



RAWAL MEDICAL COLLEGE
RAWAL INSTITUTE OF HEALTH
SCIENCES ISLAMABA

THIRD YEAR MBBS

BATCH 2020 – 2025

STUDY GUIDE

BLOCK VII

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INTRODUCTION

We welcome third year MBBS students to their new academic session. During this session i.e. (Block VII). Student will learn general concepts of pharmacology, pathology, & Forensic Medicine with some overview Of Medicine, Surgery, Special Sciences, Gynae/obs, Psychiatry and Pediatrics.

Therapeutics is a vibrant field of Medical Sciences that deals with drugs and their clinical uses in a rational manner based on their mode of action, kinetic and adverse effect profile .Pharmacology & Pathology are the preclinical subjects in the medical curriculum, which form an integral link between basic & the clinical sciences. As the horizon of pharmacology has broadened due to expansion of Neurophysiology, Biochemistry, & the newly emerging field of Biochemistry ; in this module the knowledge of sources of drugs , their trans membrane permeation & partitioning across body membrane , their distribution & redistribution to various body compartments , their biotransformation & elimination will be shared. Pharmacology involving various receptor interaction, adverse effect profile, toxicities & drug interaction, all of which are important determinants of rational drug therapies will also be learnt. To enhance student's participation as active learners and to develop their skills of continuous medical education (CME), updates on pharmacological news, small projects, and presentations will be carried out throughout the session. Students will be awarded with score in internal assessment and certificates as incentives for participating in such activities.

In Pathology students will be introduced about General Pathology and Microbiology. The Microbiology session will cover basic bacteriology, immunity, cellular basic of immune response. Antibiotics and bacterial genetics. General pathology involves the study of the mechanism behind cell and tissues injury as well as understanding how the body responds to and repairs injury. Examples of areas that may be studied include necrosis, neoplastic wound healing, inflammation and how cells adapt to injury. Through understanding in these areas is applied in the diagnosis of disease. In hematology, the students will get familiar with different disease aspects that affect the blood, including bleeding disorder. Clotting problems, and anemias. In the systemic Pathology major the students will learn to investigate consequences of injury to different organs and systems of the body.

Forensic Medicine (also commonly known as Medical Jurisprudence) is also an essential subject for undergraduate medical students in Pakistan. Because medico- legal duties are required to be perform by the general medical officer under the law of Pakistan, the medical student is expected to know the major legal aspect of the profession and his legal duties towards the state, especially in documenting evidence injury, assault, poisoning, and criminal or suspicious deaths. The subject of medical ethics is a sub-component of forensic medicine. In addition, the forensic aspect of toxicology constitute an integral part of the subject. The subject of the forensic medicine (Medical Jurisprudence) and Medical Ethics is also required by the World Federation for Medical Education (WFME) to be essentially incorporated in curriculum of Basic medical education.

General Learning Objectives:

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

- ❖ Describe the detailed features of cell injury, inflammation and immunology and concepts of bacteriology and microbiology.
- ❖ Explain the neoplasia, molecular basis of cancer, pathways of spread & lab diagnosis.
- ❖ Describe various terminologies related to general pharmacology and concepts of pharmacokinetics & pharmacodynamics.
- ❖ Identify and describe different drug classes acting on autonomic nervous system.
- ❖ Explain the pathology of hematopoietic system and details of drugs used to treat various hematopoietic disorders.
- ❖ Define the role of doctor in the medico legal system.
- ❖ Document information for legal procedures, and write certification of death according to will guidelines.
- ❖ Maintain highest ethical principles in medical examination while obtaining consent, euthanast biomedical research etc. in keeping with the norms of society.
- ❖ Describe methods for assessment of fatal period, postmortem interval and autopsy procedures.

Teaching / Learning Methods:

The teaching and learning session of this module will be of diverse types:

- Large group interactive sessions (LGIS)
- Small group teaching (SGD) will include tutorials.
- Practical sessions will comprise of practical laboratory demonstrations and performance.
- Seminars: on different topics, in which student will make oral presentation in different aspects of the allocated topics.
- Self-directed learning sessions (SDL): This is the time during which students are expected to revise what they have learnt in the class, clear their concepts by consulting different text books, reference material and prepare their assignment and projects.
- Problem Based Learning (PBL)
- Case Based Learning (CBL)

Students Assessment:

- At the end of module 1 and 2 there will be an examination which will comprise of written assessment of three duration comprising

One best type of multiple choice questions (MCQs)

- At the of block VII, Assessment will include both the:

- Theory paper
- Practical / Lab examination

The practical examination will comprise of objective structured practical examination (OSPE) and viva voce. The OSPE will include both observed and non- observed stations.

The OSPE / Viva voice will be conducted in batches. The students will be having OSPE / Practical labs in the subjects of Pathology. Pharmacology and Forensic Medicine.

➤ **Seminars:**

Assessment of seminar presentation will be done in the following categories.

<i>Seminar Presentation</i>								
Student Name	Seminar Topic	Facilitator	Marks					
			Subject Knowledge (05)	Body Language (01)	Interaction With audience (01)	Standard of presentation (02)	Delivery Style (0.5)	Attitude Towards Questioning (0.5)

Study Guide

Block – VII Module – I Foundation I

Pathology:

Sr.no.	Learning objective by the end of the session, student will be able to	Content area FOUNDATION MODULE: MODULE 1 GENERAL PATHOLOGY AND MICROBIOLOGY	TEACHING ACTIVITY	ASSESST. (MCQ's / SEQ's)
1)	Describe the classification of important bacteria and their characteristics features.	MICROBIOLOGY Introduction to Microbiology and classification of medically important bacteria on the basis of their characteristics	LGIS 2HR	MCQs / VIVA
2)	Describe the bacteria cell structure and function and different types of bacterial genetics.	Structure and functions of bacterial cells and Bacterial genetics.	LGIS 2HR	MCQs / VIVA
3)	Describe the classification of important fungi and viruses. Describe the comparison of bacterial and fungi. Describe the characteristics of important viruses and fungi regarding the pathogenesis.	Structure, classification and replication of virus, comparison of Fungi and Bacteria important features of fungi. Classification of fungi on the basis of site / location of body where they cause pathogenesis and host defenses.	LGIS + 2HR SGD 1hour	MCQs / VIVA
4)	Outline the characteristics features and classification of important parasites.	Medically important parasites, classification & important features.	LGIS 2HR	MCQs / VIVA
5)	Describe different methods used for sterilization and disinfection.	Sterilization & Disinfection and Infection control practice.	LGIS 2HR	MCQs / VIVA
6)	Describe different types of normal flora in human body. Describe different modes of pathogenesis of microorganisms.	Microbial flora and Pathogenesis of microorganism & host defense.	LGIS	MCQs / VIVA
7)	Describe different types of bacterial and viral vaccines and their administration schedule.	Vaccination	2HR	MCQs / VIVA

8)	Describe mechanism of action and resistance pattern of different antimicrobial drugs.	Antibiotic , Antiviral & Antifungal drugs PRACTICALS: 4hours Microscope. Sample collection. Gram staining. ZN staining. Identification of bacteria Preparation and inoculation of culture media. Biochemical tests and identification. Antimicrobial sensitivity testing.	LGIS	MCQs / VIVA
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Sr.no.	Learning objective by the end of the session, student will be able to	<u>Content area</u> FOUNDATION MODULE: MODULE 1 GENERAL PATHOLOGY AND MICROBIOLOGY	TEACHING ACTIVITY	ASSESST. (MCQ's / SEQ's)
1)	Describe the types of cellular adaptations and morphological changes that are seen in these types?	CELL INJURY Cellular response to stress / injury Cellular Adaptation (Cause & morphological changes occur in the following types of adaptation). Hyperplasia , Metaplasia, Dysplasia, Hyperplasia, Atrophy, Metaplasia	LGIS 1HR	MCQs / VIVA
2)	Explain cellular adaptation with examples? Case scenarios.	Cellular Adaptation Examples of various types of cellular adaptation and case scenarios.	LGIS 1HR	MCQs / VIVA
3)	Explain the mechanism and types of cell injury?	Cell injury: causes of cell injury	LGIS 2HR	MCQs / VIVA
4)	What morphological changes are seen in reversible and irreversible cell injury?	Mechanism of ischemic and hypoxic injury Reversible and irreversible cell injury Morphological alterations in reversible and irreversible cell injury Reperfusion injury.	LGIS 2HR + SGD 2 HRS	MCQs / VIVA
5)	How free radicals cause cell injury?	Free Radical Injury , Types of free radicals generated during physiological and pathological condition. Mechanism of elimination of free radicals. Mechanism of cellular injury by the free radical.	LGIS 1HR	MCQs / VIVA
6)	Explain features of necrosis and apoptosis?	Cell Death: Patterns f acute cell injury, features of Necrosis and Apoptosis Gross pattern / morphology of different types of necrosis and their causes. (Coagulative necrosis, Caseous	LGIS 2HR +	MCQs / VIVA

		necrosis. Gangrenous necrosis, Caseous necrosis, Fat necrosis, Fibrinoid necrosis). Apoptosis: Physiological and Pathological causes of apoptosis. Cellular events taking place during apoptosis / Mechanism of apoptosis. Comparison of necrosis and apoptosis.	SGD 2 HRS	
7)	<ul style="list-style-type: none"> ➤ Describe the types of intracellular adaptations with examples? ➤ Explain the types of Pathological calcification with examples? 	Intracellular Accumulations: Fatty change (Steatosis), glycogen . Accumulation of exogenous pigment & endogenous pigment (melanin, bilirubin, hemosiderin, lipofuchsin (Brown atrophy). Pathological Calcification: (Dystrophic and Metastatic calcification. PRACTICALS: 2hours Types of cellular adaptation. Types of necrosis. Intracellular accumulations / Pigments.	LGIS 1HR + SGD 1 HR	MCQs / VIVA

Sr.no.	Learning objective by the end of the session, student will be able to	Content area FOUNDATION MODULE: MODULE 1 GENERAL PATHOLOGY AND MICROBIOLOGY (Inflammation and Immunity)	TEACHING ACTIVITY DURATION	Assessment
1)	What is Acute Inflammation? What are its mediators? What are Cardinal signs of inflammation?	Definition of acute inflammation? It's Cause. Mediators: Vasoactive amines, Arachidonic acid metabolites, Cytokines & Compliment system, Other mediators of inflammation. Cardinal signs: Redness, warmth, swelling, pain, fever, underlying, mechanism and their mediator.	LGIS 2HR	MCQs / VIVA
2)	What are Vascular reaction / events of acute inflammation Cellular events of acute inflammation / steps of cellular response of leukocytes in acute inflammation? Explain the functions of the macrophage in acute inflammation.	Cellular events of acute inflammation 1- Margi nation, 2- Rolling, 3- Adhesion, 4- Transmigration and Chemotaxis 5- Phagocytosis 6- Destruction of phagocytized material. 2- 7- Resolution (mechanism involved in these steps)	LGIS 2HR	MCQs / VIVA

		<p>Function of macrophage: Phagocytosis killing of microbe by phagocytic cells; O₂ dependent and O₂ independent killing.</p> <p>Outcome of Acute inflammation: Hereditary and acquired defects that impair the acute inflammation response.</p>		
3)	<p>What in chronic inflammation? Its main causes and constituents?</p> <p>What is Granulomatous inflammation? Explain the mechanism of granuloma formation?</p>	<p>Definition of chronic inflammation? Causes and cells of chronic inflammation.</p> <p>Mechanism of formation of granuloma, Composition of granuloma. Causes of granulomatous inflammation. Types of granulomatous inflammation with example of causes.</p> <p>Morphological pattern of acute and chronic inflammation (serous, fibrinous, suppurate and ulceration).</p>	<p>LGIS 1HR SGD 2HRS</p>	<p>MCQs / VIVA</p>
4)	<p>Tissue Repair: Explain the cell cycle and factors effecting cell cycle?</p>	<p>Cell cycle and different types of cells (Labile cells. Stable cells, permanent cells) Platelet derived growth factor, Epidermal derived growth factors, Fibroblast derived growth factor, Transforming growth factors, Macrophage derived growth factors.</p>	<p>LGIS 1HR</p>	<p>MCQs / VIVA</p>
5)	<p>Explain the Wound healing as well as Pathologic aspects of repair?</p>	<p>Mechanism of Regeneration and repair Healing by primary or secondary intention. Factors effecting wound healing. Complications of wound healing.</p>	<p>LGIS 1HR+ SGD 2 HRS</p>	<p>MCQs / VIVA</p>
6)	<p>Diseases of Immune system I: Explain the Hypersensitive reaction, its types and transplant rejection?</p>	<p>Hypersensitivity Reactions Transplant Immunity, Role of HLA Typing Transplant rejection.</p>	<p>LGIS 1HR</p>	<p>MCQs / VIVA</p>
7)	<p>Diseases of Immune system II What do you meant by autoimmune diseases? Describe the immune deficiency syndromes? What is amyloidosis?</p>	<p>Autoimmune diseases (mechanism and names of autoimmune disease) Immune deficiency syndromes (primary and secondary) Amyloidosis</p> <p>PRACTICALS: 2hours Acute Inflammation Chronic Inflammation Granulomatous inflammation</p>	<p>LGIS 2HR</p>	<p>MCQs / VIVA</p>

Pharmacology

Block – VII

Module -1

Sr.no.	Learning objective by the end of the session, student will be able to	<u>Content area</u>	TEACHING ACTIVITY DURATION	Assessment
1)	Describe the scope of pharmacology	<ul style="list-style-type: none"> ➤ Brief background of history ➤ Terminologies rational use of drugs ➤ Pre- clinical and clinical trials of drugs development 	LGIS 01 hour	MCQs / VIVA
2)	Explain the routes of administration	<ul style="list-style-type: none"> ➤ Drugs with their advantage and disadvantages 	Practical 02 hour	MCQs / VIVA OSPE
3)	Describe the principles of various pharmacokinetics properties.	<ul style="list-style-type: none"> ➤ Principle of absorption ➤ Different transport processes involved in absorption ➤ Principle of distribution ➤ Pro drugs ➤ Principles of biotransformation 	LGIS + SGD 02 HRS + 02 HRS	MCQs / VIVA
4)	Describe mechanism of action of biotransformation.	<ul style="list-style-type: none"> ➤ Phase I biotransformation ➤ Phase II biotransformation 	LGIS + SGD 02 HRS + 02 HRS	MCQs / VIVA
5)	Describe principles of elimination/ excretion.	<ul style="list-style-type: none"> ➤ Routes of drugs elimination ➤ Clearance of drugs 	LGIS 02 hour	MCQs / VIVA OSPE
6)	Describe factors affecting the pharmacokinetics parameters.	<ul style="list-style-type: none"> ➤ Factors affecting absorption 	LGIS 02 hour	MCQs / VIVA
7)	Describe factors affecting the pharmacokinetics parameters.	<ul style="list-style-type: none"> ➤ Factors affecting distribution 	LGIS 02 hour	MCQs / VIVA
8)	Describe factors affecting the pharmacokinetics parameters.	<ul style="list-style-type: none"> ➤ Factors affecting biotransformation. 	LGIS 02 hour	MCQs / VIVA
9)	Describe the drug – drug interaction at pharmacokinetics level.	<ul style="list-style-type: none"> ➤ Enzyme induction ➤ Enzyme inhibition 	LGIS 02 hour	MCQs / VIVA
10)	Calculate the different pharmacokinetics parameters from the given data.	<ul style="list-style-type: none"> ➤ Bioavailability of drugs Volume of distribution ➤ Clearance ➤ Half – life and extraction ratio 	Practical 02 hour	MCQs / VIVA OSPE
11)	Describe the principles of various pharmacokinetics parameters.	<ul style="list-style-type: none"> ➤ Different families of receptor ➤ Describe receptor regulation of different families of receptors ➤ Super sensitivity of different families of receptors ➤ Up regulation of different families of receptors 		MCQs / VIVA

		<ul style="list-style-type: none"> ➤ Down regulation of different families of receptors ➤ Desensitization of different families of receptors ➤ Tolerance of different families of receptor ➤ Tachyphylaxis of different families of receptor. 	LGIS + SDG 02 HRS + 02 HRS	
12)	Describe mechanism of drug actions.	<ul style="list-style-type: none"> ➤ Signaling mechanism and drug action ➤ Efficacy ➤ Potency ➤ Constitutive activity 	LGIS 02 hour	MCQs / VIVA
13)	Describe agonist dose response curve.	<ul style="list-style-type: none"> ➤ Graded DRC ➤ Quantal DRC ➤ Therapeutic index ➤ Therapeutic window 	LGIS 02 hour	MCQs / VIVA
14)	Describe antagonist and types of antagonism.	<ul style="list-style-type: none"> ➤ Physiological Antagonist ➤ Pharmacological Antagonist ➤ Competitive antagonist ➤ Noncompetitive antagonist ➤ Chemical antagonist ➤ Inverse agonist ➤ Partial agonist ➤ Full agonist 	LGIS 02 hour	MCQs / VIVA
15)	Describe factors affecting the pharmacodynamics parameters.	<ul style="list-style-type: none"> ➤ Drug-drug interaction at pharmacodynamics level. 	SGD 02 hour	MCQs / VIVA
16)	Plot the given values on the graph paper.	<ul style="list-style-type: none"> ➤ Calculate the therapeutic index and therapeutic window from it. ➤ Competitive noncompetitive antagonist and antagonism on the given graphs. 	Practical 02 hours	MCQs / VIVA OSPE
17)	Describe various types of adverse drug reaction.	<ul style="list-style-type: none"> ➤ Different types of adverse effects with examples. ➤ Practical's: ➤ Introduction and dosage ➤ Percentage solutions ➤ Stock solutions ➤ ORS composition 	SGD 02 hour	MCQs / VIVA

Forensic Medicine

Sr.no.	Learning objective by the end of the session, student will be able to	<u>Content area</u>	TEACHING ACTIVITY DURATION	Assessment
1.	Introduction of forensic medicine <ul style="list-style-type: none"> ➤ Define the term forensic medicine, legal medicine and medical jurisprudence. 	<ul style="list-style-type: none"> ➤ Components of forensic medicine ➤ Application of forensic medicine in practical life. 	LGIS 01 hour	MCQs / VIVA
2.	Forensic Sciences <ul style="list-style-type: none"> ➤ Describe various branches of forensic medicine and their role in practical life. ➤ Describe the role of various sciences including medical sciences to investigate crime. 	<ul style="list-style-type: none"> ➤ Role of forensic medicine and forensic sciences in crime detection. 	LGIS 01 hour	MCQs / VIVA
3.	Pakistan's legal system <ul style="list-style-type: none"> • Define law and its types • Discuss various courts in Pakistan with their power and the sentences authorized by law. 	<ul style="list-style-type: none"> ➤ Laws and Courts system in Pakistan. ➤ Powers and jurisdiction of court. ➤ Important legal terms. 	LGIS 01 hour	MCQs / VIVA
4.	Pakistan's legal system <ul style="list-style-type: none"> • Describe the types of witness, evidence and procedure of recording medical evidence in the court. • Describe the protocol of appearance in the court for doctors. 	<ul style="list-style-type: none"> ➤ Medical evidence ➤ Recording of medical evidence ➤ Witnesses ➤ Procedure of court attendance for doctors. 	SGD 2 hours	MCQs / VIVA
5.	Pakistan's Medical & Dental Council Discuss the constitution and function of PM&DC including the privileges and obligations of a registered medical practitioner. I. Enlist objectives of medical and dental degree ordinance. II. Explain conducts and regulation of health professional.	Pakistan Medical & Dental Council <ul style="list-style-type: none"> ➤ Constitution ➤ Objectives ➤ Jurisdiction ➤ Objectives ➤ Privileges' and obligations of registered medical practitioner 	LGIS 01 hour	MCQs / VIVA
6.	Laws in relation to medical men. <ul style="list-style-type: none"> • Define medical ethics 	<ul style="list-style-type: none"> ➤ Medical ethics ➤ International code of ethics ➤ Doctor – patient relationship ➤ Doctor – doctor relationship ➤ Doctor – state relationship 	LGIS 01 hour	MCQs / VIVA

	<ul style="list-style-type: none"> Enumerates international code of medical ethics. Describe ethical duties of physicians according to international codes of ethics. 			
7.	<p>Law in relation to medical men.</p> <ul style="list-style-type: none"> Define professional misconduct. Understand and refrain from professional misconduct. Enlist its ingredients and give examples. Enlist punishments a doctor can face if guilty of misconduct. 	<ul style="list-style-type: none"> ➤ Definition and examples of Professional Misconduct. ➤ Punishments in case of guilty. 	<p>LGIS 01 hour</p>	<p>MCQs / VIVA</p>
8.	<p>Medical ethics</p> <ul style="list-style-type: none"> Define professional secrecy. Enlist circumstances for exercising cautions. Define privileged communication. Enlist justifications for disclosure secrets. 	<ul style="list-style-type: none"> ➤ Professional secrecy ➤ Privileged communication ➤ Justifications for disclosure of professional secrets. 	<p>SGD 02 hour</p>	<p>MCQs / VIVA</p>
9.	<p>Medical ethics / consent</p> <ul style="list-style-type: none"> Discuss the ethical principles in medical examinations, including the importance of obtaining consent. Explain PPC sections related to consent. 	<ul style="list-style-type: none"> ➤ Consent and its types ➤ Informed consent ➤ Law related to consent in Pakistan Penal Code. 	<p>LGIS 01 hour</p>	<p>MCQs / VIVA</p>
10.	<p>Medical Negligence</p> <ul style="list-style-type: none"> Explain medical negligence and its various types. Define what Constitute medical negligence. Describe law related to medical negligence in Pakistan Penal Code. 	<ul style="list-style-type: none"> ➤ Civil negligence ➤ Criminal negligence ➤ Contributory negligence ➤ Vicarious responsibilities ➤ Proof of negligence ➤ Precautions against negligence ➤ Elevant laws 	<p>LGIS 01 hour</p>	<p>MCQs / VIVA</p>
11.	<ul style="list-style-type: none"> Human organ transplantation act Describe pros and cons of human organ transplantation in each individual case. 	<ul style="list-style-type: none"> ➤ Scope of organ transplantation ➤ Relevant sections of human organ transplantation act 2012 ➤ Ethical issues in organ transplantation 	<p>SGD 02 hours</p>	<p>MCQs / VIVA</p>

- Describe ethical issues in organ transplantation.

Block- VII

Module – II Foundation II

Pathology

Sr.no.	Learning objective by the end of the session, student will be able to	<u>Content area</u> <u>FOUNDATION II MODULE</u> <u>GENERAL</u> <u>PATHOLOGY AND</u> <u>MICROBIOLOGY</u>	TEACHING ACTIVITY DURATION	Assessment
1)	➤ Describe the classification structure, replication and pathogenesis of medically important viruses	<u>MICROBIOLOGY (Virology, Parasitology Mycology)</u> <u>VIROLOGY</u> Introduction to Virology/ Classification of Pathogenesis of viruses Pathogenesis of viruses Host defenses against viruses / Antiviral therapy Comparison of viruses & bacteria / Structure of viruses Replication of viruses and genetics	LGIS 2HR + SGD 2HRS	MCQs / VIVA
2)	➤ Describe the classification, structures replication and pathogenesis of medically important parasites	<u>PARASITOLOGY</u> ➤ Classification of parasites ➤ General aspects of parasitology	LGIS 2HR + SGD 2HRS	MCQs / VIVA
3)	• Describe the classification structure, replication and pathogenesis of medically important fungi	<u>MYCOLOGY</u> ➤ Classification of fungi ➤ General aspects of Mycology PRACTICAL : 2 Hours ➤ Laboratory Diagnosis of Viral infections ➤ Laboratory Diagnosis of fungal infections ➤ Laboratory Diagnosis of parasitic infections	LGIS 2HR + SGD 2HRS	MCQs / VIVA

Sr.no.	Learning objective by the end of the session, student will be able to	<p align="center"><u>Content area</u> FOUNDATION II MODULE GENERAL PATHOLOGY AND MICROBIOLOGY</p>	TEACHING ACTIVITY DURATION	Assessment
1)	<ul style="list-style-type: none"> ➤ What are the major types of neoplasia? Explain the differentiating features of 2 types? ➤ Describe the nomenclature of benign and malignant tumors? 	<p><u>NEOPLASIA</u></p> <ul style="list-style-type: none"> ➤ Characteristics of Benign and malignant neoplasms ➤ Differentiation, anaplasia, dysplasia Nomenclature 	<p align="center">LGIS 02 hour</p>	<p align="center">MCQs / VIVA</p>
2)	<ul style="list-style-type: none"> ➤ What is carcinogenesis? ➤ Names types of carcinogens along with their mechanism of action? 	<ul style="list-style-type: none"> ➤ Role of screening for tumor. ➤ Carcinogenesis (Basic principles, Oncogenes, ➤ Important Carcinogens and associated Cancers including oncogenic viruses & Radiation. 	<p align="center">LGIS 01 hour</p>	<p align="center">MCQs / VIVA</p>
3)	<ul style="list-style-type: none"> • What are tumor suppressor genes? Types? • Explain the routes of spread of tumors along with mechanism of metastasis. 	<ul style="list-style-type: none"> ➤ Tumor suppressor genes (Function, Mechanism and associated tumor). ➤ Tumor progression (Tumor invasion and spread, Routes of metastasis. ➤ Clinical characteristics and Histology features 	<p align="center">LGIS 02 hour + SGD 2 HRS</p>	<p align="center">MCQs / VIVA</p>
4)	<ul style="list-style-type: none"> • What is grade and stage malignant tumors? Lab diagnosis of neoplasia with importance of each modality? 	<ul style="list-style-type: none"> • Grading and staging of Tumors • Tumor immunity • Diagnosis of Neoplastic disease • Role of FNAC, Tissue biopsy and immunohistochemistry • Serum tumor markers <p>PRACTICAL: 4hours Benign and malignant epithelial tumors Benign and malignant mesenchymal tumors.</p>	<p align="center">LGIS 02 HRS +SGD 2 HRS</p>	<p align="center">MCQs / VIVA</p>

Sr.no.	Learning objective by the end of the session, student will be able to	<p align="center"><u>Content area</u> FOUNDATION II MODULE GENERAL <u>PATHOLOGY AND</u> <u>MICROBIOLOGY</u></p>	TEACHING ACTIVITY DURATION	Assessment
1)	<ul style="list-style-type: none"> ➤ Classify genetic disorders? ➤ Describe mechanism of disease caused by single gene disorders? 	GENETICS: Overview of Genetics Classification of Genetics disorders Transmission pattern of Single gene disorders (Autosomal recessive, Dominant and X-linked disorders)	LGIS 02 hour	MCQs / VIVA
2)	<ul style="list-style-type: none"> ➤ Disease caused by genetic mutations? ➤ Classification of chromosomal disorders? 	<p>Diseases caused by mutations in genes encoding structural proteins receptor proteins, enzyme proteins.</p> <p>Chromosomal disorders. (Structural and Numerical Cytogenetic disorders involving autosomes and sex chromosomes)</p>	LGIS 02 hour	MCQs / VIVA
3)	<ul style="list-style-type: none"> • Classification pathogenesis and diagnosis of pediatric Diseases? • How is diagnosis of genetic disorders made? 	<p>Pediatric diseases Diagnosis of Genetic disorders</p>	LGIS 02 HRS + SGD 2 HRS	MCQs / VIVA

Pharmacology

Block VII

Module II

Sr.no.	Learning objective by the end of the session, student will be able to	<u>Content area</u>	TEACHING ACTIVITY DURATION	Assessment
18)	Describe the pharmacokinetics of cholinceptor activators.	<ul style="list-style-type: none"> ➤ Absorption ➤ Distribution ➤ Biotransformation ➤ Excretion of cholinceptor activators. 	LGIS 02 hour	MCQs / VIVA
19)	Describe the clinical uses of cholinceptor activators.	<ul style="list-style-type: none"> ➤ Therapeutic uses, contraindications of cholinceptor activators ➤ Adverse effects and toxicity of cholinceptor activators. 	LGIS + SGD 02 hour + 02 hour	MCQs / VIVA
20)	Describe the classification of cholinceptor activators.	<ul style="list-style-type: none"> ➤ Different drugs classes ➤ Mode of action of different cholinceptor activators. 	LGIS + SGD 02 HRS + 02 HRS	MCQs / VIVA
21)	Describe in detail cholinceptor blocking drugs.	<ul style="list-style-type: none"> ➤ Classification ➤ Mechanism of action ➤ Clinical uses ➤ Contraindication ➤ Adverse effects and toxicity of cholinceptor blocking drugs. 	LGIS + SGD 02 HRS + 02 HRS	MCQs / VIVA
22)	Describe the uses of cholinceptor blocking drugs on different systems of body.	<ul style="list-style-type: none"> ➤ The uses of cholinceptor blocking drugs in CNS problems (Parkinsonism, motion sickness). ➤ Uses of cholinceptor blocking drugs in ophthalmology disorders problems. ➤ Uses of cholinceptor blocking drugs in respiratory system problems (asthma) ➤ Uses of cholinceptor blocking drugs in GIT problems (peptic ulcer). ➤ Uses of cholinceptor blocking drugs in urinary bladder problems. 	LGIS + SGD 02 HRS + 02 HRS	MCQs / VIVA OSPE
23)	Describe the pharmacokinetics of adrenoceptor activators.	<ul style="list-style-type: none"> ➤ Absorption ➤ Distribution ➤ Metabolism ➤ Excretion of different adrenoceptor activators. 	SGD 02 hours	MCQs / VIVA
24)	Describe in detail the adrenoceptor activators.	<ul style="list-style-type: none"> ➤ The contraindication of adrenoceptor activators 	LGIS 02 hour	MCQs / VIVA

		<ul style="list-style-type: none"> ➤ Clinical uses of adrenoceptor activators ➤ Adverse effects and toxicity of adrenoceptor activators. 		
25)	Describe in detail Alpha agonist.	<ul style="list-style-type: none"> ➤ Classification of Alpha agonist. ➤ Mode of action of Alpha agonist. ➤ Clinical uses of Alpha agonist. ➤ Adverse effects of Alpha agonists. ➤ Contraindications of Alpha agonist. 	LGIS + SGD 02 HRS + 02 HRS	MCQs / VIVA
26)	Describe B-agonist in detail.	<ul style="list-style-type: none"> ➤ Classify B-agonist ➤ Mode of action of B-agonist ➤ Clinical uses of B-agonist. ➤ Adverse effects contraindications of B-agonist. 	LGIS 02 hour	MCQs / VIVA
27)	Describe pharmacokinetics of adrenoceptor blocking drugs.	<ul style="list-style-type: none"> ➤ Absorption ➤ Distribution ➤ Biotransformation ➤ Excretion ➤ Half life 	SGD 02 hours	MCQs / VIVA OSPE
28)	Describe pharmacokinetics of adrenoceptor blocking drugs.	<ul style="list-style-type: none"> ➤ Classify alpha blockers ➤ Mode of action alpha blockers ➤ Clinical uses of alpha blockers ➤ Adverse effects of alpha blockers ➤ Contraindication of alpha blockers 	LGIS 02 hours	MCQs / VIVA
29)	Describe Beta blockers in detail.	<ul style="list-style-type: none"> ➤ Classify Beta blockers ➤ Mode of action of Beta blockers ➤ Clinical uses of Beta blockers in cardiovascular uses ➤ Clinical uses of Beta blockers in non-cardiovascular uses ➤ Adverse effects of Beta blockers ➤ Contraindication of Beta blockers ➤ Practicals: ➤ Effects of drugs on Rabbit eye. ➤ Does response curve ➤ Drugs acting in frog's heart. ➤ Reflex Time ➤ CNS Stimulants ➤ CNS Depressants 	LGIS + SGD 02 HRS + 02 HRS	MCQs / VIVA

Forensic Medicine

Sr.no.	Learning objective by the end of the session, student will be able to	<u>Content area</u>	TEACHING ACTIVITY DURATION	Assessment
1.	Law related to death investigation <ul style="list-style-type: none"> • Describe different medico legal system of death investigation in the world. • Briefly discuss criminal procedure code regarding postmortem examination. 	<ul style="list-style-type: none"> ➤ Inquest ➤ Different Medico legal system for death investigation prevalent in the world. ➤ Criminal procedure code of Pakistan for inquire cause of death. 	LGIS 01 hour	MCQs / VIVA
2.	Postmortem examination <ul style="list-style-type: none"> • Describe various types and objectives of autopsy. • Describe rules and requirement of postmortem examination. • Describe importance of dead body at crime scene. 	<ul style="list-style-type: none"> ➤ Types of post mortem examination ➤ Objectives of medico legal autopsy. ➤ Prerequisites for medico legal autopsy. ➤ Examination of dead body at crime scene. 	LGIS 01 hour	MCQs / VIVA
3.	Medico legal autopsy <ul style="list-style-type: none"> • Describe postmortem protocols. • Describe the procedure and incisional techniques of postmortem examination. • Describe autopsy room requirements. 	<ul style="list-style-type: none"> ➤ Autopsy protocols ➤ Different autopsy incisions ➤ Requirements for mortuary. 	LGIS 01 hour	MCQs/ OSPE VIVA
4.	Medico legal autopsy <ul style="list-style-type: none"> • Describe autopsy in special circumstances. • Explain negative / obscure autopsy. • Enlist causes of negative autopsy. 	<ul style="list-style-type: none"> ➤ Autopsy in case of pneumothorax air embolism, fat embolism ➤ Causes of negative autopsy. 	LGIS 01 hour	MCQs/ OSPE VIVA
5.	Exhumation <ul style="list-style-type: none"> • Exhumation • Define Exhumation. • Give objectives of exhumation. • Enlist precautions of exhumation. • Discuss procedure of exhumation and 	<ul style="list-style-type: none"> ➤ Procedure and legal requirements for exhumation. ➤ Objectives of exhumation ➤ Precaution necessary during exhumation. 	LGIS 01 hour	MCQs / VIVA

	limitation of exhumation.			
6.	Collection preservation and dispatch of viscera <ul style="list-style-type: none"> Discuss the procedure of collection, preservation, labeling and dispatch of biological specimens for histopathology and chemical analysis. 	<ul style="list-style-type: none"> ➤ Procedure of collection of different biological specimens / non-biological. ➤ Dispatch to forensic science laboratory / pathology laboratory for analysis. ➤ Chain of custody. 	SGD 02 hours	MCQs/ OSPE VIVA
7.	Thanatology <ul style="list-style-type: none"> Explain the scientific concepts and criteria for the diagnosis of brain death, organ transplantation. Define suspended animation. Enlist its causes. Explain mode, manner, mechanism and cause of death and legal aspect of sudden and unexpected death. Differentiate between somatic and molecular death. 	<ul style="list-style-type: none"> ➤ Types of death ➤ Indicators of death ➤ Types of brain death ➤ Criteria to diagnose brain death ➤ Cause, manner, mode and mechanism of death ➤ Suspended animation 	LGIS 01 hour	MCQs / VIVA
8.	Postmortem changes – 1 <ul style="list-style-type: none"> Discuss physiochemical changes following death occurring in various body tissues and organs under various environmental conditions. Classify postmortem changes. Explain immediate, and early changes after death and their medico legal importance. 	<ul style="list-style-type: none"> ➤ Immediate changes after death ➤ Changes in skin and eye after death ➤ Postmortem cooling 	LGIS 01 hour	MCQs/ OSPE VIVA
9.	Postmortem changes – 2 <ul style="list-style-type: none"> Explain early and late changes after death and their medico legal importance. 	<ul style="list-style-type: none"> ➤ Postmortem lividity ➤ Rigor mortis ➤ Late changes ➤ Early DE compositional changes 	LGIS 01 hour	MCQs/ OSPE VIVA
10.	Putrefactive changes <ul style="list-style-type: none"> Describe process of putrefaction in air, water and soil. Discuss factors involved in the process of putrefaction. Explain 	<ul style="list-style-type: none"> ➤ Factors involved in the process of putrefaction ➤ Estimation of time since death. 	LGIS 01 hour	MCQs / VIVA OSPE

	<p>its medico legal importance.</p> <ul style="list-style-type: none"> • Estimate approximate time since death in medico legal cases. 			
11.	<p>Late DE compositional changes</p> <ul style="list-style-type: none"> • Describe adipocere and mummification • Enlist conditions necessary for their development. 	<ul style="list-style-type: none"> ➤ Adipocere formation and its medico legal aspects. ➤ Mummification. 	LGIS 01 hours	MCQs/ OSPE VIVA
12.	<ul style="list-style-type: none"> • Describe role of insects in putrefaction. • Discuss role of forensic entomology in estimating time since death. 	<ul style="list-style-type: none"> ➤ Forensic Entomology 	SGD 01 hours	MCQs/ OSPE VIVA
13.	<p>Postmortem artefacts</p> <ul style="list-style-type: none"> • Discuss postmortem artefacts. 	<ul style="list-style-type: none"> ➤ Agonal artifacts ➤ Improper autopsy procedure ➤ Introduce during postmortem period ➤ Due to DE compositional changes ➤ Artefacts due to predators 	LGIS 01 hours	MCQs / VIVA
14.	<ul style="list-style-type: none"> • Discuss how to write a death certificate according to WHO recommendation. 	<ul style="list-style-type: none"> ➤ Death certificate 	SGD 01 hours	MCQ's/ OSPE
15.	<p>Euthanasia</p> <ul style="list-style-type: none"> • Describe euthanasia and its types. • Discuss role of doctor in euthanasia. • Discuss ethical problems related to euthanasia. • Islamic concept of euthanasia. 	<ul style="list-style-type: none"> ➤ Types and methods of Euthanasia ➤ Ethical problems 	SGD 01 hours	MCQs / VIVA

Pathology

Block - VII

Module – III Hemodynamic Disorders and Hematopoietic system

Sr.no.	Learning objective by the end of the session, student will be able to answer:	<u>Content area</u> <u>MODULE – 3 Hemodynamic Disorders and Hematopoietic system</u>	TEACHING ACTIVITY DURATION	Assessment MCQ / SEQ
1.	<ul style="list-style-type: none"> Define Edema along with its pathophysiological categories and what do u mean by hyperemia and congestion with their morphological features. 	<u>Hemodynamic Disorders:</u> <ul style="list-style-type: none"> ➤ Edema ➤ Hyperemia ➤ Congestion 	LGIS 02 HOUR	MCQs / VIVA
2.	<ul style="list-style-type: none"> Explain the Sequence of events of Hemostasis and Thrombosis with reference to Virchow's triad, Morphological features and fate of thrombus. 	<ul style="list-style-type: none"> ➤ Hemostasis ➤ Thrombosis 	LGIS 02 HOUR	MCQs / VIVA
3.	<ul style="list-style-type: none"> Define Embolism? Describe its various types with pathogenesis and clinical features of each type? 	<ul style="list-style-type: none"> ➤ Embolism with types (Pulmonary embolism, Fat embolism, Air embolism, Amniotic fluid embolism and systemic thromboembolism) 	LGIS 02 HOUR + SGD 2 HOUR	MCQs / VIVA
4.	<ul style="list-style-type: none"> What is Infarction? What are its types with their morphological features and explain the factors that influence development of an infarct. 	<ul style="list-style-type: none"> ➤ Infarction 	LGIS 02 HOUR	MCQs / VIVA
5.	<ul style="list-style-type: none"> Define Shock? Explain its pathogenesis, Stages of development along with clinical features. 	<ul style="list-style-type: none"> ➤ Shock 	LGIS 02 HOUR + SGD 02 HOUR	MCQs / VIVA

6.	<ul style="list-style-type: none"> What is normal Hematopoiesis, how u classify Anemias, Describe etiology, Pathogenesis, morphological and clinical features along with lab diagnosis of iron deficiency anemia. 	<u>Hematopoietic system</u> <ul style="list-style-type: none"> Hematopoiesis Classification of Anemia Iron deficiency anemia 	<p>LGIS 02 HOUR</p>	<p>MCQs / VIVA</p>
7.	<ul style="list-style-type: none"> Describe the following with respect to their incidence, etiology, pathogenesis, blood picture and clinical features: <ul style="list-style-type: none"> ➤ Megaloblastic anemia ➤ Folate deficiency ➤ Vitamin B12 deficiency 	<ul style="list-style-type: none"> Megaloblastic anemia Folate deficiency Vitamin B12 deficiency 	<p>LGIS 02 HOUR</p>	<p>MCQs / VIVA</p>
8.	<ul style="list-style-type: none"> Describe the following with respect to their incidence, etiology, pathogenesis, blood picture and clinical features: <ul style="list-style-type: none"> Anemia of chronic disease, Sideroblastic and Aplastic anemia. 	<ul style="list-style-type: none"> Anemia of chronic disease Sideroblastic anemia Aplastic anemia 	<p>LGIS 02 HOUR + SGD 02 HOUR</p>	<p>MCQs / VIVA</p>
9.	<ul style="list-style-type: none"> What are hemolytic anemias? Classify hemolytic anemias into Hereditary type (sickle cell anemia, G6PD, Thalasemia, Hereditary type , Spherocytosis) Acquired type (Autommune hemolytic anemia, PNH) 	Hemolytic anemias: <ol style="list-style-type: none"> Hereditary type Acquired type 	<p>LGIS 02 HOUR + SGD 02 HOUR</p>	<p>MCQs / VIVA</p>
10.	<ul style="list-style-type: none"> Classify white blood cell disorders (leukemia) and compare pathologic features of each category <p>Myeloid Neoplasm I:</p> <ol style="list-style-type: none"> Acute Myeloid Leukemia Myelodysplastic syndrome 	<ul style="list-style-type: none"> Acute Myeloid Leukemia Myeloidysplastic Syndrome 	<p>LGIS 02 HOUR</p>	<p>MCQs / VIVA</p>

11.	<p><u>Myeloid Neoplasm II:</u></p> <p>3. Myeloproliferative disorders</p> <p>a) CML b) PV c) MYELOFIBROSIS d) ET</p>	<p>3. Myeloproliferative disorders</p> <p>a) CML b) PV c) MYELOFIBROSIS d) ET</p>	<p>LGIS 02 HOUR + SGD 02 HOUR</p>	<p>MCQs / VIVA</p>
12.	<ul style="list-style-type: none"> Classify white blood cell disorders (Lymphomas) and compare pathologic features of each category <p>Hodgkin's Lymphoma</p>	<p>Hodgkin's Lymphoma</p>	<p>LGIS 02 HOUR + SGD 01 HOUR</p>	<p>MCQs / VIVA</p>
13.	<ul style="list-style-type: none"> Non – Hodgkin's Lymphomas with pathologic features of each category. 	<p>Non – Hodgkin's Lymphomas</p> <ul style="list-style-type: none"> ➤ Follicular lymphoma ➤ Mantle lymphoma ➤ Marginal zone lymphoma ➤ Burkitt's lymphoma 	<p>LGIS 02 HOUR + SGD 01 HOUR</p>	<p>MCQs / VIVA</p>
14.	<ul style="list-style-type: none"> Define thrombocytopenia and distinguish b/w quantitative and qualitative platelet disorders along with other bleeding disorders like vascular disorders. 	<p>Bleeding disorders</p> <ul style="list-style-type: none"> ➤ Thrombocytopenia ➤ Vascular disorders ➤ Platelet disorders 	<p>LGIS 02 HOUR</p>	<p>MCQs / VIVA</p>
15.	<ul style="list-style-type: none"> Describe the Acquired and hereditary coagulation disorders (Hemophilia, Von will brand disease) in relation to etiology, pathogenesis, clinical features and lab findings. 	<p>Acquired and hereditary coagulation disorders</p>	<p>LGIS 02 HOUR + SGD 02 HOUR</p>	<p>MCQs / VIVA</p>
16.	<ul style="list-style-type: none"> Describe transfusion medicine including Blood grouping, cross match, hazards of blood transfusion and how these can be prevented as well as bone marrow transplantation. 	<p><u>Transfusion medicine</u></p> <p>PRACTICALS: 6 HOURS</p> <ul style="list-style-type: none"> ➤ Edema, congestion, thrombosis and infarction ➤ RBC morphology, Interpretation of blood CP ➤ Investigation of hemolytic anemia, Comb's, test ➤ Acute leukemia, chronic leukemia ➤ Bleeding disorders, PT, APTT. 	<p>LGIS 02 HOUR</p>	<p>MCQs / VIVA</p>

Pharmacology

Block – VII

Module III

Sr.no.	Learning objective by the end of the session, student will be able to	Content area	TEACHING ACTIVITY DURATION	Assessment
30)	<ul style="list-style-type: none"> Describe parenteral anticoagulant drugs. 	<ul style="list-style-type: none"> Classification of anticoagulant drugs Mode of action of Heparin. Therapeutic uses of Heparin. Adverse effects of Heparin. 	LGIS + SGD 02 hour + 02 hour	MCQs / VIVA
31)	<ul style="list-style-type: none"> Describe oral anticoagulants. 	<ul style="list-style-type: none"> Mode of action, therapeutic uses, adverse effects of warfarin. 	LGIS 02 hour	MCQs / VIVA
32)	<ul style="list-style-type: none"> Describe in detail thrombolytic agents. 	<ul style="list-style-type: none"> Classification of thrombolytic agents Mode of action of thrombolytic agents. Therapeutic uses of thrombolytic agents Adverse effects of thrombolytic agents. 	LGIS + SGD 02 HRS + 02 HRS	MCQs / VIVA
33)	<ul style="list-style-type: none"> Describe in detail antiplatelet agents. 	<ul style="list-style-type: none"> Classify antiplatelet agents Mode of action of antiplatelet agents Therapeutic uses and adverse effects of antiplatelet agents. 	LGIS 02 hour	MCQs / VIVA
34)	<ul style="list-style-type: none"> Describe in detail drugs used to treat anemia. 	<ul style="list-style-type: none"> Classification of drugs used in treatment of Anemia. Mode of action of drugs used in treatment of Anemia. Therapeutic uses of drugs used in treatment of Anemia. Adverse effects of drugs used in treatment of Anemia. 	SGD 02 HOUR	MCQs / VIVA OSPE
35)	<ul style="list-style-type: none"> Describe in detail antihyperlipidemic drugs. 	<ul style="list-style-type: none"> Classification of drugs used in treatment of hyperlipidemia. Mode of action of drugs used in treatment of hyperlipidemia. Therapeutic uses of drugs used in treatment of hyperlipidemia. Adverse effects of drugs used in treatment of hyperlipidemia. 	LGIS 02 hour	MCQs / VIVA
36)	<ul style="list-style-type: none"> Describe in detail antimalarial drugs. 	<ul style="list-style-type: none"> Absorption Distribution Metabolism and excretion of Antimalarial. Classification of Antimalarial. Mode of action of different groups of antimalarial. Therapeutic uses of Antimalarial. Adverse effects of Antimalarial. 	LGIS 02 hour	MCQs / VIVA

37)	<ul style="list-style-type: none"> Describe in detail chloramphenicol. 	<ul style="list-style-type: none"> Pharmacokinetics properties Mechanism Clinical uses Adverse effects of chloramphenicol. 	SGD 02 HOUR	MCQs / VIVA OSPE
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Forensic Medicine

Sr.no.	Learning objective by the end of the session, student will be able to	<u>Content area</u>	TEACHING ACTIVITY DURATION	Assessment
1.	General toxicity <ul style="list-style-type: none"> Define toxicity, forensic toxicology and poison. Differentiate drug drugs and poison. Describe the properties of ideal suicidal and homicidal poison including classification, administration, and elimination of poison. 	<ul style="list-style-type: none"> Classification of poisons Administration and route of elimination of poisons. 	LGIS 01 hour	MCQs / VIVA OSPE
2.	General toxicity <ul style="list-style-type: none"> Enlist the factors modifying actions of poisons. Discuss various methods of diagnosis of poisoning in living and dead. 	<ul style="list-style-type: none"> Factor modifying action of poisons Methods of diagnosis of poison in living as well as dead. 	SGD 02 hour	MCQs / VIVA OSPE
3.	Management of acute poisoning <ul style="list-style-type: none"> Describe the steps of general treatment of poisoning. Discuss the duties of a doctor to a case of poisoning. 	<ul style="list-style-type: none"> Medico legal duties of doctors in poisoning case Assessment of clinical condition Methods Removal of absorb and unabsorbed poisons' 	LGIS 02 hour	MCQs/ OSPE VIVA
4.	Analytical toxicology <ul style="list-style-type: none"> Discuss the analytical procedure to screen poison in forensic lab. Prepare and interpret chemical examiner report. 	<ul style="list-style-type: none"> Screening of poisons Preparation and interpretation of report. 	SGD 02 hour	MCQs/ OSPE VIVA
5.	Special toxicology <ul style="list-style-type: none"> Discuss the analytical procedure to screen poison in forensic lab. Prepare chemical examiner report. 	Corrosives <ul style="list-style-type: none"> Sulphuric acid Nitric acid Hydrochloric acid Sodium hydroxide Potassium hydroxide Vitriolage 	SGD 02 hour	MCQs / VIVA OSPE

6.	<ul style="list-style-type: none"> Discuss the clinical features, diagnosis, management, postmortem appearance and medico legal importance of poisoning by mineral acids and alkalis. Describe Law relevant to Vitrologage. 		SGD 02 hours	MCQs/ OSPE VIVA
7.	<p>Organic acids</p> <ul style="list-style-type: none"> Discuss the clinical features, diagnosis, management, postmortem appearance and medico legal importance poisoning by organic acids. 	<ul style="list-style-type: none"> ➤ Carbolic acid ➤ Oxalic acid ➤ Acetic acid 	LGIS 01 hour	MCQs / VIVA OSPE
8.	<p>Vegetable acids</p> <ul style="list-style-type: none"> Discuss the clinical features, diagnosis, management, postmortem appearance and medico legal importance poisoning by organic acids. 	<ul style="list-style-type: none"> ➤ Hydrogen cyanide ➤ Potassium cyanide 	LGIS 01 hour	MCQs/ OSPE VIVA
9.	<p>Non-metallic irritant poisons</p> <ul style="list-style-type: none"> Describe the mechanism of action, clinical features, diagnosis, treatment, postmortem appearances and medico legal importance of acute / chronic poisoning by non-metallic irritants. 	<ul style="list-style-type: none"> ➤ Mechanism of action, clinical, features, diagnosis, treatment, postmortem appearances and medico legal importance of acute / chronic <p>Poisoning by</p> <ul style="list-style-type: none"> • Phosphorus • Iodine 	SGD 02 hour	MCQs/ OSPE VIVA
10.	<p>Metallic irritant poisons</p> <ul style="list-style-type: none"> Describe the mechanism of action, clinical features, diagnosis, treatment, postmortem appearances and medico legal importance of acute / chronic poisoning by metallic irritants. 	<ul style="list-style-type: none"> ➤ Arsenic ➤ Antimony ➤ Lead 	LGIS 01 hour	MCQs / VIVA OSPE
11.	<p>Metallic – irritant poisons</p> <ul style="list-style-type: none"> Describe the mechanism action, 	<ul style="list-style-type: none"> ➤ Copper sulphate ➤ Mercury 	LGIS	MCQs/

	diagnosis, treatment, postmortem appearances and medico legal importance of acute / chronic poisoning by copper sulphate and mercury.		01 hours	OSPE VIVA
12.	<ul style="list-style-type: none"> Describe the mechanism of action, clinical features, diagnosis, treatment, post mortem appearances and medico legal importance of acute / chronic poisoning by Aluminum phosphide 	➤ Aluminum Phosphide	SGD 01 hours	MCQs/ OSPE VIVA
13.	<p>Forensic serology</p> <ul style="list-style-type: none"> To perform test for detection of blood 	<ul style="list-style-type: none"> ➤ Identification of blood cells of different species ➤ Different blood groups ➤ Medico legal importance ➤ Identification under Microscope. ➤ Preliminary and confirmatory test. 	Practical	MCQs / VIVA OSPE

Learning Resources / Recommended Books:

Pharmacology

- I. Basic & Clinical Pharmacology by **Katzung 14th Edition.**
- II. Rang and Date Pharmacology 8th Edition.
- III. Basic of Pharmacology by **Goodman & Gillman** Latest Edition.
- IV. Medical Pharmacology & Therapeutics by **Walker 3rd Edition.**
- V. Netter's illustrated Pharmacology by **RAFFA** latest Edition.

Pathology

- I. **Robbins and Cotran** Pathologic basic of disease 10th Edition.
- II. Basic Pathology by **Kumar and Cotran 10th Edition.**
- III. Medical Microbiology and Immunology by **Warren Levinson 14th Edition.**

Forensic Medicine:

- I. **Parikh's** textbook of Medical Jurisprudence Forensic Medicine and Toxicology 6th edition.
- II. **Simpson's** Forensic Medicine 13th edition.
- III. Principles of Forensic Medicine by **Naseeb – R – Awan.**
- IV. Textbook of Forensic Medicine by **Krishan vij**
- V. Pakistan Penal Code 2nd amendment.

TRAINING PROGRAM 3rd YEAR MBBS
(BLOCK VII) MODULE I (FOUNDATION I) 1ST WEEK
(THEME: PRIMARY APPROACH)

Time/ Days	0800 – 0850	0900 – 0950	1000-1050	1050 -1110	1110-1200	1210-1300	1300- 1330	1330 – 1500		
Monday		Pathology	Pharmacology	T E A B R E A K	Pathology	Library / SDL	L U N C H & P R A Y E R B R E A K	Practical		
								Pharmacology		
Tuesday	Pharmacology	Forensic Medicine	Pharmacology SDL		Pathology SGD				Practical	
					SDL(1110- 1200)	SGD (1210- 1300)			Pathology	
Wednesda y	Pathology	Forensic Medicine	Pharmacology			Pathology		Pharma, Patho, F.M		Practical
								Mentoring / Self Study		Forensic Medicine
Thursday	Pathology SGD		Pharmacology		Pathology	Forensic Medicine		Self-Study /Library		
	SDL (0800- 0850)	SGD (0900- 0950)				SDL				
Friday	Pharmacology SGD		Pathology		Pharmacology , Pathology , F.M		(1300- 1400)	(1400 – 1500)		
	SDL (0800 – 0850)	SGD (0900 – 0950)			Student Seminar		Lunch & Prayer Break			
Saturday										
Sunday										

Prof. Dr. Shakaib Anwar
Principal college of medicine
RIHS Islamabad

Prof. Dr. Mirza Inam ul Haq
HOD Medical Education
RIHS Islamabad