STUDY GUIDE 3RD YEAR MBBS

BLOCK-7 (FOUNDATION, INFECTION & INLAMMATION MODULE)

SESSION: 2024-2025

**FROM THE DESK OF PRINCIPAL**

Kabir Medical College has evolved, since its inception, as an exceptionally outstanding facility to provide quality education to the students.

I must appreciate the hard work of our well experienced and dedicated faculty members and staff in maintaining high standards of medical education and the efforts they have put in Kabir Medical College to be a distinguished center of excellence.

By the grace of Almighty Allah, we are starting the integrated curriculum for 3rd year MBBS. We meet international standards of professional education by installing the system of integrated curriculum and system-based teaching of basic medical sciences. We advocate interactive sessions to improve comprehension of students as well as training them with skills of communication and self- expression

Since the establishment of Kabir Medical College, we have been working constantly to upgrade services and facilities at the campus and the attached Naseer Teaching Hospital for our students and patients.

We would like our graduates to excel as confident, responsible, and self-learning medical practitioners. With a state-of-the-art campus, experienced faculty, an up-to-date digital library, I assure you that your decision to study at Kabir Medical College will surely be a wise one, your experience here will be profoundly enriching and you will become an asset to the nation and international community health care professionals.

Brig. Ahmad Hussain Mishwani(R)

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Principal, Kabir Medical College

Gandhara University, Peshawar.

**MESSAGE FROM DIRECTOR MEDICAL EDUCATION**

On behalf of the block team, I would like to welcome you to integrated curriculum for 3rd year MBBS.As a part of the system-based curriculum, this module is an integrated presentation comprises system -based modules which links basic science knowledge to clinical problems. Integrated teaching means that subjects are presented as a meaningful whole. Students will be able to have better understanding of basic sciences when they repeatedly learn it in relation to clinical examples. Small group discussions, early exposure to clinics, wards, and skills acquisition in skills lab are characteristics of integrated teaching program.

Our mission is to provide all educational opportunities to our students. Therefore, on completion of the MBBS program, graduate will possess an appropriate foundation of knowledge, skills and attitudes to be well prepared to practice safely and effectively. This study guide includes the course contents of the module, the learning objectives, practical, topics of the small group discussions. It also includes the assessment plan for the block exam.

As Director Medical Education I will be meeting with the facilitators to receive the feedback and will try to resolve any difficulties or problems you face during the block. Please do not hesitate to contact DME at any time if you need any academic help. I wish you an enjoyable and learning experience with integrated curriculum for 3rd year MBBS.

**Dr. Marina Khan**

**BDS, MPH, DPFME, MHPE**

**Director Medical Education**

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|  | **BLOCK TEAM**  **Dr. Marina Khan**  **Director DME** | | [**marinakahn@hotmail.com**](mailto:marinakahn@hotmail.com) |
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| **DEPARTMENT OF MEDICAL EDUCATION** | |  | Assist Prof Dr. Marina Khan  Assist Prof Dr. Syed Muhammad Junaid  Dr. Aalia Zaib  Dr. Usama Zeb |

**AIMS OF THE STUDY GUIDE**

**It is an aid to:**

* Inform students that how student learning program of the BLOCK-wise module has been organized
* Help students organize and manage their studies throughout the module.
* Guide students on assessment methods, rules and regulations
* Communicates information on organization and management of the module. This will help the student to contact the right person in case of any diﬃculty.
* Deﬁnes the objectives which are expected to be achieved at the end of the module.
* Identify the learning strategies such as lectures, small group teachings, clinical skills, and demonstration, tutorial that will be implemented to achieve the module objectives.
* Provides a list of learning resources such as books, computer assisted learning programs, web- links, and journals, for students to consult to maximize their learning.
* Highlights information on the contribution of continuous and block examinations on the student’s overall performance.
* Include information on the assessment methods that will be held to determine every student’s achievement of objectives.
* Focus on information pertaining to examination policy, rules and regulations

**ORGANIZATION OF 3rd YEAR MODULAR CURRICULUM**

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| **Block-VII** | | **Exam Block - 7** | **Block-VIII** | | **Exam Block - 8** | **Block-IX** | | **Exam Block - 9** | **Final Exam** |
| **Module**  **13**  **Foundation** | **Module**  **14**  **Infection & Inflammation** | **Module**  **15**  **Multisystem** | **Module**  **16**  **Respiratory System** | **Module**  **17**  **Blood & MSK** | **Module**  **18**  **CVS** |

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### **LEARNING METHODOLOGIES**

The following teaching / learning methods are used to promote better understanding:

* Interactive Lectures
* Small Group Discussion
* Practical
* Skills session
* E-Learning
* Self-Directed Learning

### LARGE GROUP INTERACTIVE LECTURES (LGIS)

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In large group, the lecturer introduces a topic or common clinical conditions and explains the underlying phenomena through questions, pictures, videos of patients' interviews, exercises, etc. Students are actively involved in the learning process.

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### **SMALL CROUP DISCUSSIONS (SGD):**



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

to ask probing questions, summarize, or rephrase to help clarify concepts.

#### **PRACTICAL**

Basic science practical related to Pathology, Pharmacology, and Forensic medicine are scheduled for student learning.

**SELF DIRECTED LEARNING SDL:**

Students assume responsibilities of their own learning through individual study, sharing and discussing with peers, seeking information from Learning Resource Center, teachers, and resource persons within and outside the college. Students can utilize the time within the college scheduled hours of self-study.

**E-LEARNING:**

E-Learning is a strategy by which learning occurs through the utilization of electronic media, typically the Internet. The basic aspects of medical professionalism and ethics will be addressed through an e-learning course.



1. **HANDS ON TRAINING**
2. **PATHOLOGY, PHARMACOLOGY & FORENSIC MEDICINE LAB SESSIONS:**

Histology and biochemistry practical will demonstrate your skills and help in clarifying your concepts practically.

1. **HOSPITAL VISIT SESSIONS FOR FORENSIC MEDICINE:**

Hands on practice of clinical examination on simulated patients.

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We will be making the journey through the Block 7 in 12 weeks. Therefore, this course includes an intensive coursework load. Class attendance and participation are extremely important to your learning and are considered in the evaluation of your course grade. If there is anything that the module team can do to assist you during the course, please feel free to contact them. Attendance will be monitored during the different teaching activities. If your attendance is less than 75%, you will not be allowed to sit for both block and annual examination.

All examinations must be taken on the date scheduled. No student will be allowed to enter the examination area after the examination starts. There will be a block exam at the end of each block and each block will cover two modules. There will be a total of 3 block examination and the 30% weightage of these block exam will be added to the 70 % of the annual professional exam as an internal assessment.

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# INTRODUCTION TO THE BLOCK- VII

This block marks the beginning of transition to more focus on clinical learning. This foundation module will introduce students to key concepts essential for understanding diseases process, their prevention and treatment. Students will be able to apply these key concepts in future, system-based modules to understand the diseases processes and their management. The course covers the molecular level of cell biology including genetics and its role in microbiology and pathology. In community medicine, health issues and policies on disease control, health systems will be discussed. This module will also include basics of pharmacology and forensic medicine. Concepts dealt with in this module will be revisited in other modules in the future.

The second module of block Infection, inflammation and repair underpin much of human pathology, and the study of these processes is an essential part of understanding human disease. This module will explore the body's response to bacterial, viral, or parasitic infection, and how infections are eradicated. Inflammation is caused by a variety of insults and may be acute or may become chronic leading to fibrosis and scarring of tissue. This module will cover these processes with direct clinical examples e.g., the formation of an abscess, pneumonia or the development of cirrhosis to illustrate how they lead to certain diseases. This module will also cover basic immunology. Students will learn about the use of drugs including antibiotics, anti-inflammatory drugs, and immunosuppression.

**RATIONALE:**

A Student stepping into a medical school requires orientation, and introduction to medical sciences with respect to health & disease. The student also needs certain guidelines to achieve goals to become a successful but ethical doctor in future. Foundation module provides integration of core concepts that underlie the foundation of basic sciences and their use in clinical medicine. This will eventually lead to develop critical thinking for integration and application of basic knowledge for clinical application

Infectious diseases are the most common problems of our community. In the underdeveloped countries, like Pakistan, infectious diseases along with malnutrition are the commonest causes of mortality. Most of the diseases are identifiable and curable if recognized early. It is important for medical graduates to have sound understanding of microbiology of the organisms and the diseases that they cause. Students should also understand the rationale of the investigations to diagnose these diseases. They should also know the pharmacology of the various drugs used to treat infectious disease and the rationale to treat the common diseases.

**GENERAL OUTCOMES OF THE BLOCK:**

**KNOWLEDGE:**

At the end of block 7 the students of 3rd year MBBS will be able to have knowledge about

1. Define pathology, its different branches and enumerate clinically important bacteria.
2. Describe the structure of bacterial cell and mechanisms by which they cause the disease
3. Describe cell injury, its different mechanisms and sub cellular responses to cell injury.
4. Describe necrosis, apoptosis and adaptive changes seen in clinical settings and its identification in surgical specimens.
5. Describe necrosis, apoptosis and adaptive changes seen in clinical settings and its identification in surgical specimens.
6. Describe the basic principles of pharmacokinetics and pharmacodynamics and apply these principles to clinical practice as they relate to drug absorption, distribution, metabolism, excretion, mechanism of action, clinical action and toxicity.
7. Describe the cellular and biochemical sites where drugs bind to act.
8. Describe the general principles of drug interactions in relation to clinical practice.
9. Describe the process of new drug development.
10. Demonstrate administration of a drug through intramuscular and intravenous routes.
11. Describe Forensic medicine, its different branches and importance.
12. Describe law and its various components.
13. Explain medicolegal system and legal procedure for a doctor.
14. Describe the contents of medical jurisprudence.
15. Describe the diagnosis of death and WHO death certificate.
16. Describe different refractive errors and its management.
17. Explain causes of watery eyes in both infants and elders and its management.
18. Describe the basic concept of health, disease, and primary health care.
19. Describe anti-natal care and drugs used in gynae & obs.
20. Describe the process of acute & chronic inflammation with their outcomes
21. Relate different aspects of healing and repair
22. Differentiate common pathogenic bacteria based on morphology, pathogenesis & lab diagnosis.
23. Relate bacterial pathogenic factors to clinical manifestations of common infectious diseases.
24. Describe the pharmacological details of anti-inflammatory drugs
25. Apply/relate the pharmacokinetics & pharmacodynamics of chemotherapeutic agents to their use in infectious diseases
26. Describe and enlist steps of management in a case of poisoning.
27. Describe medico legal aspects of methods and parameters used for identification in fetal age determination
28. Describe medico legal aspects of age determination by skeletal & dental study.
29. Invest the different parameters of sex and race determination
30. Describe dactylographic and DNA finger printing
31. Describe the examination of Hair and HIV infections.
32. Describe toxicology by analgesics
33. Describe common infectious diseases in pediatrics and medicine
34. Describe soft tissue infections, wounds, and ulcers in surgery
35. Describe the epidemiology of common infectious diseases.
36. Explain the preventive and control measures for infectious diseases.
37. Explain the control & preventive measures for nosocomial infections.
38. Describe the risks associated with hospital waste and its management

**SKILLS:**

At the end of block 7 the students of 3rd year MBBS will be able to develop the following skills

1. Identify commonly used equipment’s in pharmacy.
2. Identify dosage forms administered through different routes
3. Demonstrate searching accurate information quickly in a formulary.
4. Describe the general protocols for IM and IV injection of a drug.
5. Write down the basic format of drug prescription and describe the general principles of prescribing drugs
6. identify Gram positive and Gram-negative bacteria morphologically under the microscope.
7. Describe and enlist preparation/ inoculation, ingredients, indications, important properties, and organisms grown on various culture media.
8. Identify the slide of benign prostatic hyperplasia
9. Formulate death certificate based on WHO criteria
10. Take written informed consent for various procedures
11. Recording of dying declaration
12. Differentiate common pathogenic bacteria based on morphology, pathogenesis & lab diagnosis
13. Construct / Write prescriptions for various inflammatory and infectious diseases
14. Demonstrate the steps of gastric lavage.

# ATTITUDE:

By the end of block 7, the students of 3rd year will be able to:

1. Develop respect for the individuality and values of others - (including having respect for oneself) patients, colleagues, peers, and other health professionals.
2. Organize & distribute the tasks.
3. Exchange opinion & knowledge.
4. Develop communication skills and etiquette with sense of responsibility.
5. To equip themselves for teamwork.
6. Regularly attend the classes.
7. Demonstrate good laboratory practices.
8. Carry out practical work as instructed in an organized and safe man
9. Make and record observations accurately.
10. Develop the ability to give and receive feedback

**MODULE 13**

**FOUNDATION MODULE**

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| **PHARMACOLOGY LECTURES** | | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Introduction to module / subjects | * Define pharmacology and drug Describe its importance * Describe optimum pharmacokinetic and pharmacodynamic of drug |
|  | Agonist  Antagonist | * Describe agonist * Classification and clinical uses of agonist * Describe antagonist * Classification and clinical uses of antagonist |
|  | Route of drug administration | * Describe different routes of drug administration e.g., oral, sublingual, rectal, parenteral, inhalational, topical Describe their merits and demerits * Enumerate dosage forms used through different routes |
|  | Dose, classification of dose | * Define dose * Describe its significance * Classification of dose |
|  | Loading, maintenance, and pediatric dose | * Describe loading dose * Describe significance of loading dose * How to calculate loading dose Describe maintenance dose * Describe significance of maintenance dose * How to calculate maintenance dose * Describe pediatric dose * Describe significance of pediatric dose * How to calculate pediatric dose |
|  | Drugs during pregnancy & lactation | * Describe toxic effects of drug on fetus and lactating mothers * Enumerate drugs which are safe in pregnancy and lactating mothers * Enumerate drugs which are contraindicated during pregnancy and lactating mothers |
|  | Permeation of drug | * Describe active and passive diffusion of drug * Describe ion trapping * Describe Fick’s law of diffusion * Describe Henderson Hassel Balch equation |
|  | Half-life & bioavailability of drugs | * Define half-life and bioavailability of drug * Describe significance of half-life of drug * Enumerate factors affecting half-life of dug * Describe bioavailability and factors affecting it |
|  | Pharmacokinetic Drug interaction | * Describe pharmacokinetic drug interaction * Give examples of absorption, distribution, metabolism, and excretion drug interactions * How to avoid pharmacokinetic drug interaction |
|  | Tolerance, tachyphylaxis, upregulation & down regulation of receptors | * Define tolerance, tachyphylaxis, Up regulation and down regulation of receptors * Describe tolerance, tachyphylaxis, Up regulation and down regulation of receptors and their significances |
|  | Pharmacodynamic drug interaction | * Describe pharmacodynamic drug interaction * Give examples of drugs which are involve in enhancing or reducing the effects of other drugs * How to avoid pharmacodynamic drug interaction |
|  | Potency, efficacy, affinity, spare receptors, therapeutic index & therapeutic window | * Define potency, efficacy, affinity, spare receptors, therapeutic index and therapeutic window * Describe potency, efficacy, affinity, therapeutic index and therapeutic window with help of graph * How to calculate therapeutic index * Enumerate drugs with narrow therapeutic index |
|  | Biotransformation | * Define drug biotransformation * Where does it occur * Outcomes of biotransformation * How does it occur * Phase I reaction * Define drug biotransformation * Where does it occur * Outcomes of biotransformation * How does it occur * Phase II reactions |
|  | Enzyme induction & enzyme inhibition | * Define enzyme induction. * Enlist enzyme inducers. * Describe enzyme induction and its clinical significance. * Define enzyme inhibition. * Enlist enzyme inhibitors. |
|  | Absorption of drug | * Define drug absorption * Describe different routes effects on absorption of drug * Describe factors affecting absorption of drug: * Factors relating to drug * Route of administration * Factors relating to sites of absorption |
|  | Distribution of drug | * Define volume of distribution * How volume of distribution affects plasma concentration of a drug * Describe factors affecting distribution of drug * Describe role of physiological barriers * Enumerate drugs with large volume of distribution * Enumerate drugs with small volume of distribution |
|  | Excretion of drug | * Define excretion of drug * Differentiate between clearance, elimination, and excretion * Enumerate different routes of excretion of drugs |
|  | Renal excretion of drug | * Describe different drugs excreted renally * Process involves in renal excretion: * Glomerular filtration * Active tubular secretion * Passive tubular secretion |
|  | Biliary excretion, lung excretion, drug excreted in milk and saliva | * Describe different routes of excretion of drugs * Describe first and zero order kinetics * Enumerate drugs eliminated through first order kinetics * Enumerate drugs eliminated through zero order kinetics |
|  | Quantal dose response curve, Sigmoid dose response curve and grade response curve | * Define dose response curve * Describe with the help of graph how dose of drug show affects * Describe the importance of dose response curve |
|  | Properties of a good drug | * Describe optimum pharmacokinetic and pharmacodynamic of drug |
|  | Signal transduction | * Describe myelinated and demyelinated neurons * Describe mechanism of transmission |
|  | New drugs development & clinical trails | * Describe new drug development * Describe different phases of drug development * Describe drug act * When drug act implemented |

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| **PHARMACOLOGY PRACTICALS** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Lab protocols | * Describe the general protocols for * working safely and efficiently in * pharmacology lab * Identify the common apparatus used in laboratory |
|  | 5% dextrose solution | * Enumerate ingredients of dextrose solution * To prepare and dispense 50ml of 5% dextrose solution * Describe its uses |
|  | 0.1% potassium permanganate (Kmno4) solution | * Enumerate ingredients of potassium permanganate (Kmno4) solution * To prepare and dispense 50ml of 0.1% potassium permanganate (Kmno4) solution * Describe its uses |
|  | Two doses (60ml) of 12.5% castor oil emulsion | * Enumerate ingredients of castor oil emulsion * To prepare and dispense two doses (60ml) of 12.5% castor oil emulsion * Describe its uses |
|  | Two doses (60ml) of kaoline suspension | * Enumerate ingredients of kaoline suspension * To prepare and dispense two doses (60ml) of kaoline suspension * Describe its uses |
|  | 20 grams of 5% Sulphur ointment | * To prepare & dispense 20 grams of 5% Sulphur ointment. * Enumerate uses of sulphur ointment. |

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| **PHARMACOLOGY SGDs** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Branches of Pharmacology | * Define different branches of pharmacology e.g., clinical pharmacology, pharmacotherapeutics, pharmacy, pharmacognosy, pharmacogenetics, chemotherapy, toxicology, posology, pharmacokinetics, and pharmacodynamics * Describe branches of pharmacology with examples |
|  | Source of Drugs | * Enlist various sources of drugs. * Give examples of drugs obtained from plants, animals, mineral and * synthetic sources. * Describe the genetic engineering source of drugs with examples. |
|  | First pass metabolism (pre-systemic elimination) and bypass metabolism | * Describe first-pass metabolism (pre-systemic elimination) and its * clinical significance * Describe Bypass metabolism |
|  | First and zero order kinetics | * Define first- and zero-order kinetics. * Differentiate between first- and zero-order kinetics with examples. * Explain the clinical significance of first- and zero-order kinetics |
|  | Antiseptics & disinfectants | * Discuss & classify Antiseptics & disinfectants. * Describe pharmacokinetics & pharmacodynamics of Antiseptics & disinfectants. |
|  | Drugs for obesity | * Discuss drugs for obesity. * Describe pharmacokinetics & pharmacodynamics of drugs for obesity. |

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| **PATHOLOGY LECTURES** | | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Definition and etiology of cell injury | * Definition and etiology of cell injury |
|  | Mechanism of reversible cell injury (hypoxic injury) | * Describe cause & mechanism of reversible cell injury (hypoxic injury) |
|  | Mechanism of Irreversible cell injury I | * Describe mechanism of irreversible cell injury (free radical injury) |
|  | Necrosis | * Describe types and morphology of necrosis |
|  | Apoptosis | * Describe mechanisms and Clinicopathological correlation of apoptosis |
|  | Cellular adaptation to stress I | * Describe atrophy, hypertrophy, hyperplasia, and metaplasia |
|  | Pathological Calcifications | * Define Pathological calcifications * Enumerate the types& describe the mechanism of Pathological calcifications |
|  | Intracellular accumulation | * Describe accumulation of lipids, proteins, glycogen & pigments |
|  | Bacterial cell | * Describe shape & size of bacteria, medical importance of different cell components and difference between cell wall of G+ & G- bacteria |
|  | Bacterial Growth, Classification of Bacteria  Normal Flora | * Describe Growth cycle * Describe Aerobic & Anaerobic growth. Describe classification based on different criteria. * Describe members of normal flora & their anatomic locations * Describe benefits of normal flora |
|  | Bacterial Pathogenesis | * Describe Stages of bacterial pathogenesis |
|  | Sterilization disinfection | * Describe Principles, methods & clinical uses of Sterilization Disinfection |
|  | Laboratory diagnosis of bacterial infection | * Describe Specimen collection and bacteriological methods for bacterial diagnosis * Describe Immunological & nucleic acid-based methods |
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|  | Bacterial Genetics | * Describe Mutations, Conjugation, * Transduction Transformation |
|  | Bacterial vaccines | * Describe types of vaccines and * active & passive immunity |
|  | Host defenses against bacteria | * Define immunity * Describe innate & adaptive immunity |
|  | Plasmodium | * Enlist the types, transmission, pathogenesis, clinical findings, and laboratory diagnosis of Plasmodium |
|  | Leishmania | * -Describe the life cycle, and important properties of Leishmania * -Relate the pathogenesis to the clinical * Features and lab work up of Leishmania |
|  | Taenia saginata / taenia solium | * Describe the life cycle, important properties, * Of Tenia saginata and solium * -Relate pathogenesis to the clinical features * andlab work up of Tenia saginata and solium |
|  | Echinococcus granulosis | * Describe characteristics, transmission, pathogenesis, clinical findings, and laboratory diagnosis of Echinococcus granulosis |
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|  | Mechanism of Irreversible cell injury II | * Describe mechanism of irreversible cell injury (chemical& ischemic reperfusion injury) |
|  | Diphyllobothrium latum/ hymenolepis nana | * Describe characteristics, transmission, pathogenesis, clinical findings, and laboratory diagnosis of Diphyllobothrium latum/ hymenolepis nana |
|  | Schistosoma | * Describe characteristics, transmission, pathogenesis, clinical findings, and laboratory diagnosis of Schistosoma |
|  | Enterobius Vermicularis Trichus Trichuria | * Describe characteristics, transmission, pathogenesis, clinical findings, and laboratory diagnosis of Enterobius Vermicularis Trichus Trichuria |

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| **PATHOLOGY PRACTICALS** | | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Gram staining | * Describe principle of gram staining and Perform gram staining |
|  | Culture media | * Define culture media & inoculation of culture media * Classification& different types of culture media |
|  | Benign prostatic hyperplasia (BPH) | * Identify and describe the microscopic features of BPH under a microscope |
|  | Testicular atrophy | * Identify and describe the microscopic features of testicular atrophy under a microscope |
|  | Fatty liver | * Identify and describe the microscopic features of Fatty liver under a microscope |
|  | Taenia Ascaris Hymenolepis nana | * Identify and describe the microscopic features of Taenia Ascaris Hymenolepis nana |

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| **PATHOLOGY SGDs** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Biosafety | * Describe biosafety procedures and precautions taken in microbiology lab |
|  | Trichomonas | * Describe characteristics, transmission, pathogenesis, clinical findings, and laboratory diagnosis of Trichomonas |
|  | Toxoplasma | * Describe characteristics, transmission, pathogenesis, clinical findings, and laboratory diagnosis of Wuchereria, Dracunculis Medinesis |
|  | Wuchereria, Dracunculis Medinesis | * Describe characteristics, transmission, pathogenesis, clinical findings, and laboratory diagnosis of Wuchereria, Dracunculis Medinesis |
|  | Culture Media | * Identify media * Describe types & uses of media |

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| **FORENSIC MEDICINE LECTURES** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Introduction to subject | * Define Forensic Medicine and its branches * Describe its importance * Describe its pillars |
|  | Medicolegal system | * Define code of ethics. * Discuss different types of medicolegal systems. * Describe the clauses of PPC and Crpc. * Describe procedures of court |
|  | Law | * Define Law * Describe its significance |
|  | Medical  Jurisprudence | * Define Medical Jurisprudence. * Describe its various components (consent, negligence, secrecy, professional misconduct) |
|  | Introduction to  Thanatology.  Death | * Define death and its phases. * Enlist the causes of death * Describe criteria for death’s diagnosis. * Describe modes and mechanism of death. * Formulate death certificate according to WHO guidelines. * How to fill the certificate according to guidelines |
|  | Post-mortem | * Enlist various post-mortem changes * Discuss post-mortem changes |
|  | Causation / Medicolegal aspects of trauma | * Describe mechanism of wound causation * Describe Causation / Medicolegal aspects of trauma |
|  | Antidotes | * Define and classify antidotes * Describe the mechanism of action of * different antidotes |

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| **FORENSIC MEDICINE PRACTICALS** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Death Certificate / Recording of evidence/consent form | * Formulate death certificate * Describe the types of consent * How to make consent form * How to take written informed consent for various procedures * How to record evidence |
|  | Legal procedure | * Demonstrate the role of doctor in witness box |

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| **FORENSIC MEDICINE SGDs** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Law  Medical  Jurisprudence | * Define Law * Describe its significance * Define Medical Jurisprudence. * Describe its various components (consent, negligence, secrecy, professional misconduct) |
|  | Post-mortem | * Enlist various post-mortem changes * Discuss post-mortem changes |
|  | Duties of Doctor | * Describe the medico legal duties of doctors in case of poisoning |

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| **GENERAL MEDICINE LECTURES** | | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Introduction to General Medicine | 1. Understand the basics of General Medicine. 2. Enlist the major subspecialties |
|  | History taking in General Medicine | 1-Recognize the importance of a good history.  2-Identify the steps of history taking |

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| **GENERAL SURGERY LECTURES** | | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Introduction To Surgery | * Enlist the major branches of surgery |
|  | Career in Surgery | * Discuss career in surgery |
|  | Preoperative Assessment | * Comprehend the assessment of patient before surgery |
|  | Sterilization | * Understand the basic definition of sterilization and its types |

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| **ENT LECTURES** | | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Introduction To ENT | * Comprehend the basic concept of the subject |
|  | Common Diseases | * Enlist the common diseases of ENT |
|  | Normal Anatomy of nose | * Discuss Normal Anatomy of nose |
|  | Normal physiology of nose and PNS | * Discuss Normal physiology of nose and PNS |

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| **OPTHAMOLOGY LECTURES** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Introduction To  Ophthalmology  Career in Ophthalmology  **Ophthalmology** | 1-Define Ophthalmology and various branches.  2-Highlight the scope of Ophthalmology as future career |
|  | Errors of Refraction | 1. Describe refractive errors & its effect on vision 2. Describe the concept of myopia and hyperopia and their correction 3. Describe the concept of astigmatism and cylindrical lens. 4. Describe the concept of presbyopia & aphakia, it’s possible causes and correction |
|  | Watery Eyes | 1. Explain the structural details, development, and functions of lacrimal system. 2. Describe the clinical presentation of watery eyes. 3. Comprehend the diagnosis and management of watery eyes |
|  | Nasolacrimal Duct Obstruction | 1. Describe the causes, clinical features, and treatment of congenital nasolacrimal duct obstruction |
|  | Cataract | 1-Define cataract and its types.  2- Describe the pathogenesis and complications of cataracts  3-Describe the management of cataracts |

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| **GYNAECOLOGY & OBSTERICS LECTURES** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | History taking in Gynaecology | 1-Recognize the importance of a good history.  2-Identify the steps of history taking |
|  | Physiology & benefits of breast feeding | Understanding the process of breast feeding & its benefits |
|  | Antenatal care I:   1. Importance 2. Routine visits 3. Supplements   Investigations recommended according to WHO criteria | * Define antenatal care. * Understand the importance and implementation of antenatal care |
|  | Pharmacology of drugs used in Obstetrics & Gynaecology  Obs drugs   1. Oxytocin 2. Misoprostol 3. Ergometrine 4. Tranexamic acid 5. Drugs used for pain relief 6. Tranexamic acid | 1-Enumerate important drugs used in Obstetrics  2-Comprehend mechanism of action, indications and Side effects |

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| **PAEDIATRIC LECTURES** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | History taking | Discuss steps of history taking. |

**MODULE 14**

**INFECTIONS & INFLAMMATIONS**

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# Forensic MedicineINFECTION AND INFLAMMATION MODULE DESCRIPTION

Infection, inflammation, and repair underpin much of human pathology, and the study of these processes is an essential part of understanding human disease. This module will explore the body's response to bacterial, viral, or parasitic infection, and how infections are eradicated. Inflammation is caused by a variety of insults and may be acute or may become chronic leading to fibrosis and scarring of tissue. This module will cover these processes with direct clinical examples e.g., the formation of an abscess, pneumonia, or the development of cirrhosis to illustrate how they lead to certain diseases. This module will also cover basic immunology. Students will learn about the use of drugs including antibiotics, anti-inflammatory drugs, and immunosuppression.

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# RATIONALE:

Infectious diseases are the most common problems of our community. In the underdeveloped countries, like Pakistan, infectious diseases along with malnutrition are the commonest causes of mortality. Most of the diseases are identifiable and curable if recognized early. It is important for medical graduates to have sound understanding of microbiology of the organisms and the diseases that they cause. Students should also understand the rationale of the investigations to diagnose these diseases. They should also know the pharmacology of the various drugs used to treat infectious disease and the rationale to treat the common diseases.

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# LEARNING OUTCOMES

* Medical student, after completion of this module, should be able to:
* Describe pathogenesis & clinical presentations of common bacterial, viral, fungal & microbial infections.
* Recognize the clinical presentation of common infectious diseases in community.
* Remember essential classes of drugs, their effects and treatment
* Take history & formulate appropriate plan of investigations for attaining differential diagnosis.
* Analyze findings of history, examinations & investigations for diagnosis.
* Practice basic principles of management of infectious diseases.
* Recognize preventive measures & prognosis for counseling the patients.
* Be aware of the prognosis and be able to counsel their patients accordingly.
* To Understand Basics of Forensic Medicine and Toxicology.
* To Know Various branches of Forensic Sciences and their importance and utility in civilized society, Basics of Legal system in Pakistan, Role of Forensic Medicine in crime detection and other medical, legal, and ethical issues, Courts in Pakistan, and their Powers.
* Revisit pathophysiology and pharmacology of common infectious disorder
* Take detailed history, general physical examination, and specific examination of patients with infectious diseases (Temp, Pulse, RR, rash, lymph nodes, Respiratory, GIT, CVS, and CNS)
* Know the basic pathophysiology of fever, microbiology, and pharmacology of common infectious diseases
* Understand the signs & symptoms of malaria, the relevant diagnostic test, and their interpretation. Identify the complication of malaria (e.g., ARF, ARDS, sepsis, and cerebral malaria etc.). Give appropriate treatment and should know the various drugs of malaria.
* Enlist relevant investigation their interpretation of data to reach the diagnosis. should be able to counsel and treat the patient and devise a protocol of follow up and explain the outcome to the patient. (Approach to the patient with fever - Demonstration)
* Define sepsis and SIRS and enlist its causes, describe various presentations and complications of sepsis. Approach to the patient with sepsis.
* Define fever with rash and know about different types of rashes and devise some investigation and interpret the result. They should be able to treat and counsel the patient and arrange for follow up if necessary. Approach to the patient with sepsis
* Define diarrhea, types of diarrheas (acute and chronic). Enumerate various causes of both. Able to understand the basic pathophysiology causing diarrhea. (pathology) Take history and relevant examination in patients with diarrhea, utilize labs and its interpretation

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| **PHARMACOLOGY LECTURES** | | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Cell wall synthesis inhibitors | * Classify penicillin * Describe pharmacokinetics, mechanism of action, clinical uses, and adverse effects of penicillin * Classify cephalosporin * Describe pharmacokinetics, mechanism of action, clinical uses, and adverse effects of cephalosporin |
|  | Protein synthesis inhibitors | * Enumerate tetracyclines * Describe pharmacokinetics, mechanism of action, clinical uses and adverse effects of tetracyclines * Enumerate aminoglycosides * Describe pharmacokinetics, mechanism of action, clinical uses, and adverse effects of aminoglycosides * Enumerate Macrolides * Describe pharmacokinetics, mechanism of action, clinical uses, and adverse effects of macrolides * Describe mechanism of action, clinical uses of Linezolid with special * emphasis on methicillin-resistant staphylococci and vancomycin-resistant enterococci |
|  | Beta lactamase inhibitors, Monobactams &  Carbapenem, Vancomycin Fosfomycin  Bacitracin &  Cycloserine | * Classify Beta lactamase inhibitors, Monobactams, Carbapenem, Vancomycin, Fosfomycin, Bacitracin & * Cycloserine * Describe pharmacokinetics, mechanism of action, clinical uses and adverse effects of Beta lactamase inhibitors, Monobactams, Carbapenem, Vancomycin, Fosfomycin, Bacitracin & * Cycloserine * . |
|  | Quinolones | * Classify quinolones * Describe pharmacokinetics, mechanism of action, clinical uses, and adverse effects of quinolones |
|  | Antiprotozoal drugs | * Classify antiprotozoal drugs * Describe pharmacokinetics, mechanism of action, clinical uses, and adverse effects of antiprotozoal drugs * Enumerate drugs for malaria * Describe pharmacokinetics, mechanism of action, clinical uses, and adverse effects of anti-malarial |
|  | Folic acid antagonists | * Classify Folic Acid Antagonists * Describe pharmacokinetics, mechanism of action, clinical uses, and adverse effects of folic acid antagonists |
|  | Antifungal drugs | * Classify antifungal drugs * Application of antifungal drugs * Describe pharmacokinetic and pharmacodynamic of antifungal drugs |
|  | Antiviral drugs | * Classification of antiviral drugs, targets, pharmacokinetics, pharmacodynamics, and drug interaction of antiviral drugs |
|  | NSAIDs (Non-Steroidal Anti-Inflammatory Drugs) | * Classify NSAIDs * Describe significance of COX I & COX II * Describe the pharmacokinetics, mechanism of action, clinical uses, and adverse effects of NSAIDs and other analgesics |
|  | Anticancer drugs | * Classify anticancer drugs * Describe pharmacokinetics, mechanism of action, clinical uses, and adverse effects of methotrexate * Describe pharmacokinetics, mechanism of action, clinical uses, and adverse effects of cyclophosphamide |
|  | Anti-Gout | * Classify drugs for gout * Describe pharmacokinetics and pharmacodynamics of drugs used for gout |
|  | DMARDs (Disease Modifying Anti Rheumatic Drugs) | * Classify DMARDs * Describe management of rheumatoid arthritis |
|  | Eicosanoids-Prostaglandins | * Classify eicosanoids. * Describe the mechanism of action * of Prostaglandins. * Describe the organ system effects * of Prostaglandins. * Describe the clinical uses of * Prostaglandins. * Describe the prostaglandins used in the management of glaucoma. * Describe the pharmacologic effects of Thromboxane’s |

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| **PHARMACOLOGY PRACTICALS** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Acute Tonsillitis  (Prescription) | * Describe clinical features of acute tonsillitis * Write a complete prescription for acute tonsillitis |
|  | Rheumatic Fever  (Prescription) | * Describe clinical features of rheumatic fever * Write a complete prescription for rheumatic fever |
|  | 40ml of turpentine liniment | * Enumerate ingredients of turpentine liniment * To prepare and dispense 40ml of turpentine liniment * Enumerate uses of turpentine liniment |
|  | Malaria  (Prescription) | * Define Malaria * Enumerate cause of Malaria * Describe clinical features of Malaria Write a complete prescription for Malaria |
|  | Scabies  (Prescription) | * What is the cause of scabies * Describe clinical features of scabies * Write a complete prescription for scabies |

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| **PHARMACOLOGY SGDs** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** | |
|  | Drug reactions | * Describe early drug reactions * Describe late drug reactions * Describe vivo drug reactions * Describe vitro drug reactions * Describe pharmacokinetic drug reactions * Describe pharmacodynamic drug reactions | |
|  | Drug treatment of  Acne vulgaris | * Enlist the drugs used for treating * Acne (including antibiotics and * hormonal agents) * Describe the teratogenicity of * Isotretinoin. | |
|  | Urinary Tract  Antiseptics | * Enumerate urinary tract antiseptics * Describe pharmacokinetics of urinary tract antiseptics * Describe mechanism of action and pharmacological actions of urinary tract antiseptics | |
|  | Drug treatment of  Psoriasis | * Enlist the drugs used for treating * Psoriasis * Describe the teratogenicity of * Acitretin. | |
|  | Mechanism of drug resistance | * Describe the mechanism of drug resistance and its clinical significance. | |

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| **PATHOLOGY LECTURES** | | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Vascular phase of acute inflammation | * Define inflammation * Describe Vascular phase of acute inflammation * Describe causes of acute inflammation |
|  | Cellular phase of acute inflammation | * Describe cellular phase of acute inflammation |
|  | Staphylococci | * Describe the characteristics, transmission * Virulence factors, clinical findings & lab diagnosis of Staphylococci |
|  | Streptococci | * Describe the characteristics, transmission * Virulence factors, clinical findings & lab diagnosis of streptococci |
|  | Mediators of Inflammation | * Describe Plasma derived mediators |
|  | Outcome of acute inflammation | * Describe outcome and defects of acute inflammation |
|  | Chronic Inflammation I, II | * Describe causes and morphologic features and * Describe cells & mediators of chronic inflammation |
|  | Tissue Repair I | * Describe overview of tissue repair & Tissue regeneration * Describe tissue repair by first intention & secondary intention (Scar) * Describe factors effecting wound healing and defects in wound healing |
|  | Autoimmune disases | * Discuss autoimmune diseases |
|  | Basic Mycology | * Describe Structure of fungi * Describe the growth of fungi * Describe Laboratory diagnosis of fungi |
|  | Hypersensitivity reaction |  |
|  | Basic virology | * Describe introduction, structure, replication & classification of virus * Describe pathogenesis and laboratory diagnosis |
|  | Escheria Coli | * Describe GNR related to enteric tract * Describe characteristics, transmission, pathogenesis, clinical findings and laboratory diagnosis of Escherichia coli |
|  | Salmonella | * Describe characteristics, transmission, pathogenesis, clinical findings, and laboratory diagnosis of Salmonella |
|  | Gram negative cocci | * Describe the characteristics, transmission, pathogenesis, clinical findings & laboratory diagnosis of gram-negative cocci. |
|  | Campylobacter & Helicobacter | * Describe characteristics, transmission, pathogenesis, clinical findings, and laboratory diagnosis of Campylobacter & Helicobacter |
|  | Shigella / Vibrio | * Describe characteristics, transmission, pathogenesis, clinical findings, and laboratory diagnosis of Shigella & vibrio |
|  | Zoonotic Bacteria | * Enlist organisms causing zoonotic infections * -Describe the important properties, * pathophysiology, clinical features and * lab * diagnosis of different zoonotic diseases |
|  | Bacillus anthracis, Bacillus cereus and clostridium tetani | * Describe the characteristics, transmission, pathogenesis, clinical findings & laboratory diagnosis of Bacillus anthracis, Bacillus cereus and clostridium tetani |
|  | Clostridium botulinum, perfringes and difficile | * Describe the characteristics, transmission, pathogenesis, clinical findings & laboratory diagnosis of Clostridium botulinum, perfringes and difficile |
|  | Corynebacterium diphtheria Listeria momocytogenes | * Describe the characteristics, transmission, pathogenesis, clinical findings & laboratory diagnosis of Corynebacterium diphtheria Listeria momocytogenes |

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| **PATHOLOGY PRACTICALS** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Trichuris, Entrobius, Ancylostoma | * Describe the characteristics, transmission, pathogenesis, clinical findings & laboratory diagnosis of Trichuris, Entrobius, Ancylostoma |
|  | Tissue repair and factors affecting and defects in wound healing | * Describe overview of tissue repair & tissue regeneration by first intention & secondary intention (Scar) * Enlist factors effecting wound healing & defects in wound healing. |
|  | Granuloma | * Identify the various cells and their * arrangement in a granuloma |
|  | chronic cholecystitis | * Identify the microscopic features of chronic cholecystitis under a microscope. |
|  | Triple sugar iron agar (TSI) | * Perform & interpret TSI test for identification of Enteric GNR. |

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| **PATHOLOGY SGDs** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** | |
|  | Mediators of inflammation | * Describe plasma & cell derived mediators | |
|  | Tissue repair and factors affecting and defects in wound healing | * Describe overview of tissue repair & tissue regeneration bt first & second intention (scar) | |
|  | Dengue virus, Herpes Virus  Cutaneous mycosis | * Discuss the causative agent, mode of transmission, prevention & laboratory diagnosis of dengue & herpes. * Discuss cutaneous mycosis | |
|  | Aspergillus & Candida | * Describe the structure, important properties, * pathogenesis and clinical features along with lab work up of Aspergillus. * Describe the structure, important properties, * pathogenesis and clinical features along with * lab * work up of Candida | |

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| **FORENSIC MEDICINE LECTURES** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** | |
|  | Management of case of poisoning | * Define poisoning. * Define laws of medicolegal significance related to poisoning * Discuss the medico legal implications of poisoning. * Discuss management protocols for a case of poisoning * Discuss the guidelines for diagnosis of poisoning in living and deceased. Describe general steps of management in a case of poisoning. | |
|  | Sex Determination and age estimation  By bones and teeth | * Describe sex determination methods * Describe sex determination by bones * Describe age estimation methods. | |
|  | Methods / Identification / Fetal Determination | * Define parameters of identification. * Explain the guidelines for identification * Write important physical developmental * stages of fetus for age estimation | |
|  | Race &Sex Determination by bone and teeth | * Enlist the different parameters of age and sex determination * Describe the different parameters of age and sex determination | |
|  | Dactylography &  DNA Finger printing | * Discuss medicolegal importance of Dactylography * Define DNA Finger printing * Discuss different methods of identification * Discuss DNA Fingerprinting its importance and application in forensic practice | |
|  | Forensic Odontology/  Forensic Anthropometry/ Ages of medicolegal significance | * Explain the medico legal implications of Forensic Odontology * Explain the medico legal implications of Forensic Anthropometry. * Enlist the ages of medico legal importance | |
|  | Hair and fiber Examination | * Discuss the examination of hair with reference to medico legal implications | |
|  | Polygraph / Narcoanalysis | * Define Polygraph. * Describe medicolegal significance of polygraph. * Explain the medico legal implications of narcoanalysis | |
|  | Tattoos, Scar,  superimposition and Facial reconstruction | * Describe the medico legal implications of * tattoos, Scar, superimposition, and Facial reconstruction | |
|  | Toxicity due to analgesics | * Discuss the mechanism and medicolegal aspects of toxicity due to analgesics | |

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| **FORENSIC MEDICINE PRACTICALS** | | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Gastric lavage | * Describe gastric lavage |
|  | Sex Determination and age estimation  By bones and teeth | * Describe sex determination methods * Describe sex determination by bones * Describe age estimation methods. |

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| **FORENSIC MEDICINE SGDs** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Hair and fiber Examination | * Discuss the examination of hair with reference to medico legal implications |

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| **GENERAL MEDICINE LECTURES** | | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Infectious Diseases | * Describe significance of infectious diseases |
|  | Bacteremia & Septicemia | * Define Bacteremia & Septicemia * Enlist the risk factors * Explain the clinical features and management of bacteremia & septicemia |
|  | Viral Hemorrhagic Fever  (Dengue &Congo Fever) | * Describe the clinical presentation of Viral Hemorrhagic fever * Discuss the diagnosis and management of Viral Hemorrhagic Fever * Enlist the complications of Viral Hemorrhagic Fever |
|  | Infectious Diarrhea | * Describe the clinical presentation of Infectious Diarrhea * Discuss the diagnosis and management of patient with diarrhea |
|  | Arthritis | * Describe the clinical approach to a patient with arthritis. * Enlist the differential diagnosis of patient with arthritis |

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| **GENERAL SURGERY LECTURES** | | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
| 1 | Infection of soft tissues | * Define abscess, cellulitis and gangrene. * Describe management of abscess cellulitis, and gangrene |
| 2 | Wounds and Ulcers | * Classify different types of wounds and ulcers |
| 3 | Metabolic response to trauma and surgery | * Describe metabolic response of body to trauma and surgery |
| 4 | Burns | * Describe the basic definition and pathophysiology of burns * Classify different types of burn * Describe management and complications of burns |

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| **ENT LECTURES** | | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Non neoplastic diseases of the nose and sinuses | * Describe the non- neoplastic diseases of the nose and sinuses and their management |
|  | Non neoplastic diseases of the PNS | * Define non-neoplastic disorders of PNS. * Enumerate, discuss investigations & management of non-neoplastic disorders. |
|  | Chronic inflammatory diseases of the nose | * Describe the Chronic inflammatory diseases of the nose and their management |

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| **OPTHAMOLOGY LECTURES** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
| 1 | Dacryocystitis | * Differentiate between acute, acute on chronic and chronic Dacryocystitis. * Discuss the etiology, clinical features, investigation and management of Dacryocystitis. |
| 2 | Episleritis | * Discuss the etiology, clinical features, investigation and management of episcleritis. |
| 3 | Infective Conjunctivitis | * Discuss the etiology, clinical features, investigation and management of infective conjunctivitis |

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| **GYNAECOLOGY & OBSTERICS LECTURES** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Effects of HIV on pregnancy | * Define AIDS * Discuss the effects on mother & fetus * Discuss its management during pregnancy |
|  | Sexually & non-sexually transmitted vaginal infections | * Classify various vaginal infections * Enlist the Diagnostics tests for STDS * Discuss the treatment and management of infections |
|  | Pelvic Inflammatory disease | * Understand the concept and management of acute PID * Understand the concept and management of chronic PID |

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| **PAEDIATRIC LECTURES** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Common pediatric infectious diseases | * Discuss Common pediatric infectious diseases |

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| **COMMUNITY MEDICINE LECTURES** | | |
| **S. NO** | **TOPIC** | **TOPIC DETAILS** |
|  | Introduction to infectious disease & Immunity | * Define of following terms with examples * Infection, Contamination, Infestation, * Infectious diseases, Contagious disease * Communicable diseases, Sporadic, Exotic. * Define immunity. * Describe different types of immunoglobulins in human body. * Discuss immune response in human body in detail. |
|  | Immunizing agents and adverse effects | * Classify immunizing agents in detail. * Discuss immunizing agents in detail with the help of examples * Discuss adverse effects following immunization. * Describe precautions taken during vaccine inoculation |
|  | Infection | * Discuss infection and its types and with examples * Define and discuss clinical and subclinical infections * Discuss latent and mixed infections * Describe cross infection * Describe primary and secondary infection * Describe droplet infection * Discuss Nosocomial infection in detail. * Describe iatrogenic infection, opportunistic infections * Discuss emerging and reemerging infections in detail with examples * Discuss infections control methods * Discuss standard precautions related with control of infection |
|  | Disinfection | * Define disinfection, disinfectant, sterilization, antiseptic, asepsis, sanitizer, sterile, hospital disinfectant, germicides, detergent, cleaning. * Discuss properties of an ideal disinfectant. * Enlist types of disinfection. * Describe various disinfecting agents in detail * Discuss factors affecting the efficacy of sterilization and recommended disinfection procedures. |
|  | Disease prevention and control | * Discuss how to control reservoir * Describe interruption of transmission in disease prevention and control * Describe host defense to control spread of infection * Discuss role of Surveillance in disease prevention and control. * How to control infections |
|  | Dynamics of disease transmission | * Definition of Sources with examples * Definition of reservoir with examples * Discuss types of reservoirs, human reservoir, * animal reservoir, reservoir in non–living things |

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# ASSESSMENT METHODS FOR BLOCK EXAM:

Evaluation is a continuous process comprising of block examination and annual university examination. Students will be evaluated throughout the year. The internal assessment will contribute towards the ﬁnal examination scores.

Multiple examination methods including MCQs, SAQs, OSPE and viva will be used for assessment. In line with PMC stipulation, the pass/fail marks for the test and examination will be 50%.

There will be a block exam at the end of each block.

THEORY (KNOWLEDGE): MCQs (Multiple Choice Questions) and SAQs (Short Answer Questions) are used to assess the theory part for the block exam

### **MCQ:**

* + A MCQ has a statement or clinical scenario followed by four options (likely answers).
  + After reading the statement/scenario student select ONE, the most appropriate answer/response from the given list of options.
  + Correct answer carries one mark, and incorrect ‘zero mark’. There is NO negative marking.

### **SAQ:**

SAQ are open ended questions that requires students to create an answer. They are commonly used in examinations to access the basic knowledge and understanding of the topic.

**OSPE: OBJECTIVE STRUCTURED PRACTICAL EXAMINATION**

It may comprise between 12- 25 stations.

* + The content may assess application of knowledge, or practical skills.
  + Student will complete task in deﬁne time at one given station.
  + All the students are assessed on the same content by the same examiner in the same allocated time.
  + A structured examination will have observed, unobserved, interactive and rest stations.

### **OBSERVED AND INTERACTIVE STATIONS:**

They will be assessed by internal or external examiners through the task or viva.

### **UNOBSERVED STATION:**

It will be static station in which students will have to answer the questions related to the given pictures, models, or specimens on the provided response sheet.

### **REST STATION:**

It is a station where no task is given, and during this time student can organize his/her thoughts.

**M.B.B.S BLOCK EXAMINATION MARKS DISTRIBUTION:**

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| **Theory marks =140 Practical marks= 140**  **Theory= 600 Marks Practical: =600**  **Total Marks: 1200** | | | | | | | | | | | | | | | | | | | | |
| **MODULE/BLOCK** | | | | **BLOCK – 7** | | | | **BLOCK – 8** | | | | | **BLOCK – 9** | | | | | | | |
| **Module- 13** | | **Module- 14** | | **Module-15** | | | **Module- 16** | | **Module- 17** | | | **Module- 18** | | | |
| **Foundation** | | **Infection & Inflammation** | | **CVS** | | | **Respiratory** | | **Multisystem** | | | **Blood & MSK** | | | |
| **Professional Examination** | **Theory** | | | **100** | | **100** | | **100** | | | **100** | | **100** | | | **100** | | | |
| **200** | | | | **200** | | | | | **200** | | | | | | | |
| **Practical/ OSPE** | | | **200** | | | | **200** | | | | | **200** | | | | | | | |
| **Int. Assessment-IA**  **(30%)** | | | **Theory: 60 Practical: 60** | | | | **Theory: 60 Practical: 60** | | | | | **Theory: 60 Practical: 60** | | | | | | | |
| **Subject wise distribution** | **Subjects** | | **MCQs** | **SAQs** | **OSPE** | **VIVA** | **MCQs** | | **SAQs** | **OSPE** | **VIVA** | **MCQs** | | **SAQs** | | **OSPE** | **VIVA** |
| **Pathology** | | **31** | **4** | **5** | **22** | **31** | | **4** | **5** | **22** | **31** | | **4** | | **5** | **22** |
| **Pharmacology** | | **31** | **4** | **5** | **22** | **31** | | **4** | **5** | **22** | **31** | | **4** | | **5** | **22** |
| **Forensic Medicine** | | **30** | **4** | **5** | **21** | **30** | | **4** | **5** | **21** | **30** | | **4** | | **5** | **21** |
|  | **TOTAL#** | | **92** | **4 SAQs x 4 marks = 16** | **15 (5 marks each station)** | | **92** | | **4 SAQs x 4 marks = 16** | **15 (5 marks each station)** | | **92** | | **4 SAQs x 4 marks = 16** | | | **15 (5 marks each station)** | |
| **Total** | | **92** | **48** | **140** | | **92** | | **48** | **140** | | **92** | | **48** | | | **140** | |
| **Total**  **(theory + practical)** | | | **140** | | **140** | | **140** | | | **140** | | **140** | | | **140** | | | |
| **Theory Marks** | | | **140 + 60** | | | | **140 + 60** | | | | | **140 + 60** | | | | | | | |
| **Practical Marks (OSPE)** | | | **140 + 60** | | | | **140 + 60** | | | | | **140 + 60** | | | | | | | |
|  | **Internal Assessment** | | | **60** | | **60** | | **60** | **60** | | | | **60** | **60** | | | | | |
| **Total marks** | | | **200** | | **200** | | **200** | **200** | | | | **200** | **200** | | | | | |
| **Total Marks** | | | **400** | | | | **400** | | | | | **400** | | | | | | | |
| **Grand total** | | | **1200** | | | | | | | | | | | | | | | | | |

**INTERNAL ASSESSMENT MARKS DISTRIBUTION:**

**3RD YEAR MBBS**

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| **THEORY ASSESSMENT**  **20 MARKS** | | | | **PRACTICAL ASSESSMENT**  **20 MARKS** | | |
| **ATTENDANCE**  **5 MARKS** | **PRESENTATIONS AND ASSIGNMNETS**  **5 MARKS** | **BEHAVIOUR**  **5 MARKS** | **CLASS PERFORMACE**  **SGDS**  **5 MARKS** | **ATTENDANCE**  **5 MARKS** | **BEHAVIOUR**  **5 MARKS** | **LOGBOOK**  **10 MARKS** |
| Above 90%=  5 marks  B/W 85% to 90%=  4 marks  B/W 80% to 85%=  3 marks  75% to 80%= 2 marks  Up to 75%= 1 mark  Below 75 % = 0 marks | Grade A=5 marks  Grade B= 3 marks  Grade C= 1 mark  No assignments or presentations =0 marks | No misbehave or warning in lectures = 5 marks  Written warning given to student = 0 marks | According to Performa filled by faculty  Grade A=5 marks  Grade B= 3 marks  Grade C= 1 mark | Above 90%=  5 marks  85% to 90%=  4 marks  80% to 85%=  3 marks  75% to 80%= 2 marks  Up to 75%= 1 mark  Below 75 % = 0 marks | No misbehave or warning in lectures = 5 marks  Written warning given to student = 0 marks | Completed and signed =10 marks  Completed and unsigned=5 marks  Incomplete= 2 marks  No log book =0 marks |

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| **COMMUNITY MEDICINE** | **TEXTBOOKS**   1. Community Medicine by Parikh 2. Community Medicine by M Illyas 3. Basic Statisticsfor the Health Sciences by Jan W Kuzma |
| **FORENSIC MEDICINE** | **TEXTBOOKS**   1. Nasib R. Awan. Principles and practice of Forensic Medicine 1st ed. 2002. 2. Parikh, C.K. Parikh’s Textbook of Medical Jurisprudence, Forensic   Medicine and Toxicology. 7th ed.2005.  **REFERENCE BOOKS**   1. Knight B. Simpson’s Forensic Medicine. 11th ed.1993. 2. Knight and Pekka. Principles of forensic medicine. 3rd ed. 2004 3. Krishan VIJ. Textbook of forensic medicine and toxicology (principles and practice). 4th ed. 2007 4. Dikshit P.C. Textbook of forensic medicine and toxicology. 1st ed. 2010 5. Polson. Polson’s Essential of Forensic Medicine. 4th edition. 2010. 6. Rao. Atlas of Forensic Medicine (latest edition). 7. Rao. Practical Forensic Medicine 3rd ed ,2007. 8. Knight: Jimpson’s Forensic Medicine 10th 1991,11th ed.1993 9. Taylor’s Principles and Practice of Medical Jurisprudence. 15th ed.1999   **CDs:**   1. Lectures on Forensic Medicine. 2. Atlas of Forensic Medicine.   **WEBSITES:**  [www.forensicmedicine.co.uk](http://www.forensicmedicine.co.uk/) |
| **GENERAL MEDICINE** | **REFERENCE BOOKS:**   1. Hutchison’s Clinical Methods, 23rd Edition 2. MacLeod's clinical examination 13th edition 3. Davidson's Principles and Practice of Medicine 4. Kumar and Clark's Clinical Medicine 5. HCAI guidelines CDC 6. WHO TB guidelines |
| **PATHOLOGY/MICROBIOLOGY** | **TEXTBOOKS**   1. Robbins & Cotran, Pathologic Basis of Disease, 9th edition. 2. Rapid Review Pathology, 4th edition by [Edward F. Goljan MD](http://www.amazon.com/s/ref%3Ddp_byline_sr_book_1?ie=UTF8&field-author=Edward%2BF.%2BGoljan%2BMD&search-alias=books&text=Edward%2BF.%2BGoljan%2BMD&sort=relevancerank) |
| **PHARMACOLOGY** | **TEXTBOOKS**   * 1. Lippincot Illustrated Pharmacology   2. Basic and Clinical Pharmacology by Katzung |
| **GENERAL SURGERY** | **Bailey & Love** |

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| **OTHER LEARNING RESOURCE: S** | |
| **Hands-on Activities**  **/ Practical** | Students will be involved in Practical sessions and hands-on activities that link with the foundation module to enhance the learning. |
| **Labs** | Utilize the lab to relate the knowledge to the specimens and models available. |
| **Videos** | Videos familiarize the student with the procedures and protocols to assist patients. |
| **Computer Lab / CDs/ DVDs / Internet**  **Resources:** | To increase the knowledge students should utilize the available internet resources and CDs/DVDs. This will be an additional advantage to increase learning. |
| **SDL** | SDL is scheduled to search for information to solve cases, read through diﬀerent resources and discuss among the peers and with the faculty to clarify the concepts. |