nutrition 3 Vitamins, Minerals	 explain importance of major minerals explain importance of trace elements State different types of vitamins explain functions of vitamins explain functions of minerals state daily requirement of vitamins state daily requirement of minerals describe deficiency diseases of vitamins and minerals 	LGIS	MCQ/SEQ
Nutrition 4 Malnutrition, balanced Diet	 classify malnutrition explain causes of malnutrition discuss prevention of different types of malnutrition define nutritional surveillance, food fortification, food adulteration discuss balance diet describe energy requirement discuss concept of empty calories 	LGIS	MCQ/SEQ
FECO ORAL INFECTIONS 1Preventive aspect of Diarrheal diseases, Typhoid and Food poisoning	 Describe burden of diarrheal diseases discuss WHO strategies for control and prevention of these diseases Discuss the epidemiology and preventive aspects of food poisoning and typhoid fever 	LGIS	MCQ/SEQ

Торіс	Learning Objectives		Assessment Tools
FECO ORAL INFECTIONS 2 POLIO	 By the end of the session students will be able to : Understand polio virus transmission, poliomyelitis disease and global progress toward polio eradication Recognize the vaccines available against polio and the risks and the benefits of the each Describe the rationale for introducing IPV into the routine immunization schedule. 	LGIS	MCQ/SEQ
FECO ORAL INFECTIONS 3 HEPATITIS	 By the end of the session students will be able to : provide overview of hepatitis Outline of classification and characteristics of hepatitis viruses Structure, epidemiology, pathogenesis, clinical outcome and laboratory diagnosis of hepatitis A virus hepatitis B virus hepatitis C virus hepatitis D virus hepatitis E virus 		MCQ/SEQ

Spirally Integrated Subjects

- Longitudinal Themes
 - The Holy Quran Translation
 - Family Medicine
 - Behavioral Sciences
 - Biomedical Ethics
 - Research

Large Group Interactive Sessions (LGIS) Family Medicine

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tools
Liver Diseases	 Explain the aetiology and clinical features of acute hepatitis Explain the management strategies of acute hepatitis in family practice Explain the aetiology, clinical features and complications of Chronic hepatitis Explain the management strategies of chronic hepatitis in family practice Describe the red-flags in a patient with acute and chronic hepatitis for referral to specialty care 	C1 C2 C2 C3 C2	LGIS	MCQs
GIT Pathologies	 Classify enteric infections Describe the aetiology, clinical features, investigations and management of Salmonellosis Describe the red-flags in a patient with Salmonella infections for referral to specialty care Explain the etiology, and management of acute gastroenteritis Discuss the primary and secondary prevention of acute gastroenteritis in a primary healthcare setting Describe the red-flags in a patient with acute gastroenteritis for referral to specialty care 	C1 C2 C2 C3 C2 C3 C2 C3	LGIS	MCQs

Large Group Interactive Sessions (LGIS) Behavioral Sciences

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tools
Counselling and Handling difficult patients and their	 The student should be able to: Techniques to handle difficult patients and their families. Elaborate the traits of good counsellor Handling in uncertain situations in clinical practice 	C3	LGIS	MCQs SEQs SAQs Standard matching
Breaking Bad News	The student should be able to:Elaborate the models for breaking the Bad news.Understand the importance of How to break the Bad News	C3	LGIS	MCQs SEQs SAQs Standard matching

BEHAVIORAL SCIENCES (SDL)

Торіс	Learning Objectives	References
Psychosocial Aspect in different hospital settings Oncology	 The students should be able to Understand the psychosocial impact of cancer diagnosis, treatment, and survivorship on patients, families, and caregivers. Develop skills in assessing and addressing psychosocial needs across the cancer continuum, including coping with diagnosis, treatment decision-making, and end-of-life care planning. Implement strategies to provide emotional support, symptom management. Collaborate with oncology healthcare teams to integrate psychosocial care into cancer treatment plans. Advocate for patient-centered cancer care. 	Behavioral Sciences textbook, second edition by Mowadat Rana Reference Article: Nerou S. et al., Surgical incidents and their impact on operating theatre staff: qualitative study, BJS Open, 2020, 00, 1–6 DOI: 10.1093/bjsopen/zraa007

Торіс	Learning Objectives	References
Psychosocial Aspect in different hospital settings Operating Theatre	 The students should be able to Understand the psychosocial factors influencing patient experiences and outcomes in the perioperative period. Develop skills in communicating effectively with patients and their families before, during, and after: surgical procedures, addressing fears, anxieties, and information needs. Implement strategies to support patient preparation and coping with surgery-related stressors, including relaxation techniques, guided imagery, and preoperative education. Collaborate with surgical teams to provide continuity of psychosocial care throughout the surgical process, including postoperative recovery, pain management, and rehabilitation. Advocate for patient rights, informed consent, and holistic psychosocial support services in perioperative care delivery and quality improvement initiatives. 	Behavioral Sciences textbook, second edition By Mowadat Rana Reference Article Wang Y, Feng W. Cancer related psychosocial challenges. General Psychiatry 2022;35: e100871. doi:10.1136/gpsych-2022- 100871
Psychological Peculiarities of dentistry	The student should be able to: Understand the psychological factors influencing patient behavior and dental care outcomes. • Develop skills in communication and rapport-building to address patient anxiety and dental phobia. • Implement strategies for patient education and behavioral modification to enhance oral health outcomes.	Behavioral Sciences textbook, second edition By Mowadat Rana Reference Article Nocini et al. Bilateral reconstruction of the mandibular body with symphyseal preservation using a single fibula free flap: operative technique Journal of Otolaryngology - Head & Neck Surgery (2022) 51:29 https://journalotohns.biomedcentr al.com/articles/10.1186/s40463- 022-00579-5
Role of psychology in ETIOLOGY, precipitation of illness and its management	Recognize the influence of psychological factors in the development and progression of various medical conditions. • Identify strategies for psychological assessment, intervention, and collaborative care in managing illnesses with psychological components	Behavioral Sciences textbook, second edition By Mowadat Rana Reference Article: Kelly MJ, et al. Spectrum of impulse control behaviors in Parkinson's disease: pathophysiology and management. J Neurol Neurosurg Psychiatry 2020;91:703–711. doi:10.1136/jnnp-2019-322453 703

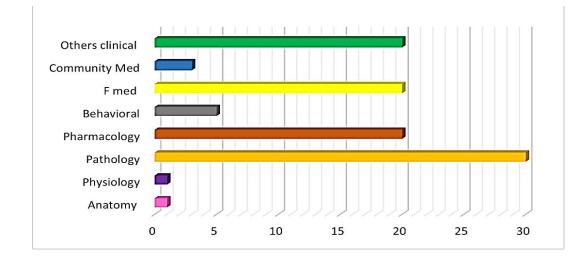
Торіс	Learning Objectives	References
Role of psychological factors in diseases causing disability, handicap and stigma	 Understand how psychological factors contribute to the development and management of disabilities, handicaps, and stigma in individuals with various health conditions. Explore the impact of societal attitudes and beliefs on the psychological well-being of individuals affected by diseases causing disability, handicap, and stigma. Identify effective coping mechanisms and psychosocial interventions aimed at addressing the psychological needs of individuals living with disabilities, handicaps, and stigma. 	Behavioral Sciences textbook, second edition Mowadat Rana Reference Article: I. E. van Beukering, In What Ways Does Health Related Stigma Afect Sustainable Employment and Well- Being at Work? A Systematic Review Journal of Occupational Rehabilitation (2022) 32:365–379 https://link.springer.com/article/1 0.1007/s10926- 021-09998-z

Large Group Interactive Sessions (LGIS) Bioethics & Professionalism

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tools
Ethics of communicable	Apply appropriate changes in basic concepts of biomedical ethics in communicable diseases.	C1	LGIS	MCQs
diseases & public he	-Know the responsibilities of physicians & public health authorities in communicable diseases.	C1	LOIS	megs

Integrated Undergraduate Research Curriculum (IUGRC)

Торіс	Learning Objectives	Teaching Strategy	Assessment Tools
Synopsis Writing	• • Organize research idea or general thought into a topic that can be configured into research problem • Formulating a research question according to FINER Criteria • Formulate appropriate research questioning using PEO/PICO/PICOT format • Understand the concept of literature review • Cognizant with concept of publication ethics • Outline steps of synopsis writing according to SJRMC Guidelines		Manuscript submission at SJRMC
Questionnaire Development	 Understand about questionnaires used in research Categorize types of questions used in research their advantages and disadvantages Identify Designs and stages of development of questionnaire Interpret Simple rules for writing a good questionnaire Appraise Parts and Layout of questionnaire 	LGIS	Manuscript submission at SJRMC
Hands on Session on SPSS	 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 		Manuscript submission at SJRMC
Manuscript writing	 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 Explain conclusion, recommendation and acknowledge part of research report clarify types of citations included in discussion section 	LGIS	Manuscript submission at SJRMC



GIT, Hepatobiliary & Parasitology

Teaching Hours

Sr. No.	Disciplines	LGIS	SGD/CBL	SDL	Hours
1.	Pharmacology	13	04	04	21
2.	Pathology	15	15	04	34
3.	Forensic Medicine	05	2	04	12
4.	Research	04	0	0	04
5.	Surgery	05	0	0	05
6.	Medicine	06	0	0	06
7.	Gynae Obs	01	0	0	01
8.	Community Medicine	07	0	0	07
9.	Quran	03	0	0	03
10.	Family Medicine	02	0	0	02
11.	Behavioral Sciences	02	0	4	06
12.	Bioethics	01	0	0	01
13.	Innovation and entrepreneurship	01	0	0	02
	Total hours	66	21	16	103

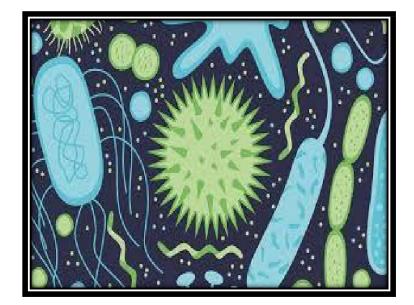
Block- VIII



Module - II

Microbes & Anti Microbials Module

MBBS YEAR III
BLOCK- VIII
MODULE- XVI
MICROBES AND ANTI-MICROBIALS MODULE
DURATION- 6 WEEKS



Introduction

Microbes and Anti-Microbial module provides integration of core concepts that underlie the basic science/pathology of Microbial 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: To establish strong foundations for antimicrobial stewardship to promote appropriate use of antimicrobials thus improving patient outcomes in clinical practice with consequent reduction in microbial resistance and eventually decreased spread of multidrug resistant organisms. Diseases prevalent in Pakistan are also discussed in the form of seminar. In this module students will attend seminar on DENGUE & TYPHOID..

Module Outcomes

Each student will be able to:

Knowledge

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

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

Skills

Interpret and analyze various practical of Pre-clinical Sciences

Attitude

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

This module will run in 7 weeks duration. The content will be covered through introduction of topics. Instructional strategies are given in the time table and learning objectives are given in the study guides. Study guides will be uploaded on the university website. Good luck!

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:

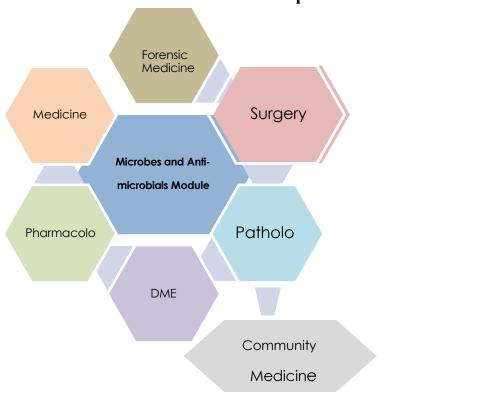
- A Table of Specifications is provided for the first professional exam and must be used for internal assessments as well.
- This promotes consistency in evaluating student learning across different assessments

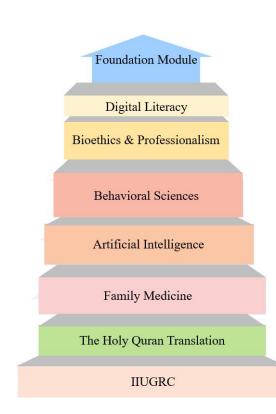
:	Microbes and Antimicrobial Module
:	06 Weeks
:	Dr. Kiran Fatima
:	Dr. Nida Fatima
:	Module Committee
	:

Module Committee				
1.	Vice Chancellor RMU	RMU Prof. Dr. Muhammad Umar		
2.	Prinicipal	Prof. Dr. Jahangir Sarwar Khan		
3.	Convener Curriculum	Prof. Dr. Naeem Akhter		
4.	Dean Basic Sciences	Prof. Dr. Ayesha Yousaf		
5.	Director DME	Prof. Dr. Ifra Saeed		
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Integration of Disciplines in Microbes and Anti-Microbials Module





Spiral / General Education Cluster Courses

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Learning Objectives

Horizontal Integration

Pharmacology Large Group Interactive Session (LGIS)

Topic	Learning Objectives At The End of The Session Student Should Be Able To		Teaching Strategy	Assessment Tool
Introduction to Chemotherapy	Classify anti-bacterial drugs based on mechanism of Action, anti-microbial spectrum & type of anti- microbial activity Explain bacteriostatic & bactericidal activity of antibacterial drugs with examples	C1 C2		SEQS, MCQS
	Describe Dose-dependent & time-dependent killing based on MIC	C2 C2		
	Explain post-antibiotic effect with examples	C2	LGIS	
	Describe briefly the steps and factors affecting selection of an antimicrobial for different types of therapy	C2	_	
	Enumerate the problems associated with anti-microbial use	C2		
	Briefly discuss anti-microbial resistance and its mechanism	C2		
Description	Enumerate groups of Cell Wall Inhibitors	C1	LGIS	SEQS, MCQS
Pencillins (Classification and	Classify Penicillin	C1		
(Classification and Pharmacokinetic)	Describe mechanism of action of Penicillin	C2		
	Describe anti-bacterial spectrum of Penicillin	C2		
Pencillins II	Pencillins II Enumerate uses & adverse effects of Penicillin			
(Pharmacodynamics with interaction)	Describe mechanisms of resistance to Penicillin	C2	LGIS	SEQS, MCQS
	-Classify Cephalosporins	C1		SEQS, MCQS
Carbalamarina	-Describe mechanism of action of Cephalosporins	C2	LGIS	
Cephalosporins	-Discuss anti-bacterial spectrum of different generations of Cephalosporins	C2	LGIS	
	-Discuss uses and adverse effect of Cephalosporins based on their spectrum	C2		
	Grasp the properties and mechanisms of action of these antibiotic classes.	C2		SEQS, MCQS
Carbapenems and Monobactam	Understand the types of bacteria susceptible to Carbapenems and Monobactams.	C2	LGIS	
	Recognize appropriate use cases for Carbapenems and Monobactams in treatment.	C2		
	Describe mechanism of action and clinical uses of Vancomycin	C2	LGIS	MCQS, SEQS

Vancomycin and cell wall	Enumerate adverse effects of vancomycin	C2		
synthesis inhibitors	Explain in detail Red Man Syndrome and its management	C2		
Fluoroquinolones	Classify fluoroquinolones	C1		MCQS, SEQS
	Describe mechanism of action of Fluoroquinolones	C2	LGIS	
	Discuss spectrum of Fluoroquinolones	C2		
	Discuss uses of Fluoroquinolones based upon their Spectrum	C2		
Sulphonamides &Trimethoprim	Describe the mechanism of action of Co-Trimoxazole	C2	LGIS	MCQS, SEQS
	Enumerate groups of Protein synthesis inhibitors	C2	+	MCQS, SEQS
	-Classify tetracyclines	C2		
Tetracyclines	-Describe the mechanism of action of Tetracyclines	C3	LGIS	
	-Describe the anti-bacterial spectrum of Tetracyclines	C2		
	-Enumerate uses and adverse effects of Tetracyclines	C1		
	Enumerate Macrolides	C1	LGIS	MCQS, SEQS
	Discuss mechanism of action of Macrolides	C2		
Macrolides	Discuss spectrum of antibacterial activity of Macrolides	C2		
	Discuss adverse effects of macrolides	C2		
	Describe mechanism of action of clindamycin and chloramphenicol	C2		MCQS, SEQS
Clindamycin and other Protein	Discuss antibacterial activity of clindamycin and chloramphenicol	C2	LGIS	
Synthesis Inhibitors	Discuss adverse effects of both agents	C2		
	Classify aminoglycosides	C2	LGIS	MCQS, SEQS
	Examine Pharmacokinetics of Aminoglycosides	C2		
Aminoglycosides	Describe spectrum of Aminoglycosides	C2		
	-Describe Clinical uses of Aminoglycosides	C2		
	-Describe adverse effects and contraindication Aminoglycosides	C2		
Antiviral Agents	Classify anti-viral drugs based on the viral disease	C1		MCQS, SEQS
	Classify anti-viral drugs based on mechanism of action of drugs	C2	LGIS	
Antiviral Agents	-Outline the salient pharmacokinetic &pharmacodynamic features of antiviral drugs used to treat HSV, VZV, CMV and influenza	C2	LGIS	MCQS, SEQS

Antiviral Agents	Define HAART Describe the mechanism of action and adverse effects of major drug groups used in AIDS	C2	LGIS	MCQS, SEQS	
	Enumerate various antifungal agents	C1			
Antifungal Agents	-Describe mechanism of action and antimicrobial spectrum of amphotericin	C2	LGIS	MCQS, SEQS	
	-Discuss pharmacokinetics and unwanted effects of Amphotiricin B	C2			
Antifungal Agents	Describe mechanism of action of Azoles, Echinocandinsandother antifungal drugs	C2			
	Discuss clinical uses and adverse effects of various antifungal drugs C2	C2	LGIS	MCQS, SEQS	
	Classify anti-cancer drugs	C1			
Anticancer Agents	-Explain the term cell-cycle specific and cell cycle non-specific	C2	LGIS	MCQS, SEQS	
	-Enumerate cell-cycle specific and cell cycle non-specific drugs	C1			
	Describe the log kill hypothesis	C2			
Anticancer Agents	Describe advantages of combination anticancer therapy	C2	LGIS	MCQS, SEQS	
	Describe adverse effects common to anti-cancer drugs (shared toxicities)	C2			

Pharmacology Case Based Learning (CBL)

Торіс	Learning Objectives At The End of The Session Student Should Be Able To		Teaching Strategy	Assessment Tool
Rheumatic fever	Grasp the cause, symptoms, and potential complications of rheumatic fever. Understand diagnostic tools and treatment strategies for rheumatic fever.	C2 C2	CBL	MCQS, SEQS,
	Learn how to prevent rheumatic fever through proper management of infections.	C2		OSPE
Meningitis	Grasp the definition, causes, and types of meningitis. Identify common symptoms and understand diagnostic methods for meningitis. Learn treatment options and effective preventive measures for meningitis.	C2 C2 C2 C2	CBL	MCQS, SEQS, OSPE
VRSA endocarditis	Understand the challenges of VRSA (Vancomycin-Resistant Staphylococcus Aureus) in endocarditis treatment. Explore alternative antibiotic regimens for VRSA endocarditis. Analyze the pharmacological properties and potential side effects of VRSA endocarditis treatments.	C2 C2 C2 C2	CBL	MCQS, SEQS, OSPE
Shingles	Understand the link between shingles reactivation and the medications used to treat it. Identify antiviral medications used for shingles and their mechanisms of action.	C2 C3	CBL	MCQS, SEQS, OSPE

	Learn about pharmacological approaches to managing pain associated with shingles.	C2		
	Explore the use of AMG (anti-vascular endothelial growth factor monoclonal antibody) therapy in treating sepsis.	C2		MCQS, SEQS,
AMG Use in Sepsis	Understand the mechanism of action of AMG therapy and its potential benefits for sepsis patients.	C2	CBL	OSPE
	Analyze current research and evidence on the use of AMG therapy for sepsis.	C3		

Pharmacology Practical Skill Laboratory (SKL)

Торіс	Learning Domain	Venue	Assessment Tool
P- Drug prescription of community and nosocomial pneumonia	Р	Skill Lab	OSPE
P drug & Prescription writing of gonorrhea and pseudomembranous colitis	Р	Skill Lab	OSPE
P drug & Prescription writing of atypical pneumonia and enteric fever	Р	Skill Lab	OSPE
Pharmacy Visit	Р	Skill Lab	OSPE
P drug & Prescription writing of oral candidiasis and HSV encephalitis	Р	Skill Lab	OSPE

Forensic Medicine

Large Group Interactive Session (LGIS)

Торіс	Learning Objectives	C/P/A	Teaching	Assessment
Торіс	At The End of The Session Student Should Be Able To		Strategy	Tool
Inebriants (Alcohol)	Classify the types of Alcohol	C2	LGIS	SEQS, MCQS,
	Describe the clinical presentation of alcohol intoxication both acute and chronic	C1		OSPE
	Briefly explain the clinical tests for examination and the collection of blood, urine and vomitus and their necessary sampling.	C2		
	State the Medicolegal importance of alcoholic intoxication.	C2		
	Describe the management of acute and chronic alcohol intoxication in general.	C2		
Agricultural Poisons	Enlist the physical properties of Organoposphours compounds.	C1	LGIS	MCQS, OSPE
(OCP)	Briefly describe the mechanism of action in humans and clinical features of Organoposphours compounds poisoning and its management.	C2		
	State the Medico-legal importance of Organoposphours compounds poisoning.	C2		
	Enumerate the autopsy findings of Organoposphours compounds poison	C2		
	Enlist the physical properties of Organoposphours compounds.	C3		
Inorganic Irritant Metallic	Classify the types of Inorganic Irritants (Arsenic).	C1	LGIS	SEQS, MCQS,
Poisons (Arsenic)	Describe mechanism of action of in Inorganic irritants and clinical features of a poisoning with Arsenic ·	C2		VIVA
	Mention the fatal dose, management, medico-legal importance of each type of inorganic poisoning.	C2		
	Briefly explain the autopsy findings of a victim of inorganic metallic poisoning.	C2		
Inorganic Irritant Metallic	•Classify the types of Inorganic Irritants (Lead).	C1	LGIS	SEQS, MCQS,
Poisons (Lead)	•Describe mechanism of action of in Inorganic irritants and clinical features of a poisoning with lead.	C2		OSPE
	•Mention the fatal dose, management, medicolegal importance of each type of inorganic poisoning.	C2		
	•Briefly explain the autopsy findings of a victim of inorganic metallic poisoning	C2		
Non-Metallic Poisons	Classify the types of Inorganic non-metallic Irritants (Phosphorus & Iodine)	C1	LGIS	SEQS, MCQS,
(Phosphorus and Iodina)	Mention the fatal dose, management, medico-legal importance of each type of inorganic poisoning.	C2		VIVA
	Describe mechanism of action of in Inorganic irritants and clinical features of a poisoning with (Phosphorus & Iodine) ·	C2		
Spinal Poisons Strychnine	Briefly state the mechanism of action of spinal poison.	C1	LGIS	SEQS, MCQS,
(Nux Vomica)	Mention the fatal dose, management & medico-legal importance of spinal poison.	C1		OSPE

poisons · Differentiate between symptoms of spinal poisons and tetanus C2	Briefly explain the autopsy findings of a victim of spinal poison. State the me	edicolegal importance of spinal C2	
Differentiate between symptoms of spinal poisons and tetanus C2	poisons ·		
	Differentiate between symptoms of spinal poisons and tetanus	C2	

Forensic Medicine Case Based Learning (CBL)

Tonio	Topic At The End of The Session Student Should Be Able To		Teaching	Assessment
ropic	Al the tha of the session student should be Able to	C/P/A	Strategy	Tool
	Enlist physical properties of castor, croton, capsicum, ergot, Arbus	C1		
Varatable Deisone (aastaa	Briefly explain their mechanisms of action in humans	C2		
Vegetable Poisons (castor,	Describe clinical features of organic irritant poisoning and its management C2	CBL	MCQS, SEQS	
croton, capsicum, ergot, Arbus)	State the medicolegal importance of organic irritant poisoning	e medicolegal importance of organic irritant poisoning C2		
	Briefly explain the autopsy findings of organic irritant poisoning	C2		
	Identify specimen of corrosives	C1		
	Classify Corrosives and state its mechanism of actions.	C2		
Compained (milfordia a sid sidaia	•Briefly explain the clinical effects of corrosives on human body.	C2		
Corrosives (sulfuric acid, nitric	-State the fatal dose and management of corrosives burns.	C1	CBL	MCQS, VIVA
acid, hydrochloric acid)	-Define Vitriolize	C2		
	-Briefly describe the medico-legal importance of throwing of corrosives and their autopsy findings.	C2		
	-The student will be able to manage case of a CORROSIVES burns	C2		

Forensic Medicine Practical Skill Laboratory (SKL)

Topic	Learning Domain	Venue	Assessment Tool
Inebriant (methyl alcohol poisoning)	Р	Toxicology Lab/ Lecture Hall 4	
			OSPE
Insecticide wheat pill poisoning	Р	Toxicology Lab/ Lecture Hall 4	
			OSPE
Irritants, Metallic poisons	Р	Toxicology Lab/ Lecture Hall 4	OSPE
Autopsy Visits/Postmortem& Medicolegal Work/Research	Р	DHQ Mortuary	OSPE
Autopsy	Р	DHQ Mortuary	OSPE

Торіс	Learning Objectives At The End of The Session Student Should Be Able To	C/P/A	Teaching Strategy	Assessment Tool
	Define different types of mutations	C1		
	Describe bacterial components for genetic transformation	C2		
Bacterial Genetics	Discuss high frequency recombination	C1	LGIS	SEQS, MCQS, OSPE
	Define fertility plasmid and sex pilus	C2		
	Discuss transduction	C2		
	Explain mechanism of resistance to antibiotics in bacteria	C1		
Antimicrobial Drug Resistance and Vaccine	Describe vaccines	C2	LGIS	SEQS, MCQS,
and vaccine	Discuss diseases against which vaccines are used	C2		
	-Explain Important properties, epidemiology	C1	LGIS	SEQS, MCQS, OSPE
	-Describe transmission, pathogenesis	C2		
Staphylococci	Signs, symptoms, laboratory diagnosis and treatment of Staphylococcus aureus	C2		
	Staphylococcus epidermidis and Staphylococcus saprophyticus	C2		
	Enumerate different types of streptococci according to their groups.	C1		
	-Explain important diseases and laboratory diagnosis of β-hemolytic streptococcus.	C2	-	
Streptococci	-Explain important diseases and laboratory diagnosis of Streptococcus viridians	C2	LGIS	SEQS, MCQS, OSPE
	-Discuss different properties and diseases caused by strep. Pneumonia	C2		
	-Discuss diseases and laboratory diagnosis of enterococci and streptococcus pneumoniae	C2		
	Enumerate different types of gram-negative cocci	C1		
Gram Negative Cocci	-Discuss different types of gram-negative cocci in detail along with their laboratory diagnosis -	C2	LGIS	SEQS, MCQS, OSPE
	Describe unique traits of Gram-positive rods and how they differ from other bacteria.	C1		
Gram Positive Rods	Identify key genera of Gram-positive rods.	C2	LGIS	SEQS, MCQS, OSPE
	Understand the role of Gram-positive rods in health and disease.	C2		
• · · • · · · • · · •	Describe Important properties of Enterobacteria	C2		
Introduction to Enterobacteria,	-Describe transmission, pathogenesis, signs and symptoms, laboratory diagnosis of Enterobacteria	C2	LGIS	SEQS, MCQS, OSPE
E coli	Describe different strains of E. coli	C1		

Pathology Large Group Interactive Session (LGIS)

	Explain laboratory diagnosis and treatment of E. coli infection			
		C2		
	Discuss Important properties & epidemiology	C2		
	- Explain transmission, pathogenesis, signs and symptoms	C2		
Salmonella classification,	-Identify laboratory diagnosis and treatment of Salmonella	C2	LGIS	SEQS, MCQS, OSPE
pathogenicity, properties and	Discuss classification of salmonella	C3		
lab diagnostics	-Explain important properties and pathogenesis of Salmonella	C2		
8	-Discuss chronological order of diagnostic tests for typhoid fever	C2		
	Describe Important properties & epidemiology of Gram-Negative rods related to RTI.C2	C2		
	-Discuss transmission, pathogenesis, signs and symptoms, laboratory diagnosis of HaemophillusC2.	C2		
Gram Negative Rods Related to	-Discuss important properties C2	C2	LGIS	SEQS, MCQS, OSPI
Respiratory Tract	-Discuss pathogenesis, laboratory diagnosis of bacteria of respiratory tract.C2	C2		
	Explain pathogenesis of Bordetella, - C2	C2	-	
	Discuss legionnaire's disease and important properties of organism	C2		
	Enlist types of Rickettsia, Chlamydia	C2		
Rickettsiae, Chlamydia	Describe Pathogenesis, Clinical features, treatment of diseases caused by Rickettsia, Chlamydia	C2	LGIS	VIVA, MCQS, OSPI
	Explain the important properties	C2		
	Describe Replicative cycle	C2		
Measles, Mumps, Rubella	•Explain the transmission and pathogenesis of the diseases caused by these viruses	C2	LGIS	SEQS, MCQS, OSPI
Wieasies, Winnps, Rubena	•Explain the interaction of pathogenesis of viruses & immunity of individuals	C2	1013	3EQ3, MCQ3, O3F1
	•Explain clinical findings and its laboratory identification	C2	-	
	Describe the treatment & Prevention	C2	-	
	Explain the important properties of respiratory viruses	C2		
	Describe Replicative cycle	C2		
Respiratory Virus	•Explain the transmission and pathogenesis of the diseases caused by these viruses	C2	LGIS	SEQS, MCQS, OSPI
	•Explain the interaction of pathogenesis of viruses & immunity of individuals	C3	•	
	•Explain clinical findings and its laboratory identification	C2		

	Describe the treatment & Prevention	C2		
	Explain the important properties	C2		
	Describe Replicative cycle	C2		
HIV/ AIDS Diseases	•Explain the transmission and pathogenesis of the diseases caused by these viruses	C2	LGIS	SEQS, MCQS, OSPE,
HIV/ AIDS Diseases	•Explain the interaction of pathogenesis of viruses & immunity of individuals	C2		VIVA
	•Explain clinical findings and its laboratory identification	C2	-	
	Describe the treatment & Prevention	C2	-	
Systemic Mycosis and Antifungal	Identify the morphology of fungi	C1	LGIS	
	•Describe the important features of systemic fungal diseases	C1		SEQS, MCQS, OSPE
	Describe laboratory diagnosis of systemic fungi	C1		
	Classify antifungal	C1		
	Discuss their mechanism of action	C2	_	
	Identify the morphology of fungi	C2		
Dengue fever, Pathological	•Describe the important features of systemic fungal diseases	C2	LGIS	SEQS, MCQS,
aspects and Lab Diagnosis	Describe laboratory diagnosis of systemic fungi	C2	_	
	Explain the transmission and pathogenesis	C2		
Varicella zoster and Cytomegalovirus	Relate the interaction of pathogenesis of viruses with immunity of individual	C3	-	
	-Explain clinical findings, Lab diagnosis	C2	LGIS	SEQS, MCQS,
	-Describe treatment and prevention.	C2	-	
	-discuss the reactivation of disease.	C2	-	

Pathology	Small	Group	Discussion	(SGD)
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T: -	Learning Objectives		Teaching	Assessment
Торіс	At The End of The Session Student Should Be Able To	C/P/A	Strategy	Tool
	Differentiate between structure of gram positive and gram-negative bacterial cell wall	C3		
Structure of Bacterial cell	Correlate structural components of bacteria with their pathogenicity	C3	SGD	MCQs, SEQs,
	Define plasmid, transposon, mesosome, glycocalyx.	C1		OSPE, Viva
	Define each phase of growth cycle	C1		
N (1 1 1 1	Differentiate between aerobic and anaerobic growth	C3		MCO SEO
Bacterial metabolism and Growth curve	Explain fermentation of sugars	C2	SGD	MCQs, SEQs, OSPE
Growth curve	Discuss iron metabolism	C2		OSPE
	Define each phase of growth cycle	C2		
	Define different terminologies	C1		MCQs, SEQs, OSPE
	Explain modes of transmission and adherence and entry in host cell	C2	- SGD	
	Explain mechanism of action of important toxins	C2		
Pathogenesis of Infectious	Differentiate between exotoxin and endotoxin	C2		
agent in Microbiology	Explain Koch's postulates	C2		
	Identify different lab test	C1		
	Describe principle of different lab test	C2		
	Interpret various lab tests for different diseases	C3		
	Define Chemical disinfectants	C1		
Sterilization and Disinfection	Categorize chemical disinfectants	C2	SGD	MCQs, SEQs,
	Explain physical methods of disinfection and sterilization	C2		OSPE
	Describe Important properties, epidemiology of vibrio cholerae and shigella	C2		
	-Describe transmission, pathogenesis, signs and symptoms, laboratory diagnosis and treatment of Shigella and Vibrio Cholerae	C2		
771 1 - 11 - 11 - 11 - 1	-Enumerate different types of vibrion	C1	SGD	
Klebsiella, shigella, vibrio	-Discuss pathogenesis of cholera and shigellosis.	C2		MCQs, SEQs, OSPE
cholera	-Identify diagnostic tests available for vibrio cholera and its treatment	C3		USPE
	-Discuss interpretation of TSI	C2		
	Describe Important properties, epidemiology of vibrio cholerae and shigella	C2		

Helicobacter and	-Discuss related diseases of Helicobacter and Campylobacter C2,	C2	SGD	MCQs, SEQs,
Campylobacter	Discuss pathogenesis and laboratory diagnosis of Campylobacter and Helicobacter C2,	C2		OSPE

Pathology Case Based Learning (CBL)

Торіс	Leaning Objectives	C/P/A	Teaching	Assessment
	At The End of The Session Student Should Be Able To		Strategy	Tool
	Discuss pathogenesis and laboratory diagnosis of brucella	C2		
Cuerry Negatives Ded Dalated	-Discuss important properties	C2		MGOG GEOG
Gram Negative Rod Related Zoonotic Disease	-Discuss pathogenesis and laboratory diagnosis of Yersinia pestis	C2	CBL	MCQS, SEQS, OSPE
Zoonotic Disease	-Explain pathogenesis and laboratory diagnosis of infections caused by Francisella and Pasteurella	C2		OSIE
	Discuss pathogenesis and laboratory diagnosis of brucella	C2		
	Explain different stages of syphilis,	C2		
	Describe different serological techniques used for diagnosis of syphilis,	C2		MCQS, SEQS, OSPE
Spirochetes	Discuss treatment and prevention of syphilis,	C2	CBL	
	Explain Lyme's Disease,	C2		
	Explain transmission of leptospira	C2		
	Explain the important properties	C2	CBL	MCQS, SEQS, OSPE
	Describe Replicative cycle	C2		
	•Explain the transmission and pathogenesis of the diseases caused by these viruses	C2		
Diarrheal viruses	•Explain the interaction of pathogenesis of viruses & immunity of individuals	C2		
	•Explain clinical findings and its laboratory identification	C2		
	•Describe the treatment & Prevention	C2		
	Explain the important properties	C1		
	Explain the important properties	C2		
	Describe Replicative cycle	C2	1	
Polio and Rabies virus	•Explain the transmission and pathogenesis of the diseases caused by these viruses	C2	CBL	MCQS, SEQS, OSPE
	•Explain the interaction of pathogenesis of viruses & immunity of individuals	C2		USFE
	•Explain clinical findings and its laboratory identification	C2		

	•Describe the treatment & Prevention	C2		
	Explain the important properties of Herpes virus	C2		
	Describe Replicative cycle	C2	_	
	•Explain the transmission and pathogenesis of the diseases caused by these viruses	C2		MCQS, SEQS,
Herpes Virus and HSV	•Explain the interaction of pathogenesis of viruses with immunity of individuals	C2	CBL	OSPE
	•Explain clinical findings and its laboratory identification	C2	_	
	Describe the treatment & Prevention	C2	_	
Cutaneous and Subcutaneous mycosis • identify of most common fungal pathogens associated with cutaneous and sub cutaneous mycoses • Compare the major characteristics of specific fungal diseases affecting the skin		C1		MCQS, SEQS,
		C2	CBL	OSPE
	Explain Important properties of Candida	C1		
	-Describe its reproduction	C2	- - CBL	
	-Explain transmission, Pathogenesis and diseases caused by this organism	C2		MCQS, SEQS,
Candida	-Relate the interaction of pathogenesis of this organism with immunity of individuals.	C2		OSPE
	-Explain clinical findings and its laboratory identification	C1	_	
	- Describe treatment and prevention of Candida	C2	_	
	Identify the morphology of fungi	C1		
	•Describe the important features of opportunistic fungal diseases	C1	CBL	MCQS, SEQS,
Opportunistic mycosis	•Explain co-morbidities	C2		OSPE
	Describe laboratory diagnosis	C2	1	

Pathology Self-Directed Learning (SDL)

Tonia	Learning Objectives		Teaching	Assessment
Торіс	At The End of The Session Student Should Be Able To	C/P/A	Strategy	Tool
	Differentiate between structure of gram positive and gram-negative bacterial cell wall	C3		
Structure of Bacterial cell	Correlate structural components of bacteria with their pathogenicity	C3	SDL	MCQs, SEQs,
	Define plasmid, transposon, mesosome, glycocalyx.	C1	-	OSPE, Viva
	Define each phase of growth cycle	C1		
	Differentiate between aerobic and anaerobic growth	C3	-	MCO SEO
Bacterial metabolism and Growth curve	Explain fermentation of sugars	C2	SDL	MCQs, SEQs, OSPE
Growin curve	Discuss iron metabolism	C2	-	USPE
	Define each phase of growth cycle	C2	-	
	Define different terminologies	C1		MCQs, SEQs, OSPE
	Explain modes of transmission and adherence and entry in host cell	C2	- SDL	
	Explain mechanism of action of important toxins	C2		
Pathogenesis of Infectious	Differentiate between exotoxin and endotoxin	C2		
agent in Microbiology	Explain Koch's postulates	C2		
	Identify different lab test	C1		
	Describe principle of different lab test	C2		
	Interpret various lab tests for different diseases	C3		
	Define Chemical disinfectants	C1		MCQs, SEQs,
Sterilization and Disinfection	Categorize chemical disinfectants	C2	SDL	
	Explain physical methods of disinfection and sterilization	C2		OSPE
	Describe Important properties, epidemiology of vibrio cholerae and shigella	C2		
	-Describe transmission, pathogenesis, signs and symptoms, laboratory diagnosis and treatment of Shigella and Vibrio Cholerae	C2	1	
Klebsiella, shigella, vibrio	-Enumerate different types of vibrion	C1	SDL	MCQs, SEQs,
cholera	-Discuss pathogenesis of cholera and shigellosis.	C2		OSPE
	-Identify diagnostic tests available for vibrio cholera and its treatment	C3	1	
	-Discuss interpretation of TSI	C2	1	
	Describe Important properties, epidemiology of vibrio cholerae and shigella	C2	1	

Helicobacter and	-Discuss related diseases of Helicobacter and Campylobacter C2,	C2	SDI	MCQs, SEQs,
Campylobacter	Discuss pathogenesis and laboratory diagnosis of Campylobacter and Helicobacter C2,	C2	SDL	OSPE

Pathology Practical Skill Laboratory (SKL)

Торіс	Learning Domain	Venue	Assessment Tool
Microscope, Bacterial morphology	Р	Skill Lab	OSPE
Gram staining and Zn staining	Р	Skill Lab	OSPE

Clinical Sciences (Vertical Integration)

• Content

- Vertical Integration LGIS
- Spiral Integration
 - Biomedical Ethics & Professionalism
 - Family Medicine
 - \circ Behavioral Sciences
 - Integrated Undergraduate Research Curriculum (IUGRC)

Vertical Integrated Basic Sciences

Medicine Large Group Interactive Session (LGIS)

Torio	Learning Objectives		Teaching	Assessment
Торіс	At The End of The Session Student Should Be Able To	C/P/A	Strategy	Tool
	•Discuss clinical examination of patients with infectious disease.	C2, A3		
Introduction, basic symptoms analysis and investigations			LGIS	SEQS, MCQS,
	•Describe presenting problems in infectious disease in relation to different symptoms	C2		OSPE
	Discuss microbial investigations of infectious diseases.	C2, C3		
	•Define P.U.O.	C1		SEQS, MCQS,
Fever of unknown origin	•Enumerate causes/etiology of P.U.O.	C2, A3	LGIS	OSPE
	Describe investigations and management plan of P.U.O.	C1, C3	-	OSIL
	Recognize epidemiology of infection.	C1		SEQS, MCQS,
Brucellosis	Describe clinical findings of brucellosis.	C2, C3	LGIS	OSPE
	•Recognize epidemiology of infection.	C2		
	Recall epidemiology of influenza.	C2, A3	LGIS	SEQS, MCQS, OSPE
I	Describe clinical findings. Describe abnormal lab investigations.	C2, A3		
Influenza	Recognize complications of influenza.	C2, A3		
	Describe management/treatment of infection	C2, A3		
	•Recall epidemiology of infection.	C1, A3		
	Describe clinical findings of infections.	C2, A3	LGIS	SEQS, MCQS, OSPE
Polio, Rabies, Virus	•Describe investigations, differential diagnosis, complications and management plan for infections.	C2, A3		
	Recognize preventive aspects of infection.	C2, A3		
	Describe natural history and classification of HIV.	C2, A3		SEOS MOOS
HIV and Immunodeficiency	Describe clinical examination of patient with HIV infection.	C2, A3	LGIS	SEQS, MCQS,
	Discuss presenting problems in HIV infection	C3, A3		OSPE
	Describe pathophysiology of dengue infection.	C3		
	•Recognize signs and symptoms of dengue fever.	C3		
Dengue fever, sign, symptoms			LGIS	MCQS, VIVA
and treatment	•Differentiate between DF, DHF, DSS on basis of symptoms, signs and lab parameters.	C3	-	
	•Discuss investigations and management of dengue fever.	C2, C3	-	

PEADS Large	Group	Interactive	Session	(LGIS)
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Торіс	Learning Objectives	C/P/A	Teaching	Assessment
ropic	At The End of The Session Student Should Be Able To		Strategy	Tool
	Define Neonatal tetanus	C1		
	Describe clinical features	C1		
	Discuss Differential diagnosis	C2		
Neonatal Tetanus	Discuss treatment and management plan	C2	LGIS	SEQS, OSPE
	Discuss Role of immunoglobulins.	C2		
	•Discuss about maternal and neonatal immunization for tetanus	C2		
	•Enlist preventive measures	C2		
	•Define the disease	C1		
	Describe clinical features	C1	-	SEQS, OSPE, MCQS
	Discuss Differential diagnosis	C2		
Measles, Mumps, Rubella	Identify complications	C2	LGIS	
	Manage disease and its complications	C2		
	Discuss immunization against measles/Mumps/Rubella	C3		
	•Enlist preventive measures	C2		

Gynecology Large Group Interactive Session (LGIS)

Торіс	Learning Objectives At The End of The Session Student Should Be Able To		Teaching Strategy	Assessment Tool
	Classify infections in pregnancy	C2		
Infection In Pregnancy	Enlist the organism of infection	C2	LGIS	seqs, ospe
	Identify lab diagnosis and treatment	C2		

Community Medicine Large	Group Interactive Session (LGIS)
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Торіс	Learning Objectives	C/P/A	Teaching	Assessment
	At The End of The Session Student Should Be Able To		Strategy	Tool
	Demonstrate the concept of natural &artificial lighting	C2		
	Explain the effects of noise exposure	C2		
	Describe approaches for the control of noise pollution	C2		
	Explain sources of noise.	C2		
	Describe heat stress indices.	C2		
Disposal of waste and healthful	Identify heat hyperpyrexia and heat exhaustion.	C1	LGIS	MCQS, SEQS
housing	Demonstrate preventive measures for heat	C2		
	Describe heat stress along with its indices	C2		
	Summarize the effects of heat stress & cold stress along with its prevention Discuss the elements of meteorology.	C2		
	Demonstrate the acute mountain sickness.	C1		
	Explain high altitude pulmonary edema. Describe the Caisson disease	C1		
	Define solid waste.	C1		
	Demonstrate sources of waste.	C3 C2		
	Explain ways of collection of waste.		_	
	Describe methods of disposal of waste			
	Describe health hazards of improper disposal.			
	Describe sanitation barrier.	C2		
Public health importance of	Elaborate methods of excreta disposal.	C3		
light, noise and meteorological	Describe criteria for healthful housing	C1	LGIS	MCQS, SEQS
environment	Describe the housing standards	C2		
	Explain effects of housing on health	C2	1	
	Define overcrowding	C2		
	Enlist indicators of housing.	C2		
	Define septic tank and its working.	C2		
	Describe its maintenance.	C2		
	Explain ways for disposal of sewage	C2		

Surgery Large Group Interactive Session (LGIS)

Торіс	Learning Objectives	C/P/A	Teaching	Assessment
r opro	At The End of The Session Student Should Be Able To		Strategy	Tool
Microbiology of Surgical	Enlist and common surgical pathogens	C1	lgis	seqs, mcqs,
infection	-Define wound infection. C1	C1		OSPE
	-Describe decisive period and role prophylactic antibiotic in this period.	C3		
	-Describe sources of wound infection and risk factors of wound infection	C2		
Presentation of surgical	Describe surgical site infection and its types.	C3	LGIS	seqs, mcqs,
infections	-Describe management of SSI.	C3		OSPE
	-Briefly Describe management of local infections like thrombophlebitis, lymphangitis, abscess.	C2	-	
	-Describe management of systemic infections SIRS, septicemia in surgical patient. C3	C3		
	-Briefly describe requirement of Surgery in patients with HIV, COVID and precautions needed. C 3	C3		
Critical Surgical infections and	describe management of gas gangrene, necrotizing fasciitis	C3	LGIS	seqs, mcqs,
their treatment				OSPE
Prevention of surgical infection	Understand importance of aseptic technique in surgery for prevention of surgical infection.	C2	LGIS	SEQS, MCQS,
	-Understand role of pre –operative patient optimization and preparation in prevention of surgical infection.	C3	-	OSPE
	-Describe role of prophylactic antibiotics	C3	-	
Antimicrobial treatment in	Understand principles of antimicrobial treatment in surgical infections.	C2	LGIS	seqs, mcqs,
surgical infections	-Describe rational empirical antibiotics use according to flora.	C3	-	OSPE

Spirally Integrated Basic Sciences

Medical Ethics Large Group Interactive Session (LGIS)

Торіс	Learning Objectives At The End of The Session Student Should Be Able To	C/P/A	Teaching Strategy	Assessment Tool
	Understand Medical Errors	C2		
	Explain the background of medical errors	C2		
Medical Errors	Elaborate why medicine susceptible to error	C2	LGIS	MCQS
	Delineate the reasons of reluctance to report	C2		
	Classify the medical errors	C2		

Bioethics Case Based Learning (CBL)

Торіс	Learning Objectives		Teaching	Assessment
	At The End of The Session Student Should Be Able To		Strategy	Tool
Medical Errors	Perform the pharmacovigilance in clinical setting with special focus on performing pharmacovigilance and filling following forms a. Error reporting form b. Error analysis form c. WHO guidelines for surgical procedure safety d. Guidelines for prevention of medication error e. Guidelines for prevention of diagnostic error	C2	LGIS	MCQS

Behavior Science Large Group Interactive Session (LGIS)

Торіс	Learning Objectives	C/P/A	Teaching	Assessment
ropic	At The End of The Session Student Should Be Able To	C/F/A	Strategy	Tool
Crisis Intervention, Conflict	Master effective communication skills for calming patients in crisis and resolving conflicts.			
Resolution, empathy	Develop the ability to understand and respond to patients' emotions with empathy.		LGIS	MCQS
Resolution, empatily	Learn methods for crisis intervention, including risk assessment and appropriate referrals.			
Anxiety and Stress Related	Identify common types of anxiety and stress-related disorders.			
Disorder	Understand methods for assessing and diagnosing anxiety disorders.		LGIS	MCQS
Disorder	Learn evidence-based treatment options for anxiety and stress-related disorders.			

Family Medicine Large Group Interactive Session (LGIS)

Торіс	Learning Objectives At The End of The Session Student Should Be Able To	C/P/A	Teaching Strategy	Assessment Tool
Ethical Consideration of	Weigh ethical challenges in controlling outbreaks and balancing individual rights with public health measures.	C2	LGIS	SEQS, MCQS
infectious diseases	infectious diseases Analyze ethical issues in allocating resources during outbreaks, focusing on equity and access.			
	Grasp ethical principles in infectious disease research, like consent and data privacy.	C2		
Sexually transmitted diseases	classify STDs	C1	LGIS	SEQS, MCQS
	Describe the management approach to a patient with STD in family practice		-	
	Identify at risk patients and offer them screening	C2	-	
	Describe prevention of STDs	C2	-	
An approach to patient with	Identify causes, and conduct a targeted patient examination.	C2	LGIS	SEQS, MCQS
fever	fever Understand proper treatment plans for different fevers.			
	Recognize when to refer patients with fever to specialists.	C2		

Quran Large Group Interactive Session (LGIS)

Topio	Teaching
Торіс	Strategy
Quran Class	LGIS
Quran Class	
(Taleemwa	LGIS
Taalum)	

Spiral Integrated Basic Sciences

Biochemistry Large Group Interactive Session (LGIS)

Торіс	Learning Objectives C At The End of The Session Student Should Be Able To C o cycle, pyruvic acid cycle, bacterial metabolism C		Teaching Strategy	Assessment Tool
Revisit Lecture	Kreb cycle, pyruvic acid cycle, bacterial metabolism	C2	LGIS	MCQS

SR No.	Disciplines	LGIS	SGD	CBL	SDL	Hours
1.	Pharmacology	18	0	05	0	23
2.	Pathology	15	04.5	08	04.5	34
3.	Forensic Medicine	06	0	03	0	9
4.	Community Medicine	02	0	0	0	02
5.	Surgery	05	0	0	0	05
6.	-Medicine	07				
	-Department of Infectious		0	0	0	08
	diseases (DID)	01				
7.	Peads	05	0	0	0	05
8.	Behavioral Sciences	02	0	0	0	02
9.	Quran Class	02	0	0	0	02
10.	Family Medicine	03	0	0	0	03
11.	Medical Ethics	01	0	01	0	02
12.	Biochemistry	01	0	0	0	01
13.	Gynecology	01	0	0	0	01
	Total Hours = 97					

Teaching Hours

Practical and Clinical Clerkship hours

Disciplines	Practical hours	Disciplines	Clerkship hours
Pharmacology	2x5 = 10 hrs	Surgery	3 x 4 x5= 60 hrs
Pathology	2x5 = 10hrs	Medicine	3 x 4 x5= 60 hrs
Forensic Medicine	2x5 = 10 hrs	Sub Specialty	3 x 4 x5= 60hrs

Block IX

Haematology & Immunology Module - II CVS & Respiration Module- II

Module - I

Hematology & Immunology Module -II



Introduction

Hematology and Immunology module provides integration of core concepts that underlie the basic science/pathology of hematological 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: The Hematology and Immunology module is designed to impart basic knowledge about Pharmacology, Pathology, Forensic Medicine, Community Medicine, Pediatrics, family medicine, Gynaecology, Psychiatry & Medicine . This knowledge will serve as a base on which the student will construct further knowledge about the etiology, pathogenesis and prevention of diseases; the principles of their therapeutics and management.

Module Outcomes

Each student will be able to:

Knowledge

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

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

Skills

Interpret and analyze various practical of Pre-clinical Sciences

Attitude

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

This module will run in 5 weeks & 4 days duration. The content will be covered through introduction of topics. Instructional strategies are given in the time table and learning objectives are given in the study guides. Study guides will be uploaded on the university website. Good luck!

Hematology & Immunology Module Team

Module Name :		Hematology and Immunology Module
Duration of module	:	05 Weeks and 4 days
Coordinator	:	Dr.Shahida Bashir
Co-coordinator	:	Dr.Syeda Fatima Rizvi
Review by	:	Module Committee

	Module Comr	nittee		Modul	e Task Force Team
1.	Vice Chancellor RMU	Prof. Dr. Muhammad Umar	1	. Coordinator	Dr.Shahida Bashir
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.Syeda Fatima Rizvi
4.	Dean Basic Sciences	Prof. Dr. Ayesha Yousaf			
5.	Director DME	Prof. Dr. Ifra Saeed			
6.	Chairperson Pharmacology & Implementation Incharge 3 rd year MBBS	Dr. Attiya Munir			
7.	Chairperson Pathology	Prof. Dr. Mobina Dodhy		DME Impl	lementation Team
8.	Chairperson Forensic Medicine	Dr Romana Malik	1	· Director DME	Prof. Dr. Ifra Saeed
10.	Focal Person Pathology	Dr Faiza Zafar	2	. Deputy Director DME	Dr Sadia Chaudhry
11.	Focal Person Forensic Medicine	Dr. Filza	3	Module planner & Implementation coordinator	Dr. Omaima Asif
12.	Focal Person Medicine	Dr. Saima Ambreen	4	. Editor	Dr Omaima Asif
13.	Focal Person of Gynaecology	Dr. Sobia Nawaz			
14.	Focal Person Community Medicine	Dr. Afifa Kulsoom			
15.	Focal Person Quran Translation Lectures	Mufti Abdul Wahid			
16.	Focal Person Family Medicine	Dr Sadia Khan			
17.	Focal Person Bioethics Department	Prof. Dr. Akram Randhawa			
18.	Focal Person Surgery	Dr Huma Sabir			
19.	Focal Person behavioral sciences	Dr.Sadia			

MBBS YEAR III
BLOCK- IX
MODULE-I
HEMATOLOGY & IMMUNOLOGY MODULE -II
DURATION- 5 WEEKS

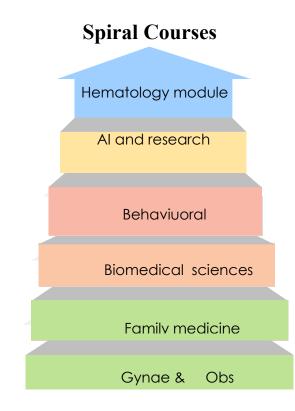


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- Horizontally Integrated Clinical Sciences (Pharmacology, Pathology & Forensic Medicine)
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 - Forensic Medicine (LGIS)
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 - Pharmacology (SGD)
 - Pathology (SGD)
 - Forensic Medicine (SGD)
- Self Directed Topic, Learning Objectives & References
 - Pharmacology(SDL)
 - Pathology (SDL)
 - Forensic Medicine (SDL)
- Practical
- Vertical horizontal integration
 - Medicine & Allied
 - Paediatric
 - Horizontally Integrated Basic Sciences (Pharmacology, Pathology & Forensic)
 - Pharmacology Large Group Interactive Session (LGIS)

Integration of Disciplines in Hematology and Immunology Module-II





7 | P a g e

Horizontally Integrated Basic Sciences (Pharmacology, Pathology & Forensic) Pharmacology Large Group Interactive Session (LGIS):

Торіс	Learning Objectives At the end of the lecture student should be able to	Learning Domain	Teaching strategies	Assessment tools
	 Classify anti hyper-lipidemic drugs 	C1 C3	LGIS	MCQs SAQs
Lipid lowering drugs I	• Explain the mechanism of action of HMG-CoA reductase inhibitors in the treatment of hypercholesterolemia			VIVA
Lipid lowering drugs II	 Discuss MOA, pharmacological effects, therapeutic uses &adverse effects of nicotinic acid, fibrates and bile acid binding resins Enlist & discuss the combinations therapies used in different conditions of hyperlipidemias 	C1 C2	LGIS	MCQs, SEQs
Immunosup Pressant drugs I	 .Enlist immune-suppressants Describe the mechanism of action of different immune-suppressants 	C2 C2	LGIS	MCQs,OSPE
Immunosuppressant drugs II	• Discuss the salient features of pharmacokinetic profile of different immune-suppressants	C2	LGIS	C2 MCQs/SEQs
Antiplatelet, drugs I	 Revise the role of platelets in the coagulation Classify anti-platelet drugs. Discuss the mechanism of action of various groups of antiplatelet drugs Describe the clinical uses & adverse effects of different anti-platelet drugs 	C1	LGIS	SEQS, MCQs, OSPE
Anticoagulants I	 Outline the mechanism of hemostasis & coagulation pathways & trace the role of coagulating factors & platelets in it Classify anticoagulant drugs Describe the mechanism of action of heparin Tabulate the difference between un-fractionated heparin & low molecular weight heparin Summarize the indications, precautions & 	C2 C1 C2 C3 C2	LGIS	MCQs, SEQs

	potential adverse effects of heparinEnumerate direct thrombin inhibitors	C2		
Anticoagulants II	 Describe the mechanism of action of warfarin Outline the major drug interactions of warfarin Enlist the clinical uses of warfarin Identify the adverse effects of warfarin & suggest treatment of warfarin toxicity 	C2 C2 C1 C2	SDL	MCQ, Viva
Fibrinolytic And Antifibrinolytic drugs	 Enumerate thrombolytic drugs Describe the mechanism of action, indications & adverse effects of thrombolytic (fibrinolytic) agents 	C1 C2	LGIS	SEQS, MCQs, OSPE
Antimalarial drugs I	 Revise species, life cycle of malarial parasite Give therapeutic classification & Chemical classification of anti- malarial drugs 	C1 C2	LGIS	SEQS, MCQs, OSPE
Antimalarial drugs II	• Describe MOA, pharmacokinetics, indications adverse effects of different anti-malarial agents	C2	LGIS	SEQS, MCQs, OSPE
Antimalarial drugs III	 List the drugs used in chloroquine resistant malaria recommended by WHO. Summarize chemoprophylaxis of malaria 	C2 C2	LGIS	MCQs,Viva

Pharmacology Practical Skill Laboratory (SKL)

Торіс	Learning Objectives	Learnin g Domain	Tea chin g Stra tegy	Asses sment Tool
Prescription and p drugs of iron deficiency anemia (Haemopoietic growth factors)	Prescription and p drugs of iron deficiency anemia	P2	Skil 1	OSP E
P drug & Prescription writing(Dyslipidemia)	The student will be able to write treatment for dyslipidemias	P3	Skil 1	OSP E
P drug & prescription writing, IHD	P drug & prescription writing for IHD s in children and adults	P4	Skil 1	OSP E
P drug & Prescription writing, DVT	Prescription writing and p drug for DVT	P5	Skil 1	OSP E
-P drug & Prescription writing(malaria)	Recall the drug groups used in malaria treatment	P6	Skil 1	OSP E

Pharmacology SGD

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tools
Anticoagulants III	 Identify the drugs used in the treatment of given case Discuss briefly the salient features of different agents used in this case 	C2 C3	SGD	,MCQs,SEQs
0	 Name anti-fibrinolytic agents/agents used for neutralizing action of thrombolytic drugs Trace the possible interaction of fibrinolytic agents with anticoagulant(heparin) & antiplatelet drugs(aspirin) 	C2 C3	LGIS	MCQs,SEQs, OSPE

Case Based Learning (CBL)

Торіс	Learning Objectives Learning Objectives		Teaching Strategy	Assessment tools
Hematanic	 Describe pharmacokinetics of Iron, Vitamin B12 and Folic Acid Explain the indications of iron, folic acid& Vitamin B12 for treatment of anemia. 	C2 C2	CBL	MCQs SEQ
Lipid lowering drugs	 Discuss MOA, pharmacological effects, therapeutic uses &adverse effects of nicotinic acid, fibrates and bile acid binding resins Enlist & discuss the combinations therapies used in different conditions of hyperlipidemias 		CBL	MCQs, SEQs,OSPE
Immunosuppressant drugs	 Clinic pharmacology of immunosuppressant drugs Rationale of using immunosuppressant in specific scenario 	C3 C3	CBL	MCQs, SEQs,OSPE
Antiplatelet, drugs	 Enumerate thrombolytic drugs Describe the mechanism of action, indications & adverse effects of thrombolytic (fibrinolytic) agents 	C3 C3	CBL	MCQs,OSPE,Viva

PHARMACOLOGY SDL

Торіс	Learning objectives	References
Use of Erythropoietin in performance enhancement in athletes	 At the end of the session, the students should be able to: Identify the role of erythropoietin in performance enhancement Explain Doping detection in sports 	 Aghadi A, Dybała E, Cuber I, Mazurek M, Białowąs E. Erythropoietin as banned substance in professional sports: effects on maximal aerobic capacity, endurance and detection methods-a review. Journal of Education, Health and Sport. 2023 Feb 15;13(3):331-6. Heuberger J. <i>The clinical pharmacology of performance enhancement and doping detection in sports</i> (Doctoral dissertation, Leiden University). Dahlgren AR, Knych HK, Arthur RM, Durbin-Johnson BP, Finno CJ. Transcriptomic Markers of Recombinant Human Erythropoietin Micro-Dosing in Thoroughbred Horses. Genes. 2021 Nov 24;12(12):1874.
Use of rivaroxiban in Covid-19	• Compare the efficacy and safety of therapeutic versus prophylactic anticoagulation	 Lopes RD, Furtado RH, Macedo AV, Bronhara B, Damiani LP, Barbosa LM, de Aveiro Morata J, Ramacciotti E, de Aquino Martins P, de Oliveira AL, Nunes VS. Therapeutic versus

	in Covid 19	 prophylactic anticoagulation for patients admitted to hospital with COVID-19 and elevated D-dimer concentration (ACTION): an open-label, multicentre, randomised, controlled trial. The Lancet. 2021 Jun 12;397(10291):2253-63. Capell WH, Barnathan ES, Piazza G, Spyropoulos AC, Hsia J, Bull S, Lipardi C, Sugarmann C, Suh E, Rao JP, Hiatt WR. Rationale and design for the study of rivaroxaban to reduce thrombotic events, hospitalization and death in outpatients with COVID-19: The PREVENT-HD study. American heart journal. 2021 May 1;235:12-23.
Novel antihyperlipidemic drug	 Enlist the newer drugs used in the management of hyperlipidemia Rationalize their use in different clinical settings 	 Hassan RM, Ali IH, Abdel-Maksoud MS, Abdallah HM, El Kerdawy AM, Sciandra F, Ghannam IA. Design and synthesis of novel quinazolinone-based fibrates as PPARα agonists with antihyperlipidemic activity. Archiv der Pharmazie. 2022 Mar;355(3):2100399. KOTHAWADE PB, LOKHANDE KB, SWAMY KV, Sohan SC, THOMAS AB. Novel nitrogen-containing heterocyclic compounds in GPR109A as an anti-hyperlipidemic: Homology modeling, docking, dynamic simulation studies. Journal of Research in Pharmacy. 2020 Jul 1;24(4). Laeeq S, Dubey DV. Insilico Screening for Identification of Novel Acyl-CoA: Cholesterol Acyltransferase Inhibitors. NeuroQuantology. 2022 Jul;20(8):2557-67.
Malarial vaccine	 Discusses the current challenges and advances in malaria vaccine development Review recent human clinical trials for each stage of infection. 	 Duffy PE, Patrick Gorres J. Malaria vaccines since 2000: progress, priorities, products. npj Vaccines. 2020 Jun 9;5(1):48. Wilson KL, Flanagan KL, Prakash MD, Plebanski M. Malaria vaccines in the eradication era: current status and future perspectives. Expert review of vaccines. 2019 Feb 1;18(2):133-51. Bonam SR, Rénia L, Tadepalli G, Bayry J, Kumar HM. Plasmodium falciparum malaria vaccines and vaccine adjuvants. Vaccines. 2021 Oct;9(10):1072.

Pathology Large group interactive Sessions:LGIS

Topic	At the end of the lecture student should be able to	C/P/A	Teaching strategies	Assessment tools
	Explain functional capabilities of hematopoietic stem cells	C1	LGIS	MCQs, SEQs,OSPE
	Describe the maturation sequence in the development of RBCs, WBCs and platelets and the key growth	C2		
Introduction to Haematolgy	factor affecting them	C2		
and classification of Anemia	Define anemia and classify anemia according to morphological and etiological causes	C1		
and iron deficiency Anemia	Explain iron metabolism.	C1 C2		
and non denoioney rinonna	Describe pathogenesis of iron deficiency aneamia	C1		
	Differentiate Diagnoses of Microcytic Hypochromic Anemia	C1 C2		
	Differentiate Diagnoses of Microcytic Hypochromic Anemia			
		C3		
	Define pancytopenia and its causes, Classify macrocytic anemia according to etiological causes Explain B12 metabolism.	C1	LGIS	SEQS, MCQs, OSPE
Megaloblatic Anemia	Describe pathogenesis of Megaloblastic aneamia	C2		
c	Lab Diagnosis of megaloblastic Anemia	C1		
		C2		
	Discuss main functions of immune system.	C2	LGIS	MCQs, SEQs,OSPE
Introduction To Immunology and Cellular Basis of Immune	Differentiate between innate & acquired immunityDifferentiate between cell mediated and antibody mediated immunity.	C2	LOID	MCQ3, 5EQ3, 5ET
	Discuss types of active & passive immunity.	C2		
Response	Discuss origin, development & differentiation of cell lineages.	C2 C2		
	Discuss activation & inhibition of T cells.	C2		
	Discuss functions and maturation of B cells.	C2		
-Classification of hemolytic	Describe general features of haemolytic anaemia	C2		
	Classify hemolytic anemia	C3	LGIS	SEQS, MCQs, OSPE
anemia & Acquired	Describe the pathogenesis and morphological findings in hemolytic anemia	C2		
Hemolytic Anemias	Enlist lab diagnosis of hemolytic anemia	C2		
	correlate mode of inheritance, pathogenesis and lab diagnosis of hereditary spherocytosis.	C3	LGIS	
	correlate the Inheritance pattern, pathogenesis and lab diagnosis of heamolysis due to G6PD deficiency.	C3	2010	MCQs&SEQ
RBC Membranopathies and	Describe the genetic basis, pathogenesis and lab diagnosis of heamolysis due to sickle cell anemia	C2		meqsebby
enzymopathies		C2 C3		
	• Classify and describe pathogenesis and lab diagnosis of warm and cold antibodies immune haemolyticanaemias			
	Discuss the serological test used in diagnosis of infectious diseases	C2	LGIS	MCQs/SEQs
Antigen antibody reactions	Discuss the serological test used in diagnosis of autoimmune diseases	C2		
Antigen antibody reactions	• Discuss the basis of Rh incompatibility	C2		
	Define and classify various types of Thalassemia.	C3	LGIS	MCQs, SEQs,OSPE
II ama alabir			LOIS	MCQS, SEQS, USPE
Hemoglobinopathies	Correlate the genetic basis/ Inheritance pattern and pathogenesis of Thalassemia.			
-Thalasemia, PNH	• Describe the lab diagnosis of thalassemia	C3		
		C2		
	Discuss origin, type, structure & biological importance of MHC proteins	C1	LGIS	MCQs, SEQs,OSPE
MHC and Transplantation	Explain mechanisms of tissue transplant rejection.	C2		
intre une transplantation	Explain graft versus host reaction and its types.	C2		
	The input of test used in blood group and HLA typing of	C3		
	Describe different methods of reducing rejection of transplanted tissues	C3		
	Discuss congenital immunodeficiencies of B, T cells and complement system	C2	LGIS	MCQS
Immunodeficiency	• Discuss acquired immunodeficiencies of B & T cells and complement system			× ×
5	- Discuss acquired minimulodencies of D & T cens and complement system	C2		

WBC disorder and classification of leukemia	•			
Chronic leukemia	Define leukemia and enumerate its causes. Explain Role of oncogenes and tumour suppressor genes.	C1 C2	LGIS	MCQs, SEQs,OSPE
	• Describe clinical features of acute leukaemia.	C3		
Myeloprolifertive disease	Outline the salient feature and lab investigation of Polycythemia, Essential Thrombocythemia, Myelofibrosis	C2	LGIS	MCQs, SEQs,OSPE
/Myelodysplastic syndrome	Describe Myelodysplastic syndrome	C2		
	Classify lymphoid neoplasms.	C2	LGIS	MCQs, SEQs,OSPE
Lymphoma	Describe the etiology, pathogenesis, classification and various types of Hodgkin lymphoma. Describe the etiology, pathogenesis, classification and various types of non Hodgkin lymphoma.	C2		
-Bleeding disorders of	Classify inherited and acquired coagulation disorder	C1	LGIS	MCQs/SEQs
primary haemostasis	Discuss pattern of inheritance and clinical features and lab diagnosis of vWD.	C2		
Bleeding disorders of	Classify inherited and acquired coagulation disorder.	C1	LGIS	MCQs/SEQs
secondary haemostasis	Discuss pattern of inheritance and clinical features and lab diagnosis of vWD.	C2		
Life cycle of plasmodium/	Enlist species of Plasmodium and type of malaria caused by each.	C1	LGIS	MCQs/SEQs
-	Explain life cycle, transmission, epidemiology and pathogenesis of malaria	C2		
Pathogenesis of malaria/lab	Recall parasitology of protozoa (plasmodium) and vector (anopheles mosquito)	C1		
diagnosis	Recall pathogenesis including life cycle of malarial parasite	C1		

Pathology Practical Skill Laboratory (SKL)

Topic	Learning Objectives	Learning Domain	Teaching strategies	Assessment tools
RBC Morphology	Enlist the changes in shape and size of RBCS in the peripheral blood films in different cases of anemias. Enlist RBC inclusion Identify the peripheral smear findings in different types of anemia	- P3	Skills	OSPE
Lab diagnosis of hemolytic anemia/Beta Thalassemia	Enlist investigations of hemolytic anemia Enlist peripheral smear findings of hemolytic anemia Identify peripheral smear findings in different cases of hemolytic anemia Identify RBC inclusions on peripheral smearA3	P2	Skills	OSPE
Benign WBC Morphology	Enlist morphological features of WBC in benign WBC disorders- Focus the slide on microscope Identify different WBCs, Identify the morphological features of WBC in a peripheral smear from a case of benign WBC disorder.	P2	Skills	OSPE
Acute and Chronic Leukemia	- Malignant WBC morphology Enlist morphological features of WBC in acute leukemia i.e. blast.	P2	Skills	OSPE

	Enlist Morphological features of WBC in acute leukemia.e.blast			
	chronic lymphoid and myeloid leukemia and outline features of Reed			
	Sternberg cell			
	Identify Blasts and atypical cells in a cse of acute leukemia – Diagnose a			
	case of acute leukemia on peripheral smear			
Desis Hamatale av tashnisyas Dlasd	-Identify different tubes used in laboratory		Skills	OSPE
Basic Hematology techniques,Blood	-Should know the correct use of each device			
Grouping,Periphral Smear,ESR interpretation,Blood collection in	-Understand the correct method of application of tests Perform	P3		
Vacutainers Tube	-The test in laboratory step wise			
	-Demonstrate safe handling of lab equipment and follow SOPs			

Pathology Small Group Discussion (SGDs)

Торіс	At the end of the lecture student should be able to	C/P/A	Teaching strategy	Assessment tools
Antibody and compliment system	 -Understand the structure and function of antibodies describe the different classes of antibodies and their structures -Explain mechanisms of action in neutralization, opsonization, and activation of the complement system. -Explain the complement system and its pathways 	C2 C3 C3	SGD	MCQs, SEQs,OSPE
WBC disorder and classification of leukemia	 -Discuss disorders involving increase or decrease in different types of WBC. -Classify acute and chronic leukemia -Differentiate between the clinical presentation of leukemias 	C2 C3 C3	SGD	MCQs, SEQs,OSPE
Chronic leukemia	-Describe clinical features of chronic leukemias -Interpret lab diagnosis of chronic Myelofibrosis and - Lymphoid Leukaemias	C2 C2	SGD	MCQs, SEQs,OSPE
Disorders of Spleen & Lymph Nodes	 -Describe various disorders of spleen -Enumerate causes of lymph node enlargement. -Describe various types of acute and chronic lymphadenitis. 	C2 C1 C2	SGD	MCQs,SEQs,O SPE,Viva
Tumor immunity	-Enumerate tumor associated antigens -Explain mechanism of tumour immunity -Describe antitumor effector mechanisms	C1 C2 C2	SGD	MCQs, SEQs,OSPE
Leishmania & Trypanasoma	-Explain the, Life cycle, Transmission, epidemiology and Pathogenesis of diseases caused by liesHmania species.	C2 C3	SGD	MCQs,SE Qs

Pathology Case Based Learning (CBL)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tools
	-Define pancytopenia and its causes, Classify macrocytic anemia according to etiological causes	C1	CBL	
Megaloblastic Anemia	-Explain B12 metabolism.	C2		PBQ
	-Describe pathogenesis of Megaloblastic aneamia -Lab Diagnosis of megaloblastic Anemia	C1		
		C2		
	- Define hypersensitivity.		CBL	
	Define type- 1 immediate hypersensitivity.	C1		
	Discuss mediators involved and their effects.	C1		
		C2		
	Define type- II hypersensitivity.	C1		PBQ
Hypersensitivity Reaction I and II	Discuss different antibody -dependent mechanisms with examples.	C2		
	Discuss clinical manifestations of hypersensitivity	C3		
	Correlate clinical presentation of hypersensitivity diseases with underlying pathogenic mechanisms	C3		
	Define type III hypersensitivity.		CBL	
	Discuss local immune complex disease.	C1		
		C2		
Hypersenstivity Reaction TypeIII and	Discuss systemic immune complex disease.	C2		PBQ
V SI	Define and discuss type IV hypersensitivity	C2		
	Correlate clinical presentation of hypersensitivity diseases with underlying pathogenic mechanisms	C3		
Acute Leukemia	Define leukemia and enumerate its causes.	C1	CBL	PBQ

	Explain Role of oncogenes and tumour suppressor genes.	C2		
	Describe clinical features of acute leukaemia.	C3		
	Outline lab diagnosis of multiple myeloma	C2		
Multiple myeloma	Describe prognosis of multiple myeloma.	C2		
	Describe pathogenesis and morphology of multiple myeloma Correlate clinical history with lab findings in a patient with	C2	CBL	PBQ
	multiple myeloma	C3		
Haemophilia / ITP	Discuss pattern of inheritance, clinical features and diagnosis of hemophilia A and B Describe the pathogenesis and lab diagnosis of idiopathic thrombocytopenic purpura (ITP).	C2 C2	CBL	PBQ

PATHOLOGY SDL

S.NO	Торіс	Learning objectives	References
1	Paroxysmal Nocturnal	At the end of SDL students should be able to understand clinical presentation and	Robins Basic Pathology 10th Edition
	Hemoglobinuria	Pathogenesis of PNH	Page # 417
2	Overview of normal	At the end of SDL students should be able to understand	Robins Basic Pathology 10th Edition
	Immune responses	• The early innate immune response to microbes	Page # 105-109
		• The capture and display of microbial antigens	
		• Cell-mediated immunity: activation of T lymphocytes and elimination of	
		cell-associated microbes	
		• Humoral immunity: activation of B lymphocytes and elimination of	
		extracellular microbes	
		Decline of immune responses and immunologic memory	
3	Reactive Leukocytosis	At the end of SDL students should be able to understand	Robins Basic Pathology 10th Edition
		Causes of reactive leukocytosis	Page # 426-427
		Clinical presentation, pathogenesis, morphology of Infectious	
		mononucleosis	
4	Hodgkin Lymphoma	At the end of SDL students should be able to understand classification, Clinical	Robins Basic Pathology 10th Edition
		presentation, pathogenesis, morphology, staging and grading of Hodgkin's	Page # 441-442
		Lymphoma	
5	Amyloidosis	At the end of SDL students should be able to understand classification, Clinical	Robins Basic Pathology 10th Edition
		presentation, pathogenesis and morphology of Amyloidosis	Page # 153-158

Forensic Large Group Interactive Session (LGIS)

Торіс	Learning objectives	C/P/A	Teaching strategy	Assesment tools
	Classify Corrosives and state its mechanism of actions.	C1	LGIS	MCQs SAQs
Corrrosives	• Briefly explain the clinical effects of Carbolic & Oxalic Acid on human body.	C2		VIVA
Carbolic & Oxalic	• State the fatal dose and management of corrosives burns.	C2		
Acid	• Briefly describe the postmortem findings in oxalic acid & carbolic acid poisoning	C2		
	• State the medicolegal importance of throwing of corrosives	C2		
	• Define mechanical injury and describe the classification of mechanical injuries	C1	LGIS	MCQs SAQs
	 Briefly describe the mechanism of production of a mechanical injury. Explain the different types of Abrasions and Bruise\ contusion. 	C2		VIVA
Mechanical injuries – I	• Briefly state the method of duration or age estimation of an injury with	C2		
(Abrasion & Buise)	respect to type of injury.Describe the medicolegal importance of age estimation of an injury.	C2		
		C2		
Malarialiatoria	• Describe and differentiate between the features of lacerated wound and incised	C1	LGIS	MCQs SAQs
Mechanical injuries – II (Laceration & Incised Wounds)	 wound Briefly describe the types of laceration. Differentiate between incised & lacerated wounds. State the medico-legal importance of both incised and lacerated wound. 	C2	LOIS	VIVA
		C2		
		C2		

Mechanical injuries – III (Punctured and stab wound)	 Describe the different types of punctured wound with calculation of age of a punctured wound. Briefly describe the features of Stab wound State the medico-legal importance of Punctured and Stab wound. 	C1 C2 C2	LGIS	MCQs SAQs VIVA
Road traffic Accidents Primary,secondary & tertiary impact injuries	 Enlist the type of road traffic injuries. Describe injuries to pedestrian, injuries sustain by motorcyclist and injuries sustained by occupant of a vehicle. Define terms like Bird foot injury, waddle's triad and Dicing injuries. 	C1 C2 C2 C2	LGIS	MCQs SAQs VIVA
Injuries and law-I Qisas & Diyat	 Classify Hurt on the basis of part involved and briefly describe its types in the light of Pakistan Penal Code with their punishments. Define Itlaf-e-udw, Itlaf-e-salahiyat-e-udw, shajjah, Jurh. Classify Hurt on the basis of manner of infliction and briefly describe its types in the light of Pakistan Penal Code with their punishments 	C1 C2 C2 C2 C2	LGIS	MCQs SAQs VIVA
Injuries and law-II Qisas & Diyat	 Enlist different types of Qatal in the light of Pakistan Penal Code and their punishments. Classify different degrees of suicide. Classify criminal miscarriages and define Isqat-e-hamal and Isqat-e-Jinin in the light of Pakistan Penal Code with their punishments. 	C1 C2 C2 C2 C2	LGIS	MCQs SAQs VIVA
Regional Injuries (Skull & spinal injuries) (Thoraco-abdominal injuries)	 Briefly describe the head injury, scalp injury, injury to skull, injury to meninges and brain, Classify skull fractures & hemorrhages Explain the method of Coup and countercoup injures. Describe injury to spine and spinal cord.(Whiplash injury) Describe the pattern of thoraco-abdominal injuries with special account of hemothorax, pneumothorax and hemoperitonium. 	C2 C1 C2 C2	LGIS	MCQs SAQs VIVA

		C2		
Firearm – I Introduction of Ballistics and its types	 Define firearm injuries and describe the classification of firearms and ballistics. Describe the structure of a ammunition of a firearm/bullet. Briefly describe the structure of a firearm along with its mechanism of action. 	C1 C2 C2 C2 C2	LGIS	MCQs SAQs VIVA
Firearm – II Firearm phenomena	 Describe the terminal ballistics effects on the body of a victim in case of various types of firearms and ranges Define various terms related with firearms, smooth bored weapons and riffled firearm 	C1 C2 C2	LGIS	MCQs SAQs VIVA
Firearm – III (Smooth bore firearm wounds)	 Describe the special findings to be noted in a victim of smooth bore firearm w.r.t distance and direction. Briefly explain the autopsy findings in firearm victims. State the method of collection and disposal of firearm entities. 	C1 C2 C2 C2 C2	LGIS	MCQs SAQs VIVA
Firearm – IV (Rifled firearm wounds)	 Describe the special findings to be noted in a victim of rifled w.r.t distance and direction. Briefly explain the autopsy findings in firearm victims. State the method of collection and disposal of firearm entities 	C1 C2 C2 C2 C2	LGIS	MCQs SAQs VIVA
Blast Injuries Types and identification in blast	 Define blast Injuries and classify its types. Briefly describe the autopsy finding in different types of blast injuries. State the medico-legal importance of blast injuries 	C1 C2 C2 C2 C2	LGIS	MCQs SAQs VIVA

Thermal Injuries Injuries due to Burns	 Classify different types of thermal injuries Briefly explain different types of burns and Wallace rule of nine State the role of medico legal officer in handling death from burns Differentiate between postmortem and ante mortem burns. Enumerate different causes of death in burns. Explain the autopsy findings of burn victim 	C1 C2 C2 C2 C2 C1 C2	LGIS	MCQs SAQs VIVA
Non- Mechanical Injuries Death due to Starvation, heat ,cold &Electrocution	 Describe the pathophysiology of starvation induced injuries. Describe the forensic importance of starvation injuries. Define non-mechanical injuries and classify its types State the role of medicolegal officer in case of receiving burnt dead body. Enlist the factors affecting the production of electrocution burns. Describe the medico-legal aspects of death due to thermal injuries and electrocution. 	C1 C2 C2 C2 C1 C2	LGIS	MCQs SAQs VIVA

SGDS Sessions: CBL /Practicals

	Learning objectives				
Торіс	Knowledge		Skill	Attitude	Assesment tools

1.Mechanical injuries Self-InflicteDefense Wound (CBL)	 Define defense wounds. Enumerate common sites and types of defense wounds. Define self-inflicted wounds. Enlist common sites and features of self-inflicted injuries. Briefly explain the medico legal significance of self-inflicted wounds 	C1 C2 C1 C2 C2 C2	 Preparation of MLC/autopsy report by Observing different types of self inflicted and defense injuries. Diagnosis of common sites and features of self-inflicted injuries 	 The student will be able to: Manage a medicolegal case of self-inflicted & defense injuries. Apply the knowledge for classification of the type of injury and Observe medico-legal report preparation during field visits 	OSPE
2. Road traffic accidents Examination of RTA Victim Models of mechanical injuries w.r.t Qisas & Diyat (Practical)	 Differentiate among the various possible etiologies of Regional Injuries, and Special trauma during road traffic accidents. Classify Transport and pedestrian injuries 	C2 C2	 Identify different regional Injuries during road traffic accidents(RTA), Identify pattern of different Transport and pedestrian injuries 	Students will be able to manage a case o road traffic accidents.(RTA)	OSPE
3. Autopsy Visit to mortuary Medicolegal examination certificate writing of an injured person (Practical)	 Classify the pattern of injuries in medico legal cases Define fracture. Briefly explain the mechanical forces with reference to fracture of bones. Describe the medicolegal importance of fractures. Classification of a fracture 	C2 C1 C2 C3 C2	 Preparation of MLC/autopsy report by Observing different types of fractures and injuries Diagnosis of a fracture. 	 The student will be able to: Manage a medicolegal case of injuries having fracture Apply the knowledge for classification of the type of injury and Observe medico-legal report preparation during field visits 	OSPE

4. Firearm & blast injuries Examination of Firearm victim, Models of Firearm and blast injuries (Practical)	 Identify different types of firearm weapons and their parts including cartridge and bullet. Identify and differentiate between entry and exit wounds of firearm injury. Identify `different characteristics of firearm injuries both in living and dead 	C2 C2 C2	• Identify firearm injuries and calculate range of shot made by smooth bored and rifled firearm.	The student will be able to manage a case of firearm injury.	OSPE
5.Animal Poisons Snake, Bees & Wasp Poisons (Management of snake Bite) (CBL)	 Classify the types of Snakes and state their mechanism of action w.r.t their types . Briefly describe the clinical features of Snake,wasp,scorpion and Bees poisoning and their management State their Medicolegal importance and autopsy findings of a victim of their poisoning 	C1 C2 C2	Identify specimen of different snakes	The student will be able to manage case of snake bite poisoning	OSPE

Forensic Medicine SDL TOPICS

Topic	Learning objectives	Learning Resources
1.Firearm Injuries (Smooth bore & Rifled firearm wounds) Blast injuries	 Define firearm injuries and describe the classification of firearms and ballistics. Describe the structure of a ammunition of a firearm/bullet. Briefly describe the structure of a firearm along with its mechanism of action. Describe the terminal ballistics effects on the body of a victim in case of various types of firearms and ranges Define various terms related with firearms, smooth bored weapons and riffled firearm 	Essential:Parikhs"text book of forensic and toxicology Page 232-243 Recommended: Principles of Forensic Medicine & Toxicology by Gautam Biswas

	• Define blast Injuries and classify its types.	
	• Briefly describe the autopsy finding in different types of blast injuries.	
	• State the medico-legal importance of blast injuries	
2.Mechanical injuries	• Define mechanical injury and describe the classification of mechanical injuries	Essential:Parikhs"text book of forensic and toxicology
Abrasion, Buise, Laceratio	• Briefly describe the mechanism of production of a mechanical	Page 211-231
n,Incised,Punctured and	injury.	
stab wound	 Explain the different types of Abrasions and Bruise\ contusion. Briefly state the method of duration or age estimation of an injury with respect to type of injury. 	Recommended: Principles of Forensic Medicine & Toxicology
	 Describe the medicolegal importance of age estimation of an injury. Describe and differentiate between the features of lacerated wound and incised wound 	by Gautam Biswas
	• Briefly describe the types of laceration.	
	• Differentiate between incised & lacerated wounds. State the medico-legal importance of both incised and lacerated wound	
	• Describe the different types of punctured wound with calculation of age of a punctured wound.	
	Briefly describe the features of Stab wound	
	• State the medico-legal importance of Punctured and Stab wound.	
Injuries and law	• Classify Hurt on the basis of part involved and briefly describe its types in the light of Pakistan Penal Code with their punishments.	Essential: Principles of Forensic medicine by Nasib R Awan
Qisas & Diyat	• Define Itlaf-e-udw, Itlaf-e-salahiyat-e-udw, shajjah, Jurh.	5
	Classify Hurt on the basis of manner of infliction and briefly describe	
	its types in the light of Pakistan Penal Code with their punishments	
	• Enlist different types of Qatal in the light of Pakistan Penal Code and their punishments.	Recommended: Principles of Forensic Medicine & Toxicology
	• Classify different degrees of suicide. Classify criminal miscarriages and define Isqat-e-hamal and Isqat-e- Jinin in the light of Pakistan Penal Code with their punishments.	by Gautam Biswas
	•	

Non- Mechanical Injuries &	• Describe the pathophysiology of starvation induced injuries.	Essential:Parikhs"text book of
Thermal Injuries	• Describe the forensic importance of starvation injuries.	forensic and toxicology
	• Define non-mechanical injuries and classify its types	Page 198-203
	• State the role of medicolegal officer in case of receiving burnt	
Death due to Starvation,	dead body.	
heat ,cold, burns &	• Enlist the factors affecting the production of electrocution	
Electrocution	burns.	Recommended: Principles of
	• Describe the medico-legal aspects of death due to thermal	Forensic Medicine & Toxicology
	injuries and electrocution.	by Gautam Biswas
	 Classify different types of thermal injuries 	
	• Briefly explain different types of burns and Wallace rule of nine	
	• State the role of medico legal officer in handling	
	• death from burns	
	• Differentiate between postmortem and ante mortem burns.	
	• Enumerate different causes of death in burns.	
	• Explain the autopsy findings of burn victim	
Animal Poisons	Classify the types of Snakes and state their mechanism of	Essential:Parikhs"text book of
	action w.r.t their types.	forensic and toxicology
& Corrosives (Oxalic &	• Briefly describe the clinical features of Snake,wasp,scorpion	Page 573-584(Animal poisons)
Carbolic acid)	and Bees poisoning and their management	Page 534-535 (Corrosives)
	• State their Medicolegal importance and autopsy findings of a	
	victim of their poisoning.	
	 Classify Corrosives and state its mechanism of actions. 	
		Recommended: Principles of
	• Briefly explain the clinical effects of corrosives on human body.	Forensic Medicine & Toxicology
	• State the fatal dose and management of corrosives burns.	by Gautam Biswas
	Define Vitreolage	
	• Briefly describe the medicolegal importance of throwing of corrosives and their autopsy findings.	
	•	

Basic and Clinical Sciences (Vertical Integration Community Medicine, Medicine, Peads, Gynae):

<u>Community Medicine : Large Group Interactive Sessions (LGIS)</u></u>

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tool
	Differentiate between active & passive immunity	C4	LGIS	MCQs,
	Categorize the primary & secondary immune response	C4		SEQs,OSPE
Host Defense	Compare between humoral & cellular immunity	C5		
	Illustrate the combine humoral & cellular response	C3		
	• Differentiate between herd & ring immunity	C3		
T A	Differentiation between acute and chronic wounds	C3	I CIC	MCQs
Immunizing Agents	• Differentiate between repair and regeneration	C4	LGIS	SAQs
	-Memorize the EPI schedule	C2	LGIS	MCQs,SEQs,
	-Enlist the diseases in EPI	C1		Viva,OSPE
Immunization schedule	-Describe recent advance & modification in EPI	C2		
	-Enlist the diseases other than EPI against which vaccination is recommended			
	-Categorize the vaccination of high risk population	C1		
		C4		
	Define AEFI	C1	LGIS	C2
	Describe common, minor vaccines reaction	C2		MCQs/SEQs
	Explain rare, more serious vaccine reactions	C2		
	Memorize case definitions of AEFI	C2		
	Describe the treatment of AEFI	C2		
Adverse effects following immunization	Recognize the anaphylaxis	C2		
Adverse effects following initialization	Describe error-related reactions	C2		
	Illustrate anxiety-related reactions	C3		
	Identify coincidental events after immunization	C1		
	Enlist the precautions to be taken during immunization	C1		
	Investigate AEFI	C2		
Inferential Statistics & Anova	By the end of lecture, students should be able to: Apply ANOVA for comparison of means in more than 2 groups	C3	LGIS	MCQs,SEQs,

Compute one way and two way ANOVA for a given data set	C6	Viva
Interpret the results of ANOVA		
	C5	

Medicine Large Group Interactive Sessions (LGIS):

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tool
	Define Anemia	C1	LGIS	MCQs,
	Classify Anemia (microcytic, macrocytic, normocytic)	C2 C2		SEQs,OSPE
Approach and workup of anemia	Describe clinical presentation of different types of anemia=	C2 C2		
	Discuss Investigation plan according to the type of anemia	C3		
	Discuss management of anemia according to the type			
	-Enumerate causes of bleeding disorders (thrombocytopenia, platelet	C2	LGIS	MCQs,SEQs,VI
	function disorders, von will brand disease, diseases affecting vessel	C2 C2		VA
Bleeding Disorders	wall)	C2 C2		
C	-Differentiate between different bleeding disorders			
	-Discuss investigation			
	-Explain pathogenesis of Hypersensitivity reaction.	C2	LGIS	MCQs, SEQs
	-Classify Hypersensitivity reactions.	C2 C2		
	-Describe general approach to the allergic patient in view of clinical	02		
Management Of Hypersensitivity	assessment, investigation and management.	C1		
Reactions	-Enlist cause of anaphylaxis, Describe approach to patient in view of	C1		
	clinical assessment, investigation and management.	01		
	-Recognize other common allergic conditions like angioedema,			
	specific allergens and c1 inhibitor deficiency.			
	-Define and classify myeloproliferative disorders (acute, chronic ,	C2	LGIS	MCQs,
	polycythemia rubravera, myelofibrosis, essential thrombocythemia)	C2		SEQs,OSPE
Myeloproliferatice Diseases	-Differentiate between different myeloproliferative disorders	C3		
	-Discuss investigations and management of Myelo proliferative			
	disorders			
Lymphoproliferative Diseases	-Classify leukemias	C2	LGIS	MCQs,SEQs,

-Differentiate between leukaemia and lymphoma, recognise risk factors -Recognize types of lymphoma and Staging -Describe investigation plan	C2 C3 C2 C3	OSPE
-Discuss prognosis		

<u>Peads Large Group Interactive Sessions (LGIS) :</u>

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tool
Iron deficiency Anemia	Discuss causes of Iron deficiency Discuss Clinical Features and investigations	C1 C3 C2	LGIS	MCQs,SEQs
	Make plan of Treatment -Define Thalassemia	C2 C1	LGIS	MCQs,SEQs,OS
Thalassemia	Identify the types and pathophysiology Describe the clinical features	C2 C2		PE
	Discuss the management of Thalassemia and its complicationsDefine Aplastic anemia	C2 C1 C2	LGIS	MCQs,SEQs,OS PE
Aplastic Anemia	Enlist the etiology and types Describe the pathophysiology and clinical features Make differential diagnosis	C2		r E
	Enumerate complications Manage according to the causes		LOIG	
ALL/Lymphoma	Define lymphoma and ALL Briefly describe clinical features Discuss plans of investigations	C1 C2 C2 C3	LGIS	MCQs,SEQs
	Make treatment plan -Briefly discuss about chemotherapy and radiotherapy	C2		
Hemophilia	Define Hemophilia Discuss the pattern of inheritance Enlist the types and classify according to severity	C2 C2 C3 C3	LGIS	MCQs,OSPE,Vi va
	Describe the clinical features and complications Discuss Management plan and prophylaxis	C2		

Gynae Large Group Interactive Sessions (LGIS) :

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tool
Anemia in Pregnancy	Define anemia in pregnancy Enlist causes of anemia Describe pathophysiology of anemia Enlist effects of anemia on mother and fetus Classify anemia in pregnancy Enlist basic and advanced investigations Differentiate types of anemia Select the appropriate treatment plan Formulate the management plan	C1 C1 C2 C2 C2 C3 C4 C5 C6	LGIS	OSPE,MCQS

Longitudinal Integrated Basic Sciences (Family Medicine ,Bio Medical Ethics, Behavior Science, Research , Quran)

Longitudinal Themes

- Family Medicine
- **o** Biomedical Ethics
- Behavioral Sciences
- o Research
- The Holy Quran Translation

Family Medicine Large Group Interactive Sessions (LGIS)

Торіс	Learning Objectives Learnin		Teaching	Assessment
	Domai		Strategy	Tool
Complications of malaria	Describe the complications of malaria Give management of complications of malaria	C2	LGIS	MCQ, VIVA

BIOMEDICAL ETHICS:

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tool
Prescription writing& Common errors in prescription writing	errors in hospitals		LGIS	MCQs, SEQs, VIVA
Pharmacovigilance & role of CTU in drug development	Define pharmacovigilance Identify the purpose of pharmacovigilance Discuss the adverse effect reporting process for health care professionals Enlist the tools that can be used for ADR reporting in Pakistan Recognize the role of DRAP in identification and reporting of ADR Describe the role of CTU in drug development process	C1 C1 C2 C1 C2 C2 C2	LGIS	MCQs, SEQs,OSPE,Viv a

Behavioural Sciences :

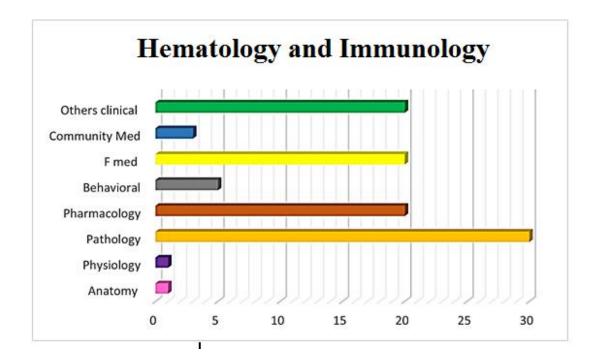
Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tool
Depressive disorders	epressive disorders Understand depression. To list differential diagnosis of diseases Elaborate a management plan		LGIS	MCQs SEQs SAQs Standard matching
Uses of Digitalization for mental Health	 -Understand the Digital Mental Health Resources, will comprehend the variety of digital resources available for mental health education, including online courses, mobile apps, virtual reality simulations, and telepsychiatry services. -Evaluating Digital Mental Health Tools: develop the ability to critically evaluate the effectiveness, reliability, and accessibility of digital mental health tools. -Applying Digital Tools in Practice: Gain practical experience in using digital mental health tools to support individuals experiencing mental health challenges, including crisis intervention, counseling, self-assessment, and self-care strategies 	C3	LGIS	MCQs SEQs SAQs Standard matching

SDL Behavioral Sciences:

1	Illness anxiety disorder	Understand the diagnostic	Behavioral Sciences textbook, second edition by Mowadat Rana
		criteria, clinical features, and	
		treatment options for illness	Reference Article:
		anxiety disorder,	Belén Pascual Vera Dysmorphic and illness anxiety-related unwanted intrusive

		Develop skills in assessment,	thoughts in individuals with obsessive-compulsive disorder, 2021
		psychoeducation, and evidence-	DOI: <u>10.1002/cpp.2636</u>
		based interventions for	
		individuals experiencing this	
		condition	
2	Psychological Aspects of Alternative medicine	 The student should be able to Explore the psychological motivations, beliefs, and expectations influencing the use of alternative medicine. Critically evaluate the evidence for the effectiveness and safety of alternative therapies and their potential impact on patient well-being. 	Behavioral Sciences textbook, second edition by Mowadat Rana CieślikB. et al. Virtual reality in psychiatric disorders: A systematic review of reviews Complementary Therapies in Medicine 52 (2020) 102480 https://www.sciencedirect.com/science/article/pii/S0965229920306270?via%3Dihub
3	Psychosocial aspects of pain	 The student should be able to Understand the biopsychosocial model of pain and the interplay between physical, psychological, and social factors in pain perception and management. Develop skills in conducting pain assessments, providing multidisciplinary pain management, and addressing 	Behavioral Sciences textbook, second edition by Mowadat Rana Reference Article: Jonathan Greenberg et al., Psychosocial Correlates of Objective, Performance- Based, and Patient-Reported Physical Function Among Patients with Heterogeneous Chronic Pain Journal of Pain Research 2020:13 2255–2265 https://www.tandfonline.com/doi/epdf/10.2147/JPR.S266455?needAccess=true

4 Health and Normality	psychosocial aspects of chronic pain. The student should be able to	Behavioral Sciences textbook, second edition by Mowadat Rana
	 Understand the concept of health and its relation to normality in the context of physical, mental, and social well- being. Explore cultural, social, and contextual factors influencing perceptions of health and what is considered normal. Critically analyze the impact of societal norms and expectations on health behaviors and outcomes. 	Reference Article: Elia Abi-Jaoud et al., Smartphones, social media use and youth mental health., CMAJ 2020 February 10;192:E136-41. doi: 10.1503/cmaj.190434



Teaching Hours

SR	Disciplines	LGIS	SGD	CBL	SDL	Seminar	Hours
No.							
1.	Pharmacology	11	04	04	5	01	25
2.	Pathology (Haematology)	11	04	04	5	-	23
3.	Pathology (Immunology)	04	01	02		-	10
4.	Pathology (Parasitology)	-	01	-	-	01	02
5.	Forensic Medicine	15	-	03	05	-	19
6.	Community Medicine	05	-	-	-		05
7.	Medicine	05	-	-	-	01	06
8.	Peads	05	-	-	-		05
9.	Obstetrics and	01	-	-	-	-	01
	Gynaecology						
10.	Family medicine					01	01
11.	Bioethics	02					02
12.	Behavioral sciences	01			05		01
13.	Quran class	06					06
14.	Total	66	10	13	20	04	106

Practical/ SGD and Clinical Clerkship hours

Disciplines	Practical hours	Disciplines	Clerkship hours
Pharmacology	2x5 = 10 hrs	Surgery	2.5 x 4 X4= 40 hrs
Pathology	2x5 = 10 hrs	Medicine	2.5 x 4 x 4 = 40 hrs
Forensic Medicine	2x5 = 10 hrs	Sub Specialty	2.5 x 4 x 4 = 40 hrs

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Block - IX Module – II CVS & Respiration Module-II

MBBS YEAR III
BLOCK- IX
MODULE- II
CVS & RESPIRATION MODULE -II
DURATION- 6 WEEKS



Introduction

Introduction: CVS and Respiration module aims to provide students with essential knowledge of pathological processes involved in cardiovascular and respiratory system. Detailed understanding of these is the essence of the study for intelligent clinical practice, presentation/interpretation of diseases & management.

Rationale: The CVS & Respiration module is designed to impart knowledge about the concepts & principles of the basic sciences in context of clinical symptoms & signs of commonly occurring CVS & Respiratory diseases and develop a problem solving approach in diagnosing and management of these diseases

Module Outcomes

Each student will be able to:

Knowledge

- Acquire knowledge about the basic terminologies used in Pharmacology, Pathology & Forensic 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

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

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:

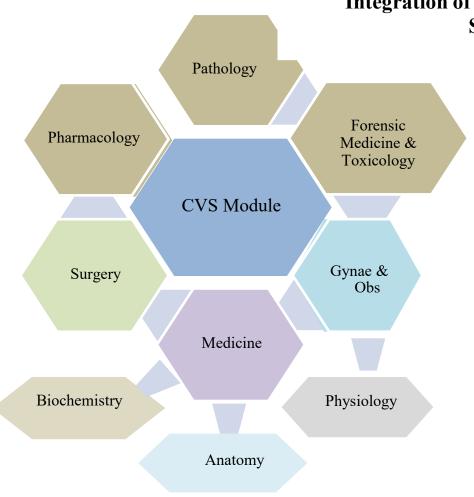
• While the content is set, institutions can encourage higher-level cognitive skills, promoting deeper understanding and critical thinking among students.

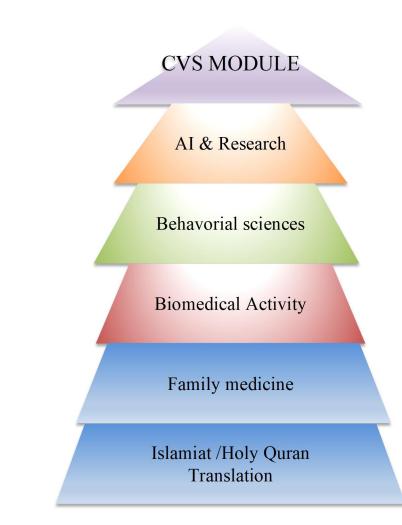
• Assessment Standards:

- 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

CVS & Respiration Module -II Team

Module	Name :	CVS & Resp Module			
Duration of module :		06 Weeks			
Coordinator :		Dr. Filza .Ali			
Co-coor	linator :	Dr. Urooj Shah			
Review	by :	Module Committee			
	Module Committe	e		Mo	dule Task Force Team
1.	Vice Chancellor RMU	Prof. Dr. Muhammad Umar	1.	Coordinator	Dr. Attiya Munir (Assissant Professor of Forensic Medicine)
2.	Director DME	Prof. Dr. Rai Muhammad Asghar	2.	DME Focal Person	Dr. Maryum Batool
3.	Convener Curriculum	Prof. Dr. Naeem Akhter	3.	Co-coordinator	Dr. Urooj Shah (Demonstrator of Forensic Medicine)
4.	Dean Basic Sciences	Prof. Dr. Ayesha Yousaf			
5.	Additional Director DME	Prof. Dr. Ifra Saeed			
6.	Chairperson Pharmacology	Dr. Attiya Munir			
7.	Chairperson Pathology	Prof. Dr. Mobina Dhodhy		DME	E Implementation Team
7.	Chairperson Pathology	Prof. Dr. Mobina Dhodhy	1.	DME Director DME	C Implementation Team Prof. Dr. Rai Muhammad Asghar
7. 8.	Chairperson Pathology Chairperson Forensic Medicine	Prof. Dr. Mobina Dhodhy Dr Romana Malik	1. 2.	Director DME	
		-	1. 2. 3.	Director DME Add. Director DME	Prof. Dr. Rai Muhammad Asghar
8.	Chairperson Forensic Medicine	Dr Romana Malik		Director DME Add. Director DME	Prof. Dr. Rai Muhammad Asghar Prof. Dr. Ifra Saeed
8. 9.	Chairperson Forensic Medicine Focal Person Pharmacology	Dr Romana Malik Dr Haseeba		Director DME Add. Director DME Deputy Director DME Module planner & Implementation coordinator	Prof. Dr. Rai Muhammad Asghar Prof. Dr. Ifra Saeed Dr Sadia Chaudhry
8. 9. 10.	Chairperson Forensic Medicine Focal Person Pharmacology Focal Person Pathology	Dr Romana Malik Dr Haseeba Dr Fatima tuz Zehra	3. 4.	Director DME Add. Director DME Deputy Director DME Module planner & Implementation coordinator	Prof. Dr. Rai Muhammad Asghar Prof. Dr. Ifra Saeed Dr Sadia Chaudhry Dr. Omaima Asif
8. 9. 10. 11.	Chairperson Forensic Medicine Focal Person Pharmacology Focal Person Pathology Focal Person Forensic Medicine	Dr Romana Malik Dr Haseeba Dr Fatima tuz Zehra Dr. Gulzeb	3. 4.	Director DME Add. Director DME Deputy Director DME Module planner & Implementation coordinator	Prof. Dr. Rai Muhammad Asghar Prof. Dr. Ifra Saeed Dr Sadia Chaudhry Dr. Omaima Asif
8. 9. 10. 11. 12.	Chairperson Forensic Medicine Focal Person Pharmacology Focal Person Pathology Focal Person Forensic Medicine Focal Person Medicine Focal Person Behavioral Sciences Focal Person Community Medicine	Dr Romana Malik Dr Haseeba Dr Fatima tuz Zehra Dr. Gulzeb Dr. Saima Ambreen Dr. Saadia Yasir Dr. Afifa Kulsoom	3. 4.	Director DME Add. Director DME Deputy Director DME Module planner & Implementation coordinator	Prof. Dr. Rai Muhammad Asghar Prof. Dr. Ifra Saeed Dr Sadia Chaudhry Dr. Omaima Asif
8. 9. 10. 11. 12. 13. 14. 15.	Chairperson Forensic Medicine Focal Person Pharmacology Focal Person Pathology Focal Person Forensic Medicine Focal Person Medicine Focal Person Behavioral Sciences Focal Person Community Medicine Focal Person Quran Translation Lectures	Dr Romana Malik Dr Haseeba Dr Fatima tuz Zehra Dr. Gulzeb Dr. Saima Ambreen Dr. Saadia Yasir Dr. Afifa Kulsoom Mufti abdul Wahid	3. 4.	Director DME Add. Director DME Deputy Director DME Module planner & Implementation coordinator	Prof. Dr. Rai Muhammad Asghar Prof. Dr. Ifra Saeed Dr Sadia Chaudhry Dr. Omaima Asif
8. 9. 10. 11. 12. 13. 14.	Chairperson Forensic Medicine Focal Person Pharmacology Focal Person Pathology Focal Person Forensic Medicine Focal Person Medicine Focal Person Behavioral Sciences Focal Person Community Medicine Focal Person Quran Translation Lectures Focal Person Family Medicine	Dr Romana Malik Dr Haseeba Dr Fatima tuz Zehra Dr. Gulzeb Dr. Saima Ambreen Dr. Saadia Yasir Dr. Afifa Kulsoom Mufti abdul Wahid Dr Sadia Khan	3. 4.	Director DME Add. Director DME Deputy Director DME Module planner & Implementation coordinator	Prof. Dr. Rai Muhammad Asghar Prof. Dr. Ifra Saeed Dr Sadia Chaudhry Dr. Omaima Asif
8. 9. 10. 11. 12. 13. 14. 15.	Chairperson Forensic Medicine Focal Person Pharmacology Focal Person Pathology Focal Person Forensic Medicine Focal Person Medicine Focal Person Behavioral Sciences Focal Person Community Medicine Focal Person Quran Translation Lectures	Dr Romana Malik Dr Haseeba Dr Fatima tuz Zehra Dr. Gulzeb Dr. Saima Ambreen Dr. Saadia Yasir Dr. Afifa Kulsoom Mufti abdul Wahid	3. 4.	Director DME Add. Director DME Deputy Director DME Module planner & Implementation coordinator	Prof. Dr. Rai Muhammad Asghar Prof. Dr. Ifra Saeed Dr Sadia Chaudhry Dr. Omaima Asif





Integration of Disciplines in CVS & Respiration Module-II Spirally Integrated Disciplines

Contents

- Horizontally Integrated Basic Sciences (Pharmacology, Pathology & Forensic Medicine)
- Large Group Interactive Session:
 - Pharmacology (LGIS)
 - Pathology (LGIS)
 - Forensic Medicine (LGIS)
- Small Group Discussions
 - Pharmacology (SGD)
 - Pathology (SGD)
 - Forensic Medicine (SGD)
- Self -Directed Topic, Learning Objectives & References
 - Pharmacology (SDL)
 - Pathology (SDL)
 - Forensic Medicine (SDL)
- Skill Laboratory
 - Pharmacology (SDL)
 - Pathology (SDL)
 - Forensic Medicine (SDL)

Learning Objectives

Horizontally Integrated Basic Sciences (Pharmacology, Pathology & Forensic)

Торіс	Learning Objectives At the end of the lecture student should be able to	Learning Domain	Teaching strategies	Assessment tools
Anti-hypertensive I (Introduction and classification)	 Define hypertension Classify anti-hypertensive drugs groups Explain the mechanisms of action of centrally acting antihypertensive drugs 	C1 C2 C2	LGIS	MCQs SAQs VIVA
Antihypertensive II (ACE inhibitors and ARBs)	 Enlist ACEI and ARB Describe mechanism of action, uses and adverse effects of this groups 	C1 C2	LGIS	MCQs SAQs VIVA
Antihypertensive III (Vasodilators)	 Classify vasodilators Discuss mechanism of action ,clinical uses and side effects of different types of vasodilators 	C1 C2	LGIS	MCQs SAQs VIVA
Antihypertensive IV (Ca Channel Blockers)	 Classify calcium channel blockers Discuss mechanism of action ,clinical uses and side effects of calcium channel blocker 	C1 C2	LGIS	MCQs SAQs VIVA
Antianginal I	 Enlist Anti-Anginal Drugs Describe mechanism of action and adverse effects of nitrates 	C1 C2	LGIS	MCQs SAQs VIVA
Antianginal II	• Describe mechanism of action and adverse effects of other anti angina Drugs	C2	LGIS	MCQs

Pharmacology Large Group Interactive Session (LGIS)

Торіс	Learning Objectives At the end of the lecture student should be able to	Learning Domain	Teaching strategies	Assessment tools
CCF I (Introduction & classification)	 Classify drug groups used in CCF Describe mechanism of action of digoxin Describe digoxin toxicity and its management 	C1	LGIS	MCQs SAQs VIVA
CCF II (Digoxin and related drugs):	 Describe mechanism of action of other drugs used in CCF Enlist their therapeutic uses and adverse effects 	C1	LGIS	MCQs SAQs
Introduction to Diuretics	 Classify diuretics Describe the role of diuretics in hypertension Rationalize the use of diuretics in specific clinical scenario 	C1 C2	LGIS	MCQs SAQs VIVA
Antiarrhythmic drugs I (Introduction to normal rhythm and classification	Classify antiarrythmic drugs	C1	LGIS	MCQs SAQs VIVA
Antiarrhythmic drugs II (class I and class II)	• Describe mode of action, clinical uses and adverse effects of Class I, Class II antiarrythmic drugs	C2	LGIS	MCQs SAQs VIVA
Antiarrhythmic drugs III(class IV and class V)	 Describe mode of action, clinical uses and adverse effects of Class III and Class IV antiarrythmic drugs 	C2	LGIS	MCQs SAQs VIVA
Antiasthmatics-II (Classification)	 Describe MOA & adverse effects of Beta 2 agonists used in asthma Describe the mechanism of action, actions & adverse effects of Methylxanthines Describe mechanism of action and adverse effects of Mast Cell Stabilizers 	C2 C2 C2	LGIS	MCQs SAQs VIVA
Antiasthmatics II (Drug groups)	 Discuss the roles of corticosteroids in the treatment of bronchial asthma. Discuss the role of ipratropium in asthma Discuss the mechanism of action and adverse effects of leukotrine synthesis snd its uses in asthma Enlist drugs used in acute and chronic asthma 	C1 C2 C2 C2 C2	LGIS	MCQs SAQs VIVA
Anti tussive drugs	 Describe anti-tussive, mucolytics and expectorants Classify Anti-tussives Describe Pharmacodynamics of these drugs 	C2 C1 C1	LGIS	MCQs SAQs VIVA
Anti TB drugs I & II	 Enlist 1st and 2nd line Anti TB Drugs Discuss their mechanism of action. Discuss their adverse effects and drug interaction Discuss different regimes for treatment of TB Describe drug interactions of isoniazid and Rifampicin 	C1 C2 C2 C3	LGIS	MCQs SAQs VIVA

Pharmacology Practical Skill Laboratory (SKL)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tool
Effects of drugs on frog's heart	Clinical Effects of pharmacological drugs on frog's heart	Р2	Skill	OSPE
P drug and prescription of angina & HTN	Discuss clinical pharmacology of cardiotonic drugs	Р3	Skill	OSPE
P drug and prescription of CCF	• Rationalize the use of drugs in specific clinical scenario	Р3	Skill	OSPE
P drug and prescription of asthma and TB	Rationalize the use of antiasthamatic drugs in specific clinical scenario	Р3	Skill	OSPE

Pharmacology Case Based Learning (CBL)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tools
Diuretics	 Classify diuretics Describe the role of diuretics in hypertension Rationalize the use of diuretics in specific clinical scenario 	C2 C2 C3	CBL	PBQ
Anti asthamatic drugs	• Rationalize the use of antiasthamatic drugs in specific clinical scenario	C2 C2 C3	CBL	PBQ

Pharmacology Self Directed Learning (SDL)

Торіс	Learning Objectives	References
Role of α -2 agonists in clinical settings other than hypertension	 Enlist the conditions in which α-2 agonists are used C1 Rationalize their use in these conditions C2 	 Kaye AD, Chernobylsky DJ, Thakur P, Siddaiah H, Kaye RJ, Eng LK, Harbell MW, Lajaunie J, Cornett EM. Dexmedetomidine in enhanced recovery after surgery (ERAS) protocols for postoperative pain. Current pain and headache reports. 2020 May;24:1-3. Banas K, Sawchuk B. Clonidine as a treatment of behavioural disturbances in autism spectrum disorder: A systematic literature review. Journal of the Canadian Academy of Child and Adolescent Psychiatry. 2020 May;29(2):110.
Novel Anti anginal drug	• Discuss the newer drugs used in management of different types of Angina	• Zhu H, Xu X, Fang X, Zheng J, Zhao Q, Chen T, Huang J. Effects of the antianginal drugs ranolazine, nicorandil, and ivabradine on coronary microvascular function in patients with nonobstructive coronary artery disease: a meta-analysis of randomized controlled trials. Clinical therapeutics. 2019 Oct
Current guidelines in the management of CCF	• Explain current drug therapies used to treat heart failure C2	 Berliner D, Hänselmann A, Bauersachs J. The treatment of heart failure with reduced ejection fraction. Deutsches Ärzteblatt International. 2020 May;117(21):376. Authors/Task Force Members:, McDonagh TA, Metra M, Adamo M, Gardner RS, Baumbach A, Böhm M, Burri H, Butler J, Čelutkienė J, Chioncel O. 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure: developed by the Task Force for the diagnosis and treatment of acute and chronic heart failure of the European Society of Cardiology (ESC). With the special contribution of the Heart Failure Association (HFA) of the ESC. European journal of heart failure. 2022 Jan;24(1):4-131.
Management of TB in immunocompromised patients	• Discuss the use of anti TB drugs and antiretroviral drugs in immunocompromised states C2	 Sester M. Tuberculosis in immunocompromised patients. ERS Handbook of Respiratory Medicine. 2019 Sep 1:429. Bastos ML, Melnychuk L, Campbell JR, Oxlade O, Menzies D. The latent tuberculosis cascade-of-care among people living with HIV: A systematic review and meta-analysis. PLoS Medicine. 2021 Sep 7;18(9):e1003703.

Торіс	At the end of the lecture student should be able to	C/P/A	Teaching strategies	Assessment tools
Atherosclerosis Pathogenesis and morphology	 Classify risk factors for atherosclerosis Describe the role of endothelium in pathogenesis of atheromatous plaque Describe the role of vessel smooth muscles in pathogenesis of atheromatous plaque Describe the roll of endothelium in pathogenesis of atheromatous plaque Describe the roll of extracellular matrix in pathogenesis of atheromatous plaque Describe the morphology of atheromatous plaque 	C3 C2 C2 C2 C2 C2 C2 C2 C2	LGIS	MCQs SEQs VIVA
Consequences of Atherosclerosis	 Enlist complications of Atheroma Correlate the consequences of atherosclerosis with clinical features . 	C2 C3	LGIS	MCQs SAQs VIVA
Pathogenesis of Rheumatic Fever Morphological changes in Rheumatic Heart Disease	 Describe the Pathogenesis of rheumatic fever C2 Describe the Pathogenesis of rheumatic Heart Disease Outline the diagnostic criteria of rheumatic fever Discuss the complications of rheumatic fever Define chronic rheumatic heart disease Describe the morphology of rheumatic heart disease Outline the diagnostic criteria of rheumatic Heart Disease Discuss the complications of rheumatic Heart Disease 	C1 C2 C2 C2 C2 C3 C3	LGIS	MCQs SAQs VIVA
Infective Endocarditis	 Enlist the causes of infective endocarditis Classify infective endocarditis Describe morphology of infective endocarditis Differentiate b/w vegetation of different type of endocarditis 	C1 C2 C2	LGIS	MCQs SAQs VIVA
Chronic bronchitis and emphysema	 Define COPD Enumerate diseases of COPD Differentiate b/w the pathophysiology of emphysema and chronic bronchitis. Correlate morphology of each type of emphysema with its pathogenesis 	C1 C2 C2	LGIS	MCQs SAQs VIVA
Asthma & Bronchiectasis	 Enlist the types of asthma Describe etiology of asthma Describe the pathogenesis of asthma Enlist genetic associations of asthma Describe morphological changes in lungs in a patient with asthma Describe the pathogenesis of bronchiectasis Describe the gross and microscopic changes in bronchiectasis lung 	C1 C2 C2 C2 C2 C2	LGIS	MCQs SAQs VIVA
Tuberculosis	 Enlist the risk factors for acquiring tuberculosis Describe pathophysiology of primary and secondary tuberculosis. Describe the processes of formation of granulomas Differentiate between morphology of lesions in primary & secondary TB Describe the lesions in miliary tuberculosis 	C1 C2 C2 C3 C2	LGIS	MCQs SAQs VIVA

Pathology Large Group Interactive Session (LGIS)

Торіс	Learning Objectives	Learning Domain	Teaching strategies	Assessment tools
Lipid profile and cardiac enzymes	Enlist cardiac enzymesEnlist parameters for lipid profile	P3 P3	Practical	OSPE
Tumors of CVS	 Describe epidemiology, pathogenesis, clinical feature and morphology of primary, metastatic and other tumors of heart. Describe epidemiology, pathogenesis, clinical feature and morphology of Benign Tumors and Tumor-Like Conditions of blood vessels. Describe epidemiology, pathogenesis, clinical feature and morphology of Intermediate-Grade (Borderline) Tumors of blood vessels. Describe epidemiology, pathogenesis, clinical feature and morphology of Malignant Tumors of blood vessels. 	P3 P2 A2	Practical	OSPE
Morphology of vascular lesions	 Identify the morphological features of Calcification Identify the morphological features of atherosclerosis Identify the morphological features of thrombus Demonstrate collaborative working skills 	P3 P3 A3	Practical	OSPE
Morphology of lung lesions	 Illustrate with the help of a diagram the morphology of emphysema Illustrate with the help of a diagram the morphology of granuloma Demonstrate positive attitude towards safe handling of laboratory specimens 	P3 P3 A3	Practical	OSPE

Pathology Practical Skill Laboratory (SKL)

Торіс	At the end of the lecture student should be able to	C/P/A	Teaching strategy	Assessment tools
Hypertensive Heart Disease	 Define criteria of systemic hypertensive heart disease Classify the etiological factors of hypertension Differentiate between benign and malignant Hypertension Describe the pathogenic mechanisms of essential hypertension Describe morphology of heart in systemic hypertensive heart disease Describe Morphology of cor –pulmonale Differentiate b/w systemic and pulmonary hypertension Demonstrate clinical reasoning in interpreting the clinical history and symptomatology 	C1 C2 C2 C2 C2 C2 C3 C3	SGD	MCQs SAQs VIVA
Pathophysiology of Angina	 Classify the ischemic heart disease on the basis of pattern of clinical presentation Describe the types of angina Describe the pathophysiology of angina Correlate the pathogenesis of ischemic heart disease with various etiological factors 	C1 C2 C2 C2 C2	SGD	MCQs SAQs VIVA
Ischemic Heart Disease	 Describe morphological features of MI Correlate pathogenesis, And Complications of MI. Describe chronic ischemic heart disease Describe the pathogenesis of myocardial infarction Describe the patterns of myocardial infarction Correlate morphological changes in myocardial infarction with time duration of infarct Correlate the complications of myocardial infarction with clinical features 	C1 C2 C1 C2 C3	SGD	MCQs SAQs VIVA
Aneurysms & Dissection	 Classify aneurysms Correlate etiological factors with the pathogenic mechanisms of aneurysm formation. Correlate atherosclerosis with abdominal aortic aneurysms Enlist the etiological factors for aortic dissection Describe the morphological features of aortic dissection Differentiate between Type A and Type B aortic dissections 	C1 C2 C2 A3	SGD	MCQs SAQs VIVA
Acute Pulmonary infections	 Classify pulmonary infections on basis of etiology and morphology . Describe the pneumonia syndromes. Differentiate between the morphology of different types of pneumonia. 	C1 C2 C2	SGD	MCQs SAQs VIVA

Pathology Small Group Discussion (SGDs)

Interstitial lung disease	 Define and classify interstitial lung diseases. Differentiate between restrictive and obstructive lung diseases Differentiate between fibrosing and granulomatous interstitial lung diseases. Describe the Pathogenesis of idiopathic pulmonary fibrosis (IPF) Describe the clinical features of restrictive lung disease 	C1 C2 C2 C2 C3	SGD	MCQs SAQs VIVA
Chronic Pulmonary infections	 Describe chronic pneumonias. Describe epidemiology, pathogenesis, etiology and morphology of Histoplasmosis, Coccidioidomycosis, and Blastomycosis. Describe Pneumonia in the Immunocompromised Host, Opportunistic Fungal Infections and Pulmonary Disease in HIV. 	C2 C2 C2	SGD	MCQs SAQs VIVA

Pathology Case Based Learning (CBL)

Торіс	Learning Objectives At the end of the lecture student should be able to	Learning Domain	Teaching strategy	Assessment tools
Vasculitis	 Describe Pathogenesis of vasculitis Clarify Various forms of vasculitis Describe complication of vasculitis Differentiate among Morphological features of various type of vasculitis Interpret the clinical features and lab findings of a case with vasculitis Demonstrate collaborative learning skills Demonstrate adequate communication skills in describing the clinical problem 	C1 C3 C3 C2 C3 C2 C3 C2	CBL	PBQs
Myocarditis & Pericarditis	 Differentiate between various types of pericarditis Correlate the pathogenesis of pericardial effusions with the clinical presentation. Correlate different forms of fluid accumulations in pericardial sac with the underlying pathology. Interpret the lab report of a patient with pericardial effusion Demonstrate the critical thinking attitude needed for applying basic knowledge to a clinical situation Enumerate the causes of myocarditis & pericarditis Describe the morphological features of myocarditis Demonstrate the critical thinking attitude needed for applying basic knowledge to a clinical situation 	C2 C3 C3 P3 A3 C1 C2 A3	CBL	PBQs
Cardiomyopathies	 Formulate differential diagnosis of cardiomyopathy Describe pathogenesis of cardiomyopathies Classify Various types of cardiomyopathies Describe Consequences of cardiomyopathies Describe Morphological features of cardiomyopathies Demonstrate adequate communication skills in describing the clinical problem 	C2 C2 C2	CBL	PBQs
Squamous cell Carcinoma	 Classify lung tumors Describe the carcinogenic pathways of squamous cell carcinoma of lung Describe the morphology of squamous cell carcinoma of lung Correlate the clinical presentation of lung carcinoma with the stage of disease Interpret the data of patient with lung carcinoma for the prognosis of the disease Understanding of team work in diagnosing a patient with critical 	C1 C2 C2 C3 C2 A2	CBL	PBQs

Pathology Self Directed Learning (SDL)

Торіс	Learning Objectives	References
Disorders of veins & Lymphatics	Define heart failure C1	Robbins & Cotran Pathologic Basis
	• Describe the pathogenesis of right and left heart failure. C2	OF Disease, 10th Edition, Chapter 1,
	 Describe compensatory responses of CVS for heart failure. C2 	Pg 112114
	• Describe clinical features of right and left heart failure. C2	
	• Describe morphology of different tissues in event of heart failure.	
Heart failure	• Define heart failure C1	Robbins & Cotran Pathologic Basis
	• Describe the pathogenesis of right and left heart failure. C2	of Disease, 10 th Edition, Chapter6
	 Describe compensatory responses of CVS for heart failure. C2 	
	• Describe clinical features of right and left heart failure. C2	
	• Describe morphology of different tissues in event of heart failure.	
Congenital heart disease	Define congenital heart diseases. C1	Robbins & Cotran Pathologic Basis
	• Enumerate common congenital heart diseases(CHD). C1	OF Disease 10th Edition C
	Describe pathogenesis of CHD. C2	
	• Describe Left-to-Right Shunts, Right-to-Left Shunts and Obstructive Lesions.	
Pulmonary diseases of Vascular origin	• Describe epidemiology, etiology, pathogenesis, morphology, clinical	Robbins & COTRAN Pathologic
	features of Pulmonary Embolism, Hemorrhage, and Infarction.	Basis OF Disease, 10 th Edition,
	• Describe epidemiology, etiology, pathogenesis, morphology, clinical	Chapter7
	features of Pulmonary Hypertension.	
	• Describe epidemiology, etiology, pathogenesis, morphology, clinical	
	features of Diffuse Alveolar Hemorrhage Syndrome.	

<u>Forensic Medicine</u> <u>Large Group Interactive Session (LGIS)</u>

Торіс	Learning objectives	C/P/A	Teaching Strategies	Assessment Tools
Custodial Torture	 Enlist different type of custodial torture. Briefly explain physical psychological and social torture in custody State Medico legal importance of custodial torture. 	C1 C2 C2	LGIS	MCQs SAQs VIVA
Asphyxia-I (Classification& Hanging)	 Classify Asphyxia Define Hanging , its types/classification and give causes of death of hanging Explain the medico legal aspects of hanging Differentiate between ante mortem and post mortem hanging Differentiate between suicidal , homicidal and accidental hanging Enumerate its external and internal autopsy findings 	C1 C2 C2 C2 C1	LGIS	MCQs SAQs VIVA
Asphyxia –II (Strangulation)	 Define strangulation, its types/classification and give causes of death of strangulation. Explain the medico-legal aspects of strangulation. Differentiate between hanging and strangulation Differentiate between suicidal, homicidal and accidental strangulation 	C1 C2 C2 C2	LGIS	MCQs SAQs VIVA
Asphyxia – III (Suffocation)	 Define suffocation. Enlist different types of suffocation. Briefly explain the postmortem findings in death due to suffocation State the medico-legal importance of death from different types of suffocation. 	C1 C2 C2 C2	LGIS	MCQs SAQs VIVA
Asphyxia – IV (Drowning)	 Define drowning and Classify drowning. State the cause of death in different types of drowning Briefly explain the patho-physiology of wet drowning both in sea and fresh water. Describe the postmortem findings and their medico-legal importance. Differentiate between ante mortem and postmortem drowning 	C1 C1 C2 C2 C2 C2	LGIS	MCQs SAQs VIVA

 Distinguish between true and feigned insanity. Advise on procedure of restraint of the mentally ill. List limitations to civil and criminal responsibilities of mentally ill. 	C1 C2 C2	LGIS	MCQs SAQs VIVA
 Define virginity Describe signs of virginity. Define impotence in males and briefly state its medicolegal importance. Define rape, intercourse, sodomy. Explain laws relating to sexual offences. Assess the sexual offences and relate it to relevant Sections of Law (Zina and Hudood Ordinance). Differentiate between natural and unnatural sexual offences Address the causes of common sexual perversions 	C1 C2 C1 C2 C3 C2 C2	LGIS	MCQs SAQs VIVA
 Define pregnancy and enlist different signs of pregnancy. Briefly explain the both recent and remote signs of delivery in living women. Briefly explain the both recent and remote signs of delivery in dead women. State the medicolegal importance and legal implications of pregnancy and delivery in both living and dead women 	C1 C2 C2 C2	LGIS	MCQs SAQs VIVA
 Enlist the types and methods of abortion vz justifiable (therapeutic) and unjustifiable (criminal abortion). Briefly explain the causes of death in abortion. Assess the abortion and relate it to relevant Sections of Law & state its medico-legal aspects. Briefly describe the autopsy findings in case of criminal abortion. 	C1 C2 C2 C2	LGIS	MCQs SAQs VIVA
 Define infanticide, live born, dead born & still born. Briefly describe the method of assessing the age of fetus & define Hess's Rule. Differentiate between features of live and dead born. Explain the autopsy findings in case of live and dead born. Describe the phenomena of battered wife and related laws Identify criminal and non-accidental violence or abuse to a newborn, infant or child. 	C1 C2 C2 C2	LGIS	MCQs SAQs VIVA
 Classify Somniferous Poisons commonly implicated in poisoning. State its active principle and derivatives of opium. Enumerate the clinical presentation of opium and morphine poisoning w.r.t its stages of intoxication. Briefly describe the management of Somniferous Poisons with special emphasis on decontamination, removal of ingested and absorbed poison. Briefly explain autopsy findings of a victim of Somniferous Poisoning 	C1 C2 C1 C2 C2 C2 C2	LGIS	MCQs SAQs VIVA
	 Advise on procedure of restraint of the mentally ill. List limitations to civil and criminal responsibilities of mentally ill. List limitations to civil and criminal responsibilities of mentally ill. Define virginity Describe signs of virginity. Define rape, intercourse, sodomy. Explain laws relating to sexual offences. Assess the sexual offences and relate it to relevant Sections of Law (Zina and Hudood Ordinance). Differentiate between natural and unnatural sexual offences Address the causes of common sexual perversions Define pregnancy and enlist different signs of delivery in living women. Briefly explain the both recent and remote signs of delivery in dead women. State the medicolegal importance and legal implications of pregnancy and delivery in both living and dead women Enlist the types and methods of abortion vz justifiable (therapeutic) and unjustifiable (criminal abortion). Briefly explain the causes of death in abortion. Assess the abortion and relate it to relevant Sections of Law & state its medico-legal aspects. Briefly describe the autopsy findings in case of criminal abortion. Define infanticide, live born, dead born & still born. Explain the autopsy findings in case of fitus & define Hess's Rule. Differentiate between features of live and dead born. Explain the autopsy findings in case of live and dead born. Explain the autopsy findings in case of live and leade low. Define infanticide, live born, dead born & still born. Explain the autopsy findings in case of live and dead born. Explain the autopsy findings in case of live and dead born. Explain the autopsy findings in case of live and dead born. Explain the autopsy findings in case of live and dead born. Explain the autopsy findings in case of live and dead born. Explain the autopsy fi	 Advise on procedure of restraint of the mentally ill. List limitations to civil and criminal responsibilities of mentally ill. Define virginity Describe signs of virginity. Define impotence in males and briefly state its medicolegal importance. Define rape, intercourse, sodomy. Explain laws relating to sexual offences. Assess the sexual offences and relate it to relevant Sections of Law (Zina and Hudood Ordinance). Differentiate between natural and unnatural sexual offences Address the causes of common sexual perversions Define pregnancy and enlist different signs of pregnancy. Briefly explain the both recent and remote signs of delivery in living women. Briefly explain the both recent and remote signs of delivery in dead women. State the medicolegal importance and legal implications of pregnancy and delivery in both living and dead women Enlist the types and methods of abortion vz justifiable (therapeutic) and unjustifiable (criminal abortion). Briefly explain the causes of death in abortion. Briefly describe the autopsy findings in case of criminal abortion. Define infanticide, live om, dead born. Briefly describe the autopsy findings in case of five and dead born. Differentiate between fatures of live and dead born. Describe the phenomena of battered wife and related laws Classify Somniferous Poisons commonly implicated in poisoning. Classify	 Advise on procedure of restraint of the mentally ill. List limitations to civil and criminal responsibilities of mentally ill. Define virginity Describe signs of virginity. Define impotence in males and briefly state its medicolegal importance. Define rape, intercourse, sodomy. Explain laws relating to sexual offences. Assess the sexual offences and relate it to relevant Sections of Law (Zina and Hudood Ordinance). Differentiate between natural and unnatural sexual offences Address the causes of common sexual perversions Define pregnancy and enlist different signs of pregnancy. Briefly explain the both recent and remote signs of delivery in living women. Briefly explain the both recent and remote signs of delivery in living women. Briefly explain the both recent and remote signs of delivery in living women. Briefly explain the both recent and remote signs of delivery in living women. Briefly explain the both recent and remote signs of delivery in living women. Briefly explain the both recent and remote signs of delivery in living women. Briefly explain the both recent and remote signs of delivery in deal women. C2 LGIS Briefly explain the causes of death in abortion. Briefly explain the causes of abortion vz justifiable (therapeutic) and unjustifiable (criminal abortion). Briefly describe the autopsy findings in case of fives & define Hess's Rule. Differentiate between features of live and dead born. Explain the autopsy findings in case of fives and deal born. Explain the autopsy findings in case of fives and deal born. Explain the autopsy findings in case of fives and dead born. Explain the autopsy findings in case of fives and dead born. E

Barbiturates & Hypnotics	 Enlist important poisons Mention the , fatal dose and fatal period along with medico legal significance of Briefly describe sign and symptoms and autopsy findings of these poisons. Write down important steps of management of such cases. 	C1 C2 C2 C2	LGIS	MCQs SAQs VIVA
Hydrocyanic acid (HCN)	 Briefly describe the mechanism of action of hydrocyanic acid. Briefly enlist signs of & symptoms of hydrocyanic acid poisoning Mention the fatal dose, period & management of HCN poisoning. State the medico-legal importance of hydrocyanic acid poisoning. Briefly explain the autopsy findings of a victim of hydrocyanic acid poisoning 	C2 C2 C2 C2 C2	LGIS	MCQs SAQs VIVA
Dangerous drug act	 Define drug Abuse, drug Addiction and Drug dependence. Enlist the WHO criteria of drug addiction Briefly state their Medicolegal importance Enumerate different types of dangerous drugs w.r.t their affects. Briefly describe the dangerous drug act. 	C1 C1 C2 C1 C2	LGIS	MCQs SAQs VIVA

Торіс	Learning objectives		
Topic	Knowledge	C/P/A	Assessment Tools
Cardiac Poisons -Aconite, Digitalis, Tobacco (CBL)	 Enlist important cardiac poisons, Mention the alkaloids, fatal dose and fatal period along with medicolegal significance of Digitalis and Aconite Briefly describe sign and symptoms and autopsy findings of these poisons 	C1 C2 C2	OSPE
Asphyxiants CO.CO ₂ ,H ₂ S (CBL))	 Briefly describe the mechanism of action of asphyxial poison.(Carbomonoxide, Carbondioxide, Hydrogen sulphide) Mention the fatal dose, management & medico-legal importance of Asphyxial poison. Briefly explain the autopsy findings of a victim of Asphyxial poison 	C2 C2 C2	OSPE
Autopsy Visit to mortuary MLC writing of a sexual assault survivor (Practical)	 Briefly describe the procedure of performing clinical l examination of victim and assailant in case of sexual assault. Explain the method of collection of specific specimens in sexual offences Write a required certification in case of diagnosed sexual assault 	C2 C2 C3	OSPE
Deleriants Dhatura ,Cannabis Cocaine (CBL)	 Enlist the physical properties of Dhatura , Cannabis and Cocaine and their mechanism of action in humans. Briefly describe the clinical features of Dhatura and Cannabis poisoning and its management. State their Medico legal importance and autopsy findings of a victim of Dhatura Cannabis and cocaine poisoning 	C1 C2 C2	OSPE

Forensic Medicine Practical Skill Laboratory (SKL) & CBL

Forensic Medicine Self Directed Learning (SDL)

Topic	Learning Objectives	References
Asphyxia Hanging, Strangulation. Suffocation, Drowning	 Classify Asphyxia Define Hanging , its types/classification and give causes of death of hanging Explain the medico legal aspects of hanging Differentiate between ante mortem and post mortem hanging Differentiate between suicidal , homicidal and accidental hanging Enumerate its external and internal autopsy findings Define strangulation , its types/classification and give causes of death of strangulation. Explain the medico-legal aspects of strangulation. Differentiate between hanging and strangulation Differentiate between suicidal , homicidal and accidental strangulation Differentiate between suicidal , homicidal and accidental strangulation Explain the medico-legal aspects of strangulation Differentiate between suicidal , homicidal and accidental strangulation Enlist different types of suffocation. Briefly explain the postmortem findings in death due to suffocation. Define drowning and Classify drowning. State the cause of death in different types of drowning Briefly explain the patho-physiology of wet drowning both in sea and fresh water. Describe the postmortem findings and their medico-legal importance. Differentiate between antemortem and postmortem drowning 	Essential: Parikh's text book of forensic and toxicology 7th edition Page No 170-190 Recommended: Principles of Forensic Medicine & Toxicology by Gautam Biswas
 Medico-legal aspects of Pregnancy & Delivery Medico-legal aspects of Abortion Medico-legal aspects of Infanticide 	 Enlist the types and methods of abortion Justifiable (therapeutic) and unjustifiable (criminal abortion). Briefly explain the causes of death in abortion. Assess the abortion and relate it to relevant Sections of Law & state its medico-legal aspects. Briefly describe the autopsy findings in case of criminal abortion. Define infanticide, live born, dead born & still born. Briefly describe the method of assessing the age of fetus & define Hess's Rule. Differentiate between features of live and dead born. Explain the magnitude of the problem related to child abuse. Describe the phenomena of battered wife and related laws Identify criminal and non-accidental violence or abuse to a newborn, infant or child. 	Essential: Parikh's text book of forensic and toxicology 7th edition Page No 374-384 Page No 413-418 Page No 424-436 Recommended: Principles of Forensic Medicine & Toxicology by Gautam Biswas

 Hydrocyanic acid Somniferous poisons Barbiturates & Hypnotic Deleriants 	 Sources of poisons Mechanism of action of poisons Sign and symptoms of poisoning Management of poisoning Autopsy findings of death due to poisoning Medico legal aspects 	Essential: Parikh's text book of forensic and toxicology 7th edition Page No 538 Page No 595-598 Page No 619-620 Page No 633-636 Recommended: Principles of Forensic Medicine & Toxicology by Gautam Biswas
 Custodial Torture Forensic Psychiatry Cardiac Poisons Asphyxiants 	 Enlist different type of custodial torture. Briefly explain physical psychological and social torture in custody State Medico legal importance of custodial torture. Distinguish between true and feigned insanity. Advise on procedure of restraint of the mentally ill. List limitations to civil and criminal responsibilities of mentally ill. Sources of poisons Mechanism of action of poisons Management of poisoning Autopsy findings of death due to poisoning Medico legal aspects 	Essential: Parikh's text book of forensic and toxicology 7th edition Page No 441-462 Page No 644-648 Page No 651-654 Recommended: Principles of Forensic Medicine & Toxicology by Gautam Biswas

Clinical Sciences (Vertical Integration)

Content

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

Basic and Clinical Sciences (Vertical Integration)

<u>Community Medicine Large Group Interactive Sessions (LGIS)</u>

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tools
Concept of environment & water	 Define safe wholesome water Describe sources of water supply Explain water pollution, pollutants, indicators of water pollution Differentiate between shallow and deep wells Enlist guidelines for drinking water quality Elaborate concepts of water 	C1 C2 C2 C2 C2 C2 C2 C1	LGIS	MCQs
Water distribution, Conservation and purification	 Define intermittent and continuous system of distribution of water. Define water conservation. Describe hardness of water and types. Explain ways for removal of hardness of water. Describe methods of purification. Enlist artificial and natural methods of purification. Elaborate concepts on purification on large and small scale. 	C1 C1 C2 C2 C2 C2 C1 C2	LGIS	MCQs
Air and Ventilation (control of air pollution)	 Enlist indices of thermal comfort Describe the factors responsible for vitiation of air Define air pollution Identify sources of air pollution and air pollutants Demonstrate selection of air sample for analysis Enumerate the methods to prevent & control of air pollution Describe standards and types of ventilation 	C1 C2 C1 C3 C4 C1 C1 C2	LGIS	MCQs
Air and Ventilation (global warming.)	 Enlist natural and artificial methods of air purification. Describe the green house effect Enlist green house gases. Identify sources of green house gases. Describe global warming. Define ozone hole. Describe link between global warming and climate change 	C1 C2 C1 C3 C2 C1 C2 C1 C2	LGIS	MCQs

Prevention of Radiation Hazards	 Describe sources of radiation exposure Describe types of radiations Discuss biological effects of radiation Discuss radiation protection 	C2 C2 C2 C2 C2	LGIS	MCQs
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Surgery Large Group Interactive Sessions (LGIS)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment Tool
Approach to a patient with chronic Peripheral arterial Disease	 Recall the vascular anatomy and histology briefly. Briefly describe the features of chronic peripheral occlusive arterial disease. Enlist the investigations and state treatment options for occlusive arterial disease. Explain the principles of management of the chronic ischemic limb and role of surgery . 	C2 C2 C2 C3	LGIS	MCQs
Approach to a patient with Gangrene and Amputations	 Recall the causes of acute limb ischemia. State definition of thromboembolism. Describe the Pathophysiology of Thromboembolism . Discuss the various types of Gangrene. Explain the types of amputations according to ischemia site in a patient. 	C1 C1 C2 C3 C3	LGIS	MCQs
Approach to a patient with DVT and varicose veins	 Briefly recall the venous anatomy and the physiology of venous return. Describe the etiology and pathophysiology of deep venous thrombosis. State the clinical significance and management of varicose veins. 	C2 C2 C3	LGIS	MCQs
Approach to a patient with lymphedema	 Recall the main functions of the lymphatic system Recall the development of the lymphatic system. Enumerate the various causes of limb swelling. Briefly describe the etiology, clinical features and investigations for lymphedema Outline management plan for lymphedema. 	C1 C2 C2 C3	LGIS	MCQs

Approach to a patient with cardiac diseases. (Cardiac surgery)	 Describe the cardiac diseases Ischemic heart disease, valvar heart diseases, congenital heart diseases, tumors of heart. Explain the basics of surgical treatment of different heart diseases like cardiac bypass, valve replacements etc. 	C2 C2, C3	LGIS	MCQs
Approach to a patient with Chest trauma and its management	 State the life threatening and potentially life threatening chest trauma (ATLS) Describe the treatment of chest trauma according to ATLS principles including chest intubation. 	C2 C3	LGIS	MCQs
Approach to benign Diseases of the Thorax	 Briefly describe different benign diseases of respiratory system of surgical importance like empyema, lung abscess, lobar collapse, destructive lung disease. Explain the basics of Surgical treatment of the benign diseases of thorax like chest intubation, VATS, thoracotomy. 	C2 C2 C3 C3	LGIS	MCQs

Medicine Large Group Interactive Sessions (LGIS)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tool
Hypertension	 Define hypertension. Enlist causes of hypertension. Describe clinical manifestations of hypertension including target organ damage. Outline investigations and management of hypertension. Highlight choice of antihypertensive drugs in different comorbidities 	C1 C1 C2 C3	LGIS	MCQs SAQs
Ischemic Heart Disease	 Classify coronary heart diseases. Explain clinical manifestation of IHD including stable angina, unstable angina, MI and heart failure. Describe investigation of IHD. Outline management of IHD 	C1 C2 C2 C3	LGIS	MCQs SAQs
Rheumatic fever	 Explain pathogenesis of rheumatic fever. Describe clinical manifestations and JONES criteria for diagnosis of Rheumatic fever Enlist investigations for Rheumatic fever Describe management of acute attack and secondary prevention of Rheumatic fever 	C2 C2 C3 C3	LGIS	MCQs SAQs
Infective Endocarditis	 Describe pathogenesis of Infective Endocarditis. Explain clinical features of Infective Endocarditis and Dukes criteria. Enlist investigation of Infective Endocarditis Outline management of Infective Endocarditis 	C2 C2 C3 C3	LGIS	MCQs SAQs
Valvular heart disease	 Describe rheumatic heart disease with pathogenesis. Describe clinical features of valvular heart disease including mitral stenosis 	C2 C3	LGIS	MCQs SAQs
Asthma, COPD	 Describe pathophysiology of asthma and its clinical manifestations. Enlist predisposing factors of asthma. Describe diagnostic tests and management of asthma in step wise fashion. Define COPD and briefly describe pathophysiology of COPD. Enumerate risk factors for development of COPD. Outline investigations and management of COPD 	C2 C2 C1 C3 C3	LGIS	MCQs SAQs

Pleural effusion	 Define pleural effusion. Classify and explain different types of pleural effusion. Enlist causes and clinical features of pleural effusion. Outline investigations and treatment of pleural effusion. Enlist indication of chest intubation in pleural effusion 	C2 C2 C3 C3	LGIS	MCQs SAQs
Seminar on TB	 Recognize pathophysiology of Tuberculosis. Explain clinical features of Pulmonary and pulmonary Tuberculosis. Outline Investigations and management plan of Tuberculosis 	C2 C2 C3	LGIS	MCQ SAQ

Paediatrics Large Group Interactive Sessions (LGIS)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assessment tools
	Define Tetralogy of Fallot	C1		
Cyanotic congenital heart	• Describe the haemodynamics of the defect and its clinical presentation	C2		
disease	• Plan investigations, interpret and to take appropriate action	C3	LGIS	MCQs
	Discuss medical and surgical Management	C3		
	Assess for complications and their management			
	Describe the haemodynamics of VSD and PDA	C2		
Acyanotic heart disease	Discuss the clinical presentation	C2		
	Make Plan of Investigations	C3	LGIS	MCQs
	Discuss the medical and surgical treatment	C3	LOIS	MCQs
	Identify Complications and manage them	C2		
	Discuss etiology of rheumatic fever and its diagnostic criteria	C2	LGIS	MCQs
Rheumatic fever	Briefly describe its clinical features	C2		-
	• Make plan of investigations and their interpretation	C2		
	• State the plan of management and discuss about the prophylaxis of rheumatic fever	C3		
	Define Asthma and Identify risk factors	C1	LGIS	PBQS
Childhood Asthma	 Discuss clinical presentation and Classify as per GINA guidelines 	C2	1010	124~
	Make differential diagnosis	C1		
	 Plan pertinent investigations, interpret and take appropriate action 	C3		
	Discuss the treatment of Acute Attack of Asthma and long term management	C3		
	Classify Pneumonia according to the WHO ARI protocol	C1	LGIS	MCQs
Pneumonia	• Plan pertinent investigations, interpret and take appropriate action	C2 C2		
	Assess complications	C_2		
	Manage Pneumonia and its complications	C2		
	• State the etiology of croup	C1 C2		
Croup	• Briefly explain the Clinical features and make differential diagnosis of stridor	C2 C1	LGIS	MCQs
	Enlist the X-Ray findings of CROUP			111023
	Describe Treatment and Management plan of Croup			

Obstetrics Large Group Interactive Sessions (LGIS)

Торіс	Learning Objectives	Learning Domain	Teaching Strategy	Assess ment tools
Hypertensive disorders in pregnancy PIH, Preeclampsia	 Define hypertension in pregnancy Classify the types of hypertension in pregnancy State the pathophysiology of pre-eclampsia Describe the clinical presentation of pre-eclampsia and understand the principles of its management Enlist and discuss maternal and fetal complications and long term risks to both mother and baby associate with hypertensive disorders 	C1 C2 C2 C3	LGIS	MCQs
Gestational diabetes mellitus	 Define gestational diabetes mellitus Describe the pathogenesis of GDM Identify and state the risks factor associated with GDM Screen and diagnose GDM Briefly explain the management of GDM 	C1 C2 C2 C3	LGIS	MCQs

Spiral Courses

- Longitudinal Themes
 - \circ The Holy Quran Translation
 - Family Medicine
 - Behavioral Sciences
 - **Biomedical Ethics**
 - Research

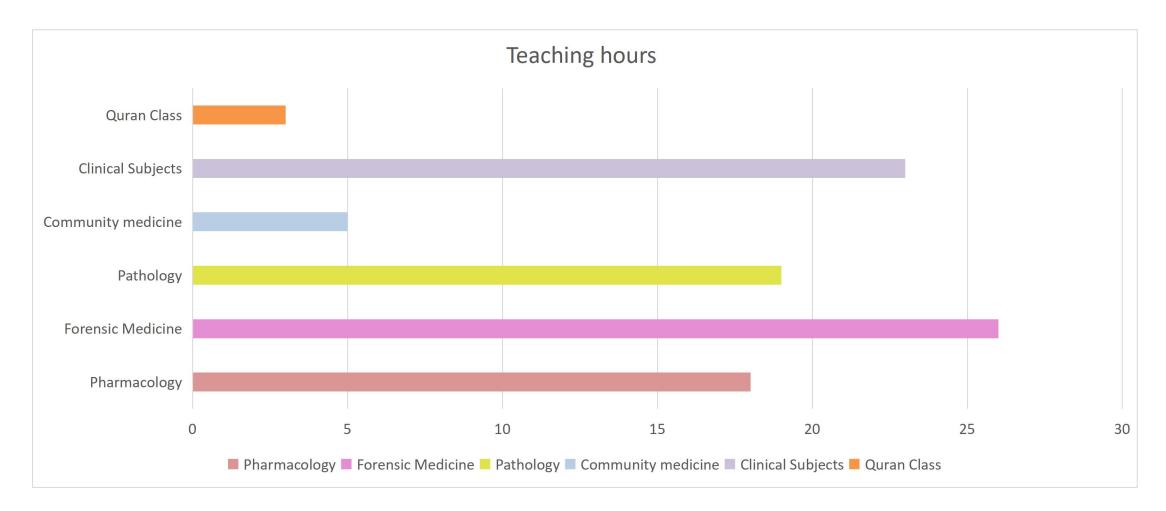
	Biomedical Ethics												
Торіс	At The End Of Lecture Students Should Be Able To	Learning Domain	Teaching Strategy	Assessment Tool									
	• To be able to define emotions.	C1											
Emotions	• To understand the neuroanatomy and neurochemistry of emotion way to deal with emotion	C2	LGIS	MCQs									
	• To be able to outline the types of memory.	C2											
Memory	• To be able to explain the areas in brain responsible for memory storage and Retrieval	C2	LGIS	MCQs									

Quran Large Group Interactive Sessions (LGIS)

Торіс	Learning Objectives	Teaching Strategy	Assessment tools
Quran class 1	JahalatZulm	LGIS	MCQs
Quran class 2	 Adl –o- Insaaf Amanat ki Adaigi 	LGIS	MCQs
Quran class 3	 Chori aur daketi Qasm aur kafaara-e- qasm 	LGIS	MCQs

Teaching Hours

Summary of The Teaching Hours Of Each Subject



Teaching Hours Breakdown

SR No.	Disciplines	LGIS	SGD	CBL	SDL	Seminar	Hours
1.	Pharmacology	14	1	2	4	1	18
2.	Pathology	07	08	4	4	1	19
3.	Forensic Medicine	14	1	3	4	0	26
4.	Community Medicine	5	0	0	0	0	5
5.	Medicine	7	0	0	0	1	8
6.	Paeds	5	0	0	0	1	6
7.	Surgery	6	0	0	0	1	7
8.	obstetrics	2	0	0	0	0	2
	Total	60	09	09	12	05	91

PRACTICAL AND CLERKSHIP HOURS

Disciplines	Practical hours
Pharmacology	2x4= 8
Pathology	2x4 =8
Forensic Medicine	2x4 = 8



Junior Clinical Clerkship Program 3rd Year MBBS

Junior Clinical Clerkship Program

Introduction:

The field of basic science in medical education that follows the conventional model of classroom teaching paired with laboratory experiences. Clinical sciences are taught in practice-based settings such as hospitals, physician offices, ambulatory care centers, surgical centers, and health departments with supervised hands-on experiences. Formal educational experiences are necessary as the foundation of clinical medicine, but the goal is to consolidate clinical skills and complement classroom learning in a structured physician-patient environment. The value of a clinical clerkship is in the application of direct care with patient reaction based on learned information. This hands-on experience gives students a unique opportunity to bridge the academic and practice-based worlds to gain the skills necessary for health care providers.

The Clinical Clerkship

Clerkships are full immersion learning experiences in practice base facilities, where students will have one-on-one patient interactions and application of clinical sciences. This real-world educational experience is what separates clinical sciences from basic sciences. Under supervision, students have their first experience of patient care during their rotations. They are responsible for obtaining information and determining the final treatment plan. The interaction and realities of patient care have the greatest impact

on the transformation of the student.

History of Clinical Clerkships

It was not until the mid-1800s that patients were introduced as educational components of physician training. At that time a clerkship was only offered as an elective or at an additional fee. This was done as to not disillusion potential students. Until the 1900's medical students "heard much, saw little, and did nothing."

Clinical clerkships began to separate from the traditional classroom environment in the early 1900's. The first true clerkship occurred in 1927 when Northwestern Medical School in Chicago designated a single individual responsible for multiple learners in a hospital. Following in Northwestern's path, the University of Oklahoma in 1927 developed a clinical clerkship for their 3rd year students, that included one and a half hours of daily supervised instruction.

Discussions during this time centered on what was taught to students, what the student role was, and when students elicited reflexes whether they were

performing and practicing medicine or physiology. When students took part in surgery, they were no longer practicing anatomy; they were practicing surgery. Clinical medicine was believed to be training in "methods."

In the 1940's the idea of the clerkship evolved into a way of utilizing care for the patient and education for the student. Since clinical work is inexact and vague, it was considered less academic, but necessary to the education of future physicians. 3rd year medical

training began in the hospital wards, and 4th year medical training moved into the less structured environment of the clinics.

Preparation for Clinical Clerkships

Entrance into clinical clerk rotations in medical university is a natural progression from the successful mastery of the basic sciences.

There is little formal preparation for this part of medical students' training. An evaluation process was completed before giving students access to actual patients.

Medical Activities & Progressive Responsibilities Within Clerkships

As medical education moves towards an outcome-based model of education, where clinical knowledge, skills, and attitudes are identified, the need to evaluate students on each discrete observable area is becoming increasingly important. As students complete each activity to a predetermined skill level, the student is entrusted to complete that skill without supervision. These medical activities are tracked as student progress through the clerkship rotations.

Clerkships Today

Today clerkships still have significant variability. There is considerable discussion on the sequence of clerkships and the effects on students. 3rd clerkship placement are considered very different experiences. Schools often look at 3rd year clerkships as primary building blocks of clinical experience. Structure and oversight it is considerably greater than in many 4th year clerkships. The program directors examine the situations students are exposed to during the clerkship and develop a complete curriculum, supplementing knowledge gaps as needed.

Clerkship Learning Outcomes/Objectives :

Medical Knowledge/Skills

- Identify and describe the conditions commonly encountered in medical practice.
- Apply knowledge of molecular, cellular, biochemical, nutritional, and systems-level mechanisms that maintain homeostasis and of the dysregulation of these mechanisms to the prevention, diagnosis, and management of disease.
- Apply major principles of the basic sciences to explain the pathobiology of significant diseases and the mechanism of action of important biomarkers used in the prevention, diagnosis, and treatment of diseases.
- Use the principles of genetic transmission, molecular biology of the human genome, and population genetics to obtain and interpret family history and ancestry data, infer and calculate the risk of diseases, order genetic tests to guide decision making and to assess patient risk, and institute an action plan to mitigate this risk.
- Apply the principles of the cellular and molecular basis of immune and non-immune host defense mechanisms in health and disease to: determine the etiology of diseases, identify preventative measures, and predict response to interventions.
- Apply the mechanisms of those processes which are responsible for the maintenance of health and the causation of disease to the prevention, diagnosis, management, and prognosis of important disorders.
- Apply principles of the biology of microorganisms in normal physiological and diseased states to explain the etio-pathogenesis of diseases and identify management and preventative measures.
- Apply the principles of pharmacology to evaluate options for safe, rational, and optimally beneficial interventions.
- Apply quantitative and qualitative knowledge and reasoning and informatics tools to diagnostic and therapeutic decision making.
- Patient Care
- Provide patient care that is compassionate, appropriate, and effective for the promotion of health and the treatment of health-related problems.
- Identify and describe common treatment modalities and perform routine procedures used in medical practice
- Apply specific protocols used in clinical practice.

• Interpret common radiologic and laboratory tests.

Professionalism

- Demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.
- Demonstrate compassion, integrity, and respect for others. (EPA 1-8, 10-12) Demonstrate respect for patient privacy and autonomy.
- Demonstrate responsiveness to patient needs that supersedes self-interests.
- Demonstrate accountability to patients, society, and the profession.
- Demonstrate sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in age, sex, culture, race, religion, disabilities, and sexual orientation.

Interpersonal Communication

- •Demonstrate interpersonal and communication skills that result in collaboration and the effective exchange of information with patients, their families, and health professionals.
- •Communicate effectively with patients and families across a broad range of socioeconomic and cultural backgrounds.
- •Communicate effectively with physicians, other health professionals, and health related agencies.
- •Work effectively as a member of surgical or medical care teams.
- •Maintain comprehensive, timely, and legible medical records.
- Personal Improvement (Practice-Based Learning)
- •Identify strengths, deficiencies, and limits in one's knowledge and expertise (self assessment and reflection).
- •Set learning and improvement goals.
- •Identify and perform appropriate learning activities.
- Systematically analyze own practice using quality improvement (QI) methods and implement changes with the goal of continuous improvement Incorporate "formative" evaluation feedback into daily practice
- •Locate, appraise, and assimilate evidence from scientific studies related to the patients' health problems (evidence-based medicine).
- •Use information technology to optimize learning outcomes.

Rationale:

After having completed first 2 years of learning in integrated modular fashion the student has attained the baseline theoretical knowledge that is required

to practice medicine. The 3rd year is designed to integrate this knowledge with first hand practical experience to be gained. The students shall be posted to clinical teaching units throughout the day's teaching time where they will have practical exposure of management of patients under supervision of the faculty. The main emphasis of this practical teaching will be on the common problems of our society that a doctor is most likely to face and be expected to manage as medical practitioner.

In 3rd year MBBS students are exposed to wards and patients after getting 2 years of basic science training. A class is divided into 15 batches which are rotated in different wards of Medicine & Allied, Surgery & Allied and Sub Specialties. (Annexure 2 a)

Rawalpindi Medical University has structured these rotations so that each students gets to gain knowledge equally in which ever ward he or she may be placed. (Annexure 2 b)

Learning objectives of the topics taught during the bedside studies and rotations are also given to the students in the form of study guide so that they are well aware what they have to study according to Knowledge, Skill & Attitude.

Students during their rotations in Medicine & Allied and Surgery & Allied are required to fill the log books which is dually signed by the facilitator. Each student is required to take 10 histories and fill the log book with short cases and long cases discussed which is then again signed by Head of the department. Also during their practical classes of Pre clinical sciences they are fill their log books & pracital copies.

Curriculum Junior Clekship

Clinical Placements Third Year MBBS 2024

- Medicine
- Emergency Medicine
- Radiology
- Psychiatry
- Skills Lab
- Pathology
- Surgery

Medicine & Allied Placement

Introduction:

The 3rd year MBBS clinical rotations in Medicine, Emergency Medicine, Pathology, Radiology, and Psychiatry are designed to provide students with a comprehensive understanding of these interrelated specialties. This integrated approach exposes students to the breadth of patient care, diagnostic techniques, and clinical reasoning across different disciplines. These rotations aim to foster critical thinking, multidisciplinary collaboration, and the development of essential skills necessary for competent medical practice.

Rationale:

The rotations address the need for a holistic learning experience that bridges core clinical disciplines.

- Medicine: Builds foundational knowledge of common diseases, their pathophysiology, diagnosis, and management.
- Emergency Medicine: Trains students in acute care, stabilization, and rapid decision-making in life-threatening situations.
- Pathology: Introduces the interpretation of laboratory findings and understanding of disease processes at the cellular level.
- Radiology: Familiarizes students with imaging modalities and their applications in diagnosis and management.
- **Psychiatry:** Emphasizes mental health, communication, and the biopsychosocial model of care. Together, these rotations provide students with a well-rounded clinical perspective and prepare them for the complexities of real-world medical practice.

Learning Objectives:

Medicine Rotation:

- Conduct comprehensive history-taking and physical examination for common medical conditions.
- Develop differential diagnoses and basic management plans.
- Interpret laboratory and imaging findings relevant to internal medicine.

Emergency Medicine Placement:

- Recognize and manage acute medical and surgical emergencies.
- Perform essential emergency procedures like airway management, CPR, and intravenous access.
- Prioritize patient care based on the severity of clinical presentations.

Radiology Placement:

- o Understand the principles and applications of different imaging modalities (X-rays, CT, MRI, Ultrasound).
- Recognize basic radiological patterns in common diseases.
- Appreciate the role of interventional radiology in patient care.

Psychiatry Placement:

- Conduct psychiatric interviews and assess mental status.
- o Diagnose common psychiatric disorders such as depression, anxiety, and psychosis.
- o Understand the basics of psychopharmacology and non-pharmacological interventions.

Pathology Placement:

- o Correlate pathological findings with clinical presentations of diseases.
- o Identify key histopathological features of common conditions.
- o Interpret laboratory results, including hematological and biochemical tests.

Skill Lab Placement:

- To have seen the implementation of the skill
- To have completed a skill itself several times under supervision
- To be able to perform a skill independently and routinely

Teaching Strategies:

Clinical Exposure:

- Ward rounds, emergency department shifts, and psychiatry outpatient clinics.
- Participation in multidisciplinary case discussions involving pathology and radiology.

Interactive Learning:

- o Case-based learning sessions to integrate clinical, pathological, and radiological findings.
- Role-playing for psychiatric interviews and emergency scenarios.

Simulation-Based Training

 \circ Hands-on practice for emergency procedures like CPR, intubation, and defibrillation.

Didactic Sessions:

- o Lectures and tutorials focusing on core topics in each discipline.
- Collaborative sessions emphasizing the integration of mental and physical health.

Self-Directed Learning:

- Encouraging students to research clinical cases, present findings, and critically analyze outcomes.
- Skill lab settings with virtual or video demonstrations
- Self-learning with help of videotape programs and internet
- o Clinical skills laboratory equipped with dummies, manikins, practice models, basic medical equipment and work stations

Mode of Assessment:

Formative Assessments:

- Direct observation of clinical skills during ward rounds, emergency shifts, and patient interactions.
- Regular feedback from faculty and residents.
- Participation in case discussions and small group activities.

Summative Assessments:

- **Medicine:** OSCE, written examination (MCQs, SAQs), and case-based viva.
- Emergency Medicine: Simulation-based OSCE and assessment of procedural skills.
- Pathology: Slide review, laboratory test interpretation, and written examination.
- Radiology: Image-based interpretation exam and case discussions.
- Psychiatry: Case-based viva, mental status examination, and written test.

By integrating these rotations, students will gain a broad understanding of patient care across different specialties, preparing them for the complexities of healthcare delivery and multidisciplinary collaboration.

LEARNING OJECTIVES Cognition Pyscomo Attitud Sr Topic MOT/MI MOA Specialty tor e # Т Cognition Skill Attitude C1 C2 C3 P1 P2 A1 A2 Student will be able to: a)Recognize importance of clinical medicine and context for theoretical learning so that one can see how learning about Student body system and social sciences will be SGD / BED Student will be able are applied to care of patient. SIDE able to: General to: Take Consent b)Recognize and evaluate OSPE,MIN SESSIONS Take INTRODUCTION introduction to 1 for History ICEX, different ethical problems (Grand detailed the field of CBD including gap block, priority Ward medicine. history setting, moral dilemma and Medical ethics Rounds, resolving conflict. Analyse Teaching different ethical problems and Ward knows different approaches. c) Recognize importance of Rounds) Student will be able Student will be able to: Student will be able Demonstrate art of history to: to:Take Take detailed taking including all components Consent for History history of history, Presenting History Taking, complaint, History of presenting SGD / BED Importance of SIDE illness indetail and in OSPE.MIN 2 SESSIONS HISTORY history, chronological order. ICEX. TAKING Contents of (Grand CBD Ward history, Presenting Rounds, Complaint, Teaching History of Ward Present illness Rounds) Students will be Students will be able to: Students will be able to: Demonstrate systemic inquiry able to: Take detailed in detail and past medical Take Consent for History history

Learning Objectives

3	HISTORY TAKING	Systemic Inquiry, Past Medical	history				SGD / BED SIDE SESSIONS (Grand Ward	
		History					Rounds,	
							Teaching	
							Ward	
							Rounds)	

Sr	Торіс	5	SPECIFIC LEARNING OJ	ECTIVES (SLO)	(Cogni	ition	Pyse tor	como	At e	titud	MOT/MI	МОА
#	-	Cognition	Skill	Attitude	C1	C2	C3	P1	P2	A1	A2	Т	
4	Family History, Occupational History, Personal History, Developmental + Obstetrics History. General physical examination Pulse, BP, Temp. Resp Rate	Students will be able to: a)Describe different components of history like Family History, Occupational History, Personal History, Developmental+ Obstetrics History b) Recall causes of bradycardia,tachycardia ,fever,h ypothermia and tachypnea	Students will be able to: Take history and perform GPE and can pick findings and relate them with different diseases.	Students will be able to: Ta ke Consent for History and Clinical Examination								SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)	OSPE,MIN ICEX, CBD
5	EVEN ROLL NO TEST												MINICEX
6	ODD ROLL NO TEST												MINICEX

Sr	Specialty	Торіс	SPECIFIC LEARNING	OJECTIVES (SLO)		Cog	nition		Pysc or	omot	Attit		MOT/MIT	MOA
#	specialty	Topic	Cognition	Skill	Attitude	C1	C2	C3	-	P2	A1	A2		MOA
7	RESPIRATORY SYSTEM	Systemic Inquiry,Cough,Sp utum,D yspnea,Cyanosis	Students will be able to: Recall causes of cough and how to differentiate between dry and productive cough.	cough,sputum,dyspnea and	Students will be able to: Take Consent for History and Clinical Examination.								BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)	CBD
8	RESPIRATORY SYSTEM	Hemoptysis, wheezing, pleuritic chest pain.	hemoptysis,wheezing and pleuritic chest pain.	Take detailed history of hemoptysis,heezing and	Students will be able to: Take Consent for History and Clinical Examination								BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)	CBD

5	Secolulty	Tomia	SPECIFIC LEARNING	OJECTIVES (SLO)		Cog	nition		Pysc or	omot	Attit	ude	MOT/MIT	MOA
Sr #	Specialty	Торіс	Cognition	Skill	Attitude	C1	C2	C3	_	P2	A1	A2		MOA
9		GPE; Cyanosis, Clubbing, Pulsus paradoxus, Intercostal in drawing, Tracheal tug Palpation of trachea	a)Recall causes and types of cyanosis. b)Retell causes of clubbing and its gradinding. c)Describe pulsus	Take history and perform GPE relavant to respiratory system and able to pick these	Students will be able to: Take Consent for History and Clinical Examination								SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)	
10		from front Chest movements,	deformaties,different scar marks and their significance,different types of apex	Take history and perform Respiratory system examination including inspection,palpation,percussi on and auscultation of front of chest & relevant clinical examination according to cause	Students will be able to: Take Consent for History andClinical Examination								SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)	

11	RESPIRATORY SYSTEM	Inspection of back of chest. Chest movements Percussion of back	a)know types of respiration,chest deformaties,different scar marks and their significance,causes of		Students will be able to: Take Consent for History and Clinical Examination.							10 1	
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Sr	Specialty	Торіс	SPECIFIC LEARNING OJECTIVES (SLO)			Cognition			Pyscomot or				MOT/MIT	MOA
#	specially		Cognition	Skill	Attitude	C1	C2	C3	_	P2	A1	A2	1/1/1/11	1011
12	RESPIRATORY SYSTEM	Auscultation of back OF chest	in respiration and etc etc	auscultation of back of chest & relevant clinical examination according to cause .	Students will be able to: Take Consent for History and Clinical Examination.								SESSIONS	
13	RESPIRATORY SYSTEM	EVEN ROLL NO TEST												MINICEX

Sr	Specialty	Торіс	SPECIFIC LEARNING	OJECTIVES (SLO)		Cogr	nition		Pysc or	omot	Attit	ude	MOT/MIT	MOA
#	1 5		Cognition	Skill	Attitude	C1	C2	C3	P1	P2	A1	A2		
	RESPIRATORY SYSTEM	ODD ROLL NO TEST												MINICEX
15	GIT	Systemic Inquiry Vomiting, jaundice, pain	causes of vomiting b) Explain causes and types of jaundice c) Retell different causes	can take detailed history of vomiting,jaundice,abdomina l pain and diarrhea and able to make differential diagnosis related to these symptoms.	Students will be able to: Take Consent for History and Clinical Examination.								SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)	

Sr	Specialty	Торіс	SPECIFIC LEARNING	OJECTIVES (SLO)		Cog	nition		Pysc or	omot	Attit	ude	MOT/MIT	MOA
#		1	Cognition	Skill	Attitude	C1	C2	C3	P1	P2	A1	A2	1	
16	GIT	GPE, Jaundice, Clubbing, Koilonychia, Pallor, Leuconychia, Oedema Examination of Oral CavitY	of jaundice,clubbing,koilo nychia,p allor,leuconychia and	Take history and perform GPE relavant to abdominal examination and able to pick these signs on examination. b)can perform examination of oral cavity	Students will be able to: Take Consent for History and Clinical Examination.								SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)	
17	GIT	Inspection of abdomen, Superficial Palpation of Abdomen	of distended abdomen,significance of prominent veins and	Take history and perform inspection and superficial palpation of abdomen and relavant clinical examination.	Students will be able to: Take Consent for History and Clinical Examination.								AMBULATO RY TEACHING / SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)	ICEX, CBD

S.r.	Specialty	Торіс	SPECIFIC LEARNING	OJECTIVES (SLO)		Cog	nition		Pysco or	omot	Atti	tude	MOT/MIT	MOA
Sr #	Specially	Topic	Cognition	Skill	Attitude	C1	C2	C3		P2	A1	A2		MOA
18	GIT	Palpation of Liver, Spleen, Kidneys, Pelvic Masses	Recall different causes of hepatomegaly,splenome galy,ca uses of palpabale kidneys and other abdminal masses b)differentiate between kidney and spleen on examination	other masses and relavant examination.	Students will be able to: Take Consent for History and Clinical Examination .								AMBULATO RY TEACHING / SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)	,
19	GIT	Percussion of Abdominal Viscera, Fluid Thrill, Shifting Dullness, Auscultation of abdomen	Recall causes of abnormal percussion notes of abdomen Retell causes of positive	Students will be able to: Take history and perform abdominal examination including percussion auscultation and relavant examination.	Students will be able to: Take Consent for History and Clinical Examination.								SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)	
20	GIT	EVEN ROLL												MINICEX
21	GIT	TEST ODD ROLL NO TEST												MINICEX

Sr	Specialty	Торіс	SPECIFIC LEARNING	OJECTIVES (SLO)		Cog	nition		Pyso or	comot	Atti	tude	MOT/MIT	MOA
#			Cognition	Skill	Attitude	C1	C2	С3	P1	P2	A1	A2		
22	CNS	Conscious level, HMF, orientation, speech, memory, intellect, sleep	a) Recall higher mentel functions and Glassgow coma scale. b) differentiate betwwen long term and short term memory c)differentiate between narcolepsy and somnolence	examination.	Students will be able to: a) Take Consent for History and Clinical Examination								SGD / BED SIDE SESSIONS (Grand Ward Rounds) Teaching Ward Rounds)	
23	CNS		Recall causes and types	Students will be able to: Take history and perform relavant clinical examination	Students will be able to: Take Consent for History and Clinical Examination								SGD / BED SIDE SESSIONS (Grand Ward Rounds Teaching Ward Rounds	,
24	CNS		Recall anatomy and functions of cranial nerves, retell causes of	Students will be able to: Take History and perform examination of cranial nerves from 1 to 6 and able to pick abnormal findings.	Students will be able to: Take Consent for History and Clinical Examination								SGD / BED SIDE SESSIONS (Grand Ward Rounds Teaching Ward Rounds	OSPE,MIN ICEX, CBD

Sr	Specialty	Торіс	SPECIFIC LEARNING	OJECTIVES (SLO)		Cog	nition		Pysc or	omot	Attit	ude	MOT/MIT	MOA
#	specially	ropie	Cognition	Skill	Attitude	C1	C2	C3	P1	P2	A1	A2		
25	CNS	Cranial nerves. 7 to 12	Recall anatomy and functions of cranial nerves,can retell causes	Students will be able to: Take History and do examination of cranial nerves from 7 to 12 and can pick abnormal findings.	Students will be able to: Take Consent for History and Clinical Examination									
26	CNS	Examination of motor system (bulk, tone, power/ Reflexes.	and hypertrophy of	Take History and perform motor system examination and able to pick abnormal findings	Students will be able to: Take Consent for History and Clinical Examination								10 1	

Sr	Specialty	Торіс	SPECIFIC LEARNING	OJECTIVES (SLO)		Cog	gnitior	1	Pysc or	omot	Atti	tude	MOT/MIT	MOA
#	Specialty	Topic	Cognition	Skill	Attitude	C1	C2	C3		P2	A1	A2		101011
27	CNS	Examination of sensory system		Students will be able to: Take History and perform sensory system examination keeping in mind etiology	Students will be able to: Take Consent for History and Clinical Examination								SGD / BED SIDE SESSIONS (Grand Ward Rounds Teaching Ward Rounds	
28	CNS	Examination of Cerebellar System/ Gait	Recall normal functions of cerebellum and causes of abnormal	Students will be able to: Take History and can perform cerebellar examination keeping in minc etiology.	Students will be able to: Take Consent for History and Clinical Examination								SGD / BED SIDE SESSIONS (Grand Ward Rounds Teaching Ward Rounds	
29	CNS	EVEN ROLL NO TEST												MINICEX
30	CNS	ODD ROLL NO TEST												MINICEX

Sr	Specialty	Торіс	SPECIFIC LEARNING	OJECTIVES (SLO)		Cog	nition		Pysc or	omot	Attit	ude	MOT/MIT	MOA
#	specialty	Topic	Cognition	Skill	Attitude	C1	C2	C3	_	P2	A1	A2		MOA
			Recall causes of precordial chest pain palpitation and etiology	Students will be able to: Take History and perform examination keeping in mind etiology and complications of disease	Students will be able to: Take Consent for History and Clinical Examination									
31	CVS Examination	Systemic Inquiry Pericardial Chest Pain, Palpitation, Patient with murmur.											SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds) / LAB WORK	
32	CVS Examination	CDE WD	JVP,clubbing,osler's nodes,janeway's lesion and splinter haemorrhages. Differentiate between pitting and non pitting	Students will be able to: Take History and perform GPE examination relavant to Cardiovascular system and can pick these signs.	Students will be able to: Take Consent for History and Clinical Examination								SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds) / LAB WORK	
	9th WEEK	1	1	1	1	1	1	1		1	I	1		1

Sr	Specialty	Торіс	SPECIFIC LEARNING	OJECTIVES (SLO)		Cog	gnition	l	Pysc or	omot	Atti	tude	MOT/MIT	МОА
#	specialty	Topic	Cognition	Skill	Attitude	C1	C2	С3	P1	P2	A1	A2		101071
33	CARDIOLOGY	Inspection of precordium location + palpation of apex beat. Right parasternal heave, palpation of base of heart, epigastric pulsations	a) Recall causes of prominent veins on chest, can pick scar marks on precordium and know their significance. b)Retell causes of displaced apex beat, right parasternal heave and epigastric pulsations. c)Describe causes of palpable heart sounds and thrills	Students will be able to: Take History and perform inspection and palpation of precordium.	Students will be able to: Take Consent for History and Clinical Examination								SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)	
34		Examination of Pulse	a) Recall causes of	Students will be able to: Take History and palpate all peripheral pulses and able compare them bilaterally.	Students will be able to: Take Consent for History and Clinical Examination								SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)	
35	CVS Examination	JVP	Students will be able to: a) Recall different waves and descents of JVP and their significance. b) Retell causes of raised JVP. C)Describe hepatojuglar reflex and its significance d)Differentiate berween arterial and venous pulsations in neck	Students will be able to: Take History and examine JVP and able to measure it.	Students will be able to: Take Consent for History and Clinical Examination								SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds) / LAB WORK	OSPE,MIN ICEX, CBD

Sr	Specialty	Торіс	SPECIFIC LEARNING	OJECTIVES (SLO)		Cog	nition	-	Pysc or	omot	Attit		MOT/MIT	MOA
#	specialty	Tople	Cognition	Skill	Attitude	C1	C2	С3	_	P2	A1	A2		MOA
36		Auscultation of heart Normal heart sound Effect of respiration on heart sound Murmurs and Thrills		Students will be able to: Take History and perform auscultation of precardium	Students will be able to: Take Consent for History and Clinical Examination								SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds) / LAB WORK	
37	CVS Examination	EVEN ROLL NO TEST												MINICEX
38	CVS Examination	ODD ROLL NO TEST												MINICEX
39		1		REVISI	ON	1	1	1	1	1	1		1	1
40				END OF BLOCK	ASESSMENT									

Emergency Medicine Placement

A two week clinical teaching program that will enable students to get insight into cases that present in medical emergency, about their diagnosis, management and patient counselling.

Sr #	Specialty	Торіс	SPECIFIC LEARNING	OJECTIVES (SLO)		Cognit	tion		Psycho	omotor	Attit	ude	MOT/MIT	МОА
			Knowledge	Skill	Attitude	C1	C2	C3	P1	P2	A1	A2		
	MEDICINE	Introduction to ER services regarding triage system. History taking and examination. Monitoring of vitals	Should be able to describe the components of triaging system in ER and its importance in differentiating stable vs sick patients. Should be able to describe the importance and components of vitals.	Should observe how the HCW does triaging. Students should be able to; take a quick history and perform relevant clinical examination under guidance of HCW. Student should be able to check the vitals including pulse, blood pressure, temperature, and respiratory rate with proper method.	Students will be able to Take Consent for History, Clinical Examination and Procedures		₽ ⁷		*			* ⁷	SGD / BED SIDE SESSIONS	OSPE/MCQs
					Students will be able to	1								

,	EMERGENC Y MEDICINE		cases ance of on of and	 Students should to describe the imp of record keeping documentation. Should be able to describe indication complications of IT IM injections. 	portance and to ns and	 Students will be able to and assist HCW about reco and the importance of doct Student should observe assist HCW in IV and IM canulation. 	ord keeping umentation. and	1. Take consent history examinati 2. Take consent f IM and I injections and explain procedur the patie	or V s n re to		4 7		4 7		4 7	SGD / BEI SIDE SESSION	0.51 2,110 20
; 1 7	oecialty	Topic		C LEARNING O.	JECTIV				Cogr C1	ition C2	C3	Psych	omotor P2	itude A2	2	MOT/MI T	МОА
3	MERGENCY EDICINE	1. Setting of IV drips 2. Nebulizati on	describe the types of I of setting. 2. Should describe d drugs bein	be able to he indications of V drips and rate be able to lifferent types of ng used as medications and	1. Observ setting o	ve HCW regarding f IV drips ve how to set up a zer	Attit Students wil to: 1. Counsel th regarding us drips in a pa setting and in and side effe 2. Counsel th for nebuliza	l be able e patient e of IV rticular is benefits ects. ne patient		*		4 7		*		GD / BED SIDE ESSIONS	DSPE/MCQ

		EMERGENCY MEDICINE	 Insertion of foley's catheter Inserti on of Nasogastr ic tube 	 Should be able to describe the indications and contraindications of Foley Catheter, types, uses. Should be able to describe the indications 	Student will be able to; to 1. Observe and assist 1 HCW in inserting a foley re catheter. 2 a 2 1 1. Observe and assist 2 1. Observe and a	o: egardir eatheter guide al und con 2. Coun egardir nsertio:	s will be able sel the patient ng foley insertion and pout its pros s. sel the patient ng NG tube n and guide s pros and	* ⁷		•					SGD / BED SIDE SESSIONS	OSPE/MCQ
S r	Spe	ecialty	Торіс	SPECIFIC LEARNING OJI	ECTIVES (SLO)			Cog	nition		Psych	omotor	Attit	ude	MOT/MIT	МОА
#				Knowledge	Skill		Attitude	C1	C2	C3	P1	P2	A1	A2		
5.		F	ebrile illness	Should be able to describe causes of febrile illness and the importance of different steps of history taking and elinical examination in a febrile patient	SECOND WEEK Student will be able to Take History of a febrile patient and clinical examination	do	Students will be able to: Counsel the patient regarding possible causes of fever and do relevant examination after informed consent.		*7			4 7		•7	SGD / BED SIDE SESSIONS	OSCE/MCQ
					Students will be able to:		Students will be able to:									

6.	Y	pa	tion truitle	ld be able to describe of stroke and possible	Take History of a patient with stroke and do clinical examination	Counsel the patier regarding stroke its possible types and causes under guidance of HCV	and s		▲7		-	7		SGD/BE SIDE SESSION	OSDE/MCO
	Sr #	Specialty	Торіс		SPECIFIC LEARNING OJECTIVES (SLO)			Cogr n	nitio	Psyci	nomotor	A	ttitude	MOT/MI T	МОА
				Knowledge	Skill	Attitude	C 1	C 2	C 3	P1	P2	A1	A2		
	7.	EMEDGEN	Approach to a patient with chest pain	Should be able to describe causes of chest pain and different presentations of a patient with cardiac chest pain.	Student will be able to: Should be able to take History of a patient with chest pain under HCW guidance and do quick relevant examination	Students will be able to: Counsel the patient regarding chest pain and possible cause under guidance of HCW		٩			*		*	SGD / BED SIDE SESSIONS	MCQ/SEQ

8.	EMERGENCY Approach to a MEDICINE patient with Upper GI bleed upper GI bleed 2. Should b identify who patient is in hypovolemi	uses of leed1. Take History of a patient with upper GI bleed and do clinical examination under HCW guidance. 2. Should take vitals esp. pulse, blood pressure, should look for	Students will be able to: Counsel the patient regarding cause of upper GI bleed under guidance of HCW		*		*7		*	SGD / BED SIDE SESSIONS	MCQ/SEQ	
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Radiology Placement

S. No.	Radiology	Leaning Objectives	МОТ	MOA
1	Chest x ray anatomy	 Recognize and label key anatomical structures visible on a chest X-ray, including the heart, lungs, mediastinum, diaphragm, and bony thorax. Describe the standard techniques and positioning used to obtain a chest X-ray, including PA (posteroanterior) and lateral views. 	SGD	OSCE
		• Analyze normal chest X-ray findings, distinguishing between anatomical variations and pathologies		
2	 Identify and describe common pathological conditions on chest X-rays, such as pneumonia, tuberculosis, lung nodules, and malignancies. 		SGD	OSCE
	pathology	 Distinguish between different types of lung diseases (e.g., interstitial lung disease, obstructive lung disease) based on X-ray appearance. 		USCE
3	Recogni human b articulat with fractures Differen compour	human body, including major features such as articulations and landmarks.	SGD	OSCE
4	Plain x ray abdomen & KUB	 Identify the clinical indications for obtaining a plain X-ray of the abdomen and KUB, including pain, trauma, obstruction, and perforation. Recognize and label the anatomical structures visible on plain abdominal X-rays, including the liver, spleen, kidneys, bladder, and bowel 	SGD	OSCE
5	5 Fluoroscopic 5 procedures & Ba studies.	 Identify the clinical indications for performing fluoroscopic procedures and barium studies, including gastrointestinal disorders and motility 	SGD	OSCE

		 issues. Explain the principles of fluoroscopy, including the use of continuous X-ray imaging and the role of contrast agents 		
6	CT scan brain: basics	 Identify the clinical indications for performing a CT scan of the brain, including trauma, stroke, tumors, and intracranial hemorrhage. Explain the fundamental principles of computed tomography, including how X-ray images are acquired and processed to create cross-sectional images of the brain. 	SGD	OSCE
7	Basics of ultrasound and observation	 Explain the basic principles of ultrasound, including how sound waves are generated, transmitted, and reflected to create images. Recognize the clinical indications for using ultrasound in various specialties, including obstetrics, gynecology, abdominal imaging, and vascular studies. 	SGD	OSCE

	8:30-9:00	9:00-10:30	2:00-5:00 pm (Evening rotation)
1	Introduction of the Institute Introduction to the clinical attachment Distribution of the history books	History Taking Allotment of Cases and Groups	Clinical work History taking of Allotted cases
2	History taking Mental State Examination	Demonstration of History taking and MSE	Clinical work
3	Presentation of cases histories of depression by medical students	Interview with the patient Theoretical aspect of depression	Clinical work
4	Presentation of cases histories of dissociative disorder by medical students	Interview with the patient Theoretical aspect of Dissociation	Clinical work
5	Presentation of cases histories of Schizophrenia by medical students	Interview with the patient Theoretical aspect of Schizophrenia	Clinical work
6	Presentation of cases histories of Substance use	Interew with the patient Theoretical aspect of Substance use	Clinical work
7	Presentation of cases histories of Delirium/de Theoretica		Clinical work
8	Ward Test: OSCE(conducted by	Evaluation (OCSE + case histories + attendance & Signatures on logbook) & Feedback	

Skill Lab Placement Nasogastric Intubation

Task:

Insert a Nasogastric Tube In a Patient (Mannequin).

Rationale:

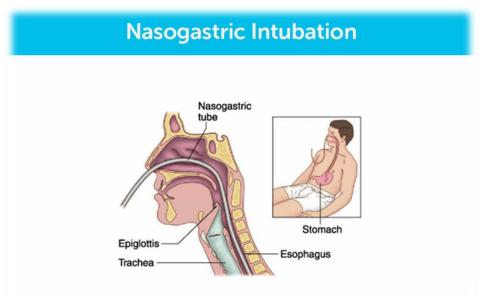
By inserting a nasogastric tube, students are gaining access to the stomach and its contents. Insertion of the NG tube can be done in 2 main scenarios.

- 1. Trauma settings
- 2. Assessment of GI

In trauma settings, NG tubes can be used to aid in the prevention of vomiting and aspiration, as well as for assessment of GI bleeding.

Learning Objectives:

- 1. Enlist Indications and Contraindications of passing NG tube.
- 2. Enumerate the pre-requisites of passing NG tube.
- 3. Perform steps of passing NG tube.



Injections

ر TASK:

Demonstrate; How will you inject a patient

- Intra-muscularly
- Intra-venously
- Intradermaly
- Subcutaneously

Rationale:

It is one of the commonest ways of administering medications parenterally.

Learning Objectives

- After the session the student should be able to :
- Demonstrate and perform the procedure proficiently.

Venipuncture

Rationale:

Venipuncture is the process of obtaining intravenous access for the purpose of intravenous therapy and obtaining a sample of venous blood. Because of its importance and potential hazards for the pt. every doctor should be proficient in this basic procedure.

Learning Objective

At the end of the session the student should be able to:

- Enlist the equipment needed for the procedure.
- Demonstrate the skill proficiently.

Intramuscular injection:

Subcutaneous Injection

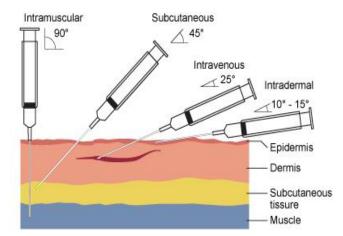
Rationale:

There are fewer blood vessels in the fatty layer of connective tissue just beneath the skin than the muscle tissue. Having fewer blood vessels means that medication injected subcutaneously is absorbed more slowly. This makes it an ideal way to administer medications that the body must use slowly over time, such as insulin, heparin etc.

Learning Objectives:

At the end of this session students will be able to:

- 1. Enumerate list of drugs given through this route.
- 2. Enlist advantages and disadvantages of subcutaneous injections
- 3. Describe complications of injecting subcutaneously
- 4. Demonstrate the aseptic technique of injecting subcutaneously.



Correct Angels Of Injecting Different Injections

Male & Female Catheterization

זבר TASK:

Demonstrate Sterile & Different Methods of Male & Female Catheterization.

Rationale:

Urinary elimination is a basic human function that can be compromised by illness, surgery, and other conditions. Urinary catheterization may be used to support urinary elimination in patients who are unable to void naturally.

Learning Objectives:

- 1. Enlist different types of catheterization
- 2. Identify different types of catheters
- 3. Discuss indications and contraindications of catheterization
- 4. Describe complications of urinary catheterization
- 5. Demonstrate the steps of male and female catheterization separately.



Endotracheal Intubation

Task:

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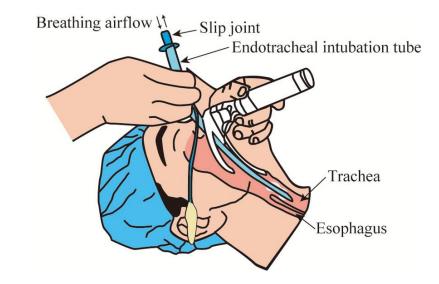
Demonstrate proper aseptic technique of Endotracheal Tube insertion.

Rationale:

Endotracheal intubation (EI) is often an emergency procedure that's performed on people who are unconscious or who can't breathe on their own. EI maintains an open airway and helps prevent suffocation.

Learning Obectives:

- 1. Know different sizes of endotracheal tubes
- 2. Indications and contraindications of Endotracheal Intubation
- 3. Demonstrate correct steps of Endotracheal Intubation



Breast Examination

Task:

Demonstrate proper steps of breast examination.

Rationale:

Despite the advances in breast imaging, there are clear indications for the need of clinical breast examination as part of breast cancer screening for all women. The article reviews the technique for clinical breast examination and assessment of its results. The main goal of the clinical breast examination is to differentiate normal physiologic nodularity from a discrete breast mass. If a discrete mass is identified, evaluation is mandatory in all cases to exclude breast cancer.

Learning Objectives:

- 1. Discus the importance of breast examination.
- 2. Perform breast examination.



Digital Rectal Examination (Prostate examination)

Task:

Perform digital rectal examination on mannequin.

Rationale:

A digital rectal examination (DRE) is a simple procedure doctors use to examine the lower rectum and other internal organs. A DRE is done for a number of reasons. It's a quick, easy way to check the health of a man's prostate gland. It can detect conditions like an enlarged prostate (benign prostatic hyperplasia) and prostate cancer.

Learning Objectives:

- 1. Enlist the indications & contraindications of digital rectal examination.
- 2. Demonstrate proper method of DRE.



Pathology Placement At the end of session 3rd Year MBBS student will be able to

TOPIC	KNOWLEDGE	SKILL	ATTITUDES	MOA
Day 1				
Introductory round of laboratory & Bench's	Students will know about different sectarians of lab. (Smear formation staining, microscopy.)			
Autoclave	Parts, Principle, & Quality. Control of Autoclave (Q/C) Material to be sterilized in autoclave.	How to operate autoclave.		EOSA/OSPE/ Ward Test
Specimen collection	 How to collect the specimen. Timings of collection Previous clinical notes/related to patient history Transportation & Handling of specimen 	Labeling Techniques		EOSA/OSPE/ Ward Test
Day 2		·	·	
Culture Media	 Knowledge about Basic/specific culture media. Uses & Specification 	 Media Preparation Methods of storage Inoculation Techniques 		EOSA/OSPE/ Ward Test
Antibiotic Sensitivity Testing	Knowledge about different groups of antibiotic for different organisms.	Antibiotic sensitivity testing methods. Measurement of Zone of sensitivity.		EOSA/OSPE/ Ward Test
Orientation of Serology	Principle& uses of ELISA, PCR & Aggintinations	Performance of all tests		EOSA/OSPE/ Ward Test
Day 3				ł
Microbiology	Performance of interpretation of Gram Staining & ZN staining	 Steps of gram staining & ZN staining & its Principles. Perform Gram ,ZN staining , catalase, coagulase, Oxidase test How to interpret the test. Principles of catalase, coagulase & Oxidase test. Uses of different biochemical tests. 		EOSA/OSPE/ Ward Test
Day 4				
Urine & STOOL Examination	Urine & stool Examination	 How to collect the Specimen (Urine & stool) & CSF & Body fluid. Pre requisites of specimen collection Physical /Chemical & microscopic examination. Identification of positive findings. 	Preparation of slide. Microscopy of urine & stool slides.	EOSA/OSPE/ Ward Test
CSF Examination	CSF Examination	 How to collect CSF (K) Pre requisites of Specimen Collection & Microscopic Examination 	Preparation of slide Microscopy of slide Staining techniques Physical and chemical examination.	EOSA/OSPE/ Ward Test

TOPIC	KNOWLEDGE	SKILL	ATTITUDES	MOA
Day 5				
 Sampling technique & phlebotomy 	 Describe the procedure of phlebotomy Explain pre-requisites for phlebotomy Appropriate /inappropriate sample How to discard inappropriate sample timeline foe the transfer and storage of sample 	Perform phlebotomy as per SOP	Counsel patient before phlebotomy	EOSA/OSPE/ Ward Test
2. Blood C/P ESR	 Explain different anticoagulant used in hematology with their uses Minimum time required for each step Interpret end result Different methods of performing blood C/P and ESR Timeline for storage of blood C/P and ESR sample 	 Perform blood C/P on analyzes Perform ESR Interpret the result of blood C/P and ESR 	Counsel patient	EOSA/OSPE/ Ward Test
3. Preparation of blood smears' & reties	 Explanation the step of blood smears preparation Quality of a good smears Different stains used for peripheral smears and retics with principle Timeline for storage of samples 	Prepare good quality blood smear		EOSA/OSPE/ Ward Test
4. Quality control	 Explain role of quality control in laboratory Important of internal and external Q C 	Assess daily quality control of different analyzes.		EOSA/OSPE/ Ward Test
Day 6				
1. Coagulation studies	 Enumerate different coagulation tests Explain principles of different coagulation studies Discuss role of different coagulation test timeline for the transfer and storage of samples 	 Perform coagulation studies Interpret the result of coagulation studies 	Counsel patient / attendant in case of diagnosis of diseases e.g. Bleeding disorder	EOSA/OSPE/ Ward Test
2. Bone marrow studies	 enumerate uses of bone marrow aspirate and trephine biopsy explain the procedure of bone marrow biopsy explain role of bone marrow in hematological disorder 	 Identify different bone marrow aspirate and trephine needles Interpret the result of bone marrow studies 	Counsel the patient before bone marrow biopsy	EOSA/OSPE/ Ward Test
3. Hb studies & coombs test	 explain principle of hemoglobin electrophoresis & Coombs test describe uses of hemoglobin studies and Coombs test describe procedure of Hb electrophoresis & coombs test 			EOSA/OSPE/ Ward Test
Day 7	-		1	
Blood grouping and cross matching	 explain the procedure the blood grouping describe different blood groups e.g. ABO& Rh timeline for the storage of samples 	 perform forward blood grouping interpret result of blood grouping and cross matching 		EOSA/OSPE/ Ward Test

Surgery Placement

Introduction:

The surgery rotation in the 3rd year MBBS curriculum provides students with foundational exposure to the principles and practices of surgical care. It is designed to equip students with essential knowledge, clinical skills, and attitudes necessary for managing surgical patients. Through hands-on learning and active participation, students develop competencies in history-taking, physical examination, surgical decision-making, and basic procedural skills. This rotation serves as a stepping stone toward advanced surgical training and emphasizes the importance of multidisciplinary collaboration and patient-centered care.

Rationale:

Surgery is a core discipline in medicine that integrates anatomy, pathology, and clinical practice. The rotation enables students to:

- 1. Understand the role of surgery in managing diseases.
- 2. Develop a structured approach to evaluating and treating patients with surgical conditions.
- 3. Gain hands-on experience in basic surgical procedures and techniques.
- 4. Foster teamwork and communication skills critical for effective surgical care. This rotation bridges the gap between theoretical learning and practical application, laying the groundwork for students to handle surgical cases confidently and competently.

Learning Objectives:

Knowledge-Based Objectives:

- 1. Describe the pathophysiology, clinical features, and management of common surgical conditions, including hernias, appendicitis, gallstones, and trauma.
- 2. Understand the principles of asepsis, antisepsis, and sterile technique.
- 3. Discuss the indications, contraindications, and complications of common surgical procedures.

Skill-Based Objectives:

- 1. Perform focused history-taking and physical examination for surgical patients.
- 2. Develop differential diagnoses and formulate basic preoperative and postoperative care plans.
- 3. Demonstrate proficiency in basic surgical skills, including suturing, wound dressing, and insertion of catheters.

Attitudinal Objectives:

- 1. Exhibit professionalism, empathy, and ethical behavior in patient care.
- 2. Communicate effectively with patients, families, and the surgical team.

3. Appreciate the importance of teamwork in the operating room and wards.

Teaching Strategies:

Clinical Exposure:

- 1. Participation in ward rounds, outpatient clinics, and operating room (OR) sessions.
- 2. Observation and assistance during surgical procedures to understand operative techniques.

Interactive Learning:

- 1. Case-based discussions focusing on common surgical conditions and their management.
- 2. Small group tutorials emphasizing clinical reasoning and decision-making.

Simulation-Based Training:

- 1. Practice basic surgical skills, such as suturing and knot-tying, using models or simulators.
- 2. Simulated scenarios to enhance preoperative and postoperative care understanding.

Didactic Sessions:

- 1. Lectures on core surgical topics, including wound healing, trauma management, and surgical emergencies.
- 2. Workshops on topics like surgical instrumentation and sterilization techniques.

Self-Directed Learning:

- 1. Encouraging students to research clinical cases, review surgical literature, and present findings during team meetings.
- 2. Use of online resources and video tutorials to reinforce surgical skills.

Mode of Assessment:

Formative Assessments:

- 1. Continuous observation of clinical skills and professionalism during ward rounds and OR sessions.
- 2. Regular feedback from faculty on history-taking, examination, and procedural techniques.
- 3. Participation in case discussions and small group activities.

Summative Assessments:

- 1. Clinical Examination: Objective Structured Clinical Examination (OSCE) to assess surgical skills and clinical reasoning.
- 2. Procedural Skills Assessment: Direct observation of basic skills like suturing, catheter insertion, and wound dressing.
- 3. Written Examination: Multiple-choice questions (MCQs) and short-answer questions (SAQs) on surgical topics.
- 4. Viva Voce: Oral examination to evaluate clinical knowledge, decision-making, and communication skills.

Through this structured rotation, students will gain the essential competencies needed to understand and manage surgical patients effectively, setting a strong foundation for future clinical practice and advanced surgical training.

S	ΤΟΡΙϹ	THEME		SPECIFIC LEARNING OJECTIVES (SLO)						homotor	Atti	itude
r #			Cognition	Skill	Attitude	C1	C2	C3	P1	P2	A1	A2
1		INTRODUCTION TO OT PROTOCOLS (Scrubbing, Gowning, Gloving)	 b) Describe aseptic techniques followed in OT c) Outline the 	a)Observe the methods of scrubbing followed in OTb) Perform steps of scrubbing in OT under supervision	Student will be able to: follow the accurate methods of scrubbing, gowning and gloving keeping in view the principles of surgical ethics and patient's safety.			V		~		~
			Student will be able to:	Student will be able to:	Student will be able							

Learning Objectives

2 INRODU TO T PRINCIPI SURG	THE LES OF		components of history taking d) Suggest differential diagnosis based on history	 taking skills concerning the focused disease d) Practice summarizing the detailed history for presentation e) Enlist differential diagnosis based on history f) Observe taking brief history in emergency settings 		~	✓	✓
³ INTROD TO T PRINCIPI SURG	HE LES OF	APPROACH TO GENERAL PHYSICAL EXAMINATION	 Students will be able to: a) Outlinethe steps of general physical examination b) Describe the normal findings of the patient c) Explain any abnormal findingsin the patient d) Suggest differential diagnosis and investigations based on general physical examination 	 physical examination on the patients b) practice taking vitals, calculating BMI etc. 	Students will be able to: a)Take Consent for Clinical Examination b)Learn to take care about appropriate exposure for clinical examination with special attention to modesty and patient wishes. c)Understand the importance of chaperone. d)Counsel and educate patient about disease, its diagnosis, treatment and outcome.	~	✓	~

Sr #	Specialty	Торіс	Topic SPECIFIC LEARNING OJECTIVES (SLO)))	Cognition			Pyscomotor		Attitude		
		_	Cognition	Skill	Attitude	C1	C2	C3	P1	P2	A1	A2

4	INTRODUCTION TO THE PRINCIPLES OF SURGERY	APPROACH TO A PATIENT WITH SOFT TISSUE SWELLING / LUMP	Students will be able to a) Recall etiopathogenesis b) Describe clinical features c) Suggest differential diagnosis and investigations d) Short and Long term treatment plan including complications	 Students will be able to: a) Take history and perform lump examination with focus on etiology. b) Perform Interpretation of USG of swelling, FNAC and other investigations. c) Observe/assist lump excision in local anesthesia. 	Students will be able to: a) Take Consent for History, Clinical Examination and Procedures b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.			~		~		~	
Sr#	Specialty	Торіс	SPECIFIC LEARNING OJECTIVES (SLO)				Cognit	tion	Pysco	motor	At	Attitude	
~~~			Cognition	Skill	Attitude	C1	C2	C3	P1	P2	A1	A2	
7	INTRODUCTION TO THE PRINCIPLES OF SURGERY	OT (Surgical instruments and stitching)	<ul> <li>b) Explain the uses of different instruments in debridement and various surgical procedures</li> <li>c) Classify the types of sutures into absorbable and nonabsorbable, organic and inorganic, monofilament and polyfilament</li> </ul>	Students will be able to: a) Perform basic surgical techniques of cutting, stitching and wound management b) Practice different types of stitching to approximate wounds: -simple interrupted -continuos -subcutaneous -reef knot -surgeons knot d) Observe/assist the use of surgical instruments in laproscopic and open procedure	Students will be able to: a) Take Consent for surgical procedures like cutting, stitching. b) Counsel and educate patient about wound care.			~		~		~	

	INTRODUCTION TO THE PRINCIPLES OF SURGERY	APPROACH TO A PATIENT WITH ULCER / SINUS / FISTULA	Students will be able to: a) Recall etiopathogenesis of formation of sinus, ulcer, fistula b) Classify skin ulcers into arterial, venous, diabetic c) Differentiate between sinus and fistula d) Suggest basic management	<ul> <li>skills and perform examination of an ulcer keeping in mind the cause.</li> <li>b) Perform interpretation of Blood cp, xrays, wound culture and sensitivity reports</li> <li>c) Observe the dressing</li> </ul>	Students will be able to: a) TakeConsent for History, Clinical Examination and Procedures b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.	~	~	✓
9	INTRODUCTION	APPROACH TO PATIENT WITH SURGICAL WOUND	Students will be able to: a)recall the etiopathogenesis b)Describe clinical features and identification of wound infection and dehiscence c)Explain the indications of primary and secondary wound healing d) Review the basic management of wound	skills and perform clinical examination of surgical wounds including drains output measurement b) Perform interpretation of Wound culture and sensitivity	Students will be able to: a) Take Consent for History, Clinical Examination and Procedures b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.	✓	~	~

	TO THE	PRINCIPLES OF PRE OPERATIVE AND POST OF OPERATIVE CARE	<ul> <li>Students will be able to:</li> <li>a) Describe the principles of pre operative and postoperative surgical care.</li> <li>b) Describe ERAS guidelines</li> <li>c) Identify the common surgical complications</li> <li>d) Formulate the management of post operative complications</li> </ul>	Students will be able to: a)Apply the basic principles of pre operative and post operative surgical care b) Perform interpretation of Preoperative workup (Baseline investigations, ECG, CXR, viral serology) c) Observe/assist postoperative care including early mobilization, NPO status, bowel assessment d) Assist house surgeon in management of patient	Students will be able to: a) Take Consent for surgery.Get familiar with informed consent. b) Counsel and educate patient about disease, operation post operative course and discharge instructions. c) Break bad news according to SPIKE model		~				~
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13			Students will be able to: a)Outline the steps of various abdominal surgeries including -open cholecystectomy -laproscopic cholecystectomy -hernia surgery -laparotomy c) Describe the various abdominal incisions c)Explain the indications of various abdominal surgeries	<ul> <li>Students will be able</li> <li>to: <ul> <li>a) Observe abdomen</li> <li>opening and closing</li> <li>.</li> <li>b) Assist in cutting,</li> <li>stitching and peroperative</li> </ul> </li> <li>sample handling <ul> <li>c) Perform interpretation of abdominal imaging</li> <li>(ultrasound, plain x ray abdomen)</li> </ul> </li> </ul>	Students will be able to: a) Take informed Consent for abdominal surgeries b) Counsel and educate patient about indication, surgical plan, peroperative, postoperative complications and outcome.	~	~	~
14	ABDOMEN	APPROACH TO HISTORY TAKING and EXAMINATION	<ul> <li>b) Describe the presenting complaints in the chronological order</li> <li>c) Suggest differential diagnosis based on history</li> <li>d) Explain the normal and abnormal findings</li> </ul>	relevant clinical examination according to cause -inspection -palpation -percussion -auscultation: bowel sounds c)Elicit shifting dullness and fluid thrill. c)Perform stoma examination including stoma output monitoring.	Students will be able to: a) Take Consent for History, Clinical Examination. b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.	✓	✓	✓
			Students will be able to:	Students will be able to:	Students will be able			

15	ABDOMEN	APPROACH TO PATIENT WITH ACUTE ABDOMEN (Acute cholecystitis/ Acute pancreatitis)	features b) Suggest Differential diagnosis, investigations and severity assessment c) Recall scoring systems including importance of RANSON'S score calculation at admission and at 48hrs d) Discuss complications. (Mucocoele gall bladder, empyema gall bladder, pancreatic pseudocyst) e) Outline the emergency and indoor treatment based on severity		to: a) Take Consent for History, Clinical Examination and Procedures b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.			~		~		V F
16	ABDOMEN	APPROACH TO PATIENT WITH ACUTE ABDOMEN (Acute appendicitis)	<ul> <li>b)Describe MANTRELS score</li> <li>for acute appendicitis</li> <li>c)Suggest Differential diagnosis,</li> <li>investigations and severity</li> <li>assessment</li> <li>c) Construct treatment</li> <li>plan according to etiology</li> </ul>	relevant clinical	Students will be able to: a) Take Consent for History, Clinical Examination and Procedures b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.			~		~		V
Sr #	Specialty	Торіс	SPECIFIC LEARNING OJECTIVES (SLO)				Cognition		Pyscomotor		Attitude	
			Cognition	Skill	Attitude	C1	C2	C3	P1	P2	A1	A2

19	ABDOMEN	OT (Abdominal surgeries)	Students will be able to: a) Outline the steps of various abdominal surgeries including -pancreatic surgeries -hemicolectomy a) Describe the various abdominal incisions	<ul> <li>to:</li> <li>a) Observe abdomen</li> <li>opening and closing</li> <li>.</li> <li>b) Assist in cutting,</li> <li>stitching and peroperative and</li> <li>postoperative sample handling</li> </ul>	b) Counsel and educate patient about disease, its diagnosis, treatment and	~	V	V
20	ABDOMEN	APPROACH TO A PATIENT WITH OBSTRUCTIVE JAUNDICE	<ul> <li>a) Describe the various abdominal incisions</li> <li>c) Explain the indications of abdominal surgeries</li> <li>Students will be able to: <ul> <li>a) Recall</li> <li>Etiopathogenesisincludin g the normal mechanism of bilirubin formation, conjugation and excretion</li> </ul> </li> <li>b)discuss clinical features of obstructive jaundice</li> <li>c) Construct treatment plan according to etiology and discuss compllications</li> </ul>	<ul> <li>c) Perform interpretation of abdominal imaging (ultrasound,plain x ray abdomen)</li> <li>Students will be able to: <ul> <li>a) Perform History taking skills and abdominal examination keeping in mind etiology and complications</li> <li>b) Perform Interpretation of related basic and specific investigations including importance of serial LFTs, Ultrasound abdomen, CECT</li> <li>c) Observe and Learn how to draw blood sample</li> </ul> </li> </ul>	Students will be able to: a) Take Consent for History, Clinical Examination and Procedures b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.	✓	~	✓
				d) Assist HCW in input output monitoring				

21	]	APPROACH TO A PATIENT WITH ABDOMINAL MASS / CARCINOMA	<ul> <li>Students will be able to:</li> <li>a) Recall Pathophysiology</li> <li>b) Describe possible symptoms and physical findings in a patient with carcinoma stomach/colon</li> </ul>	<ul> <li>Students will be able to:</li> <li>a) Apply history taking skills and perform abdominal examination keeping in mind the cause.</li> <li>b) Perform Interpretation of Investigations like tumor markers (CA 19-9, CEA, AFP, CA 125)</li> <li>c) Observing/Assisting/per forming NG Tube, IV access, maintainence/care, Foleys catheter etc</li> <li>d) Observe/Assist HCW in palliative care management in patient with terminal stage CA</li> </ul>	Students will be able to: a) Take Consent for History, Clinical Examination and Procedures b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.			~		~		✓
22	ABDOMEN		<ul> <li>c) Outline the short and longterm management plan of a patient with carcinoma</li> <li>Students will be able to: <ul> <li>a) describe the etiology, pathophysiology, and clinical presentation of acute, chronic, and acute on chronic intestinal obstruction.</li> <li>b) Formulate a management plan in patients with intestinal obstruction secondary to abdominal kochs.</li> </ul> </li> </ul>	Students will be able to:         a)       Perform history taking         skills andclinical examination         keeping in mind the cause in         emergency settings.         b)       Perform Interpretation of         investigations (X ray erect abdomen,         Ultrasound abdomen)         c)       Observing/Assisting/per         forming Foleys catheter, NG passing         d)       Observe/Assist HCW in         patient management including vitals         and abdominal girth monitoring.	Students will be able to: a) Take Consent for History, Clinical Examination and Procedures b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.			~		✓		✓
Sr #	Specialty	Торіс		FIC LEARNING OJECTIVES (SLO	-		Cognit		ľ	motor		itude
			Cognition	Skill	Attitude	C1	C2	C3	P1	P2	A1	A2

25	OT (Hernia surgeries)	<ul> <li>a) Outline the steps of various hernia surgeries like <ul> <li>Lichenstein repair</li> <li>Darn's repair</li> <li>Bassini's repair</li> </ul> </li> <li>a) Describe the steps of hermit steps of the steps o</li></ul>	<ul> <li>to:</li> <li>a) Observe the steps of hernioplasty and mesh repair.</li> <li>b) Assist in cutting,</li> </ul>	Students will be able to: a) Take Consent for Procedures b) Counsel and educate patient about surgery, its indications, complications and outcome.	✓	~	✓
26	APPROACH TO PATIENT	Students will be able to: a) Differentiate different types of ventral hernias as regards their clinical presentation, and their differential diagnosis b) Discuss investigations to confirm c) Differentiate between -recurrent and incisional hernia -reducible and irreducible hernia d) Describe the steps of paraumblical hernia repair	<ul> <li>a) perform history taking skills and abdominal examination including eliciting cough impulse, noting signs of obstruction / strangulation</li> <li>B) Perform Interpretation of investigations (abdominal ultrasound)</li> <li>c) Observe/assist in ventral</li> </ul>	Students will be able to: a) Take Consent for History, Clinical Examination and Procedures b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.	✓	$\checkmark$	✓

27	HERNIA	APPROACH TC PATIENT WITH INGUNIOSCROTAL HERNIA / FEMORAL	Students will be able to: a) Recall the etiology b) Differentiate between inguinoscrotal hernia and femoral hernia based on clinical features and investigations c) Differentiate between -direct and indirect inguinal hernia -reducible and irreducible hernia -funicular, bubonocele or scrotal hernia d) Describe management plan including complications e) Outline the steps of inguinoscrotal hernioplasty	<ul> <li>Students will be able to:</li> <li>a) perform history taking skills and hernia examination including eliciting cough impulse, performing deep ring occlusion test, manually reducing the hernia, noting the signs of obstruction / strangulation</li> <li>b) Perform Interpretation of investigations (Ultrasound abdomen, blood cp)</li> <li>c) Assist HCW in patient management</li> <li>d) Observe / assist in the litchenstein hernia repair</li> </ul>	Students will be able to: a) Take Consent for History, Clinical Examination and Procedures b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.			✓		~		✓
28	HERNIA	APPROACH TO PATIENT WITH OBSTRUCTED HERNIA	Students will be able to: a) Recall etiopathophysiology b) Discuss clinical features & Investigations to confirm c) Describe management plan including complications	<ul> <li>Students will be able to:</li> <li>a) perform quick history taking skills and perform brief examination in emergency presentation</li> <li>B) Perform Interpretation of investigations (Ultrasound abdomen ,CECT)</li> <li>c) Assist HCW in patient management</li> <li>d) Observe / assist the steps of obstructed hernia repair</li> </ul>	Students will be able to: a) Take Consent for History, Clinical Examination and Procedures b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.			~		~		~
Sr #	# Specialty	Торіс	SPECH	FIC LEARNING OJECTIVES (SLO	))		Cognit	ion	Pysco	motor	At	titude
			Cognition	Skill	Attitude	C1	C2	C3	P1	P2	A1	A2

	1					 1	1		
31	BREAST	OT (Breast surgeries)	like -simple mastectomy -Radical mastectomy -Modified radical mastectomy c) Describe the difference between various breast surgeries	<ul> <li>Students will be able</li> <li>to: <ul> <li>a) Observe the steps of</li> <li>mastectomy / breast</li> <li>conservation surgery/</li> <li>excision of fibroadenoma</li> <li>.</li> <li>b) Assist in cutting,</li> <li>stitching and peroperative and</li> <li>postoperative sample</li> <li>handling.</li> </ul> </li> </ul>	Students will be able to: a) Take Consent for Procedures b) Counsel and educate patient about surgery, its indications, complications and outcome.	~		<b>~</b>	$\checkmark$
32	BREAST	APPROACH TO BREAST LUMP HISTORY + EXAMINATION	c) Suggest	Students will be able to: a)perform breast examination keeping in mind cause -inspection -palpation -percussion -auscultation d) Perform axillary examination including palpating axillary lymph nodes.	Students will be able to: a) Take Consent for History, Clinical Examination b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.	✓		✓	✓

			on clinical assessment					
33	BREAST	APPROACH TO PATIENT WITH ABNORMAL NIPPLE DISCHARGE	<ul> <li>Students will be able to:</li> <li>a)Recall causes of nipple discharge</li> <li>b) Differentiate between physiological and pathological nipple discharge</li> <li>c) Differentiate among diseases which present with nipple discharge based on clinical features</li> <li>d) Describe management</li> </ul>	<ul> <li>FNAC, Ultrasound)</li> <li>c) Observe and perform Trucut biopsy / excision biopsy</li> </ul>	Students will be able to: a) Take Consent for History, Clinical Examination and Procedures b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.	~	<b>~</b>	✓

			plan according to the cause					
34	BREAST	APPROACH TO PATIENT WITH BENIGN BREAST DISEASES	Students will be able to:         a)       Recall etiology &         pathophysiology of benign breast         diseases         -Mastitis         -duct ectasia         -periductal mastitis         -galactocoele         -fibroadenoma         b)       Discuss clinical         features & Investigations to         confirm the diseases         c)       Compare clinical         features for patients which         present with cyclical and         noncyclical mastalgia         d)       Describe management         plan including complications	Students will be able to: a)Perform history taking skills and perform breast examination keeping in mind the cause b) Perform Interpretation of related investigations (Ultrasound / FNAC) c) Observe and perform FNAC / trucut biopsy d) Assist HCW in management of patient	Students will be able to: a) Take Consent for History, Clinical Examination and Procedures b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.	✓	~	✓

37	BREAST	OT (Breast surgeries)	<ul> <li>Students will be able to: <ul> <li>a) Outline the steps of various breast surgeries like</li> <li>Breast conservation surgery</li> <li>fibroadenoma excision</li> </ul> </li> <li>d) Describe the difference between various breast surgeries</li> <li>c) Explain the indications and early and late complications of breast surgeries.</li> </ul>	Students will be able to: a) Observe the steps of breast conservation surgery/ excision of fibroadenoma c) Assist in cutting, stitching and peroperative and postoperative sample handling.	<ul> <li>Students will be able to:</li> <li>a) Take Consent for Procedures</li> <li>b) Counsel and educate patient about surgery, its indications, complications and outcome.</li> </ul>	~	✓	~
38	BREAST	APPROACH TO PATIENT WITH BREAST ABSCESS / MASTITIS	Students will be able to: a)Recall etiology & pathophysiology of this condition b) Explain clinical features & Investigations to confirm the diseases c) Describe management plan including complications	<ul><li>mind etiology and complications of this condition</li><li>b) Perform Interpretation of related basic and specific</li></ul>	<ul> <li>a) Take Consent for History,</li> <li>Clinical Examination and Procedures </li> <li>b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.</li> </ul>	~	✓	✓

39	BREAST	APPROACH TC PATIENT WITH BREAST CARCINOMA	<ul> <li>Students will be able to:</li> <li>a) Recall actiological factors of breast cancer</li> <li>b) Explain clinical features &amp; Investigations to confirm the diseases including Triple assessment</li> <li>c) Understand the staging of breast cancer including TNM staging</li> <li>d) Describe management plan depending on the stage of breast cancer</li> </ul>	<ul> <li>Students will be able to:</li> <li>a)Apply History taking skills and perform examination noting the malignant features :</li> <li>-peau d orange</li> <li>-nipple retraction, nipple discharge</li> <li>-axillary lypmhadenopathy</li> <li>b) Perform Interpretation of related basic and specific investigations (Ultrasound, mammography, FNAC, trucut biopsy, CECT, Bone scan, ER, PR receptor status)</li> </ul>	Students will be able to: a) Take Consent for History, Clinical Examination and Procedures b) Counsel and educate patient about disease, its diagnosis, treatment and outcome. c) Demonstrate Breaking bad news about the breast cancer	✓	✓	✓
			Students will be able to:	<ul> <li>c) Observe / Assist breast surgeries like BCS, MRM</li> <li>d) Assist HCW in management of patient</li> <li>Students will be able to:</li> </ul>	using SPIKE model Students will be able			
			a) classify neck swellings anatomically -thyroglossal cyst -branchial cyst -Cystichygroma -Cervical lymphadenopathy	<ul> <li>a) perform History taking skills and examination keeping in mind etiology clinical features and complications based on etiology</li> <li>b) Perform Interpretation of related basic and specific</li> </ul>	<ul> <li>students will be able</li> <li>to:</li> <li>a) Take Consent for</li> <li>History,</li> <li>Clinical Examination and</li> <li>Procedures <ul> <li>b) Counsel and educate</li> <li>patient about disease,</li> <li>its diagnosis, treatment</li> <li>and outcome.</li> </ul> </li> </ul>	~	~	~
40	HEAD AND NECK	APPROACH TO PATIENT WITH HEAD AND NECK SWELLINGS	<ul> <li>b) compare clinical features &amp; Investigations for different neck swellings</li> <li>c) distinguish swellings infront of neck which move with deglutition</li> </ul>	<ul> <li>c) Observe / assist in cyst excision</li> <li>d) Assist HCW in management of patients</li> </ul>				

SI	# Specialty	Торіс	SPECIF	))		Cogniti	on	Pysco	motor	Att	itude	
			Cognition	Skill	Attitude	C1	C2	C3	P1	P2	A1	A2
4	B HEAD AND NECK / THYROID	(Thyroid surgeries)	<ul> <li>a) Outline the steps of various thyroid surgeries like</li> <li>-Total thyroidectomy</li> <li>-Subtotal thyroidectomy</li> <li>-Near total thyroidectomy</li> <li>-Lobectomy</li> <li>b) Describe the difference between various thyroid surgeries</li> </ul>	<ul> <li>a) Observe the steps of Total thyroidectomy/ near total thyroidectomy/ lobectomy</li> <li>b) Assist in cutting, stitching and peroperative and postoperative sample handling.</li> </ul>	Students will be able to: a) Take Consent for Procedures b) Counsel and educate patient about surgery, its indications, complications and outcome.			~		~		

						 1	i	- I	
			Students will be able to:	Students will be able	Students will be able				
			a) State the	to:	to:				
			presenting	a)perform thyroid	a) Take Consent for				
			complaints	examination keeping in mind cause	History,				
				-inspection	Clinical Examination and				
			b) Describe the	-palpation	Procedures				
			presenting	-percussion	b) Counsel and educate				
			complaints in the	-auscultation	patient about disease, its	✓	$\checkmark$		$\checkmark$
			chronological order	c) Perform cervical	diagnosis, treatment and				
			order	- <b>1</b>	outcome.				
	HEAD AND NECK /	APPROACH TO	c) Suggest	lymph nodes examination					
44	THYROID	THYROID HISTORY	differential						
		TAKING +	diagnosis based						
		EXAMINATION	on						
			history/differentiate						
			among diseases						
			which present with						
			thyroid swelling						
			d) Explain the normal						
			and abnormal						
			findings		<u>Ctor 1 - 1 + 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -</u>				
			Students will be able to:	Students will be able to:	Students will be able				
			a)classify thyroid swellings	a) Perform History taking skills and perform thyroid examination					
			b)compare the clinical features	keeping in mind etiology	a) Take Consent for				
			of hypothyroidism and	keeping in hind enology	History,				
			hyperthyroidism	b) Perform Interpretation of	Clinical Examination and Procedures				
			c)Differentiate between simple	related basic and specific					
			and toxic goitre	investigations (TFTs, Ultrasound,	b) Counsel and educate	$\checkmark$	$\checkmark$		$\checkmark$
			d)justify investigations and	Thyroid scan, FNAC, Autoantibody	patient about disease, its				
			develop a management plan in patients with goitre	titres)	diagnosis, treatment and outcome.				
	HEAD AND NECK /	APPROACH TO PATIENT	patients with gotte		outcome.				
45	THYROID	WITH GOITRE		c) Observe &assist in					
				performing thyroid surgeries					

46		Students will be able to: a)differentiate malignant from benign thyroid swellings b)classification of thyroid neoplasms c)Describe TNM staging of thyroid cancer d) Explain the early and longterm management plan	<ul> <li>Students will be able to:</li> <li>a) Perform History taking skills and perform thyroid examination</li> <li>b) Perform Interpretation of related basic and specific investigations (TFTs, Thyroid scan, core biopsy)</li> <li>c) Observe /assist in thyroid surgeries</li> </ul>	<ul> <li>Students will be able to:</li> <li>a) Take Consent for History, Clinical Examination and Procedures <ul> <li>a) Counsel and educate patient about disease, its diagnosis, treatment and outcome.</li> <li>b) Demonstrate breaking bad news about thyroid carcinoma</li> </ul> </li> </ul>	✓	~	V	OPD visits/ SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)
49	(Vascular surgeries)	<ul> <li>Students will be able to:</li> <li>a) Outline the steps of various vascular surgeries like</li> <li>Arterial grafting in occlusive arterial disease</li> <li>Above knee amputation</li> <li>Below knee amputation</li> <li>Trendelenberg procedure</li> <li>b) Describe the difference between variousvascular surgeries</li> <li>c) Explain the indications and early and late complications of vascular surgeries.</li> </ul>	Students will be able to: a) Observe the steps of -Arterial grafting in occlusive arterial disease -Above knee amputation -Below knee amputation -Trendelenberg procedure b) Assist in cutting, stitching and peroperative and postoperative sample handling.	Students will be able to: a) Take Consent for Procedures b) Counsel and educate patient about surgery, its indications, complications and outcome.	~	~	✓	ELECTIVE OT visits / EMERGENCY OT visits / SKILL LAB work

50	APPROACH TO PATIENT WITH PERIPHERAL	associated features of occlusive arterial diseases -acute limb ischemia -chronic limb ischemia b)Explain Investigations and treatment options for occlusive arterial disease d) Review life style modifications and preventive measure and impact of disease on functional status of patient	<ul> <li>a) Perform History taking skills and perform limb/vascular examination keeping in mind clinical features and complications</li> <li>b) Perform Interpretation of related basic and specific investigations (Doppler ultrasound,</li> </ul>	<ul> <li>Students will be able to:</li> <li>a) Take Consent for History, Clinical Examination and Procedures .</li> <li>b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.</li> <li>c) C) Counsel a patient undergoing leg amputation</li> </ul>	✓	✓	V	OPD visits/ SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)
51	APPROACH TO PATIENT WITH DIABETIC FOOT	pathophysiology of disease b) Explain clinical features & Investigations	a) Perform History taking skills and examination keeping in	<ul> <li>Students will be able to:</li> <li>a) Take Consent for History, Clinical Examination and Procedures</li> <li>b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.</li> <li>c) Counsel a patient undergoing leg amputation</li> </ul>	~	✓	√	OPD visits/ SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)

52	APPROACH TO PATIENT WITH VARICOSE VEINS	<ul><li>the physiology of venous</li><li>return</li><li>b) Explain clinical</li><li>features,</li></ul>	<ul> <li>Students will be able to:</li> <li>a) Perform History taking skills and perform venous examination keeping in mind clinical features and complications</li> <li>b) Perform Interpretation of related basic and specific investigations (Doppler ultrasound Duplex scanning)</li> <li>c) Observe / assist in Trendelenberg procedure, Multiple stab incisions</li> </ul>				✓		~		~	OPD visits /SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)
Sr	Торіс		ECIFIC LEARNING OJECTIVE		(	Cognit		, î	motor	At	titude	MOT/MIT
#		Cognition	Skill	Attitude	C1	C2	C3	P1	P2	A1	A2	
		Students will be able to: a) Outline the steps of various perianal/anal surgeries		Students will be able to: a) Take Consent for Procedures								ELECTIVE OT

		Students will be able to: a) State the	Students will be able to: a) perform digital	Students will be able to: a) Consent for History, Clinical Examination and				OPD visits/ SGD /
56	Approach to Perianal examination + DRE	<ul> <li>b) Describe the presenting complaints</li> <li>b) Describe the presenting complaints in the chronological order</li> <li>c) Suggest differential diagnosis based on history/differentiat e among diseases which present with pain / mass / bleeding per rectum</li> <li>d) Categorize the painful swellings in and around anal canal</li> <li>Explain the normal and abnormal findings</li> </ul>	<ul> <li>b) perform eight rectal examination noting: -anal tone -anal fissures -mass, growth, bulges</li> <li>b) perform proctoscopy and compare internal from external hemorrhoids</li> </ul>	Procedures b) Counseling and educating patient about disease, its diagnosis, treatment and outcome.	•		✓	BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)
57	Approach to patient with	<ul> <li>Students will be able to:</li> <li>a) Know the etiology and clinical features of perianal fistula</li> <li>b) Classify anal fistula based on Park's classification</li> <li>c) Understand and compare the surgical procedures used for</li> </ul>	Students will be able to:a)Take history andperform digital rectal examinationrequired to identify lesionsb)Observe / assist inproctoscopy / sigmoidoscopyc)Assist infistulotomy / fistulectomy	Students will be able to: a) Consent for History, Clinical Examination and Procedures b) Counseling and educating patient about disease, its diagnosis, treatment and outcome. Showing empathy and respect keeping in mind	~	✓	✓	OPD visits/ SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)

58	Approach to patient with hemorrhoides/ anal fissures	<ul> <li>Students will be able to:</li> <li>a) Understand theories of development of internal hemorrhoids</li> <li>b) Distinguish between external and internal hemorrhoids</li> <li>c) Describe the clinical features and degree of hemorrhoids</li> <li>d) Outline management plan and complications</li> </ul>	a) Perform history taking skills	Students will be able to: a) Consent for History, Clinical Examination and Procedures b) Counseling and educating patient about disease, its diagnosis, treatment and outcome.			✓		✓		√	OPD visits/ SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)
Sr #	Торіс	SP Cognition	ECIFIC LEARNING OJECTIVE	S (SLO) Attitude	C1	Cognit	t <mark>ion</mark> C3	Pysc P1	pmotor P2	At A1	t <b>itude</b> A2	MOT/MIT
61	ОТ	Student will be able to: a) Explain method of scrubbing in OT b) Describe aseptic techniques followed in OT c) Outline the steps of handwashing and gloving d) Review case specific precautionary measures followed in OT	<ul> <li>Student will be able to:</li> <li>a)Observe the methods of scrubbing followed in OT</li> <li>b) Perform steps of scrubbing in OT under supervision</li> <li>c) perform the steps of gowning and gloving</li> </ul>	Student will be able to: Follow the accurate methods of scrubbing, gowning and gloving keeping in view the principles of surgical ethics and patient's safety.			✓					ELECTIVE / EMERGENCY OT visits / SKILL LAB WORK

62       APPROACH TO C)       Outline the chronological order the chronological order order order order order or c)       summarizing the detailed history for presentation e)       b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.       b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.       b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.       count of the count	
62APPROACHTo b)Describe the presenting complaints in the chronological ordertaking skills concerning the focused diseasea) Take Consent for History, Clinical Examination and ProceduresClinical Examination and Procedures62APPROACHTo c)Outline the the chronological orderb)Practice summarizing the detailed history for presentation e)b)Councel and educate patient about disease, its diagnosis, treatment and outcome.c)OPD v. (Grand Wach Procedures62APPROACHTO c)Outline the history torpresentation e)Enlist differential diagnosis based on history history in emergency settingsb)Councel and educate patient about disease, its diagnosis, treatment and outcome.vvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvv	
b) Describe the presenting complaints in the chronological order HISTORY TAKING + EXAMINATION 62 APPROACH TO c) Outline the HISTORY TAKING + EXAMINATION 64 APPROACH TO C) Outline the HISTORY TAKING + EXAMINATION 65 Coursel and educate patient diagnosis based on history e) Outline the steps of general physical examination on the patients normal findings of the	
62       APPROACH TO HISTORY TAKING + EXAMINATION       of the chronological order c)       0       Practice summarizing the detailed history for presentation e)       Procedures       b)       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       istory for presentation e)       Enlist differential diagnosis based on history for presentation e)       b)       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       istory for presentation e)	
62APPROACH HISTORY TAKING + EXAMINATIONTo c.)Outline the c.)summarizing the detailed history for presentation e.)b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.vvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvv <t< td=""><td>s / SGD</td></t<>	s / SGD
62       APPROACH TO HISTORY TAKING + EXAMINATION       the chronological order c)       summarizing the detailed history for presentation components of history taking       b)       Counsel and educate patient diagnosis, treatment and outcome.       b)       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       b)       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       b)       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       b)       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       b)       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       b)       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       b)       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       b)       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       b)       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       b)       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       b)       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       b)       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       b)       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       b)       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       Counsel and educate patient about disease, its diagnosis, treatment and outcome.       Counsel and educat	SIDE
62       HISTORY TAKING + EXAMINATION       components of history taking       e)       Enlist differential diagnosis based on history thistory in emergency e)       about disease, its diagnosis, treatment and outcome.       about disease, its diagnosis, treatment and outcome.         62       HISTORY TAKING + EXAMINATION       components of history d)       f)       Observe taking brief history in emergency settings       about disease, its diagnosis, treatment and outcome.         62       Outline the steps of general physical examination f)       g)       Perform detailed general physical examination on the patients       about disease, its diagnosis, treatment and outcome.	S
62       Instort TARING components of history taking       e)       Enlist differential diagnosis based on history       treatment and outcome.         + EXAMINATION       0       Suggest differential diagnosis based on history       f)       Observe taking brief       treatment and outcome.         0       Suggest differential diagnosis based on history       f)       Observe taking brief       history in emergency         e)       Outline the steps       of general physical       g)       Perform detailed         general physical       g)       Perform detailed       general physical         f)       Describe the       examination on the patients       examination on the patients	.
+ EXAMINATION       taking       diagnosis based on history         d) Suggest differential       f)       Observe taking brief         diagnosis based on history       e)       Outline the steps         of general physical       g)       Perform detailed         examination       general physical         f)       Describe the         normal findings of the	
d) Suggest differential       f) Observe taking brief         diagnosis based on history       history in emergency         e) Outline the steps       settings         of general physical       g) Perform detailed         examination       general physical         f) Describe the       examination on the patients	
e)Outline the stepssettingsof general physicalg)Perform detailedexaminationgeneral physicalf)Describe thenormal findings of theexamination on the patients	5)
of general physical     g)     Perform detailed       examination     general physical       f)     Describe the       normal findings of the	
examination     general physical       f)     Describe the examination on the patients       normal findings of the     Image: Construction on the patients	
examinationgeneral physicalf)Describe the examination on the patientsnormal findings of the	
normal findings of the	
patient h) practice taking	
g) Explain any vitals, calculating BMI of	
abnormal findings in the bariatric patients	
patient	
h) Suggest i) Observe any	
differential diagnosis and abnormal findings on	
investigations based on patients	
general physical	
examination	

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63	APPROACH TO ABDOMINAL EXAMINATION	Students will be able to: a) State the presenting complaints b) Describe the presenting complaints in the chronological order c) Suggest differential diagnosis based on history d) Explain the normal and abnormal findings	relevant clinical examination according to cause -inspection -palpation -percussion -auscultation	Students will be able to: a) Take Consent for History, Clinical Examination. b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.	~	<b>~</b>		✓	OPD visits/ SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)
0.		<ul> <li>Students will be able</li> <li>to: <ul> <li>a) State the presenting complaints</li> </ul> </li> <li>b) Describe the presenting complaints in the chronological order</li> <li>c) Suggest differential diagnosis based on history/differentiat e among diseases which present with breast / thyroid lump</li> </ul>		Students will be able to: a) Take Consent for History, Clinical Examination and Procedures b) Counsel and educate patient about disease, its diagnosis, treatment and outcome.	~	✓		✓	OPD visits / SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)

Sr	Торіс		ECIFIC LEARNING OJECTIVE			Cogni			omotor		titude	MOT/MIT
#		Cognition	Skill	Attitude	C1	C2	C3	P1	P2	A1	A2	
67	OT	Students will be able to: a) Describe different surgical and laproscopic instruments with their identification point -needle holder -plain forceps -surgical blade holder -toothed forceps -scissors -curette b) Explain the uses of different instruments in debridement and various surgical procedures c) Classify the types of sutures into absorbable and nonabsorbable, organic and inorganic, monofilament and polyfilament	Students will be able to: a) Perform basic surgical techniques of cutting, stitching and wound management b) Practice different types of stitching to approximate wounds: -simple interrupted -continous -subcutaneous -reef knot -surgeons knot c) Observe/assist the use of surgical instruments in laproscopic and open procedure	Students will be able to: a) Take Consent for surgical procedures like cutting, stitching. b) Counsel and educate patient about wound care.			$\checkmark$		$\checkmark$		$\checkmark$	ELECTIVE AND EMERGENCY OT visits / SKILL LAB

					<del></del>	 	 i	 	,
68	IDENTIFYING FINDINGS ON XRAYS	on chest and abdominal x-rays -pleural effusion	e) Observe the normal anatomy on xrays f) Perform interpretations of CXR, Xray erect abdomen in emergency settings and wards	a) Take Consent for investigations b) Counsel and educate patient about disease, its diagnosis, treatment and		~	~	✓	OPD VISITS/SGD / BED SIDE SESSIONS (Grand Ward Rounds, Teaching Ward Rounds)
(0)	APPROACH TO SURGICAL AND LAPROSCOPIC OT INSTRUMENTS	a) Describe different surgical and laproscopic instruments with their identification point	<ul> <li>a) Perform basic surgical techniques of cutting, stitching and wound management</li> <li>b) Observe/assist the use of surgical instruments in laproscopic and open procedure</li> </ul>	Students will be able to: a) Take Consent for surgical procedures like cutting, stitching. b) Counsel and educate patient about wound care.		✓	~	~	OT visits / SKILL LAB

## **Junior Clerkship Program Framework**

Total weeks of clerkship= 36 weeks

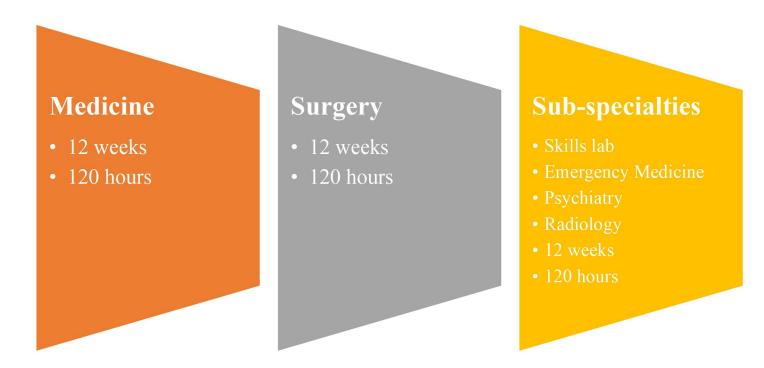
Days of clerkship per week= 4 (Monday to Thursday)

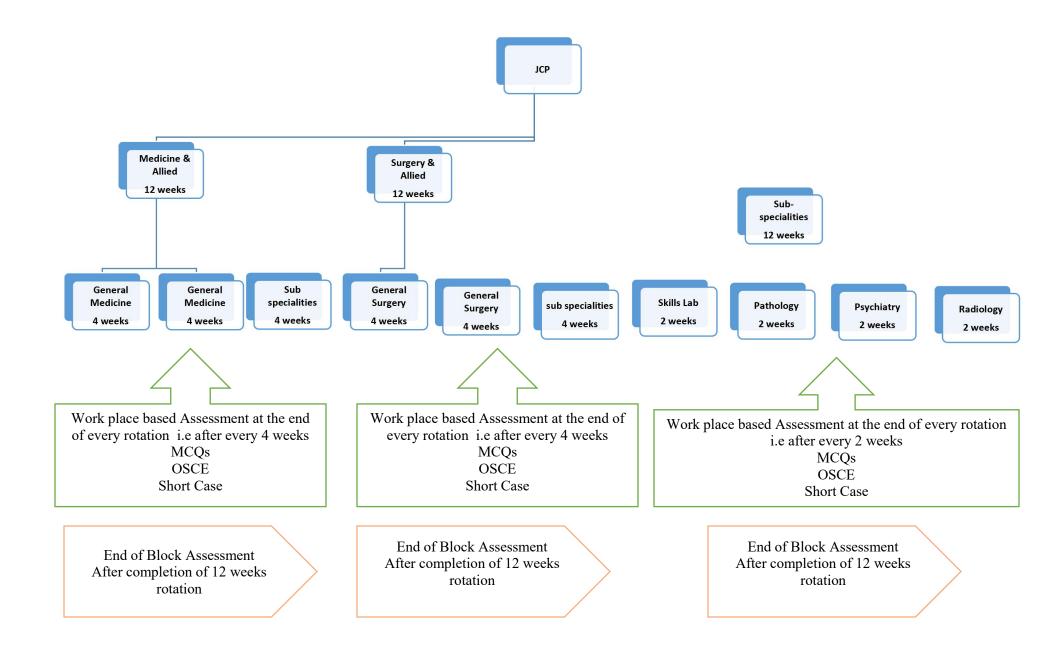
Time duration of clerkship per day= 2.5 hours

Total weeks in Medicine= 12

Total weeks in surgery= 12

Total weeks in sub- specialty= 12





### Annexure 2 a

#### <u>Time Table 3rd year MBBS (Session 2021-2022)</u>

Clinical Teaching and Training Posting ----- From 12-02-2024 to 13-10-2024

				MEDICINE				SURGE	RY + TRAUN	AA	
	Dates	HFH Unit-1	HFH Unit-11	BBH Unit-1	BBH Unit-11	DHQ	HFH Unit-1	HFH Unit-11	BBH Unit-1	BBH Unit-11	DHQ
<u>S.P.V</u>	12-02-2024 To 28-04-2024	A1	A2	A3	A4	A5	В5	B4	В3	B2	B1
<u>S.P.W</u> <u>S.V</u>	29-05-2024 To 04-08-2022	C1	C2	C3	C4	C5	A5	A4	A3	A2	A1
	-08-2024 To -10-2024	B1	B2	В3	B4	В5	C5	C4	C3	C2	C1

#### **MISCELLANEOUS**

	12-2-24 To 25-2-24	26-2-24 To 10-3-24	11-3-24 To 24-3-24	25-3-24 To 07-04-24	SPV 08-04-24 To 28-04-24	SPW 29-04-24 To 19-05-24	20-05-24 To 02-06-24	03-06-24 To 16-6-24	17-6-24 То 30-6-24	<u>S.V</u> 01-7-24 To 04-08-24	05-08-24 To 18-08-24	19-08-24 To 01-09-24	02-09-24 To 15-09-24	16-09-24 To 29-09-24	30-09-24 To 13-10-24
Pathology	C1	C2	C3	C4	C5	B1	B2	В3	B4	В5	A1	A2	A3	A4	A5
Psychiatry	C5	C1	C2	C3	C4	В5	B1	B2	B3	B4	A5	A1	A2	A3	A4
Radiology	C4	C5	C1	C2	C3	B4	В5	B1	B2	B3	A4	A5	A1	A2	A3
Skill Lab	C3	C4	C5	C1	C2	В3	B4	В5	B1	B2	A3	A4	A5	A1	A2
E.R	C2	C3	C4	C5	C1	B2	В3	B4	В5	B1	A2	A3	A4	A5	A1

# Annexure 2 B

										-	<mark>r MBB</mark> ing Post										
	Approval /				MEDICINE					GERY + TR	_		]				SUI	3 SPECIALITII	ES		
Bato	hes & Units	Dates	HFH Unit-1	HFH Unit- 1I	BBH Unit-1	BBH Unit- 1I	DHQ	HFH Unit-1	HFH Unit- 1I	BBH Unit-1	BBH Unit- 1I	DHQ	~		~						
MODULES	WEEKS	W.V	A1	A2	A3	A4	A5	B5	B4	B3	В2	B1	PATHOLOGY	TOPICS	PSYCHIATRY	TOPIC	RADIOLOGY	TOPIC	SKILL LAB	TOPIC	EMEGENC
		MONDAY	General introduction to the field of medicine. Medical ethics	General introduction to the field of medicine. Medical ethics	General introduction to the field of medicine. Medical ethics	General introduction to the field of medicine. Medical ethics	General introduction to the field of medicine. Medical ethics	introduction & bed side manners		Introductory round of laboratory & benches. Working of Autoclave. & Guidelines of Microbiological specimen collection & transport		History Taking Allotment of Cases and Groups		Chest x ray anatomy		Use of Injections I/M, I/V, Intradermal, subcutaneous, I/V Cannulation, Arterial Tap	Introduction to ER services regarding tringe system. • History taking • Monitoring of vitals				
	WEEK 1	TUSEDAY	Art of History, Taking, Importance of history, Contents of history, Presenting Complaint History of Present illness	Art of History, Taking, Importance of history, Contents of history, Presenting Complaint History of Present illness	Art of History, Taking, Importance of history, Contents of history, Presenting Complaint History of Present illness	Art of History, Taking, Importance of history, Contents of history, Presenting Complaint History of Present illness	Art of History, Taking, Importance of history, Contents of history, Presenting Complaint History of Present illness	art of history taking		Culture media (Inoculated & Uninoculated). Antibiotic sensitivity testing. Orientation to Serology & PCR.		Demonstration of History taking and MSE		Chest x ray pathology		Nasogastric Intubation	Introduction to medicolegal cases and maintenance of record. Observation of IV cannulas IM injections				
MODULE		WEDNESDAY	Systemic Inquiry, Past Medical History	Systemic Inquiry, Past Medical History	Systemic Inquiry, Past Medical History	Systemic Inquiry, Past Medical History	Systemic Inquiry, Past Medical History	systemic history	systemic history	systemic history	systemic history	systemic history		Performance & interpretation of Gram & ZN staining. Catalase, Coagulase & Oxidase Tests.		Interview with the patient Theoretical aspect of depression		Bones & joints with fractures		Male & Female catheterization(urine)	• Setting of IV drips Nebulization
FOUNDATION 1 & 2		THURSDAY	Family History, Occupational History, Personal History , Developmental- Obstetrics History.	Family History, Occupational History, Personal History , Developmental+ Obstetrics History.	Family History, Occupational History, Personal History , Developmental+ Obstetrics History.	Family History, Occupational History, Personal History , Developmental+ Obstetrics History.	Family History, Occupational History, Personal History , Developmental+ Obstetrics History.	GPE	GPE	GPE	GPE	GPE		Urine & Stool Examination, Examination of CSF & Body Fluids		Interview with the patient Theoretical aspect of Dissociation		Plain x ray abdomen & KUB		Endotracheal intubation & tracheostomy	Insertion of folloys catheter
FOU		MONDAY	General physical examination. Pulse, BP, Temp. Resp Rate	General physical examination. Pulse, BP, Temp. Resp Rate	General physical examination. Pulse, BP, Temp. Resp Rate	General physical examination. Pulse, BP, Temp. Resp Rate	General physical examination. Pulse, BP, Temp. Resp Rate	systemic examination	systemic examination	systemic examination	systemic examination	systemic examination	C1	Reception, Sampling Techniques & Phlebotomy, Routine Hematology, Preparation of Blood Smear and Retics, Quality Control	C5	Interview with the patient Theoretical aspect of schezopherenia	C4	Fluoroscopic procedures & Ba studies.	G	Breast Examination	Nasogastric tube • counsel a patient with febrile illness

|                | WEEK 2 | TUSEDAY<br>WEDNESDAY | GIT System<br>Systemic Inquiry<br>Jounding,<br>Jaundice, pain<br>and chronic<br>diarrhea<br>GPE, Jaundice,<br>Clubbing,<br>Koilonychin,<br>Pallor,<br>Leuconychin,<br>Oedema<br>Examination of<br>Inspection of<br>abdomen,<br>Superficial<br>Palpation of<br>Abdomen | GIT System<br>(System): Inquir<br>Vomiting,<br>aundice, pain<br>hdomen, acute<br>diarrhea<br>GPE, Jaundice,<br>Clubbing,<br>Koilonychin,<br>Pallor,<br>Leuconychin,<br>Oedema<br>Examination of<br>Inspection of<br>abdomen,<br>Superficial<br>Palpation of<br>Abdomen | GIT System<br>Systemic<br>Inquiry<br>omiting,<br>hundice, pain<br>abdomen, acute<br>and chronic<br>diarrhea<br>GPE, Jaundice,<br>Clubbing,<br>Koilonychia,<br>Pallor,<br>Leuconychia,<br>Dedema<br>Inspection of<br>abdomen,<br>Superficial<br>Palpation of<br>Abdomen | GIT System<br>Systemic Inquiry<br>jaundice, pain<br>abdomen, acute<br>and chronic<br>diarrhea<br>GPE, Jaundice,<br>Clubbing,<br>Koilonychin,<br>Pallor,<br>Leuconychin,<br>Oedema<br>Examination of<br>Inspection of<br>abdomen,<br>Superficial<br>Palpation of<br>Abdomen | GIT System<br>Systemic Inquiry<br>Yomiting,<br>aundice, pain<br>bdomen, acute<br>and chronic<br>diarrhea<br>GPE, Jaundice,<br>Clubbing,<br>Koilonychia,<br>Pallor,<br>Leuconychia,<br>Oedema<br>Examination of<br>Inspection of<br>abdomen,<br>Superficial<br>Palpation of<br>Abdomen | local<br>examination<br>basic physical<br>signs in detail | locat<br>examination<br>basic physical<br>signs in detail |    | Cogulation<br>Studies, Bone<br>Marrow, Hb<br>Studies, Coomb's<br>Test.<br>Grouping, Cross<br>Matching                                                        | Presentation of<br>cases histories<br>of Substance<br>use<br>Interview with<br>the patient<br>Theoretical<br>aspect of<br>Substance use<br>Presentation of<br>cases histories<br>of<br>Delirium/deme<br>ntia/ organicity<br>by medical<br>students &<br>Theoretical<br>aspects |    | CT scan brain:<br>basics<br>Basics of<br>ultrasound and<br>observation |    | Prostate<br>Examination                                                                          | • counsel a<br>patient with<br>stroke<br>• counsel a<br>patient with<br>upper Gi bleed                                  |
|----------------|--------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------------------------------------------------------|----|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
|                |        | THURSDAY             | Palpation of<br>Liver, Spleen,<br>Kidneys, Pelvic<br>Masses                                                                                                                                                                                                           | Palpation of<br>Liver, Spleen,<br>Kidneys, Pelvic<br>Masses                                                                                                                                                                                                            | Palpation of<br>Liver, Spleen,<br>Kidneys, Pelvic<br>Masses                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                            | Palpation of<br>Liver, Spleen,<br>Kidneys, Pelvic<br>Masses                                                                                                                                                                                                                           | history &<br>examination of<br>lump                       |    | Ward test                                                                                                                                                    | Evaluation<br>(OCSE + case<br>histories +<br>attendance &<br>Signatures on<br>logbook) &<br>Feedback                                                                                                                                                                           |    | Ward<br>assessment(film<br>based)                                      |    | Test                                                                                             | • counsel a<br>patient with<br>obstructive lung<br>disease                                                              |
|                |        | MONDAY               | Percussion of<br>Abdominal<br>Viscera, Fluid<br>Thrill, Shifting<br>Dullness,<br>Auscultation of<br>abdomen                                                                                                                                                           | Percussion of<br>Abdominal<br>Viscera, Fluid<br>Thrill, Shifting<br>Dullness,<br>Auscultation of<br>abdomen                                                                                                                                                            | Percussion of<br>Abdominal<br>Viscera, Fluid<br>Thrill, Shifting<br>Dullness,<br>Auscultation of<br>abdomen                                                                                                                                                            | Percussion of<br>Abdominal<br>Viscera, Fluid<br>Thrill, Shifting<br>Dullness,<br>Auscultation of<br>abdomen                                                                                                                                                                | Percussion of<br>Abdominal<br>Viscera, Fluid<br>Thrill, Shifting<br>Dullness,<br>Auscultation of<br>abdomen                                                                                                                                                                           | history &<br>examination of<br>lump                       |    | Introductory<br>round of<br>laboratory &<br>benches. Working<br>of Autoclave. &<br>Guidelines of<br>Microbiological<br>specimen<br>collection &<br>transport | History Taking<br>Allotment of<br>Cases and<br>Groups                                                                                                                                                                                                                          |    | Chest x ray<br>anatomy                                                 |    | Use of Injections<br>I/M, I/V, Intradermal,<br>subcutaneous, I/V<br>Cannulation, Arterial<br>Tap | • Introduction to ER<br>services regarding<br>triage system.<br>• History taking<br>• Monitoring of vitals              |
| 2 MODULE       | WEEK 3 | TUSEDAY              | GIT System Test<br>ODD Roll<br>Numbers                                                                                                                                                                                                                                | t GIT System Test<br>ODD Roll<br>Numbers                                                                                                                                                                                                                               | GIT System<br>Test ODD Roll<br>Numbers                                                                                                                                                                                                                                 | GIT System<br>Test ODD Roll<br>Numbers                                                                                                                                                                                                                                     | GIT System<br>Test ODD Roll<br>Numbers                                                                                                                                                                                                                                                | history &<br>examination of<br>ulcer                      |    | Culture media<br>(Inoculated &<br>Uninoculated),<br>Antibiotic<br>sensitivity testing,<br>Orientation to<br>Serology & PCR.                                  | Demonstration<br>of History<br>taking and MSE                                                                                                                                                                                                                                  |    | Chest x ray<br>pathology                                               |    | Nasogastric<br>Intubation                                                                        | Introduction to<br>medicologal cases and<br>maintenance of<br>record.<br>Observation of IV<br>eannulas<br>IM injections |
| FOUNDATION 1 & | WEEK S | WEDNESDAY            | GIT SystemS<br>Test Even Roll<br>Numbers                                                                                                                                                                                                                              | GIT SystemS<br>Test Even Roll<br>Numbers                                                                                                                                                                                                                               | GIT SystemS<br>Test Even Roll<br>Numbers                                                                                                                                                                                                                               | GIT SystemS<br>Test Even Roll<br>Numbers                                                                                                                                                                                                                                   | GIT SystemS<br>Test Even Roll<br>Numbers                                                                                                                                                                                                                                              | history &<br>examination of<br>Sinus/fistula              |    | Performance &<br>interpretation of<br>Gram & ZN<br>staining. Catalase,<br>Coagulase &<br>Oxidase Tests.                                                      | Interview with<br>the patient<br>Theoretical<br>aspect of<br>depression                                                                                                                                                                                                        |    | Bones & joints<br>with fractures                                       |    | Male & Female<br>catheterization(urine)                                                          | • Setting of IV drips<br>Nebulization                                                                                   |
| FOU            |        | THURSDAY             | Respiratory<br>System<br>Examination<br>Systemic<br>Inquiry.<br>Cough, Sputum<br>Dyspnea +<br>Cyanosis                                                                                                                                                                | Respiratory<br>System<br>Examination<br>Systemic<br>Inquiry.<br>Cough, Sputum,<br>Dyspnea +<br>Cyanosis                                                                                                                                                                | Respiratory<br>System<br>Examination<br>Systemic<br>Inquiry.<br>Cough, Sputum,<br>Dyspnea +<br>Cyanosis                                                                                                                                                                | Respiratory<br>System<br>Examination<br>Systemic<br>Inquiry.<br>Cough, Sputum,<br>Dyspnea +<br>Cyanosis                                                                                                                                                                    | Respiratory<br>System<br>Examination<br>Systemic<br>Inquiry.<br>Cough, Sputum,<br>Dyspnea +<br>Cyanosis                                                                                                                                                                               | history &<br>examination of<br>skin                       |    | Urine & Stool<br>Examination,<br>Examination of<br>CSF & Body<br>Fluids                                                                                      | Interview with<br>the patient<br>Theoretical<br>aspect of<br>Dissociation                                                                                                                                                                                                      |    | Plain x ray<br>abdomen &<br>KUB                                        |    | Endotracheal<br>intubation &<br>tracheostomy                                                     | Insertion of folleys<br>catheter<br>Nasogastric tube                                                                    |
|                |        | MONDAY               | Hemoptysis,<br>wheezing,<br>pleuritic chest<br>pain.                                                                                                                                                                                                                  | Hemoptysis,<br>wheezing,<br>pleuritic chest<br>pain.                                                                                                                                                                                                                   | Hemoptysis,<br>wheezing,<br>pleuritic chest<br>pain.                                                                                                                                                                                                                   | Hemoptysis,<br>wheezing,<br>pleuritic chest<br>pain.                                                                                                                                                                                                                       | Hemoptysis,<br>wheezing,<br>pleuritic chest<br>pain.                                                                                                                                                                                                                                  | history &<br>examination of<br>Neck Swelling              | C2 | Reception,<br>Sampling<br>Techniques &<br>Phlebotomy,<br>Routine<br>Hematology,<br>Preparation of<br>Blood Smear and<br>Retics, Quality<br>Control           | C1 Interview with<br>the patient<br>Theoretical<br>aspect of<br>schezopherenia                                                                                                                                                                                                 | C5 | Fluoroscopic<br>procedures &<br>Ba studies.                            | C4 | Breast Examination                                                                               | • counsel a<br>patient with<br>febrile illness                                                                          |

WEEK 4	TUSEDAY	GPE; Cyanosis, Clubbing, Pulsus paradoxus, Intercostal in drawing, Tracheal tug Palpation of trachea	GPE; Cyanosis, Clubbing, Pulsus paradoxus, Intercostal in drawing, Tracheal tug Palpation of trachea	GPE; Cyanosis, Clubbing, Pulsus paradoxus, Intercostal in drawing, Tracheal tug Palpation of trachea	GPE; Cyanosis, Clubbing, Pulsus paradoxus, Intercostal in drawing, Tracheal tug Palpation of trachea	GPE; Cyanosis, Clubbing, Pulsus paradoxus, Intercostal in drawing, Tracheal tug Palpation of trachea	history & examination of Neck Swelling	history & examination of Neck Swelling	history & examination of Neck Swelling	history & examination of Neck Swelling	history & examination of Neck Swelling	Coagulation Studies, Bone Marrow, Hb Studies, Coomb's Test.	Presentation of cases histories of Substance use Interview with the patient Theoretical aspect of Substance use		CT scan brain: basics		Prostate Examination		ounsel a tient with oke
	WEDNESDAY	Inspection of chest from front Chest movements, Percussion of front of chest and Auscultation	Inspection of chest from front Chest movements, Percussion of front of chest and Auscultation	Inspection of chest from front Chest movements, Percussion of front of chest and Auscultation	Inspection of chest from front Chest movements, Percussion of front of chest and Auscultation	Inspection of chest from front Chest movements, Percussion of front of chest and Auscultation	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid	Grouping, Cross Matching	Presentation of cases histories of Delirium/deme ntia/ organicity by medical students & Theoretical aspects		Basics of ultrasound and observation		revision	pati	ounsel a tient with per GI bleed
	THURSDAY	Inspection of back of chest. Chest movements Percussion of back of chest and Auscultation	Inspection of back of chest. Chest movements Percussion of back of chest and Auscultation	Inspection of back of chest. Chest movements Percussion of back of chest and Auscultation	Inspection of back of chest. Chest movements Percussion of back of chest and Auscultation	Inspection of back of chest. Chest movements Percussion of back of chest and Auscultation	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid	Ward test	Evaluation (OCSE + case histories + attendance & Signatures on logbook) & Feedback		Ward assessment(film based)		Test	pati	ounsel a tient with structive lung ease
	MONDAY	Resp., System (Even Roll Numbers)	Resp., System (Even Roll Numbers)	Resp., System (Even Roll Numbers)	Resp., System (Even Roll Numbers)	Resp., System (Even Roll Numbers)	history & examination of , Mouth & tongue Salivary Gland	history & examination of Mouth & tongue, Salivary Gland	history & examination of Mouth & tongue Salivary Gland	history & examination of Mouth & tonguc Salivary Gland t		Introductory round of laboratory & benches. Working of Autoclave. & Guidelines of Microbiological specimen collection & transport	History Taking Allotment of Cases and Groups		Chest x ray anatomy		Use of Injections L/M, U/V, Intradermal, subcutaneous, L/V Cannulation, Arterial Tap	servic triage • Hist	roduction to ER lices regarding ge system. story taking nitoring of vitals
	TUSEDAY	Resp. System (Odd Roll Numbers)	Resp. System (Odd Roll Numbers)	Resp. System (Odd Roll Numbers)	Resp. System (Odd Roll Numbers)	Resp. System (Odd Roll Numbers)	history & examination of Breast & Axillary lymph nodes	history & examination of Breast & Axillary lymph nodes	history & examination of Breast & Axillary lymph nodes	history & examination of Breast & Axillary lymph nodes	history & examination of Breast & Axillary lymph nodes	Culture media (Inoculated & Uninoculated). Antibiotic sensitivity testing. Orientation to Serology & PCR.	Demonstration of History taking and MSE		Chest x ray pathology		Nasogastric Intubation	medic main recore Obser canne	roduction to licolegal cases and ntenance of rd. ervation of IV unlas injections
WEEK 5	WEDNESDAY	CVS Examination Systemic Inquiry Precordial Chest Pain, Palpitation, Patient with murmur.	CVS Examination Systemic Inquiry Precordial Chest Pain, Palpitation, Patient with murmur.	CVS Examination Systemic Inquiry Precordial Chest Pain, Palpitation, Patient with murmur.	CVS Examination Systemic Inquiry Precordial Chest Pain, Palpitation, Patient with murmur.	CVS Examination Systemic Inquiry Precordial Chest Pain, Palpitation, Patient with murmur.	history & examination of Breast & Axillary lymph nodes	history & examination of Breast & Axillary lymph nodes	history & examination of Breast & Axillary lymph nodes	history & examination of Breast & Axillary lymph nodes	history & examination of Breast & Axillary lymph nodes	Performance & interpretation of Gram & ZN staining. Catalase, Cosgulase & Oxidase Tests.	Interview with the patient Theoretical aspect of depression		Bones & joints with fractures		Male & Female catheterization(urine)	• Setti Nebul	tting of IV drips ulization
	THURSDAY	CVS Examination GPE, JVP, Oedema, Clubbing Osler's Nodes, Janeway's Lesions, Splinter harmorrhages.	CVS Examination GPE, JVP, Oedema, Clubbing Osler's Nodes, Janeway's Lesions, Splinter harmorrhages.	CVS Examination GPE, JVP, Oedema, Clubbing Osler's Nodes, Janeway's Lesions, Splinter harmorrhages.	CVS Examination GPE, JVP, Oedema, Clubbing Osler's Nodes, Janeway's Lesions, Splinter harmorrhages.	CVS Examination GPE, JVP, Oedema, Clubbing Osler's Nodes, Janeway's Lesions, Splinter harmorrhages.	history & examination of Acute Abdomen	history & examination of Acute Abdomen	history & examination of Acute Abdomen	history & examination of Acute Abdomen	history & examination of Acute Abdomen	Urine & Stool Examination, Examination of CSF & Body Fluids	Interview with the patient Theoretical aspect of Dissociation		Plain x ray abdomen & KUB		Endotracheal intubation & tracheostomy	cathet	
	MONDAY	Inspection of precordium location + palpation of apex beat. Right parasternal heave, palpation of base of heart, epigastric pulsations	Inspection of precordium location + palpation of apex beat. Right parasternal heave, palpation of base of heart, epigastric pulsations		Inspection of precordium location + palpation of apex beat. Right parasternal teave, palpation of base of heart, epigastric pulsations	Inspection of precordium location + palpation of apex beat. Right parasternal teave, palpation of base of heart, epigastric pulsations	history & examination of Chronic Abdomen	history & examination of Chronic Abdomen	history & examination of Chronic Abdomen	history & examination of Chronic Abdomen	history & examination of Chronic Abdomen	Reception, Sampling Techniques & Philebotomy, Routine Hematology, Preparation of Blood Smear and Retics, Quality Control	C2 Interview with the patient Theoretical aspect of schezopherenia	C1	Fluoroscopic procedures & Ba studies.	C5	Breast Examination	• co pati	egastric tube ounsel a cient with rrile illness

FOUNDATION 1 & 2 MODULE

		TUSEDAY	Examination of Pulse	Examination of Pulse	Examination of Pulse	Examination of Pulse	Examination of Pulse	history & examination of Abdomenal Mass		Coagulation Studies, Bone Marrow, Hb Studies, Coomb's Test.	cases h of Subs use	ance w with	CT scan brain basics	1:	Prostate Examination	• counsel a patient with stroke				
	WEEK 6	WEDNESDAY	JVP	JVP	JVP	JVP	JVP	history & examination of bleeding per rectum		Grouping, Cross Matching	Theore aspect Substa Presen cases h of Delirium ntia/ o by meo studen Theore	of ce use ation of stories n/deme ganicity cal s & ical	Basics of ultrasound an observation	d	revision	• counsel a patient with upper GI bleed				
ш		THURSDAY	I.Auscultation of heart I. Normal heart sound 2. Effect of respiration on heart sound 3. Murmurs and Thrills	I.Auscultation of heart I. Normal heart sound 2. Effect of respiration on heart sound 3. Murmurs and Thrills	of heart 1. Normal heart sound 2. Effect of respiration on heart sound	heart	1.Auscultation of heart 1. Normal heart sound 2. Effect of respiration on heart sound 3. Murmurs and Thrills	history & examination of hernia		Ward test	aspect: Evaluat (OCSE historie attend Signatu logboo Feedb	on - case 5 + nce & res on .) &	Ward assessment(fil based)	m	Test	• counsel a patient with obstructive lung disease				
ON 1 & 2 MODULE		MONDAY	CVS Test Even Roll Number	CVS Test Even Roll Number	CVS Test Even Roll Number	CVS Test Even Roll Number	CVS Test Even Roll Number	history & examination of hernia		Introductory round of laboratory & benches. Working of Autoclave. & Guidelines of Microbiological specimen collection & transport	History Allotm Cases a Groups	ntof	Chest x ray anatomy		Use of Injections I/M, I/V, Intradermal, subcutaneous, I/V Cannulation, Arterial Tap	<ul> <li>Introduction to ER services regarding triage system.</li> <li>History taking</li> <li>Monitoring of vitals</li> </ul>				
FOUNDATION	WEEK 7	TUSEDAY	CVS Test Odd Roll Number	CVS Test Odd Roll Number	CVS Test Odd Roll Number	CVS Test Odd Roll Number	CVS Test Odd Roll Number	history & examination of inguino-scrotal swelling		Culture media (Inoculated & Uninoculated). Antibiotic sensitivity testing. Orientation to Serology & PCR.	Demor of Hist taking		Chest x ray pathology		Nasogastric Intubation	Introduction to medicolegal cases and maintenance of record. Observation of IV cannulas IM injections				
	WEEK 7	WEDNESDAY	NERVOUS SYSTEM : Conscious level HMF, orientation, speech, memory, intellect, sleep	NERVOUS SYSTEM , : Conscious level, HMF, orientation, speech, memory, intellect, sleep	NERVOUS SYSTEM : Conscious level, HMF, orientation, speech, memory, intellect, sleep	NERVOUS SYSTEM : Conscious level, HMF, orientation, speech, memory, intellect, sleep	NERVOUS SYSTEM : Conscious level, HMF, orientation, speech, memory, intellect, sleep	urinogenital system	urinogenital system	urinogenital system	urinogenital system	urinogenital system		Performance & interpretation of Gram & ZN staining, Catalase, Coagulase & Oxidase Tests.	Interv the par Theore aspect depres	ical of	Bones & joint with fractures		Male & Female catheterization(urine)	• Setting of IV drips Nebulization
		THURSDAY	Headaches ,Numbness, Paresthesias, weakness patterns	Headaches ,Numbness, Paresthesias, weakness patterns	Headaches ,Numbness, Paresthesias, weakness patterns	Headaches ,Numbness, Paresthesias, weakness patterns	Headaches ,Numbness, Paresthesias, weakness patterns	Peripheral vascular system	C4	Urine & Stool Examination, Examination of CSF & Body Fluids	Intervi the par Theore aspect Dissoci	ent ical of tion	Plain x ray abdomen & KUB	C1	Endotracheal intubation & tracheostomy	Insertion of folleys catheter Nasogastric tube				
ARY		MONDAY TUSEDAY	Cranial nerves. Cranial nerves. to 12	Cranial nerves. 7 Cranial nerves. 7 to 12	Cranial nerves. Cranial nerves. 7 to 12	Cranial nerves. Cranial nerves. 7 to 12	Cranial nerves. Cranial nerves. 7 to 12	Venous lymphatic system	Venous lymphatic system	Venous lymphatic system	Venous lymphatic system	Venous lymphatic system		Reception, Coagulation Studies, Bone Marrow, Hb Studies, Coomb's Test.	the part Presen cases h of Subs use Interv	ent ation of stories ance ew with	Fluoroscopic CT scan brair basics		Breast Examination Prostate Examination	• counsel a • counsel a patient with stroke
PATOBILIARY															the pat Theore aspect Substa	ical of				

GIT & HE	WEEK 8	WEDNESDAY	motor system (bulk, tone,	Examination of motor system (bulk, tone, power/ Reflexes.	Examination of motor system (bulk, tone, bower/ Reflexes.	motor system (bulk, tone,	Examination of notor system (bulk, tone, ower/ Reflexes.	peripheral nerves	peripheral nerves	peripheral nerves	peripheral nerves	peripheral nerves		Grouping, Cross Matching	Presentation of cases histories of Delirium/deme ntia/ organicity by medical students & Theoretical aspects		Basics of ultrasound and observation		revision	• counsel a patient with upper GI bleed	1
		THURSDAY	Examination of sensory system	Examination of sensory system	Examination of sensory system	Examination of sensory system	Examination of sensory system	patient with head injuries		Ward test	Evaluation (OCSE + case histories + attendance & Signatures on logbook) & Feedback		Ward assessment(film based)		Test	<ul> <li>counsel a patient with obstructive lun disease</li> </ul>	ng				
		MONDAY	Examination of Cerebellar System/ Gait	Examination of Cerebellar System/ Gait	Examination of Cerebellar System/ Gait	Examination of Cerebellar System/ Gait	Examination of Cerebellar System/ Gait	bone lesions & injuries		Introductory round of laboratory & benches. Working of Autoclave. & Guidelines of Microbiological specimen collection & transport	History Taking Allotment of Cases and Groups		Chest x ray anatomy		Use of Injections I/M, I/V, Intradermal, subcutaneous, I/V Cannulation, Arterial Tap	<ul> <li>Introduction to El services regarding triage system.</li> <li>History taking</li> <li>Monitoring of vita</li> </ul>					
	WEEK 9	TUSEDAY	CNS Test ODD Roll Numbers		CNS Test ODD Roll Numbers	CNS Test ODD		bint problems injuries	Joint problems & injuries	Joint problems & injuries	Joint problems & injuries	Joint problems & injuries		Culture media (Inoculated & Uninoculated). Antibiotic sensitivity testing. Orientation to Serology & PCR.	Demonstration of History taking and MSE		Chest x ray pathology		Nasogastric Intubation	Introduction to medicolegal cases an maintenance of record. Observation of IV cannulas IM injections	nd
		WEDNESDAY	CNS Test Even Roll Numbers				'NS Test Even in toll Numbers	divisual joints i	rdivisual joints in	divisual joints i	ldivisual joints i	idivisual joints		Performance & interpretation of Gram & ZN staining. Catalase, Coagulase & Oxidase Tests.	Interview with the patient Theoretical aspect of depression		Bones & joints with fractures		Male & Female catheterization(urine)	• Setting of IV drips Nebulization	s
HEPATOBILIARY		THURSDAY	Revision	Revision	Revision	Revision	Revision	Management of pneumothorax		Urine & Stool Examination, Examination of CSF & Body Fluids	Interview with the patient Theoretical aspect of Dissociation		Plain x ray abdomen & KUB		Endotracheal intubation & tracheostomy	Insertion of folleys catheter Nasogastric tube	s				
GIT & HEP/		MONDAY	Revision	Revision	Revision	Revision	Revision	trauma primary care	trauma primary care	trauma primary care	trauma primary care	rauma primary care	C5	Reception, C Sampling Techniques & Phlebotomy, Routine Hematology, Preparation of Blood Smear and Retics, Quality Control	4 Interview with the patient Theoretical aspect of schezopherenia	C3	Fluoroscopic procedures & Ba studies.	C2	Breast Examination	counsel a patient with febrile illness	
	WEEK 10	TUSEDAY	Final Test ODD Roll Numbers	Final Test ODD Roll Numbers	Final Test ODD Roll Numbers		Final Test ODD Roll Numbers	trauma secondary care		Cogulation Studies, Bone Marrow, IIb Studies, Coomb's Test.	Presentation of cases histories of Substance use Interview with the patient Theoretical aspect of Substance use		CT scan brain: basics		Prostate Examination	• counsel a patient with stroke					

			WEDNESDAY	Final Test Even Roll Numbers	Final Test Even Roll Numbers	Final Test Even Roll Numbers	Final Test Even Roll Numbers	Final Test Even Roll Numbers	managemnet of limb fracture		Grouping, Cross Matching	Presentation of cases histories of Delirium/deme ntia/ organicity by medical students & Theoretical aspects		Basics of ultrasound and observation		revision	pa	counsel a atient with pper GI bleed				
			THURSDAY	MCQs	MCQs	MCQs	MCQs	MCQs	TEST	TEST	TEST	TEST	TEST		Ward test	Evaluation		Ward		Test	• (	counsel a
			21-01-2019 TO 7/4/2019 SPW	C1	C2	C3	C4	C5	A5	A4	A3	A2	Al									
LIARY			MONDAY TUSEDAY	General introduction to the field of Art of History, Taking, Importance of history, Contents of history, Presenting Complaint History of Present illness	General introduction to the field of Art of History, Taking, Importance of history, Contents of history, Presenting Complaint History of Present illness	General introduction to the field of Art of History, Taking, Importance of history, Contents of history, Presenting Complaint History of Present illness	General introduction to the field of Art of History, Taking, Importance of history, Contents of history, Presenting Complaint History of Present illness	General introduction to the field of Art of History, Taking, Importance of history, Contents of history, Presenting Complaint History of Present illness	introduction & bed side manners art of history taking		Introductory round of laboratory & Culture media (Inoculated & Uninoculated). Antibiotic sensitivity testing. Orientation to Serology & PCR.	History Taking Allotment of Demonstration of History taking and MSE		Chest x ray anatomy Chest x ray pathology		Uie of Injections WM, IV, Itradermal, subcutaneous, IV Nasogastric Intubation	ser tria me ma rec Ob can	ntroduction to ER vvices regarding age system. trroduction to edicolegal cases and anitenance of sord. soervation of IV nnulus 41 injections				
GIT & HEPATOBILIARY	v	WEEK 11	WEDNESDAY	Systemic Inquiry, Past Medical History	Systemic Inquiry, Past Medical History	Systemic Inquiry, Past Medical History	Systemic Inquiry, Past Medical History	Systemic Inquiry, Past Medical History	systemic history	systemic history	systemic history	systemic history	systemic history		Performance & interpretation of Gram & ZN staining. Catalase, Coagulase & Oxidase Tests.	Interview with the patient Theoretical aspect of depression		Bones & joints with fractures		Male & Female catheterization(urine)		etting of IV drips ebulization
U	i		THURSDAY	Family History, Occupational History, Personal History , Developmental+ Obstetrics History.	Family History, Occupational History, Personal History , Developmental+ Obstetrics History.	Family History, Occupational History, Personal History, Developmental+ Obstetrics History.	Family History, Occupational History, Personal History , Developmental+ Obstetrics History.	Family History, Occupational History, Personal History , Developmental+ Obstetrics History.	GPE	GPE	GPE	GPE	GPE		Urine & Stool Examination, Examination of CSF & Body Fluids	Interview with the patient Theoretical aspect of Dissociation		Plain x ray abdomen & KUB		Endotracheal intubation & tracheostomy	cat	section of folleys theter
			MONDAY	General physical examination. Pulse, BP, Temp. Resp Rate	General physical examination. Pulse, BP, Temp. Resp Rate	General physical examination. Pulse, BP, Temp. Resp Rate	General physical examination. Pulse, BP, Temp. Resp Rate	General physical examination. Pulse, BP, Temp. Resp Rate	systemic examination	systemic examination	systemic examination	systemic examination	systemic examination	В1	Reception, Sampling Techniques & Phlebotomy, Routine Hematology, Preparation of Blood Smear and Retics, Quality Control	Interview with the patient Theoretical aspect of schezopherenia	В4	Fluoroscopic procedures & Ba studies.	В3	Breast Examination	• ( pa	counsel a atient with brile illness
	v	WEEK 12	TUSEDAY	GIT System Systemic Inquiry Vomiting, jaundice, pain abdomen, acute and chronic diarrhea GPE, Jaundice, Clubbing, Koilonychia, Pallor, Leuconychia, Dedema Examination of Oral Cavity	GIT System Systemic Inquiry Vomiting, jaundice, pain abdomen, acute diarrhea GPE, Jaundice, Clubbing, Koilonychia, Pallor, Leuconychia, Ocedema Examination of Oral Cavity	GIT System Systemic Inquiry Vomiting, jaundice, pain abdomen, acute and chronic diarrhea GPE, Jaundice, Clubbing, Koilonychia, Pallor, Leuconychia, Ocdema Examination of Oral Cavity	GTF System Systemic Inquiry Vomiting, jaundice, pain abdomen, acute and chronic diarrhea GPE, Jaundice, Clubbing, Koilonychia, Pallor, Leuconychia, Ocedema Examination of Oral Cavity	GTT System Systemic Inquiry Vomiting, jaundice, pain abdomen, acute and chronic diarrhea GPE, Jaundice, Clubbing, Koilonychia, Pallor, Leuconychia, Ocedema Examination of Oral Cavity	local examination	local examination	local examination	local examination	local examination		Cogulation Studies, Bone Marrow, IIb Studies, Coomb's Test.	Presentation of cases histories of Substance use Interview with the patient Theoretical aspect of Substance use		CT scan brain: basics		Prostate Examination	pa	counsel a tatient with roke

	WEDNESDAY	Inspection of abdomen, Superficial Palpation of Abdomen	basic physical signs in detail		Grouping, Cross Matching	Presentation of cases histories of Delirium/deme ntia/ organicity by medical students & Theoretical aspects		Basics of ultrasound and observation		revision	p	• counsel a patient with upper GI bleed				
	THURSDAY	Palpation of Liver, Spleen, Kidneys, Pelvic Masses	history & examination of lump		Ward test	Evaluation (OCSE + case histories + attendance & Signatures on logbook) & Feedback		Ward assessment(film based)		Test	p	• counsel a patient with obstructive lung disease				
	MONDAY	Percussion of Abdominal Viscera, Fluid Thrill, Shifting Dullness, Auscultation of abdomen	history & examination of lump		Introductory round of laboratory & benches. Working of Autoclave. & Guidelines of Microbiological specimen collection & transport	History Taking Allotment of Cases and Groups		Chest x ray anatomy		Use of Injections I/M, I/V, Intradermal, subcutaneous, I/V Cannulation, Arterial Tap	se tr	- Introduction to ER services regarding triage system. - History taking Monitoring of vitals				
WEEK 13	TUSEDAY	GIT System Test ODD Roll Numbers	GIT System Test ODD Roll Numbers	GIT System Test ODD Roll Numbers	GIT System Test ODD Roll Numbers	GIT System Test ODD Roll Numbers	history & examination of ulcer		Culture media (Inoculated & Uninoculated). Antibiotic sensitivity testing. Orientation to Serology & PCR.	Demonstration of History taking and MSI		Chest x ray pathology		Nasogastric Intubation	m re O ci	Introduction to medicolegal cases and maintenance of record. Observation of IV cannulas IM injections
	WEDNESDAY	GIT SystemS Test Even Roll Numbers	history & examination of Sinus/fistula		Performance & interpretation of Gram & ZN staining. Catalase, Coagulase & Oxidase Tests.	Interview with the patient Theoretical aspect of depression		Bones & joints with fractures		Male & Female catheterization(urine)		- Setting of IV drips Nebulization				
	THURSDAY	Respiratory System Examination Systemic Inquiry. Cough, Sputum, Dyspnea + Cyanosis	history & examination of skin		Urine & Stool Examination, Examination of CSF & Body Fluids	Interview with the patient Theoretical aspect of Dissociation		Plain x ray abdomen & KUB		Endotracheal intubation & tracheostomy		Insertion of folleys catheter				
	MONDAY	Hemoptysis, wheezing, pleuritic chest pain.	history & examination of Neck Swelling	B2	Reception, Sampling Techniques & Phebotomy, Routine Hematology, Preparation of Blood Smear and Retics, Quality Control	Interview with the patient Theoretical aspect of schezopherenia	В5	Fluoroscopic procedures & Ba studies.	Β4	Breast Examination	•	Nasogastric tube • counsel a patient with febrile illness				

WEEK 14	TUSEDAY	GPE: Cyanosis, Clubbing, Palsus paradosus, Intercostal in drawing, Tracheal tug Palpation of trachea	GPE; Cyanosis, Clubbing, Pulsus paradoxus, Intercostal in drawing, Tracheal tug Palpation of trachea	history & examination of Neck Swelling	history & examination of Neck Swelling		Coagulation Studies, Bone Marrow, Hb Studies, Coomb's Test.	Presentation of cases histories of Substance use Interview with the patient Theoretical aspect of Substance use		CT scan brain: basics	Prostate Examination		• counsel a patient with stroke			
	WEDNESDAY	Inspection of chest from front Chest movements, Percussion of front of chest and Auscultation	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid		Grouping, Cross Matching	Presentation of cases histories of Delirium/deme ntia/ organicity by medical students & Theoretical aspects		Basics of ultrasound and observation	revision		• counsel a patient with upper GI bleed	
	THURSDAY	Inspection of back of chest. Chest movements Percussion of back of chest and Auscultation	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid		Ward test	Evaluation (OCSE + case histories + attendance & Signatures on logbook) & Feedback		Ward assessment(film based)	Test		• counsel a patient with obstructive lung disease	
	MONDAY	Percussion and auscultation of back of chest		history & examination of , Mouth & tongue Salivary Gland	history & examination of , Mouth & tongue Salivary Gland	history & examination of , Mouth & tongue : Salivary Gland	history & xamination of , Aouth & tongue Salivary Gland		Introductory round of laboratory & benches. Working of Autoclave. & Guidelines of Microbiological specimen collection & transport	History Taking Allotment of Cases and Groups		Chest x ray anatomy	Use of Injections I/M. I/V., Intradermal, subcutaneous, I/V Cannulation, Arterial Tap		Introduction to ER services regarding triage system. History taking Monitoring of vitals	
WEEK 15	TUSEDAY	Resp., System (Even Roll Numbers)	history & examination of Breast & Axillary lymph nodes	history & examination of Breast & Axillary lymph nodes		Culture media (Inoculated & Uninoculated). Antibiotic sensitivity testing. Orientation to Serology & PCR.	Demonstration of History taking and MSE		Chest x ray pathology	Nasogastrie Intubation	1	Introduction to medicolegal cases and maintenance of record. Observation of IV cannulas IM injections				
	WEDNESDAY	Resp. System (Odd Roll Numbers)	history & examination of Breast & Axillary lymph nodes	history & examination of Breast & Axillary lymph nodes		Performance & interpretation of Gram & ZN staining. Catalase, Coagulase & Oxidase Tests.	Interview with the patient Theoretical aspect of depression		Bones & joints with fractures	Male & Female catheterization(urine)	1	• Setting of IV drips Nebulization				
	THURSDAY	Pain, Palpitation, Patient with murmur	Precordial Chest Pain, Palpitation, Patient with murmur	Precordial Chest Pain, Palpitation, Patient with murmur	Precordial Chest Pain, Palpitation, Patient with murmur	Precordial Chest Pain, Palpitation, Patient with murmur	history & examination of Acute Abdomen	history & examination of Acute Abdomen		Urine & Stool Examination, Examination of CSF & Body Fluids	Interview with the patient Theoretical aspect of Dissociation		Plain x ray abdomen & KUB	Endotracheal intubation & tracheostomy	4	Insertion of folleys catheter Nasogastric tube
	MONDAY	CVS Examination GPE, JVP, Oedema, Clubbing Osler's Nodes, Janeway's Lesions, Splinter harmorrhages	history & examination of Chronic Abdomen	history & examination of Chronic Abdomen	history & examination of Chronic Abdomen	history & examination of Chronic Abdomen	history & examination of Chronic Abdomen	В3	Reception, Sampling Techniques & Phebotomy, Routine Hematology, Preparation of Blood Smear and Retics, Quality Control	B2 Interview with the patient Theoretical aspect of schezopherenia	B1	Fluoroscopic procedures & Ba studies. B5	Breast Examination		• counsel a patient with febrile illness	

MICROBES & ANTI MICROBIALS ( MYCOCOLOGY, BATERIOLOGY, VIROLOGY)

WEEK 16	TUSEDAY	Inspection of precordium location + palpation of apex beat. Right parasternal heave, palpation of base of heart, epigastric pulsations	Inspection of precordium location + palpation of apex beat. Right parasternal heave, palpation of base of heart, epigastric pulsations		Inspection of precordium location + palpation of apex beat. Right parasternal reave, palpation of base of heart, epigastric pukations	Inspection of precordium location + palpation of apex beat. Right parasternal aeave, palpation of base of heart, epigastric pulsations	history & examination of Abdomenal Mass		Coagulation Studies, Bone Marrow, Hb Studies, Coomb's Test.		Presentation of cases histories of Substance use Interview with the patient Theoretical aspect of Substance use		CT scan brain: basics	Prostate Examination	F	• counsel a patient with stroke				
	WEDNESDAY	Examination of Pulse	Examination of Pulse	Examination of Pulse	Examination of Pulse	Examination of Pulse	history & examination of bleeding per rectum		Grouping, Cross Matching		Presentation of cases histories of Delirium/deme ntia/ organicity by medical students & Theoretical aspects		Basics of ultrasound and observation	revision	F	• counsel a patient with upper GI bleed				
	THURSDAY	JVP	JVP	JVP	JVP	JVP	history & examination of hernia		Ward test		Evaluation (OCSE + case histories + attendance & Signatures on logbook) & Feedback		Ward assessment(film based)	Test	F	• counsel a patient with obstructive lung disease				
	MONDAY	heart 1. Normal heart sound 2. Effect of respiration on heart sound	1. Auscultation of heart 1. Normal heart sound 2. Effect of respiration on heart sound 3. Murmurs and Thrills	I.Auscultation of heart I. Normal heart sound 2. Effect of respiration on heart sound 3. Murmurs and Thrills	heart 1. Normal heart sound 2. Effect of respiration on heart sound 3. Murmurs and	1. Auscultation of heart 1. Normal heart sound 2. Effect of respiration on heart sound 3. Murmurs and Thrills	history & examination of hernia		Introductory round of laboratory & benches. Working of Autoclave. & Guidelines of Microbiological specimen collection & transport	4	History Taking Allotment of Cases and Groups		Chest x ray anatomy	Use of Injections L/M, I/V, Intradermal, subcutancous, I/V Cannulation, Arterial Tap	si ti	- Introduction to ER ervices regarding fringe system. History taking Monitoring of vitals				
WEEK 17	TUSEDAY	CVS Test Even Roll Number	CVS lest Even Roll Number	CVS Test Even Roll Number	CVS Test Even Roll Number	CVS lest Even Roll Number	history & examination of inguino-scrotal swelling		Culture media (Inoculated & Uninoculated). Antibiotic sensitivity testing. Orientation to Serology & PCR.		Demonstration of History taking and MSE		Chest x ray pathology	Nasogastric Intubation	n r C	Introduction to medicolegal cases and maintenance of record. Observation of IV cannulas IM injections				
	WEDNESDAY	CVS Test Odd Roll Number	CVS festOdd Roll Number	CVS Test Oad Roll Number	CVS TestOdd Roll Number	CVS Test Oad Roll Number	urinogenitai system	urinogental system	urinogenitai system	urinogental system	urinogenitai system		Performance & interpretation of Gram & ZN staining. Catalase, Coagulase & Oxidase Tests.	:	Interview with the patient Theoretical aspect of depression		Bones & joints with fractures	Male & Female catheterization(urine)		Setting of IV drips Nebulization
	THURSDAY	NERVOUS SYSTEM : Conscious level,	NERVOUS SYSTEM : Conscious level,	NERVOUS SYSTEM : Conscious	NERVOUS SYSTEM : Conscious	NERVOUS SYSTEM : Conscious	Peripheral vascular system		Urine & Stool Examination, Examination of	,	Interview with the patient Theoretical		Plain x ray abdomen & KUB	Endotracheal intubation & tracheostomy		Insertion of folleys catheter Nasogastric tube				
	MONDAY	Headacnes ,Numbness, Craniai nerves.	Headaches,Num bness, Cranial nerves.	Headacnes ,Numbness, Cranial nerves.	Headaches ,Numbness, Craniai nerves.	Headaches ,Numbness, Cranial nerves.	venous Problems lymphatic	venous Problems lymphatic	Venous Problems lymphatic system	venous Problems lymphatic	venous Problems lymphatic	B4	Reception, Sampling Coagulation	1	Interview with the patient	62	Fluoroscopic procedures &	 Breast Examination	R5 F	counsel a     patient with     counsel a
	TUSEDAY	1 to 6	1 to 6	1 to 6	1 to 6	1 to 6	system	system	-,pointe system	system	system		Studies, Bone Marrow, Hb Studies, Coomb's Test.	1	Presentation of cases histories of Substance use Interview with the patient		basics	Examination	F	patient with stroke
															Theoretical aspect of Substance use					

	WEEK 18	WEDNESDAY	Cranial nerves. 7 to 12	7 Cranial nerves. 7 to 12	7 Cranial nerves. 7 to 12	Cranial nerves. 7 to 12	Cranial nerves. 7 to 12	peripheral nerves	peripheral nerves	peripheral nerves	peripheral nerves	peripheral nerves	Grouping, Cross Matching	Presentation of cases histories of Delirium/deme ntia/ organicity by medical students & Theoretical aspects	Basics of ultrasound ar observation		revision	• counsel a patient with upper GI bleed
		THURSDAY	Examination of motor system (bulk, tone, power/ Reflexes.	Examination of motor system (bulk, tone, . power/ Reflexes.	motor system (bulk, tone,	Examination of motor system (bulk, tone, power/ Reflexes. )	notor system (bulk, tone,	patient with head injuries	patient with head injuries	patient with head injuries	patient with head injuries	patient with head injuries	Ward test	Evaluation (OCSE + case histories + attendance & Signatures on logbook) & Feedback	Ward assessment(f based)		Test	• counsel a patient with obstructive lung disease
		MONDAY	Examination of sensory system	Examination of sensory system	Examination of sensory system	Examination of sensory system		bone lesions & injuries	bone lesions & injuries	bone lesions & injuries	bone lesions & injuries	bone lesions & injuries	Introductory round of laboratory & benches. Working of Autoclave. & Guidelines of Microbiological specimen collection & transport	History Taking Allotment of Cases and Groups	Chest x ray anatomy	U 1/1 su Ci	Use of Injections M, IV, Intradernal, bloctaneous, IV 'annulation, Arterial Tap	Introduction to ER services regarding tringe system. History taking Monitoring of vitals
	WEEK 19	TUSEDAY	Examination of Cerebellar System/Gait	Examination of Cerebellar System/ Gait	Examination of Cerebellar System/ Gait	Examination of Cerebellar System/ Gait	Examination of Cerebellar System/ Gait	Joint problems & injuries	Joint problems & injuries	Joint problems & injuries	Joint problems & injuries	Joint problems & injuries	Culture media (Inoculated & Uninoculated). Antibiotic sensitivity testing. Orientation to Serology & PCR.	Demonstration of History taking and MSE	Chest x ray pathology	N In	Nasogastric Intubation	Introduction to medicolegal cases and maintenance of record. Observation of IV cannulas IM injections
		WEDNESDAY	CNS Test ODD Roll Numbers	CNS Test ODD Roll Numbers		CNS Test ODD ( Roll Numbers		tdivisualjoints i	rdivisual joints in	ndivisual joints in	idivisual joints i	udivisual joints	Performance & interpretation of Gram & ZN staining, Catalase, Coagulase & Oxidase Tests.	Interview with the patient Theoretical aspect of depression	Bones & join with fracture		Male & Female atheterization(urine)	• Setting of IV drips Nebulization
~		THURSDAY	CNS Test Even Roll Numbers	CNS Test Even Roll Numbers	CNS Test Even Roll Numbers	CNS Test Even Roll Numbers	CNS Test Even Roll Numbers	Management of pneumothorax	Management of pneumothorax	Man agement of pneumothorax	Management of pneumothorax	Management of pneumothorax	Urine & Stool Examination, Examination of CSF & Body Fluids	Interview with the patient Theoretical aspect of Dissociation	Plain x ray abdomen & KUB	in	Endotracheal ntubation & racheostomy	Insertion of folleys
HAEMATOLOGY & IMUNOLOGY		MONDAY	Revision	Revision	Revision	Revision	Revision	trauma primary care	trauma primary care	trauma primary care	frauma primary care	rauma primary care	B5 Reception, Sampling Techniques & Phlebotomy, Routing, Hematology, Preparation of Blood Smear and Retics, Quality Control	B4 Interview with the patient Theoretical aspect of schezopherenia	B3 Fluoroscopic procedures & Ba studies.		Breast Examination B1	Nasogastric tube • counsel a patient with febrile illness
HAEMA'		TUSEDAY	Final Test ODD Roll Numbers	Final Test ODD Roll Numbers	Final Test ODD Roll Numbers	Final Test ODD Roll Numbers	Final Test ODD Roll Numbers	trauma secondary care	trauma secondary care	trauma secondary care	trauma secondary care	trauma secondary care	Coagulation Studies, Bone Marrow, Hb Studies, Coomb's Test.	Presentation of cases histories of Substance use Interview with	CT scan brai basics	n: P E:	Prostate Examination	• counsel a patient with stroke
	WEEK 20													the patient Theoretical aspect of Substance use				

	WEDNESDAY		Final Test Even Roll Numbers	Roll Numbers	Final Test Even Roll Numbers	Roll Numbers	limb fracture	limb fracture	nanagemnet of limb fracture		limb Íracture		Grouping, Cross Matching	cases hi of Deliriun ntia/ or by med student Theoret aspects	n/deme ganicity ical s & ical	Basics of ultrasound and observation		revision	• counsel a patient with upper GI bleed
	THURSDAY	MCQs	MCQs	MCQs	MCQs	MCQs	TEST	TEST	TEST	TEST	TEST		Ward test	Evaluati (OCSE +		Ward assessment(film		Test	counsel a     patient with
	4/8/2019 TO 10/8/2019 S.V	Bl	B2	В3	В4	B5	C5	C4	C3	C2	C1			·					
	MONDAY	General introduction to the field of medicine. Medical ethics	General introduction to the field of medicine. Medical ethics	General introduction to the field of medicine. Medical ethics	General introduction to the field of medicine. Medical ethics	General introduction to the field of medicine. Medical ethics	introduction & bed side manners		Introductory round of laboratory & benches. Working of Autoclave. & Guidelines of Microbiological specimen collection & transport	History Allotme Cases a Groups	ent of nd	Chest x ray anatomy		Use of Injections VM, IV, Intradermal, subcutancous, IV Cannulation, Arterial Tap	<ul> <li>Introduction to</li> <li>ER services</li> <li>regarding triage</li> <li>system.</li> <li>History taking</li> <li>Monitoring of vitals</li> </ul>				
WEEK 21	TUSEDAY	Art of History, Taking, Importance of history, Contents of history, Presenting Complaint History of Present illness.	Art of History, Taking, Importance of history, Contents of history, Presenting Complaint History of Present illness.	Art of History, Taking, Importance of history, Contents of history, Presenting Complaint History of Present illness.	Art of History, Taking, Importance of history, Contents of history, Presenting Complaint History of Present illness.	Art of History, Taking, Importance of history, Contents of history, Presenting Complaint History of Present illness.	art of history taking		Culture media (Inoculated & Uninoculated). Antibiotic sensitivity testing. Orientation to Serology & PCR.		ry nd MSE	Chest x ray pathology		Nasogastric Intubation	Introduction to medicolegal cases and maintenance of record. Observation of IV cannulas IM injections				
	WEDNESDAY	Systemic Inquiry, Past Medical History	Systemic Inquiry, Past Medical History	Systemic Inquiry, Past Medical History	Systemic Inquiry, Past Medical History	Systemic Inquiry, Past Medical History	systemic history	systemic history	systemic history	systemic history	systemic history		Performance & interpretation of Gram & ZN staining. Catalase, Coagulase & Oxidase Tests.	Intervie the pati Theoret aspect o depress	ent ical of	Bones & joints with fractures		Male & Female catheterization(urine)	• Setting of IV drips Nebulization
	THURSDAY	Occupational History, Personal History , Developmental+ Obstetrics	Occupational O History,	History, Personal History , Developmental+ Obstetrics	Occupational History, Personal History ,	Family History, Occupational History, Personal History , Developmental+ Obstetrics History.	GPE	GPE	GPE	GPE	GPE		Urine & Stool Examination, Examination of CSF & Body Fluids	Intervie the pati Theoret aspect Dissocia	ent ical of	Plain x ray abdomen & KUB		Endotracheal intubation & tracheostomy	
	MONDAY	General physical examination, Pulse, BP, Temp, Resp Rate	General physical examination. Pulse, BP, Temp. Resp Rate	General physical examination, Pulse, BP, Temp. Resp Rate	General physical examination, Pulse, BP, Temp. Resp Rate	General physical examination. Pulse, BP, Temp. Resp Rate	systemic examination	systemic examination	systemic examination	systemic examination	systemic examination	A1	Reception, Sampling Techniques & Philebotomy, Routine Hematology, Preparation of Blood Smear and Retics, Quality Control	A5 the pati Theoret aspect of schezop	ent ical of	Fluoroscopic procedures & Ba studies.	A3	Breast Examination	Insertion of folleys catheter Nasogastric tube • Counsel a patient with febrile illness

WEEK 22	TUSEDAY	GIT System Systemic Inquiry Vomiting, jaundice, pain abdomen, acute and chronic diarrhea GPE, Jaundice, Clubbing, Kollonychia, Pallor, Leuconychia, Ocedema Examination of Oral Cavit	GIT System Systemic Inquiry Vomiting, anndice, pain and chronic, diarrhea GPE, Jaundice, Clubbing, Koilonychia, Pallor, Leuconychia, Ocedema Examination of Oral Cavit	GIT System Systemic Inquiry omiting, aundice, pain abdomen, acute add arrhea GPE, Jaundice, Clubbing, Koilonychia, Pallor, Leaconychia, Oedema Examination of Oral Cavit Inspection of	GIT System Systemic Inquiry Vomiting, jaundice, pain abdomen, acute and chronic diarrhea GPE, Jaundice, Clubbing, Koilonychia, Pallor, Leuconychia, Pallor, Leuconychia, Ocedema Examination of Dral Cavit	GIT System Systemic Inquiry Vomiting, jaundice, pain aundice, pain and chronic diarrhea GPE, Jaundice, Clubbing, Koilonychia, Pallor, Leuconychia, Oedema Examination of Oral Cavit	local examination	local examination	local examination	local examination basic physical	local examination		Coggulation Studies, Bone Marrow, Hb Studies, Coomb's Test. Grouping, Cross		Presentation of cases histories of Substance use Interview with the patient Theoretical aspect of Substance use	CT scan brain: basics		Prostate Examination	• counsel a patient with stroke
	WEDNESDAY	abdomen, Superficial Palpation of Abdomen	abdomen, Superficial Palpation of Abdomen	abdomen, Superficial Palpation of Abdomen	abdomen, Superficial Palpation of Abdomen	abdomen, Superficial Palpation of Abdomen	signs in detail		Matching		Presentation of cases histories of Delirium/deme ntia/ organicity by medical students & Theoretical aspects	Basics of ultrasound and observation		revision	• counsel a patient with upper GI bleed				
	THURSDAY	<del>Taipation of</del> Liver, Spleen, Kidneys, Pelvic Masses	<del>Palpation of</del> Liver, Spleen, Kidneys, Pelvic Masses	<del>Paipation of</del> Liver, Spleen, Kidneys, Pelvic Masses	<del>Falpation of</del> Liver, Spleen, Kidneys, Pelvic Masses	<del>Talpation of</del> Liver, Spleen, Kidneys, Pelvic Masses	history & examination of lump		Ward test		Evaluation (OCSE + case histories + attendance & Signatures on logbook) & Feedback	Ward assessment(film based)		Test	• counsel a patient with obstructive lung disease				
	MONDAY	Percussion of Abdominal Viscera, Fluid Thrill, Shifting Dullness, Auscultation of abdomen	Percussion of Abdominal Viscera, Fluid Thrill, Shifting Dullness, Auscultation of abdomen	Percussion of Abdominal Viscera, Fluid Thrill, Shifting Dullness, Auscultation of abdomen	Percussion of Abdominal Viscera, Fluid Thrill, Shifting Dullness, Auscultation of abdomen	Percussion of Abdominal Viscera, Fluid Thrill, Shifting Dullness, Auscultation of abdomen	history & examination of lump		Introductory round of laboratory & benches. Working of Autoclave. & Guidelines of Microbiological specimen collection & transport		History Taking Allotment of Cases and Groups	Chest x ray anatomy		Use of Injections IVM, IVV, Intradermal, subcutaneous, I/V Cannulation, Arterial Tap	<ul> <li>Introduction to ER services regarding triage system.</li> <li>History taking</li> <li>Monitoring of vitals</li> </ul>				
WEEK 23	TUSEDAY	GIT System Test ODD Roll Numbers	GIT System Test ODD Roll Numbers	GIT System Test ODD Roll Numbers	GIT System Test ODD Roll Numbers	GIT System Test ODD Roll Numbers	history & examination of ulcer		Culture media (Inoculated & Uninoculated). Antibiotic sensitivity testing. Orientation to Serology & PCR.		Demonstration of History taking and MSE	Chest x ray pathology		Nasogastric Intubation	Introduction to medicolegal cases and maintenance of record. Observation of IV cannulas IM injections				
	WEDNESDAY	GIT SystemS Test Even Roll Numbers	GIT SystemS Test Even Roll Numbers	GIT SystemS Test Even Roll Numbers	GIT SystemS Test Even Roll Numbers	GIT SystemS Test Even Roll Numbers	history & examination of Sinus/fistula		Performance & interpretation of Gram & ZN staining. Catalase, Coagulase & Oxidase Tests.		Interview with the patient Theoretical aspect of depression	Bones & joints with fractures		Male & Female catheterization(urine)	- Setting of IV drips Nebulization				
	THURSDAY	Respiratory System Examination Systemic Inquiry. Cough, Sputum, Dyspnea + Cyanosis	Respiratory System Examination Systemic Inquiry, Cough, Sputum, Dyspnca + Cyanosis	Respiratory System Examination Systemic Inquiry. Cough, Sputum, Dyspnea + Cyanosis	Respiratory System Examination Systemic Inquiry. Cough, Sputum, Dyspnca + Cyanosis	Respiratory System Examination Systemic Inquiry. Cough, Sputum, Dyspnca + Cyanosis	history & examination of skin		Urine & Stool Examination, Examination of CSF & Body Fluids		Interview with the patient Theoretical aspect of Dissociation	Plain x ray abdomen & KUB		Endotracheal intubation & tracheostomy	Insertion of folleys catheter Nasogastric tube				
	MONDAY	Hemoptysis, wheezing, pleuritic chest pain.	Hemoptysis, wheezing, pleuritic chest pain.	Hemopfysis, wheezing, pleuritic chest pain.	Hemoptysis, wheezing, pleuritic chest pain.	Hemoptysis, wheezing, pleuritic chest pain.	history & examination of Neck Swelling	A2	Reception, Sampling Techniques & Phlebotomy, Routine Hematology, Preparation of Blood Smear and Retics, Quality Control	A1	Interview with the patient Theoretical aspect of schezopherenia	Fluoroscopic procedures & Ba studies.	A4	Breast Examination	counsel a patient with febrile illness				

w	/EEK 24	TUSEDAY	GPE; Cyanosis, Clubbing, Pulsus paradoxus, Intercostal in drawing, Tracheal tug Palpation of trachea	GPE; Cyanosis, Clubbing, Pulsus paradoxus, Intercostal in drawing, Tracheal tug Palpation of trachea	history & examination of Neck Swelling	history & examination of Neck Swelling		Coagulation Studies, Bone Marrow, Hb Studies, Coomb's Test.	Presentation of cases histories of Substance use Interview with the patient Theoretical aspect of Substance use		CT scan brain: basics		Prostate Examination		• counsel a patient with stroke						
		WEDNESDAY	Inspection of chest from front Chest movements, Percussion of front of chest and Auscultation	Inspection of chest from front Chest movements, Percussion of front of chest and Auscultation	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid		Grouping, Cross Matching	Presentation o cases histories of Delirium/deme ntia/organicit by medical students & Theoretical aspects		Basics of ultrasound and observation		revision		• counsel a patient with upper GI bleed			
		THURSDAY	Inspection of back of chest. Chest movements Percussion of back of chest and Auscultation	Inspection of back of chest. Chest movements Percussion of back of chest and Auscultation	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid	history & examination of Thyroid		Ward test	Evaluation (OCSE + case histories + attendance & Signatures on logbook) & Feedback		Ward assessment(film based)		Test		• counsel a patient with obstructive lung disease			
		MONDAY	Percussion and auscultation of back of chest.	Percussion and auscultation of back of chest.		history & examination of , Mouth & tongue Salivary Gland		history & examination of , Mouth & tongue : Salivary Gland			Introductory round of laboratory & benches. Working of Autoclave. & Guidelines of Microbiological specimen collection & transport	History Taking Allotment of Cases and Groups		Chest x ray anatomy	1	Use of Injections I/M, I/V, Intradermal, subcutancous, I/V Cannulation, Arterial Tap	1	Introduction to ER services regarding triage system. History taking Monitoring of vitals			
	/EEK 25	TUSEDAY	Resp., System (Even Roll Numbers)	Resp., System (Even Roll Numbers)	Resp., System (Even Roll Numbers)	Resp., System (Even Roll Numbers)	Resp., System (Even Roll Numbers)	history & examination of Breast & Axillary lymph nodes	history & examination of Breast & Axillary lymph nodes		Culture media (Inoculated & Uninoculated). Antibiotic sensitivity testing. Orientation to Serology & PCR.	Demonstration of History taking and MSI		Chest x ray pathology		Nasogastric Intubation	1	Introduction to medicolegal cases and maintenance of record. Observation of IV cannulas IM injections			
	/EEK 23	WEDNESDAY	Resp. System (Odd Roll Numbers)	Resp. System (Odd Roll Numbers)	Resp. System (Odd Roll Numbers)	Resp. System (Odd Roll Numbers)	Resp. System (Odd Roll Numbers)	history & examination of Breast & Axillary lymph nodes	history & examination of Breast & Axillary lymph nodes		Performance & interpretation of Gram & ZN staining. Catalase, Coagulase & Oxidase Tests.	Interview with the patient Theoretical aspect of depression		Bones & joints with fractures		Male & Female catheterization(urine)		• Setting of IV drips Nebulization			
		THURSDAY		CVS Examination Systemic Inquiry Precordial Chest Pain, Palpitation, Patient with murmur.	CVS Examination Systemic Inquiry Precordial Chest Pain, Palpitation, Patient with murmur.	CVS Examination Systemic Inquiry Precordial Chest Pain, Palpitation, Palpitation, Patient with murmur.	CVS Examination Systemic Inquiry Precordial Chest Pain, Palpitation, Patient with murmur.	history & examination of Acute Abdomen	history & examination of Acute Abdomen		Urine & Stool Examination, Examination of CSF & Body Fluids	Interview with the patient Theoretical aspect of Dissociation		Plain x ray abdomen & KUB		Endotracheal intubation & tracheostomy		Insertion of folleys catheter Nasogastric tube			
		MONDAY	CVS Examination GPE, JVP, Ocdema, Clubbing Osler's Nodes, Janeway's Lesions, Splinter harmorrhages.	CVS Examination GPE, JVP, Oedema, Clubbing Osler's Nodes, Janeway's Lesions, Splinter harmorrhages.	CVS Examination GPE, JVP, Oedema, Clubbing Osler's Nodes, Janeway's Lesions, Splinter harmorrhages.	CVS Examination GPE, JVP, Oedema, Clubbing Osler's Nodes, Janeway's Lesions, Splinter harmorrhages.	CVS Examination GPE, JVP, Oedema, Clubbing Osler's Nodes, Janeway's Lesions, Splinter harmorrhages.	history & examination of Chronic Abdomen	history & examination of Chronic Abdomen	history & examination of Chronic Abdomen	history & examination of Chronic Abdomen	history & examination of Chronic Abdomen	A3	Reception, Sampling Techniques & Phlebotomy, Routine Hematology, Preparation of Blood Smear and Retics, Quality Control	A2 Interview with the patient Theoretical aspect of schezopherenia	A1	Fluoroscopic procedures & Ba studies.	A5	Breast Examination		counsel a     patient with febrile illness

CVS & RESPIRATION	WEEK 26	TUSEDAY	Inspection of precordium location + palpation of apex beat. Right parasternal heave, palpation of base of heart, epigastric pulsations Examination of Pulse	Inspection of precordium location + palpation of apex beat. Right parasternal heave, palpation of base of heart, epigastric pulsations Examination of Pulse	Inspection of precordium location + palpation of apex beat. Right parasternal heave, palpation of base of heart, epigastric pulsations Examination of Pulse	epigastric pulsations	Inspection of precordium location + palpation of apex beat. Right parasternal seave, palpation of base of heart, epigastric pulsations Examination of Pulse	history & examination of Abdomenal Mass history & examination of bleeding per rectum	history & examination of Abdomenal Mass history & examination of bieeding per rectum	history & examination of Abdomenal Mass history & examination of bleeding per rectum	history & examination of Abdomenal Mass history & examination of bleeding per rectum	history & examination of Abdomenal Mass history & examination of bieeding per rectum		Coagulation Studies, Bone Marrow, Hb Studies, Coomb's Test. Grouping, Cross Matching	Presentation of cases histories of Substance use Interview with the patient Theoretical aspect of Substance use Presentation of cases histories of		CT scan brain: basics Basics of ultrasound and observation		Prostate Examination revision		counsel a patient with stroke      counsel a patient with upper Gi bleed
		WEDNESDAY													Delirium/deme ntia/ organicity by medical students & Theoretical aspects						
		THURSDAY	JVP	JVP	JVP	JVP	JVP	history & examination of hernia		Ward test	Evaluation (OCSE + case histories + attendance & Signatures on logbook) & Feedback		Ward assessment(film based)		Test		• counsel a patient with obstructive lung disease				
		MONDAY	1.Auscultation of heart 1. Normal heart sound 2. Effect of respiration on heart sound 3. Murmurs and Thrills	1. Auscultation of heart 1. Normal heart sound 2. Effect of respiration on heart sound 3. Murmurs and Thrills	1.Auscultation of heart 1. Normal heart sound 2. Effect of respiration on heart sound 3. Murmurs and Thrills	1. Auscultation of heart 1. Normal heart sound 2. Effect of respiration on heart sound 3. Murmurs and Thrills	1.Auscultation of heart 1. Normal heart sound 2. Effect of respiration on heart sound 3. Murmurs and Thrills	history & examination of hernia		Introductory round of laboratory & benches. Working of Autoclave. & Guidelines of Microbiological specimen collection & transport	History Taking Allotment of Cases and Groups		Chest x ray anatomy		Use of Injections I/M, I/V, Intradermal, subcutaneous, I/V Cannulation, Arterial Tap	1	• Introduction to ER services regarding tringe system. • History taking • Monitoring of vitals				
	WEEK 27	TUSEDAY	CVS Test Even Roll Number	CVS Test Even Roll Number	CVS Test Even Roll Number	CVS Test Even Roll Number	CVS 1est Even Roll Number	history & examination of inguino-scrotal swelling		Culture media (Inoculated & Uninoculated). Antibiotic sensitivity testing. Orientation to Serology & PCR.	Demonstration of History taking and MSE		Chest x ray pathology		Nasogastric Intubation	1	Introduction to medicolegal cases and maintenance of record. Observation of IV cannulas IM injections				
		WEDNESDAY	CVS Test Oad Roll Number	CVS Test Oaa Roll Number	CVS Test Odd Roll Number	CVS TestOad Roll Number	CVS Test Odd Roll Number	urinogenital system		urinogenital system	urinogenital system	urinogenital system		Performance & interpretation of Gram & ZN staining. Catalase, Coagulase & Oxidase Tests.	Interview with the patient Theoretical aspect of depression		Bones & joints with fractures		Male & Female catheterization(urine)		• Setting of IV drips Nebulization
		THURSDAY	NERVOUS SYSTEM : Conscious level, HMF, orientation, speech, memory, intellect, sleep	NERVOUS SYSTEM : Conscious level, HMF, orientation, speech, memory, intellect, sleep	NERVOUS SYSTEM : Conscious level, HMF, orientation, speech, memory, intellect, sleep	NERVOUS SYSTEM : Conscious level, HMF, orientation, speech, memory, intellect, sleep	NERVOUS SYSTEM : Conscious level, HMF, orientation, speech, memory, intellect, sleep	Peripheral vascular system			Peripheral vascular system			Urine & Stool Examination, Examination of CSF & Body Fluids	Interview with the patient Theoretical aspect of Dissociation		Plain x ray abdomen & KUB		Endotracheal intubation & tracheostomy	1	Insertion of folleys catheter Nasogastric tube
		MONDAY	Numbness, Numbness, Paresthesias, weakness patterns	Numbness, Numbness, Paresthesias, weakness patterns	neadactnes ,Numbness, Paresthesias, weakness patterns	neadacnes ,Numbness, Paresthesias, weakness patterns	Numbness, Numbness, Paresthesias, weakness patterns	Venous Problems	Venous Problems	Venous Problems	Venous Problems	Yenous Problems	A4	Reception, Sampling Techniques & Philebotomy, Routine Hematology, Preparation of Blood Smear and Retics, Quality Control	A3 Interview with the patient Theoretical aspect of schezopherenia	A2	Fluoroscopic procedures & Ba studies.	A1	Breast Examination		• counsel a patient with febrile illness

WEEK 28	TUSEDAY	Cranial nerves. 1 to 6	Cranial nerves. 1 to 6	Cranial nerves. 1 to 6	Cranial nerves. 1 to 6		lymphatic system	lymphatic system	lymphatic system	lymphatic system	lymphatic system	Coagulation Studies, Bone Marrow, Hb Studies, Coomb's Test.	Presentation of cases histories of Substance use Interview with the patient Theoretical aspect of Substance use	CT scan brain: basics	Prostate Examination	• counsel a patient with stroke
	WEDNESDAY	Cranial nerves. 7 to 12	Cranial nerves. 7 to 12				peripheral nerves	peripheral nerves		peripheral nerves	peripheral nerves	Grouping, Cross Matching	Presentation of cases histories of Delirium/deme ntia/ organicity by medical students & Theoretical aspects	Basics of ultrasound and observation	revision	• counsel a patient with upper Gi bleed
	THURSDAY	Examination of motor system (bulk, tone, power/ Reflexes.	motor system (bulk, tone,	motor system (bulk, tone,	Examination of motor system (bulk, tone, power/ Reflexes.	motor system (bulk, tone,	patient with head injuries	Ward test	Evaluation (OCSE + case histories + attendance & Signatures on logbook) & Feedback	Ward assessment(film based)		• counsel a patient with obstructive lung disease				

Assessment Junior Clinical Clerkship

## Assessment & Evaluation:

Assessing a junior clinical clerkship at the end of each ward rotation is crucial for ensuring that students receive comprehensive feedback on their performance and learning outcomes. Here's a framework for assessment that can be used:

### **Assessment Components**

#### 1. Clinical Skills Evaluation

- History Taking: Ability to gather relevant patient history.
- Physical Examination: Proficiency in performing and documenting physical exams.
- Clinical Reasoning: Capacity to formulate differential diagnoses and management plans.

### 2. Knowledge Assessment

- Medical Knowledge: Understanding of relevant medical conditions, treatments, and guidelines.
- Application of Knowledge: Ability to apply theoretical knowledge in clinical settings.
- 3. Professionalism
  - Communication Skills: Effectiveness in communicating with patients, families, and healthcare team members.
  - Ethical Practice: Adherence to ethical standards and professionalism in all interactions.
  - Punctuality and Reliability: Consistency in attendance and completing assigned tasks.
- 4. Teamwork and Collaboration
  - Interprofessional Collaboration: Ability to work effectively within a healthcare team.
  - Contribution to Team Goals: Participation in team meetings and collaborative decision-making.
- 5. Reflective Practice

- Self-Assessment: Ability to identify strengths and areas for improvement.
- Feedback Reception: Openness to receiving and acting on feedback from supervisors and peers.

## **Assessment Strategies:**

- Direct Observation: Faculty observes clerkship students during patient interactions and provide immediate feedback.
- Objective Structured Clinical Examinations (OSCEs): Use structured scenarios to evaluate clinical skills in a controlled setting.
- Written Examinations: Assess knowledge through quizzes or written tests on relevant clinical topics on Learning Management System and in wards.

## Table of Specification:

End Block Exam Stations	Marks Distribution (150 marks)	Time Allocation1 Hour 18 mins
MCQs	25 marks	20mins
SEQs	3*5 =15 marks	15mins
CLINICAL OSPE	5*10=50 marks	Total time=25 min
<ul> <li>History taking</li> <li>Short case (CVS)</li> <li>Short case (Respiratory)</li> <li>Short case (GIT)</li> <li>Short case (CNS)</li> </ul>	10 10 10 10 10	05 mins 05 mins 05 mins 05 mins 05 mins
Clinical Video/ Audio/Pictorial OSPE (06)	6(5) = 30 marks	18 mins
Workplace based Assessment	30 marks	



# **Assessment Policies**

## RMU Undergraduate Assessment Framework

Type of Assessment	Strategies	Tools of <i>I</i>	Assessment	Number of Assessment
		Theory	Practical	
		(Cognitive)	(Psychomotor & Affect)	
Formative Assessment	LMS Based Assessment	MCQs	-	Weekly
	Mid Module Online Clinical Assessment	MCQs	-	Once Per Module
	End Of Module Online Clinical Assessment	MCQs	-	Once Per Module
Summative Assessment	End of Module Assessment	MCQs, EMQ, SAQs, SEQs	AVOSPE, OSVE	Once Per Module
	End of Block Block Assessment	LMS Based MCQs	OSPE (IOSPE, Lab OSPE), OSCE	Once Per Block
Pre-Annual Assessment	Block based Assessments	MCQs, EMQ, SAQs, SEQs	OSPE (IOSPE, Lab OSPE), OSCE,	Once Per Academic Sessions
Annual Assessment	Block Based Assessments	MCQs, SEQs	OSPE (IOSPE, Lab OSPE), OSCE, OSVE	Once Per Academic Sessions

## Assessment

Assessment refers to the processes employed to make judgments about the achievements of students over a course of study

### Hardlen W,2005

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

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

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

### 1. Why assess students?

• The purpose of assessment must be well-defined. It should include assessment for learning (as a strategy to enhance learning) and assessment of learning (summative assessment) for progression, remediation, or promotion purposes.

### 2. Who should assess students?

• The assessment should involve multiple stakeholders, including program advisors/organizers, accrediting bodies, affiliated universities, enrolled colleges, tutors, other healthcare professionals, and the students themselves, as well as standardized patients. The PMC will supervise the assessment process, which medical universities will carry out in their affiliated colleges.

### 3. What should be assessed?

• All relevant competencies must be assessed. The objectives of the integrated curriculum should align with the content being assessed, considering the teaching context. The chosen assessment materials should reflect valued competencies such as higher-order thinking, clinical skills, behavior/attitudes, and professionalism, among other essential requirements.

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

## **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:

Written assessment (50%)

Multiple Choice Questions (MCQs)	40% Will be as USMLE format
Extended Match Questions (EMQ)	10%

Short answer questions (SAQs)50%

#### a. Performance (Practical) assessment (50%)

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

#### 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
- 80% attendance in each subject will be mandatory
- Student must pass in all LMS, mid module assessments to appear in EBA
- There will be no remedial classes for attendance compensation
- There will be no remedial of assessment after poor performance
- 7. Eligibility to appear in Pre-Annual Assessment (PAA)
- 80% attendance in each block is required to appear in PAA
- It is mandatory to appear in all EBA to appear in PAA
- Appraisal letter from head of departments will be needed to appear in pre-annual assessment.

### 8. Attendance policy

- 90% attendance in each block is required to appear in PAA
- There will be extra marks given as per rules.
- Attendance of the students will be shared by coordinator of module and DME through vice chancellor RMU on weekly basis.
- These marks will be counted in annual professional assessment.
- 9. Eligibility to appear in annual professional assessment
- Minimum 60% score in pre-annual assessment is required to appear in annual professional examination.
- Written and practical /OSPE/OSCE should be passed separately.

### 10. Passing criteria in annual professional examination

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

### 11. Total break up of assessment score

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

## **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.

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

Blocks	Modules	Anatomy	Physiology	Biochemistry	Total
DL L I	Module 1	200	200	200	600
Block 1 1470 Marks	Module 2	200	200	200	600
14/0 Marks	Block Exam	90	90	90	270
	Total	490	490	490	1470
DI 10	Module 1	200	200	200	600
Block 2 1470 Marks	Module 2	200	200	200	600
14/0 Marks	Block Exam	90	90	90	270
	Total	490	490	490	1470
<b>DI</b> 1.2	Module 1	200	200	200	600
Block 3	Module 2	200	200	200	600
<u>1470 Marks</u>	Block Exam	90	90	90	270
	Total	490	490	490	1470
Total Marks		1470	1470	1470	4410

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

B: CIA to be calculated from Summative assessments throughout the academic year 2024

Blocks	Modules	Anatomy	Physiology	Biochemistry	Total
	Module 1	200	200	200	600
Block 1	Module 2	200	200	200	600
1470 Marks	Block Exam	90	90	90	270
	Total	490	490	490	1470
DI	Module 1	200	200	200	600
Block 2 1470 Marks	Module 2	200	200	200	600
1470 Marks	Block Exam	90	90	90	270
	Total	490	490	490	1470
DI - 1 - 0	Module 1	200	200	200	600
Block 3 1470 Marks	Module 2	200	200	200	600
1470 Marks	Block Exam	90	90	90	270
	Total	490	490	490	1470
Total Marks	A.	1470	1470	1470	4410

Important Note:
Once internal assessment is compiled it
CANNOT be altered under ANY circumstance
unless a clerical/ human error is detected. He will
repeat classes and skillsThere 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.

## Table of Specification of Assessment for 3rd Year MBBS 2024

#### Preamble

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

## **Components of TOS:**

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

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

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

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

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

### Module assessment strategies:

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

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

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

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

**EMQs:** EMQs are designed to assess a candidate's clinical reasoning and decision-making skills by presenting a series of patient scenarios or clinical vignettes along with a list of options.

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

**SEQs:** Short essay questions serve as an effective tool for assessing students' comprehension, critical thinking, and communication skills. They encourage active engagement with course material, promote deeper understanding, and provide instructors with valuable insights into students' learning processes. As such, SEQs remain a cornerstone of assessment in educational institutions worldwide.

Audio-Visual assisted OSPE: An audio-visual assisted OSPE (Objective Structured Practical Examination) refers to a method of assessment commonly used in medical education and other fields where practical skills are essential. Students are shown certain videos or visuals after which they have to answer the given questions.

## **Block assessment strategies:**

- 1. LMS based Assessment
- 2. Objectively Structured Viva Examination (OSVE)
- 3. Objectively Structured Practical Examination (OSPE): It has 2 components:
- a. iOSPE: Integrated Objectively structured practical examination
- b. cOSPE: Clinically integrated Objectively structured practical examination.

**Objectively Structured Viva Examination (OSVE):** An objectively structured viva examination is a type of assessment method designed to evaluate a candidate's knowledge and skills in a structured and systematic manner. In this format, candidates are typically presented with a series of questions or tasks that are standardized and predetermined. These questions or tasks are designed to assess specific learning objectives or competencies.

**Objectively Structured Practical Examination (OSPE):** An objectively structured practical examination (OSPE) is a type of assessment method used to evaluate practical skills and competencies in a structured and standardized manner. In an OSPE, candidates move through a series of stations or tasks, each designed to assess specific practical skills or competencies.

Module	Subjects		The	ory		Total time	Break	OSPE	AED Reflective Writing	Total Module time	Time for logistics	Days required for module Assessment	
		MCQs	EMQs	SEQs	SAQs			Av					
	Pharmacology	25 mins 5 mins		75 mins 50 mins		180 mins	35 mins	50 mins	45 mins	4 Hrs 35 mins	50 mins		
Module I	Pathology	25 mins	5 mins	75 mins	50 mins	180 mins	35 mins	50 mins	45 mins	4 Hrs 35 mins	50 mins	3 days	
	Forensic Medicine	25 mins	5 mins	75 mins	50 mins	180 mins	35 mins	50 mins	45 mins	4 Hrs 35 mins	50 mins		
	Pharmacology	25 mins	5 mins	75 mins	50 mins	180 mins	35 mins	50 mins	45 mins	4 Hrs 35 mins	50 mins		
Module	Pathology	25 mins	5 mins	75 mins	50 mins	180 mins	35 mins	50 mins	45 mins	4 Hrs 35 mins	50 mins	3 days	
II	Forensic Medicine	25 mins	5 mins	75 mins	50 mins	180 mins	35 mins	$\frac{50}{\text{mins}}$ 45		4 Hrs 35 mins	50 mins		
	Behavior Sciences	15 mins	5 mins	45 mins	20 mins	1 hr 25 mins	25 mins	No break	-	1 hr 50 mins	10 mins	2 hours	
			]	Lab OSPE	4								
	Subjects	*Batch A	*Batch B	*Bat	ch C	Total time per		**OSVE		***LMS ba Assessme		Total Days Required	
Block		Day 1	Day 2	Da	y 3	subject							
	Pharmacology	6 hrs	6 hrs	6 ł		18 hrs		per batch/		2 hours			
	Pathology	6 hrs	6 hrs	6 ł		18 hrs	· · · · · · · · · · · · · · · · · · ·	per batch/				3 days	
	Forensic Med	6 hrs	6 hrs	6 h	nrs	18 hrs	4 hrs	per batch/	day				

## Assessment Time Distribution Summary for Modules & Blocks

*Each batch consists of 120 students	**Time required per student= 3 mins
1 round of 20 students= 80 mins	Total time for 120 students= $3 \times 120 = 360$
Total time for Lab OSPE= 80 X 6= 480 mins	

*** LMS based Assessment will be taken from 9:00 pm till 11:00 pm in every Block.

## **Days Calculation**

Sr No	Modules	Days Required	Total Assessment days	Total Assessment Time per subject in all Module & Blocks		
1	Foundation 1	3				
2	Foundation II	3		Pharmacology 9 days i.e. 54 hours		
3	Block 1	3				
4	GIT & Hepatobiliary	3				
5	Microbes & Anti Microbials	3	27 days i.e 162 minutes	Pathology 9 days i.e. 54 hours		
6	Block II	3				
7	Haematology & Immunology	3		Forensic Medicine 9 days i.e. 54 hours		
8	CVS & Respiration	3		Behavior Sciences		
9	Block III	3		9 hours		

										- 8	Blue	Print of	Asses	smer	nt for 3rd	Year M	MBBS 202	4							
													Ta	ble of !	specification	8									
													Modu	le Exar	nination Incl	ude									
												<u></u>	Written '	Theory	<b>Based Asses</b>	sment									
	S 11			-	a	<u>.</u>	()					A	idio Visu	al Aid	assisted Asso	essment							<u>10</u> - 12		14 C
Modules	Subject	MCQs*	Marks	EMQs*	Marks	SAQs*	Marks	SEQs*	Qs* Marks Core Subject 70% Horizontal & V Integration								Spiral Integra	ation 10%	Total Marks Theory	Total Time	Av OSPE*		Time	AED Reflective	Total Time of Module Assessment
									-	MCQs	EMQs	SAQ/SEC	MCQs	EMQs	SAQs/SEQs	MCQs	EMQs	SAQs/SEQs	SA DA DA CASA CASA		Stations	Marks		Writting	And a second second second
Foundation I	Pharmacology	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
Foundation I	Pathology	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
	Forensic 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
		87.	8 2		N 1		117	8	( <u> </u>	2142	Yie	.W	M	odule 2	Examination	2		- 6-9	18	(i)	9	153	10		8
Modules Subject MCQs* Marks EMQs* Marks SAQs* Marks SAQs* Marks SEQs* Marks SE											Time	AED	Total Time of Module												
		eneer L								MCQs	EMQs	SAQ/SEC	MCQs	EMQs	SAQs/SEQs	MCQs	EMQs	SAQs/SEQs	Theory	Theory	Stations	Marks		Writting	Assessment
	Pharmacology	25	25	1	5	5	25	5	45	19	1	7	4	•	2	2	0	1	100	3 HRS	10	50	50 min	45 mins	4 hrs 35 minutes
Foundation II	Pathology	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
	Forensic 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
	Behaviour Sciences	13	13	1	5	2	15	3	27	9	1	3	2	0	1	2	0	1	50	1 hour	5	15	25 min		1 hr 25 minutes
		disa tarawa	2012/04/08	Bloc	k Exami	ination	Include	10000	102-005	100	1000	20 22 3	14 - 19 A.	-1555				4.0 - A.S	201 - DAVAR	0050108	a - 204.2	MUSCOC.	0.000000	NG 10	
				LM	IS Base	d Assess	sment												Weekby 18	AS Based As	comment				
				Skill	lab Ass	essment	t(OSPE)	8							3				weekiyu	no baseu ro	Pessenen				
				Labor	atory-B	ased As	sesmen	t							6				Table	of Specifica	tion				
		OB	SERVED	0 & STRU	ICTURE	D VIVA	EXAMIN	ATION	(OSVE)	(									Tach	or specifica	lion				
	LMS Base	d Assess	ment			Lab (	OSPE*				0	SVE***		1											
BLOCK	Subjects		MCQs		Observ ed	Marks	Unobs erved	Marks	Time**	Mod	lule 1		ule 2	Time			Subjects	Pharmacology	Pathology	Forensic Medicine	Beahviour Sciences	Clinical Science			
	sugrees	F1	F2	F1&2						Viva Marks	Copy Marks	Viva Marks	Book Marks			_	of MCQs*	15	15	15	5	10			
	Pharmacology	15	15	30	10	50	10	50	6 hrs	45	5	45	5	4 hrs			larks/MCQ	15	15	15	5	10			
(BLOCK I)	Pathology	15	15	30	10	50	10	50	6 hrs		5	45	5	4 hrs	4	Te	otal Marks		Silen-	60	1	0.			
1	Forensic Medicine	15	15	30	10	50	10	50	6 hrs	45	5	45	5	4 hrs			*MCQ=1 M	Mark each, 1 min e	ach						
	Behaviour Sciences	5	5	10	3	15	2	10	•						1										
*****	=1 Mark each		EMO-5	Mark ea	ch		SAQ=5	Mark an	ch	-		7 Mark ea	•	1											
mes	**Time=1 Round of 40		and the local division of the local division	the second s	sii .	-	arra - a	Hark ca		-	anist-	/ mark car		1											
	**Time=3 Round of 40					1																			
and which in the local part of the second second	of Behaviour Sciences	vill be ta	ken wit	and the second se	cology,																				
	***OSVE=Time per			_		1																			

## **Blue Print For Module Assessment for Third Year MBBS**

## ble of Specification (TOS) of all Examining Subjects

#### **Preamble:**

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

#### Statutes:

- 1. Schedule: The third Professional MBBS shall be held at the end of third year.
- 2. Subjects: Every candidate shall be required to study the following subjects in each block
  - a. Core subjects- Forensic Medicine, Pathology, Pharmacology, Behavioural Sciences
  - b. Horizontally Integrated Subjects- Inter departmental integration with 3rd year subjects
  - c. Vertically Integrated Subjects- Medicine, Surgery, Gynae, Peads
  - d. Spirally Integrated subjects- Research, family medicine
  - e. General Cluster ALPHA (Artificial Intelligence, Leadership, Professionalism, Humanities and Arts).
- 3. Assessments: There will be four sections (1 for each subject) as per block of third professional examination

#### **Third Professional Examination- Total Marks: 900**

- i. Block 1 Assessment (Foundation I & II) -300Marks (Theory: 210+ CIA: 90)
- ii. Block 2 Assessment (GIT & Microbial, Antimicrobial) 300 Marks (Theory: 210+ CIA: 90)
- iii. Block 3 Assessment (Heamatology & CVS, Respiration)- 300 Marks (Theory: 210+ CIA: 90)

- 4. Continuous Internal Assessment (CIA): Continuous Internal Assessment means the assessment based on continuous internal assessment (CIA) tests given to the students during an academic period. Each block will have weightage of 30%.
- 5. Block Assessment: Each Block assessment will comprise of two components, "Theory (Cognitive)" and "Practical (psychomotor)".

#### 5.1 Domains

- a. Cognitive domain: Theory/Written assessment
- b. Psychomotor domain: Practical/ Performance assessment
- 5.2 Instructional strategies: Instructional strategies use for assessment of cognitive domain will include
  - 5.2.1. Cognitive Domain (Theory/written): It will have MCQs and SEQs with a weightage ratio of 70% and 30% respectively.

#### 5.2.1.1. MCQs:

It will be single best type of multiple choice question (MCQs) with one stem and five options. Integration ratio in multiple choice questions will be 70% core subject knowledge, 10% will be horizontally integrated subjects, 10% Vertical &10% spiral Integration. Each mcq will carry 1 mark and time allowed per mcq will be 1 minute.

#### 5.2.1.2. Structured Essay Type Questions (SEQs)

Each structured essay type question will carry 5 marks and time allowed per seq will be 10 minutes.

5.2.2. Practical (Psychomotor) Component: It will consist Objective Structured Practical Examination (OSPE) with a total of 13 stations with 5 minutes

per station. Duration of each OSPE circuit will be 1 hour and 5 minutes.

- i. Laboratory OSPE (Lab OSPE): This section will comprise of practical components of core subject areas.
- ii. Integrated OSPE (I OSPE): This section will comprise of horizontal and vertical integration.
- iii. Objective Structured Clinical Examination (OSCE): This section will comprise of stations to evaluate the student's ability to apply theoretical

knowledge in a practical, clinical setting.

- iv. Objective Structured Viva Examinations (OSVE): where student will be examined by the internal & external examiner using a structured making rubric.
- 6. Examination Eligibility: Eligibility to appear in professional will be as per RMU Assessment Policy approved by the Academic Council and Syndicate.
- 7. Passing Criteria: A student will be declared successful in a block assessment if they score more than 50% in each block assessment component (Theory and Practical) and more than 50% marks in each core subject
- 8. Supplementary Examination Criteria: The student who is unsuccessful in a block assessment will have to appear in the supplementary examination of the entire block.
- As per UHS Assessment Policy, Page no. 380

#### **SECTION I:**

### **Continuous Internal Assessment (CIA)**

Marks breakup of continuous internal assessment: block wise breakup of marks for continuous internal assessment (30%) is given in the Tables.

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

#### A, I: Original Mark Distribution of Continuous Internal Assessment (Block Wise)

Blocks	Subjects	otal marks	Module 1	Module 2	Fotal marks
	Pathology	30 marks	15 marks	15 marks	
Block 1	Pharmacology	30 marks	15 marks	15 marks	90 Marks
90 Marks	Forensic Medicine	20 marks	10marks	10 marks	
	Sehavioural Sciences	10 marks	05 marks	05 marks	
	Pathology	30 marks	15 marks	15 marks	
Block 2	Pharmacology	30 marks	15 marks	15 marks	90 Marks
90 Marks	Forensic Medicine	20 marks	10marks	10 marks	
	Behavioural Sciences	10 marks	05 marks	05 marks	
	Pathology	30 marks	15 marks	15 marks	
Block 3	Pharmacology	30 marks	15 marks	15 marks	90 Marks
90 Marks	Forensic Medicine	20 marks	10marks	10 marks	50 WILLINS
	ehavioural Sciences	10 marks	05 marks	05 marks	
				Total marks	270 Marks

## A, II: Original Distribution of Continuous Internal Assessment (Subject Wise)

Subjects	Marks in professional in all Blocks (I,II,III)		ry marks cks (I,II,			/OSVE blocks(I		Internal Assessment in all blocks (I,II,III)	Total Marks
Pharmacology	210	35	<b>105</b> 35	35	35	<b>105</b> 35	35	90	300
Pathology	210	35	<b>105</b> 35	35	35	<b>105</b> 35	35	90	300
Forensic Medicine	140	20	<b>70</b> 20	30	20	<b>70</b> 20	30	60	200
Behaviour Sciences	70	15	<b>35</b> 15	5	15	<b>35</b> 15	5	60	100
Grand Total									900

#### SECTION II Table of specifications of Annual MBBS third professional Examinations 2024, Batch 49 (As per UHS,2022)

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

Block	Subjects	Theory	Practical	Total marks
	Pathology	35 marks	35 marks	70 marks
	Pharmacology	35 marks	35 marks	70 marks
Block 1	Forensic Medicine	20 marks	20 marks	40 marks
DIOCK I	Behavioural Sciences	15 marks	15 marks	30 marks
	Total	105 marks	35 marks35 marks35 marks35 marks35 marks35 marks20 marks20 marks15 marks15 marks05 marks105 marks05 marks35 marks35 marks35 marks35 marks35 marks35 marks15 marks20 marks15 marks15 marks15 marks35 marks35 marks35 marks35 marks35 marks15 marks35 marks30 marks30 marks05 marks05 marks	210 marks
	Subjects	Theory	Practical	Total marks
	Pathology	35 marks	35 marks	70 marks
Block 2	Pharmacology	35 marks	35 marks	70 marks
DIUCK 2	Forensic Medicine	20 marks	20 marks	40 marks
	Behavioural Sciences	15 marks	15 marks	30 marks
	Total	105 marks	105marks	210marks
	Subjects	Theory	Practical	Total marks
	Pathology	35 marks	35 marks	70 marks
Block 3	Pharmacology	35 marks	35 marks	70 marks
DIUCK J	Forensic Medicine	30 marks	30 marks	60 marks
	Behavioural Sciences	Forensic Medicine20 marks20 marksBehavioural Sciences15 marks15 marksTotal105 marks105 marksSubjectsTheoryPracticalPathology35 marks35 marksPharmacology35 marks35 marksForensic Medicine20 marks20 marksBehavioural Sciences15 marks15 marksTotal105 marks105 marksSubjectsTheoryPracticalPathology35 marks35 marksForensic Medicine20 marks105 marksPharmacology35 marks35 marksSubjectsTheoryPracticalPathology35 marks35 marksSubjectsTheoryPracticalPathology35 marks35 marksSharmacology35 marks35 marksSubjectsTheoryPracticalPathology35 marks35 marksSubjectsTheoryStarksSubjectsTheoryStarksSubjectsTheoryStarksPathology35 marks35 marksSubjectsStarks30 marksSubjectsStarks30 marksSubjectsStarks30 marksSubjectsStarks30 marksStarks30 marks30 marksStarksStarks30 marksStarksStarks30 marksStarksStarks30 marksStarksStarks30 marksStarksStarks <td>05 marks</td> <td>10 marks</td>	05 marks	10 marks
	Total	105 marks	105marks	210marks
GRAN	ND TOTAL MARKS		630 Marks	

### A: Subject wise distribution of Marks for 3rd year MBBS (Batch 49)

	The	eory		Pr	actical						
Subject	Component	No of Items	Marks	Component	No of Items	Marks	Total Marks				
				LabOSPE	5	25					
Block 1	Section I-MCQ	60	60	iOSPE	3	15					
(Foundation I &	Section II-SEQ	09	45	ciOSPE	2	10	210				
Foundation I &			75	OSCE	3	15					
Total marks with CIA				OSVE	3	40					
=210+90=300	Continuous Internal A (30%)	ssessment	45	Continuous Internal Asso	essment (30%)	45	90				
	Total Mark	s	150	Total Mark	KS	150	300				
				LabOSPE	5	25					
	Section I-MCQ	60	60	iOSPE	3	15					
Block 2	Section II-SEQ	09	45	ciOSPE	2	10	210				
(GIT & MICROBES)	Section II-SEQ		45	OSCE	3	15					
Total marks with CIA				OSVE	3	40					
=210+90= 300	Continuous Internal A (30%)	ssessment	45	Continuous Internal Asso	essment (30%)	45	90				
	Total Mark	s	150	Total Mark	KS	150	300				
				LabOSPE	6	30					
	Section I-MCQ	60	60	iOSPE	3	15					
Block 3	Section II-SEQ	09	45	ciOSPE	3	15	210				
(CVS & Respiration)	Section II-SEQ		-Т	OSCE	1	05					
Total marks with CIA				OSVE	3	40					
Total marks with CIA =210+90= 300	Continuous Internal A (30%)	ssessment	45	Continuous Internal Asso	essment (30%)	45	90				
	Total Mark		150	Total Mark	KS	150	300				
Grand Total											

## **B:** Block wise distribution of Marks for 3rd year MBBS

## C: Theme wise marks breakup of blocks 3rd Professional Examination 2024 Block I Assessment as per UHS Foundation I &II Module

			Theory				Practical	_			Total I per su	
Theme	Subject	No of MCQs (1 marks each)	No of SEQs (5 marks each)	Marks	No of Stations of Lab OSPE (5 marks each)	No of Stations of iOSPE (5 marks each)	No of Stations of ciOSPE (5 marks each)	No of Stations of OSCE (5 marks each)	OSVE	Marks	Total Marks	%
Pathophysiology of Inflammation, Cell injury	Pathology	20	3	35	2	1	1	NA	15	35	70	33.3%
General Pharmacology and Drugs used in Autonomic nervous system	Pharmacology	15	4	35	2	1	1	NA	15	35	70	33.3%
Law related to medical man, Personal Identification & Thanatology	Forensic Medicine	10	2	20	1	1	NA	NA	10	20	40	19%
Psychosocial Assessment, Non-Pharmacological Interventions,Communication skills and Informational care	Behavioural Sciences	15	0	15	NA	NA	NA	3	NA	15	30	14.2%
Total	Total			105	5x5=25	3x5=15	2x5=10	3x5=15	35	105		100%
Grand Tota	Grand Total		105					105			21	0

## Block II Assessment as per UHS GIT & Microbes Module

			Theory				Practical				Total I per su	
Theme	Subject	No of MCQs (1 marks each)	No of SEQs (5 marks each)	Marks	No of Stations of Lab OSPE (5 marks each)	No of Stations of iOSPE (5 marks each)	No of Stations of ciOSPE (5 marks each)	No of Stations of OSCE (5 marks each)	OSVE	Marks	Total Marks	%
Pathophysiology and disorders of GIT and microbes	Pathology	15	4	35	2	1	1	NA	15	35	70	33.3%
Drugs used in GIT and antimicrobials	Pharmacology	20	3	35	2	1	1	NA	15	35	70	33.3%
General & Special Toxicology, Medicolegal Autopsy	Forensic Medicine	10	2	20	1	1	NA	NA	10	20	40	19%
Counselling of patients,Crisis intervention, conflict resolution,empathy	Behavioural Sciences	15	0	15	NA	NA	NA	3	NA	15	30	14.2%
Tota	1	60	9x5=45	105	5x5=25	3x5=15	2x5=10	3x5=15	35	105		100%
Grand T	Grand Total		105					105			21	0

			Theory				Practical				Total M per su	
Theme	Subject	No of MCQs (1 marks each)	No of SEQs (5 marks each)	Marks	No of Stations of Lab OSPE (5 marks each)	No of Stations of iOSPE (5 marks each)	No of Stations of ciOSPE (5 marks each)	No of Stations of OSCE (5 marks each)	OSVE	Marks	Total Marks	%
Pathophysiology and disorders of Blood and CVS, Respiration	Pathology	20	3	35	2	1	1	NA	15	35	70	33.3%
Drugs used in disorders of Blood and CVS, Respiration	Pharmacolo gy	20	3	35	2	1	1	NA	15	35	70	33.3%
Medicolegal aspects of Traumatology, Asphyxia , sexual offences, Pregnancy, delivery, abortion & Infanticide	Forensic Medicine	15	3	30	2	1	1	NA	10	30	60	28.5%
Depressive disorder, Use of digitalization for mental health, Drug abuse , alcohol and tobacco use Suicide and self-harm	Behavioural Sciences	05	0	05	NA	NA	NA	1	NA	05	10	4.7%
Total		60	9x5=45	105	5x5=25	3x5=15	2x5=10	3x5=15	35	105		100%
Grand Tota	al		105					105			21	0

## Block III Assessment as per UHS Haematology & CVS& Respiration Module

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			The	ory Base	d Asses	sment				Practical	Assessmen	nt						
300)	М	ICQs 1	mark e	ach		SEQs	5 mark	s each		OSPI	E 5 marks o	each	(	OSVE				
Pharmacology (300)	M1 core MCQs	M2 core MCQs	spiral integration MCQs	MI & M2 total MCQs	M1 Core Questions	M2 Core questions	Spiral Integration	M1 & M2 Total questions	Theory Grand Total	Observed Stations M1 &M2 (2 lab ospe)	Unobserved Stations M1&M2(1 clinical, 1 integrated)	Total Marks	Internal + copy	External	Total Marks	Practical Total	Total Block	C.I.A
Block I	6	6	3	15(15)	1	2	1	4(20)	35	2	2	20	6+2	7	15	35	70	30
Block II	6	6	3	20(20)	1	1	1	3(15)	35	2	2	20	8	7	15	35	70	30
Block III	8	8	4	20(20)	1	1	1	3(15)	35	2	2	20	8	7	15	35	70	30

A. Table Of Specification of Pharmacology for Professional Examination 3rd Year MBBS 2024

• Total Pharmacology marks in block I, II & III = 70+70+70= 210

• Continuous Internal Assessment in block I, II & III = 30+30+30=90

• Grand total of Pharmacology in 3rd year = 300

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			The	ory Base	d Assessment				Practical	Assessmen	nt						
(200)	М	CQs 1	mark e	ach	SEQs	5 mark	s each		LOSP	E 5 marks	each	(	OSVE	2			
Forensic Medicne (200)	M1 core MCQs	M2 core MCQs	integration MCQs	M1 & M2 total MCQs	M1 Core Questions M2 Core questions	Spiral Integration	M1 & M2 Total questions	Theory Grand Total	Observed Stations M1 &M2 (2 lab ospe)	Unobserved Stations M1&M2(1 clinical, 1 integrated)	Total Marks	Internal + copy	External	Total Marks	Practical Total	Total Block	C.I.A
Block I	3	3	4	10(10)	1	1	2(10)	20	1	1	10	5	5	10	20	40	20
Block II	3	3	4	10(10)	1	1	2(10)	20	1	1	10	5	5	10	20	40	20
Block III	6	6	3	15(15)	2	1	3(15)	30	2	2	20	5	5	10	30	60	20

**B.** Table Of Specification of Forensic Medicine for Professional Examination 3rd Year MBBS 2024-2025

• Total Forensic Medicine theory + OSPE + OSVE marks in block I, II & III = 40+40+60= 140

• Continuous Internal Assessment in block I, II & III = 20+20+20= 60

• Grand total of Forensic Medicine in 3rd year = 200

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			The	ory Base	d Asses	sment				Practical A	Assessmen	t						
(0	М	CQs 1	mark e	ach		SEQs	5 mark	s each		OSPE	5 marks e	each	(	DSVE	2			
Pathology (300)	M1 core MCQs	M2 core MCQs	spiral integration MCQs	M1 & M2 total MCQs	M1 Core Questions	M2 Core questions	Spiral Integration	M1 & M2 Total questions	Theory Grand Total	Observed Stations M1 &M2 (2 lab ospe)	Unobserved Stations M1&M2(1 clinical, 1 integrated)	Total Marks	Internal + copy	External	Total Marks	Practical Total	Total Block	C.I.A
Block I	8	8	4	20(20)	1	1	1	3(15)	35	2	2	20	6+2	7	15	35	70	30
Block II	6	6	3	15(15)	1	2	1	4(20)	35	2	2	20	8	7	15	35	70	30
Block III	8	8	4	20(20)	1	1	1	3(15)	35	2	2	20	8	7	15	35	70	30

**C.** Table Of Specification of Pathology for Professional Examination 3rd Year MBBS 2024-2025

• Total Pathology marks in block I, II & III = 70+70+70= 210

• Continuous Internal Assessment in block I, II & III = 30+30+30= 90

• Grand total of Pathology in 3rd year = 300

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			The	ory Base	d Asses	sment				Practical .	Assessmen	t						
(0	Μ	ICQs 1	mark e	ach		SEQs	5 mark	s each		OSCE	2 5 marks o	each		OSVE	2			
Pathology (300)	M1 core MCQs	M2 core MCQs	spiral integration MCQs	M1 & M2 total MCQs	M1 Core Questions	M2 Core questions	Spiral Integration	M1 & M2 Total questions	Theory Grand Total	Observed Stations M1 &M2	Observed Stations M1&M2(Integrated)	Total Marks	Internal + copy	External	Total Marks	Practical Total	Total Block	C.I.A
Block I	5	5	5	15(15)	NA	NA	NA	NA	15	2	1	15	NA	NA	NA	15	30	10
Block II	5	5	5	15(15)	NA	NA	NA	NA	15	2	1	15	NA	NA	NA	15	30	10
Block III	1	2	1	05(05)	NA	NA	NA	NA	05	1	0	05	NA	NA	NA	05	10	10

**D.** Table Of Specification of Behaviour Sciences for Professional Examination 3rd Year MBBS 2024-2025

• Total Behavioural Sciences marks in block I, II & III = 30+30+10=70

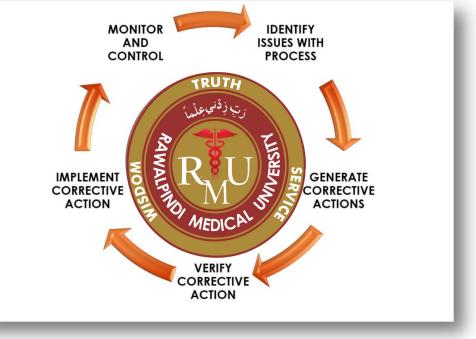
• Continuous Internal Assessment in block I, II & III = 10+10+10= 30

• Grand total of Behavioural Sciences in 3rd year = 100

## > SECTION-XI

# **Quality Assurance & Quality Enhancement**

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



## 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

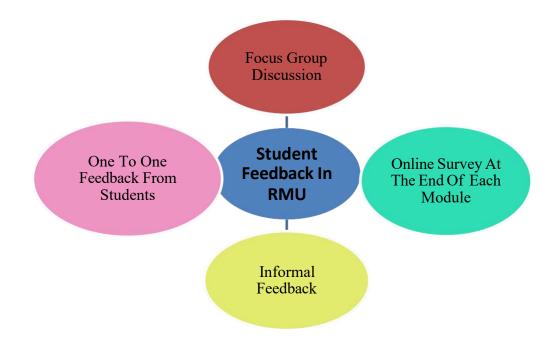
Feedback is received from students in more formal settings. These include:

### • 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

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

## Learning Resources

Questionnaire	Strongly	Agree	Uncertain	Disagree	Strongly
	Agree				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.					

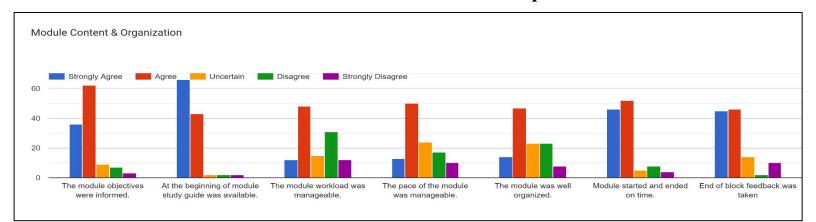
## Assessments

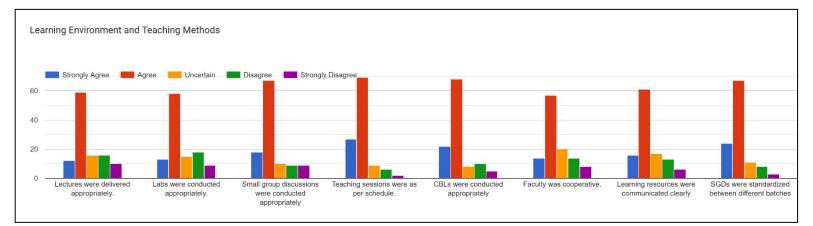
Questionnaire	Strongly	Agree	Uncertain	Disagree	Strongly
	Agree				Disagree
Class tests were conducted regularly.					
Class tests were helpful					
Test difficulty was appropriate.					
Written Assessment was as per Table of					
Specifications.					
OSPE Exam was as per Table of					
Specification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

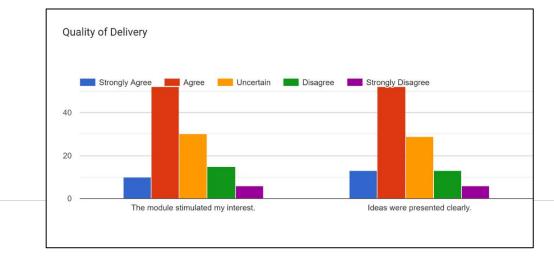
## LMS and its working

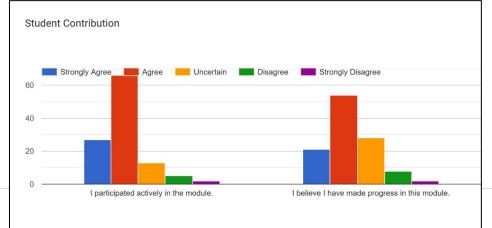
Questionnaire	Strongly	Agree	Uncertain	Disagree	Strongly
	Agree				Disagree
Easy Access to LMS					
Module Content was Available					

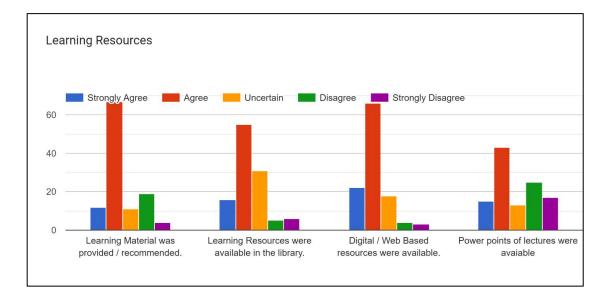
## **Student Feedback Report**

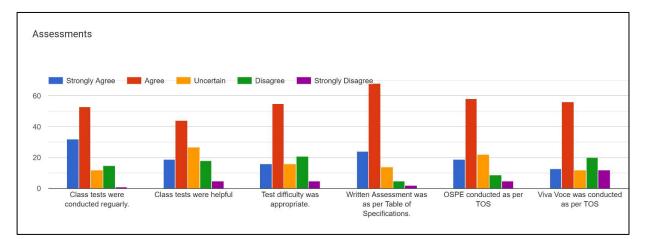


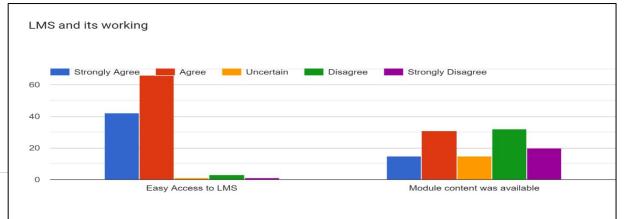




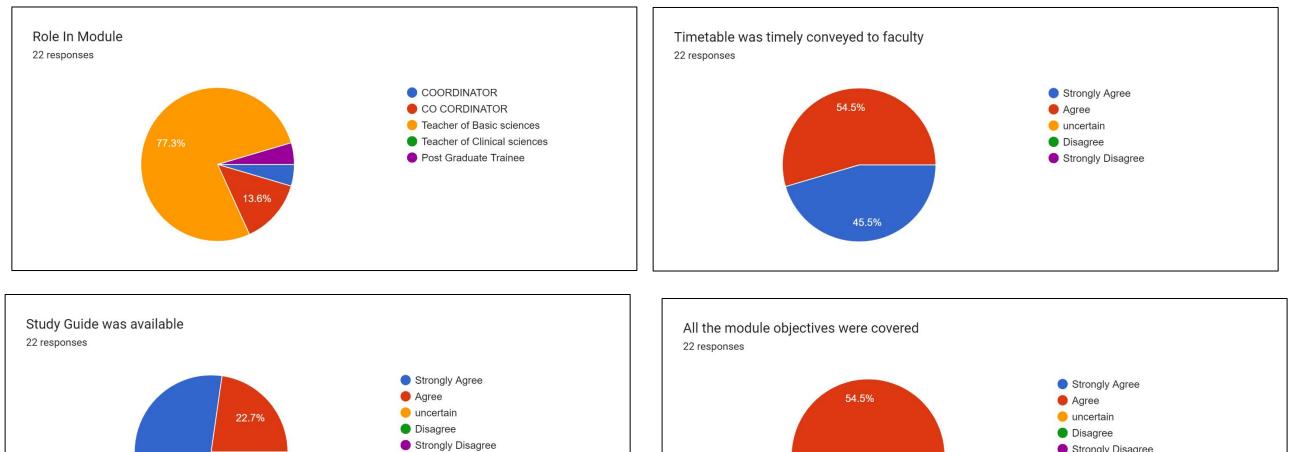


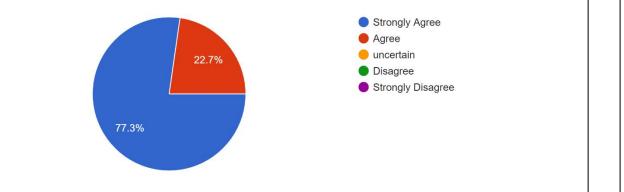


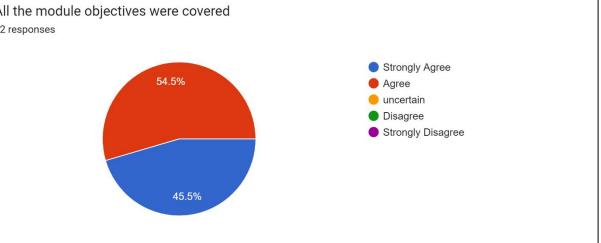


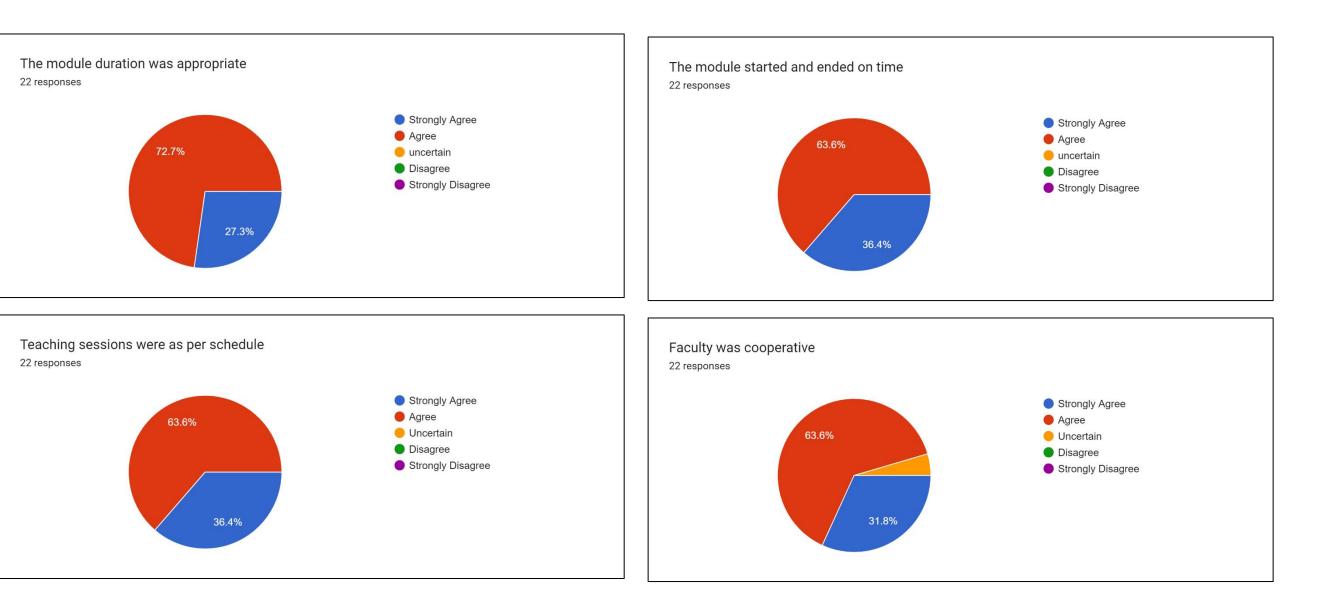


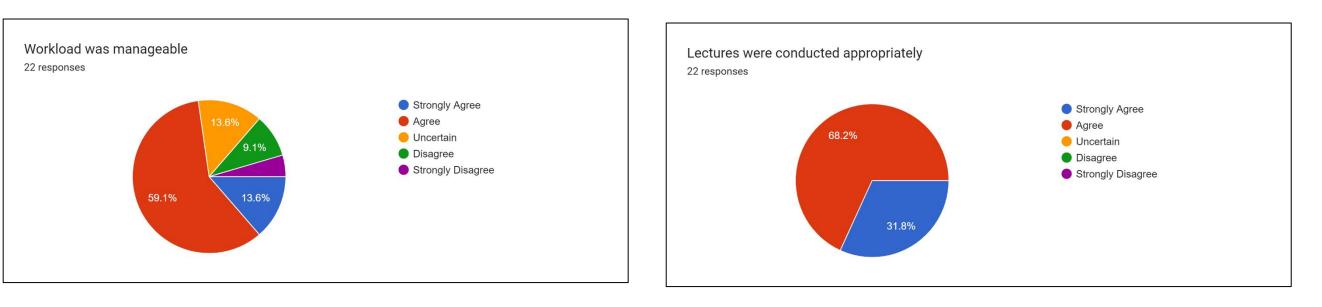
## **Faculty Feedback Report**

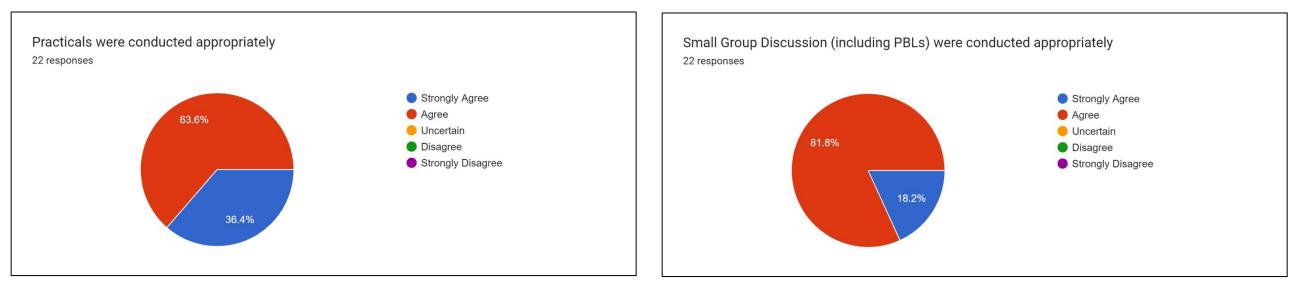


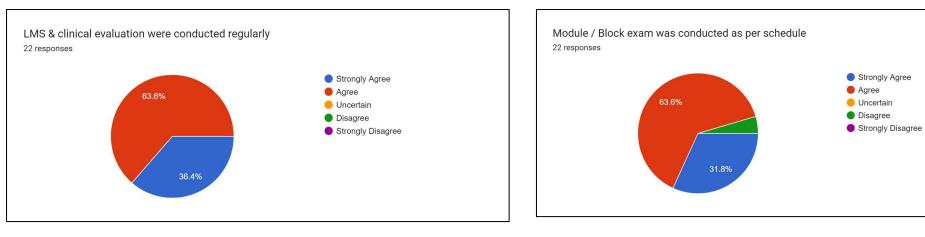


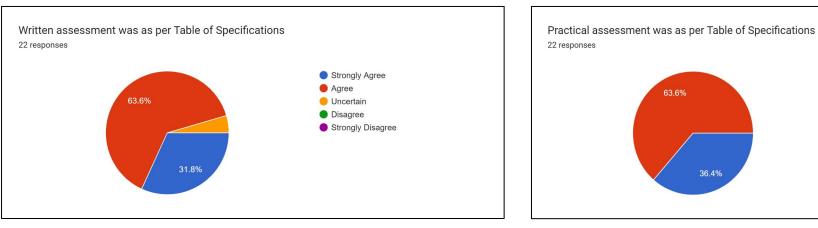


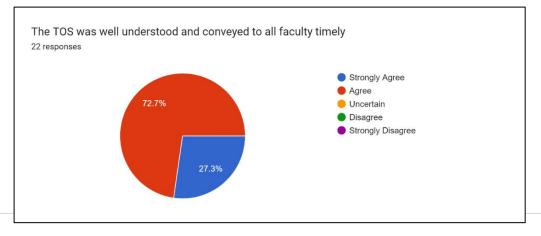












36.4%

Strongly Agree

Strongly Disagree

Agree

Uncertain

Disagree

## **SWOT Analysis of Curriculum**

## **SOWT Analysis of Implementation of IMC**

• Strength

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

• Opportunities

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

Weaknesses

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

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Deficiencies	Corrective Action/Solution								
Integration is a difficult task (how & when to	Frequent meetings with faculty and students								
integrate)									
100% Integration is NOT possible	Frequent meetings with faculty and students and do integration wherever								
	possible, at present RMU is running the curriculum at 5 th level of								
	integration of Harden's Ladder.								
Lack of consensus among teachers while preparing	Faculty development workshops & CHPE to								
curriculum	change the mind set of whole faculty.								
Dissatisfaction among subject specialists about	Content taken from subject specialist with their consensus & approval								
time & information allotted to them in the module(s)									
Lack of adequate weightage given to subjects in	Subject based assessments added in the modules.								
evaluation									
Fragmented learning of subjects with fragmented assessment	Frequent subject specialists meetings								
(subject is taught in parts in different									
years of the MBBS course.									
Too many modules may result in complex timetables among	the classes (each class of MBBS running their own modules)								
Recommendations									
Mode of information transfer									
Increasing the human resources.	As per PMC criteria								
Student centered teaching	Training of teachers								

## **Summary of Implementation Challenges of IMC**

 Mode of information transfer

 Increasing the human resources.
 As per PMC criteria

 Student centered teaching
 Training of teachers

 Use of flipped classroom technique to overcome
 As per PMC criteria Training of teachers the issue of anatomy excessive course.

 CBL & PBL
 36 CBLs & 3 PBLs have been added

 Learning And Teaching Environment
 Providing the resources conducive to learning & teaching.

 Spiral curriculum(anatomy to be incorporated in pathology and radiology lectures)
 Feedback taken at the end of each module from students

## • Future Horizon

• We plan on taking the curriculum to excellence and improving the ladder of curriculum according to Harden's ladder of curriculum

## **Quality Enhancement Cell (QEC) Report**

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

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

#### **Commendations:**

- 1. Proper, well managed integrated modular curriculum is in place under the vibrant and energetic leadership of Vice Chancellor, Prof. Muhammad Umar and Department of Medical Education. This thing has also been acknowledged by different visits by accreditation bodies like Higher Education Commission (HEC) and Pakistan Medical & Dental Commission.
- 2. Proper curriculum committee is in place with appropriate representation of the students as members.
- 3. All stakeholders are on board and are on one page regarding implementation of the integrated modular curriculum.
- 4. Regular meetings have been done by the curriculum committee.
- 5. Feedback has been taken regularly with appropriate gap interval in between.
- 6. Proper record keeping has been done by the Department of Medical Education both in soft and hard form.
- 7. As far as the assessment is concerned, newly established Examination Department is doing commendable and admirable job.
- 8. Final results are indicating that both students and faculty has adapted well to integrated modular system and they are satisfied with the system.
- 9. Campus management system is working efficiently.
- 10. Standardized format of all teaching strategies has improved the quality of the deliverance of the subject matter.

## **Recommendations:**

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

Dr. Rabbia Khalid Assistant Director Quality Enhancement Cell Rawalpindi Medical University Rawalpindi

# **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.

Title	TitleHours recommended by HEC/PMDC (to be covered from 1st to 4th year)			
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	2 credit hours (HEC)25	25 Hours		
communication technologies (ICT)	Hours (PMDC)			
Family medicine		30 Hours		
Artificial intelligence		25 Hours		
Behavioral Sciences	100 Hours (PMDC)	150 Hours TEACHING OF THE HOLY QURA AN Itranslessor) Curriculum		

Alignment of RMU Spiral Courses as per HEC Undergraduate Policy 2023 and guidelines of PMDC 2024

- 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: undergraduate-policy-2023-1pdf/261474627

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Rawalpindi Medical University

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 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 endof-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



and

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

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

#### **Communication Skills**

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

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

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

## **Behavioral Sciences**

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

#### MODULAR CURRICULUM OF BEHAVIOURAL SCIENCES FOR FIRST YEAR MBBS Institute of Psychiatr **Benazir Bhutto Hospital** Year LGIS SDI **CLINICAL ROTATION** Total 1st Year 20 hours 12 hours No clinical rotation 32 hours 2nd Year 8 hours 20 hours No clinical rotation 28 hours 3rd Year 12 hours 20 hours 28 hours 90 hours 8am-10:30am 2pm -6pm 4 days a week, 2 7 days in 2 weeks weeks rotation rotation Total 150 hours

## **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.





Prof. Muhammad Umar Vice Chancellor Rawalpindi Medical University

Dr. Sadia Azam Khan HOD Family Medicine Rawalpindi Medical University

## **Artificial Intelligence**

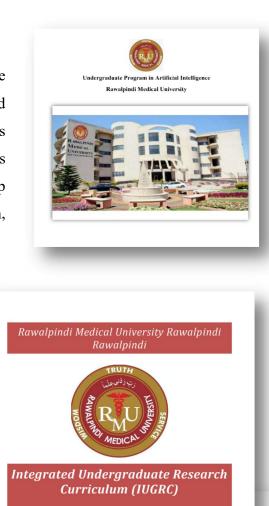
To realize the dreams and impact of AI requires autonomous systems that learn to make good decisions. Reinforcement learning is one powerful paradigm for doing so, and it is relevant to an enormous range of tasks, including robotics, game playing, consumer modeling and healthcare. This class will provide 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.

#### **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,



Vice Chancellor Rawalpindi Medical Universit

/ORIC/RMU/2

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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 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.

PLICATION OF INFORMATION AND COMMUNICATION Curriculum of Early Clinical Exposu 1st MRRS

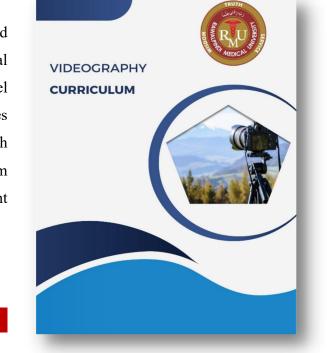
Early clinical experiences contribute to the development of a professional identity, helping students see themselves as future physicians and understand the responsibilities and ethics associated with the profession. This can help reduce the anxiety associated with clinical work by familiarizing students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

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

## 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 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**



in

#### (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

<u>Patron</u>

<u>Prepared by:</u> Prof Ifra Saeed, Professor of Anatomy

Prof Muhammad Umar, Vice Chancellor, RMU Dr Arsalan Manzoor Mughal, Associate Professor of Anatomy

S No	Title		s Recommended (to Current status in RMU vered from 1 st year Curriculum to 4 th Year)		Course development team
			<b>Recommended by HEC &amp; PMDC</b>		
1	Quran Kareem	15 x 4 = 52	Implemented 85 hours	Prof Naeem Akhtar Dr Sidra Hamid	Quran Course team
2	Introduction to Computer	$7 \ge 4 = 28$	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

<u>5</u>	Professionalism & Bioethics	$7 \ge 4 = 28$		Dr Khola Noreen	Department of Bioethics			
6	Arts & Humanities	Arts & Humanities $7 \ge 4 = 28$ New Course		Prof Fuad Khan Dr Saira	Arts Society			
			Recommended by HEC only					
7	Natural Sciences	Not required as ph	ysics, chemistry, biology etc are alrea	dy part of basic and clinical sci	ences			
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 Ep	idemiology and Biostatistics in Comm	unity Medicine curriculum				
11	Civics and Community Engagement	Already part of Community Medicine curriculum						
12	Entrepreneurship	$7 \ge 4 = 28$	Implemented 32Dr AsifAwareness Program	Rawalian Community hours	Dr Omaima Asif			
	Grand Total Hours	224 hours	Already Developed and Implemented 197 hours To be developed 112 hours					

## Time Table for General Educational Cluster (GEC) Module 3rd Year MBBS (Batch-49)

Date/Day	8:00 AM - 09:00 AM	09:00 AM - 09:50 AM	09:50 AM	10:10 AM - 11:00 AM	11:00 AM - 11:50 AM	11:50 AM	12:15 PM - 02:00 PM	04:00 PM - 06:00 PM
	LEADERSHIP	ITC		ARTIFICIAL INTELLIGENCE (AI)	VIDEOGRAPHY			
Monday	Health Education Workshop 1	Getting started with PowerPoint		Utilizing AI algorithms for early detection of diseases	Introduction to Video Editing Software		SDL	
	LEADERSHIP	ITC		ARTIFICIAL INTELLIGENCE (AI)	VIDEOGRAPHY			
Tuesday	Health Education Workshop II	Formatting & enhancing presentation skills in Microsoft PowerPoint		AI-driven drug discovery and development	Editing Workflow and Techniques	6	Expository Writring	
	LEADERSHIP	ITC		ARTIFICIAL INTELLIGENCE (AI)	VIDEOGRAPHY			
Wednesday	Group Projects I	Basics of Networking	reak	Adaptive treatment planning and optimization using AI algorithms	Audio Editing and Integration	Break	Expository Writring	
	LEADERSHIP	ITC	B	ARTIFICIAL INTELLIGENCE (AI)	VIDEOGRAPHY		ENTERPRENEURSHIP	LEADERSHIP
Thursday	Group Projects II	Security, privacy, and ethics		Challenges and limitations of AI adoption in medicine	Advanced Editing Techniques		Beta Launch	Reflective Journaling
	ITC			ENTERPRENEURSHIP	VIDEOGRAPHY	0		
Friday	Types of Software	SDL		Market Launch	Color Correction and Grading	*		
	ITC			ENTERPRENEURSHIP	VIDEOGRAPHY		ITC	
Saturday	File Management / Internet and	Expository Writring		Growth Establishment	Video Editing and Sound Design		Internet & Emails	

## **Third Year MBBS** Video Editing and Post-Production (6 hours)

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

Innovation & Entrepreneurship Advanced Projects and Portfolio Development (6 hours)

Sr No.	Торіс	Learning Objectives	Teaching Strategy	Assessment Tool
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1.	Project Planning and Management	nning and scheduling. nagement Coordinate production teams and resources effectively for video projects.		MCQs
2.	Pitching and Presenting Creative Ideas	Learn how to pitch and present creative concepts effectively. Develop communication skills to articulate and sell ideas to clients or stakeholders	LGIS	MCQs
3.	Portfolio Development	Select and organize work into a professional portfolio. Showcase growth and proficiency in videography through curated projects.	LGIS	MCQs
4.	Career Readiness and Industry Insights	Explore career opportunities in videography and media production. Understand industry trends, standards, and professional expectations.	LGIS	MCQs
5.	Advanced Video Production	<ul><li>Plan, shoot, edit, and present an advanced video project demonstrating comprehensive skills.</li><li>Apply all aspects of videography learned throughout the course to produce a polished video.</li></ul>	LGIS LGIS	MCQs
6.	Portfolio Review and Reflection	Present and discuss portfolio showcasing growth and proficiency in videography. Reflect on personal and professional development throughout the course.	LGIS	MCQs

## 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,
- 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.

## The Holy Quran Teaching

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ليکچرز	ليکچر	فيصد	ليکچر	فيصد	ليکچر	فيصد	ليکچر	فيصد	ليکچر	فيصد	سال
17	2	12	3	18	4	24	4	24	4	24	سال سوئم

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16 چوری اور رکی ^یت 17 قسم اور كفاره قسم سال چہار م ايمانيات 1 مسئلہ تقدیر اور اس کے فوائد 2 عظمت قرآن کریم کی مثال اور صفات باری تعالی
 3 رسول اللہ ﷺکی بعثت کے مقاصد عبادات 4 دعا کی اہمیت اور آداب قرآ ^زئ دعائ ی اہل ایمان کی دعا 5 انببیاء کرام علیہم السلام کی دعائ ی اخلاقيات 6 حيا 7 رئ حيائ حلم بردباري 8ہمدردی و خ یٰ خواہی 9صری و شکر معاملات 10 گواہی 11 وراثت 12 اصلاح ب زی الناس کی تر غیب اور فساد کی مذمت 13 سلام محبتوں كا شچشمہ معا شت 14 احکام نکاح 15 محر ماتوہ عورت ی جن سے نکاح ہمیشہ کے ل ئ حرام _کہ 16 عفت و یاکدام ^زت

17 عورتوں کے ساتھ حسن سلوک

## ICT Scheme

معا شت

## 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.

## **Project-Based 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.

## 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.



Digital Literacy & Learning Resources



## **Digital Services and Resources**

A Data Center is the main central hub of digital services and resources of Rawalpindi Medical University.

Following are the digital resources to enhance the educational and research capabilities of students, researchers, and faculty.

#### 1. Pakistan Education and Research Network (PERN)

Pakistan education and research network initiated by the Government of Pakistan under the administration of HEC. The main objective of PERN is to support and enhance the research and educational capabilities of public sector universities PERN provides the following research and educational facilities.

- High-speed internet bandwidth.
- Intranet Bandwidth.
- Research Bandwidth Connectivity to the following research networks.
  - 1. National Research and Education Network (NREN) Global research network.
  - 2. Trans Eurasia Information Network (TEIN),
  - 3. China Education and Research Network (CERNET)
  - 4. GEANT is the pan-European data network for research
  - 5. Canadian Network for the Advancement of Research, Industry, and Education CANARIE (Canada)

Leveraging the strides in technological innovation, The Department of Information Technology has successfully rolled out a comprehensive Wi-Fi mesh network across its campus. This transformative step ensures seamless wireless connectivity both indoors and outdoors, significantly enhancing the digital experience for students, faculty, researchers, and staff members.

Embracing the cutting-edge wireless protocol 802.11n, this network empowers each Access Point to deliver an impressive bandwidth of up to 1000 Mbps to users.

In terms of infrastructure, the campus has been equipped with a total of 81 Access Points, strategically positioned

across various locations including academic buildings, open spaces, and hostels. This comprehensive coverage ensures that users can seamlessly access the network regardless of their location on campus.

Users and Bandwidth Details				
Internet Bandwidth	230 Mbps			
Main Campus	160 Mbps			
New Teaching Block	70 Mbps			
PERN Bandwidth	120 Mbps			
Main Campus	100 Mbps			
New Teaching Block	20 Mbps			
PERN Users	1938			
Students	1385			
Faculty Members (RMU & Allied				
Hospitals)	360			
Management & Staff	78			
Technical	47			
Smart Classroom Users (Main Campus and NTB)	68			

## 2. Official / Institutional E-mail System

- Migration of unlicensed mailboxes to licensed mailboxes without any loss of data.
- Enhance the capacity of data storage in mailboxes <u>1 GB to 1 TB</u> cloud storage per user.
- Increase the number of email accounts from <u>200 to 5500</u> licensed accounts with the facility of OneDrive and Microsoft Teams.
- 5000 Microsoft A3 activated license for faculty students and researchers.

#### Features:

- ✓ Outlook (Email)
- ✓ Teams (Meeting, Research Collaboration, Research Group)
- ✓ Forms (Survey, Quiz, Polls, Reviews)
- ✓ Office Applications (Word, Excel, PowerPoint)

## 3. Software Licensing

Rawalpindi Medical University has an engagement with Microsoft through HEC for volume licensing for their faculty students and researchers which includes Turnitin, Windows Server, One Drive, MS Office 365, and MS Teams.

## **Turnitin:**

Turnitin (stylized as Turnitin) is an Internet-based plagiarism detection service.

- Unlimited license for faculty
- 300 licenses for students
- Faculty and students should have RMU's official e-mail address.
- Instructor can create a class and add students to a class for research purposes.
- Uphold academic integrity.
- Superpower your assessment
- Foster original thinking

Link: https://turnitin.com/







Microsoft 1 Office 365



#### 4. Smart Classroom (Main Campus and NTB)

The establishment of Smart Classroom setup can play a pivotal role to enhance students teachers interaction through interactive online & distance learning, bridge the gap of good faculty, meet the shortage of faculty members at the universities/ campuses located at far-flung areas and ultimately uplifting the standard of education across the board.

Rawalpindi Medical University established smart classrooms at the main campus and its branch site at NTB.

## 5. Campus Management System (CMS)

A Campus Management System (CMS) is in the implementation stage in the RMU. It will automate the different key processes of the university, from admission to examination.

#### **Student Profiling and Registration**

It includes student personal and educational information.

## Sub Modules:

- a) Digital Admission Form with supporting documents.
- b) Verification by Student Section
- c) Registration & Issuance of Registration Cards.
- d) Timetable and Calendar View.
- e) E-card printing

## **Faculty Profiling**

It includes faculty personnel, educational, research, and all relevant information.

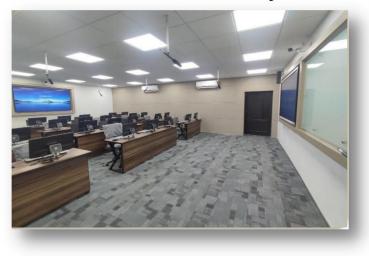
## Sub Modules:

- a) HR Section Verification
- b) Dashboard
  - i. My Profile View
  - ii. My Academic Sessions View
- C) Teacher's Attendance
- d) Student's Attendance

## Academic Module

It includes all academic activities of an integrated modular system.

#### Smart Classroom Main Campus RMU



Smart Classroom New Teaching Block (NTB) RMU



The Department of Medical Education (DME) creates and manages the modules/Sessions/Batches etc.

Faculty and Students are directly engaged with their profiles, Sessions, Timetables, and Academic Calander. **Sub Modules:** 

- a) Configuration
  - ✓ Campuses/ Hospital
  - ✓ Departments
  - ✓ Venues
  - ✓ Batches
  - ✓ Programs
- b) Academic
  - ✓ Module
  - $\checkmark$  Attendance
  - ✓ Schedules
  - ✓ Event
- ✓ Calendar A few screenshots are attached below as a reference.

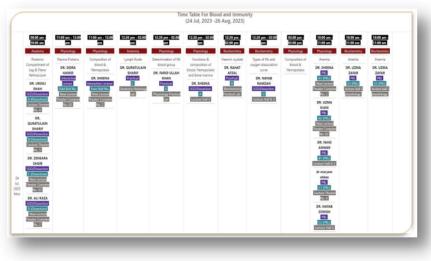
#### **Teacher Attendance**

	MY PROFILE	MY ACADEMIC SESSION	5				
- A.	Unattended	ATTENDED					
	Show 10 - e	thies					Search
	5R 1	BATCH	START/END	SUBJECT	toric (	STATUS	ACTION
	1	1st Year   USIS   Even Roll No.	16 Feb, 2023 12:00 am / 01:00 pm	Anatomy	Introduction To general Anatomy	Attended	
	2	Tot Year   LGIS   Even	17 May, 2023 1000 am / 1100 am	Anatomy	Muscle I	Attended	
	1	Tot Year   USIS   Even Roll No.	29 Aug. 2023 1000 am / 11.00 am	Anatomy	Development of CVS 1	Attended	9
	4	1st Year   USIS   Odd Roll No.	30 Aug. 2023 10:00 am / 11:00 am	Anatomy	Development of CVS 1	Attended	9
	5	Tut Year   LGIS   Oold Rull No.	31 Aug. 2023 10:00 am / 11:00 am	Aeatomy	Development of CVS 11	Attended	
	4	1st Year   LGIS   Even Roll No.	04 Sep, 2023 10:00 am / 11:00 am	Anatomy	Development of CVS 11	Attended	
	7	Tut Year   LOIS   Odd Roll No.	04 Sep, 2023 1000 am / 11:00 am	Anatomy	GA CVS 11	Attended	
	4	Tut Year   USIS   Oold Roll No.	06 Sep, 2023 10:00 am / 11:00 am	Anatomy	Development of CVS 111	Attended	8
	.9	1st Year   USIS   Even Roll No.	11 Sep. 2023 10:00 am / 11:00 am	Anatomy	Development of CVS 111	Attended	
	10	Tot Year   LGIS   Even Roll No.	12 Sep, 2023 10:00 am / 11:00 am	Anatomy	Development of CVS 4	Attended	

# Student Attendance

		DR. ARSALAN MA	ANZOOR MUGHAL
ATTENDANCE SHEET			Download Report
Department	NAME	ROLL NO	ATTENDANCE
Anatomy	ABEERA ASAD	2	Present
Teacher	ADDAN FATIMA	4	Present
DR. ARSALAN MANZOOR MUGHAL	AENA REHMAN	6	Present
Session Type	AIMA ALI	8	Present
LGIS	AIMAN SARFRAZ	10	Absent
Session Date	AIMEN JAMIL	12	Present
16 Feb. 2023	ALEESHA ZAFAR	14	Absent
Batch			
Even Roll No.	ALISHA ZEESHAN	16	Present
Topic	Alishba Sikandar	18	Present
Introduction To general Anatomy	AMAL A88AS	20	Absent
	AMNA	22	Present
fotal Students In Session : 180	AMNA IDREES	24	Present
Total Present : 177 Total Absent : 3	Amna Zafar	26	Present

## CMS Time Table



#### 6. E-Log System for Postgraduate Residency Program

PGT Portal will provide users with faster and easier access to Logbook features while offering value-added content to increase session duration and reduce bounce rate. From here, the system's detailed objectives could include the following:

## 7. Digital Library

Provide access to online international scholarly literature for research purposes. It also provides access to high quality general articles and e-books through PERN.

RMU is now offering the HEC Digital Library facility to the faculty and students, as an on-campus facility.

The Digital Library is a collection of electronic resources that provides direct/indirect access to a systematically organized collection of digital objects.

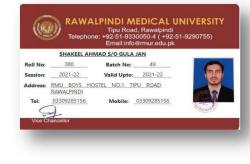
- ✓ HEC National Digital Library (DL) is a program to provide access to international scholarly e-literature.
- ✓ Providing access to high-quality, peer-reviewed journals, databases, articles, and ebooks across a wide variety of disciplines to researchers within public and private universities in Pakistan and non-profit research and development organizations.
- ✓ It provides 50,000 online full-text e-books in addition to more than 23,000 journals.
- ✓ Institute For Operations Research And The Management Sciences (Informs)
- ✓ Springerlink
- ✓ Taylor & Francis Journals
- ✓ Wiley-Blackwell Journals
- ✓ Wolters Kluwer Ovid Sp

Link: http://www.digitallibrary.edu.pk/rmc.html

## **Student Details**

					Search:	
	ROLL	STUDENT	ACADEMIC YEAR INFO	CARD TYPE	ALREADY	LAST PRINTED
Ø	30		Actionic Year: 1st Year Batch: 50 Program: Bachelor of Medicine and Bachelor of Surgery-(MBBS)	Non Boarder	785	20 Feb, 2023 01:42 am
Ø	1	Name ONC	Actiantic Year : 1st Year Batch : 50 Program : Bachelor of Medicine and Bachelor of Surgery-(MBBS)	Non Boarder	165	18 Feb, 2023 09:03 am
ø	234	Name CNIC	Acdamic Year : 1st Year Betch : 50 Program : Bachelor of Medicine and Bachelor of Surgery-(MBBS)	Non Boarder	Yes	07 Mar, 2023 10:31 am
Ø	54	Name CNC	Actionic Year : 1st Hear Batch : 50 Program : Bachelor of Medicine and Bachelor of Surgary-(MBBS)	Non Boarder	96	18 Feb, 2023 09:03 am

## **E-card Printing**



**Digital Library** 

7						
HOME	NEWS AND EVENTS	JOURNAL LISTINGS	INSTITUTIONS	USEFUL LINKS	BRITISH LIBRARY	CONTRETS
		Institutional Re	presentative		Ahmad Khan	_
5		Designation E - Mail		IT Manage info@rmu		_
		Phone Number		+92 (0)51		
		Website		http://ww	ww.rmur.edu.pk	

## 8. Content and Learning Management System (CLMS)

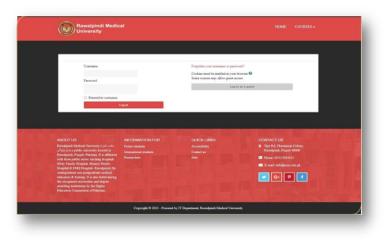
An online integrated software used for creating, delivering, tracking, scheduling, assessments, content uploading and reporting of educational courses. Link: <u>https://clms.rmur.edu.pk/login/index.php</u>

Dashboard Site bome	Rawalpindi Medical University	
Calendar Private files Contest bank	RMU LMS: DASHBOARD Musage	Reset page to default Dop customining this page
Site administration Add a block	LEARNING PLANS	TIMELINE
	RECENTLY ACCESSED COURSES	No sponning activities due
	No mean comes	PRIVATE FILES



Users:	3830
Courses:	(Active 12)
Questions:	19542
Content Folders:	370
Books:	5
Attempted Quizzes and Results:	478
Files / Notes:	70
External Links:	25
Assignments:	35





## Learning Resources

Subjects	Resources
	Core Subjects & Horizontal Integration Subjects
Anatomy	Gross AnatomyGray's Anatomy by Prof. Susan Standring 42th edition, Elsevier.Clinical Anatomy for Medical Students by Richard S. Snell 10th edition.Clinically Oriented Anatomy by Keith Moore 9th edition.Cunningham's Manual of Practical Anatomy by G.J. Romanes, 16th edition, Vol-I, II and IIIhttp://www.anatomyzone.com 3D anatomy https://teachmeanatomy.info/HistologyB. Young J. W. Health Wheather's Functional Histology 6th edition.Medical Histology by Prof. Laiq Hussain 7th edition.https://www.udemy.com/course/histology/EmbryologyKeith L. Moore. The Developing Human 11th edition.Langman's Medical Embryology 14th edition.
Physiology	Textbooks         Textbook Of Medical Physiology by Guyton And Hall 14th edition.         Ganong ' S Review of Medical Physiology 26th edition.         Reference Books         Human Physiology by Lauralee Sherwood 10th edition.         Berne & Levy Physiology 7th edition.         Best & Taylor Physiological Basis of Medical Practice 13th edition.         Guyton & Hall Physiological Review 3rd edition.
Biochemistry	Textbooks         Lippincott IIIustrated Reviews: Biochemistry – Wolters Kluwer         Harper's Illustrated Biochemistry 32th edition.         Lehninger Principle of Biochemistry 8th edition.         Biochemistry by Devlin 7th edition.
Community Medicine	TextbooksCommunity Medicine by Parikh 25th edition.Community Medicine by M Illyas 8th edition.Basic Statistics for the Health Sciences by Jan W Kuzma 5th edition.
Pathology/Microbiology	<b>Textbooks</b> Robbins & Cotran, Pathologic Basis of Disease, 10th edition. Rapid Review Pathology, 5th edition by Edward F. Goljan MD. 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					
	Textbook of Family Medicine" by Robert E. Rakel and David P. Rakel					
	Essentials of Family Medicine" by Philip D. Sloane, Lisa M. Slatt, and others					
	Textbook of Family Medicine" by Ian R. McWhinney					
	Family Medicine: Principles and Practice" by Robert B. Taylor					
Islamiat & Pak Studies	Islamiyat Lazmi by Muhammad Khalil					
	Vertical Integration Subjects					
Medicine	Textbooks					
	Harrison's Principles of Internal Medicine by J. Larry Jameson, Anthony S. Fauci, and others					
	Davidson's Principles and Practice of Medicine by Stuart H. Ralston, Ian D. Penman, and others					
	Kumar and Clark's Clinical Medicine by Parveen Kumar and Michael Clark					
	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					
	Obstetrics by Ten Teachers					
	Gynaecology by Ten Teachers					
Peadiatrics	Textbooks					
	1. Nelson Textbook of Pediatrics" by Robert M. Kliegman, Joseph St. Geme, and others					
	2. "Textbook of Pediatrics" by A. Parthasarathy					
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/					