PATHOLOGY STUDY GUIDE
MBBS 3rd Year
Session 2025-2026

BLOCK VII

- Block Duration: 09 weeks

- Number of modules: 04
- Module 12- Foundation-2
- Module 13- General & Clinical Pharmacology
- Module 14- Hematopoietic, Immunity & Transplant
- Module 15- Fornsic Medicine & Toxicology-3

BLOCK MANAGEMENT TEAM	
HOD PATHOLOGY	Prof. Dr. Raees Abbas
Associate Professor	Dr. Amna Arooj
Block Coordinator	Dr. Fatima Raza
3rd Yr Team Members	Dr. Wajeeha Batool Dr. Rabia Shabbir

Introduction/Rationale Module 12 & 14

- This module serves as a bridge, revisiting core topics in general Pharmacology, Pathology, and Forensic medicine with an emphasis on their clinical applications.
- It ensures that students develop a more comprehensive understanding, which is vital for the advanced study of organ systems in subsequent modules (e.g., CVS 2, Respiratory-2, GIT-2, Neurosciences-2, and Reproduction 2).
- Mastery of these topics is essential before students can effectively approach the complexities of clinical scenarios.

Block Outcomes.. Module 12 & 14

- Synthesize concepts from general Pharmacology, Pathology, and Forensic Medicine to better understand the physiological and pathological processes underlying common clinical conditions.
- Interpret Pathological Findings: Interpret key pathological processes such as inflammation, infection, neoplasia, and tissue repair in the context of disease progression.
- Apply knowledge of histopathology and laboratory medicine in diagnosing common diseases seen in clinical practice

Themes

- Genetics
- Microbiology
- Hematopoietic system
- Immunology

Specific Learning Outcomes

GENERAL PATHOLOGY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 06	
		INTEGRATING DISCIPLINE	TOPIC
F2-Pa-001	Define mutation and classify different types. Describe the features and examples of the following: I. Autosomal dominant disorders II. Autosomal recessive disorders III. X-linked disorders Enlist types and steps of PCR.	Pathology	Genetics
F2-Pa-002	Define karyotyping Describe the salient features and lab diagnosis along with genetic abnormalities in the following syndromes: i. Marfan syndrome ii. Ehlers-Danlos syndrome iii. Down syndrome	Pathology	Genetic syndromes

MICROBIOLOGY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 09	
		INTEGRATING DISCIPLINE	TOPIC
F2-Pa-004	Classify gram positive and gram negative cocci. Classify gram positive and gram negative rods. Classify spirochetes and atypical bacteria.	Microbiology	Microbiology
	Classify culture media and describe blood, chocolate, McConkey, nutrient, CLED, TCBS, TSI, citrate & urease media, blood culture and seaboard agar. Define conjugation, transduction, transformation and describe mechanisms of antimicrobial resistance. Define colonization resistance and enlist normal flora of skin, gut, respiratory tract, and vagina. Classify DNA viruses and RNA viruses. Classify medical mycoses fungi.		

PATHOLOGY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 02	
		INTEGRATING DISCIPLINE	TOPIC
F2-Pa-005	Demonstrate the correct steps of Gram staining on a specimen. Interpret the results of Gram staining to guide antibiotic choice.	Microbiology	Use of Microscope & Gram staining

HEMATOLOGY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 39	
		INTEGRATING DISCIPLINE	TOPIC
HIT-H-001	Describe the stages in formation of red blood cells (RBCs), white blood cells (WBCs), platelets.	Hematology	Hematopoietic system
	Correlate hematopoiesis with various hematopoietic growth factors along with normal bone marrow morphology.		
	Identify normal values of RBC, WBC, hemoglobin level, packed cell volume, MCH, MCV, MCHC and platelet count.		
	Classify and interpret the anemias on basis of morphology and underlying pathogenesis of RBC production.		
	Describe and interpret data related to causes, clinical features, clinical presentation and diagnosis of hypochromic anemia, megaloblastic anemia, anemia of chronic disease, Hereditary Spherocytosis, aplastic anemia and hemolytic anemias		

Explain the biochemical basis of megaloblastic anemia in vitamin B_9 and B_{12} deficiency.	Hematology
Explain the biochemical basis of microcytic anemia in vitamin B_6, vitamin B_2, vitamin C, vitamin A, and iron deficiencies.	
Explain the biochemical mechanisms of hemolysis in pyruvate kinase and glucose-6-phosphate dehydrogenase deficiencies.	
Explain the biochemical mechanisms of hemolysis in hereditary spherocytosis and elliptocytosis.	
Explain the biochemical basis of hemolysis in vitamin E deficiency.	

Describe the clinical manifestations, clinically differentiating features and clinical course of patient with anemia.	Hematology	
Describe the indications, and expected benefits of splenectomy in hematological and immunological disorder.	Hematology/ Surgery	
Explain the risks and complications of splenectomy.		
Discuss the preventive measures and basic perioperative considerations associated with splenectomy.		
Describe etiology, pathogenesis, clinical types and diagnosis of thalassemia with emphasis on incidence, common mutations, associated psychosocial problems and prevention.	Hematology	
Differentiate between quantitative and qualitative hemoglobinopathies. Elaborate the genetic basis and inheritance of important types of quantitative hemoglobinopathies (alpha and beta thalassemia's). Elaborate the genetic basis and inheritance of important types of qualitative hemoglobinopathies (HbS, HbC, HbSC).	Hematology/ Biochemistry	

	Describe etiology, clinical features, lab diagnosis of Von Willebrand's disease, Hemophilia A&B and Polycythemia. Explain the biochemical basis of hemorrhage in vitamin K and vitamin C deficiencies. Explain underlying mechanisms of neutropenia/agranulocytosis. Explain how does deficiency of glucose-6-phosphate translocase result in neutropenia and recurrent infections.	Hematology/ Biochemistry	
HIT-H-002	Differentiate between infective and malignant causes of leukocytosis with reference to infectious mononucleosis, acute and chronic non-specific lymphadenitis.	Hematology	Lymphoid system
	Explain Non-Hodgkin's lymphoma in terms of classification, etiology, pathogenesis, clinical features, diagnosis, staging and prognosis. Explain Hodgkin's lymphoma in terms of classification, etiology, pathogenesis, clinical features, diagnosis, staging and prognosis.		
	Explain the pathophysiology of lymphomas, including gastric MALT and diffuse large B-cell types. Explain the indications, procedure, and significance of	Surgery	

HIT-H-003	Explain classification, etiology, pathogenesis, clinical features, diagnosis, staging and prognosis of acute and chronic leukemia. Describe the clinical manifestations, clinically differentiating features and clinical course of patient with leukemia.	Hematology/ Medicine	Haemopoietic system
	Explain etiology, pathogenesis, morphology, clinical features, diagnosis, staging and prognosis of multiple myeloma.		
	Explain etiology, pathogenesis, morphology, clinical features, diagnosis, prognosis and management of disseminated intravascular coagulation (DIC).	Hematology	
	Classify anticlotting drugs. Describe the mechanisms of action, clinical uses and adverse effects of anticoagulants.		

	Classify thrombocytopenia based on etiology. Explain the pathogenesis of decreased platelet production and survival. Describe the morphological changes in peripheral blood smear and bone marrow. Identify the clinical features of thrombocytopenia. Outline the diagnostic approaches for thrombocytopenia. Interpret the prognosis in different causes of thrombocytopenia. Describe the management strategies for thrombocytopenia. Interpret coagulation profile for bleeding disorders.	Hematology	
HIT-H-004	Explain the ABO and Rhesus blood groups, their clinical importance, and the methods of blood group typing.	Hematology	Blood Transfusion
	Explain the common indications for transfusion of blood products (red cells, platelets, and plasma). Identify the hazards and complications of blood transfusion. Discuss methods to prevent transfusion-related hazards. Apply knowledge of indications, risks, and preventive measures to different clinical scenarios.		

GENERAL PATHOLOGY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 10	
		INTEGRATING DISCIPLINE	TOPIC
HIT-Pa-001	Explain the clinical aspects of innate and acquired immunity. Explain the clinical aspects of active and passive immunity.	General Pathology	Immunology
	Classify the types of cells involved in the immune response (phagocytes, T cells, B cells, and NK cells). Explain the clinical importance of these immune cells.		
	Correlate complement activation pathways with their role in immune response to infections, autoimmunity, transplant rejection and immune deficiency disease.		
	Explain the types of Major Histocompatibility Complex (MHC) and elaborate their role in clinical diseases.		
	Classify different types of antibodies. Describe the structure and functions of major immunoglobulins (IgG, IgA, IgM, IgE, IgD). Explain the role of antibodies in immune defense and immunopathology. Interpret the clinical significance of antibodies in diagnosis. Discuss the pathological consequences of abnormal antibody responses.		

HIT-Pa-003	Classify the types of hypersensitivity reactions. Describe the immunological mechanisms underlying each type. Explain the clinical features and examples of diseases associated with each type. Discuss the laboratory and pathological findings in hypersensitivity reactions.	General Pathology	Immunology
	Interpret the clinical relevance of hypersensitivity reactions in infectious and autoimmune diseases.		
HIT-Pa-004	Describe the types of transplant rejection. Explain graft-versus-host disease and apply this knowledge to different clinical scenarios.		Transplantation
	Explain the concept and pathogenesis of autoimmunity. Classify autoimmune diseases and describe their pathological and clinical features.		Autoimmune diseases

PRACTICAL

CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 15	
		INTEGRATING DISCIPLINE	TOPIC
HIT-H-005	Perform CBC on analyzer and interpret the report.	Hematology	Hematopoietic and Lymphoid System
HIT-H-006	Analyze RBC indices, Platelet Indices and WBC parameters.		Hematopoietic System
	Perform PT, APTT and Bleeding Time. Interpret the reports.		
	Perform Blood Group and Cross Match. Interpret the reports.		
	Identify normal blood cells.		
	Identify common malignant disorders e.g. CML, CLL, Acute Leukemias.		
HIT-Pa-005	Interpret ELISA results for various immunological tests.	Pathology/Immunology	Immunology

Total Weeks	Total Hours
02	64

BLOCK VIII

- Block Duration: 11 weeks

- Number of modules: 04
- Module 16- Neoplasia
- Module 17- Infectious Diseases
- Module 18- Muskoskeletal & Locomotion-2
- Forensic Medicine & Toxicology-3

BLOCK MANAGEMENT TEAM	
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Introduction/Rationale Module 16,17,18

- Neoplasia module is essential to provide MBBS students with the knowledge and skills abilities necessary to comprehend the biological, clinical, and public health aspects of cancer for effective cancer diagnosis, management, and prevention
- This module aims to equip students with essential knowledge of common infections, including their transmission, clinical presentation, diagnosis, and treatment, while emphasizing the importance of infection control and biosafety
- students develop the skills to manage infections effectively while safeguarding public and healthcare worker safety through preventive measures such as immunization and sterilization.
- The Musculoskeletal & Locomotion II module is designed to deepen medical students' understanding of the musculoskeletal system, integrating knowledge from multiple disciplines to enhance the management of musculoskeletal disorders and injuries.

Block Outcomes.. Module 16,17,18

- Understand the basic concept of neoplasia, including benign and malignant tumors.
- Describe the molecular and cellular mechanisms of carcinogenesis, including the role of genetic mutations, oncogenes, tumor suppressor genes, and environmental factors
- Understand the classification of tumors based on histology, site of origin, and grading/staging systems (TNM classification).
- Explain the biological mechanisms of tumor growth, invasion, angiogenesis, and metastasis

- Diagnose common viral infections such as measles, chickenpox, rubella, mumps, influenza, COVID-19, and dengue based on clinical features and diagnostic tools, applying biosafety measures during sample collection and handling.
- Diagnose and manage gram-positive and gram-negative bacterial infections such as pharyngitis, pneumonia, enteric fever, and meningitis.
- Describe the clinical features, diagnosis, and management of clostridial infections (botulism, gas gangrene) and sexually transmitted infections like syphilis. ▫

- Recognize the clinical features and management strategies for mycobacterial infections, with a focus on pulmonary and abdominal tuberculosis.
- Identify and manage common fungal infections, including diagnosis, treatment, and preventive measures.
- Explain the clinical features, investigations, and treatment of protozoal infections such as amoebiasis and helminthic infections like ascariasis and hookworm
- Analyze the epidemiology of diseases like dengue, rabies, and COVID-19, and propose public health interventions for their control and prevention.

- Explain the pathology and underlying mechanisms of common musculoskeletal disorders and injuries, including septic arthritis, osteomyelitis, fractures, and degenerative conditions.
- Identify key features of various musculoskeletal disorders, including their clinical presentations, epidemiology, and impact on community health.

Themes

- Neoplasia
- Infectious diseases
- Muskoskeletal system

Specific Learning Outcomes

PATHOLOGY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 15	
		INTEGRATING DISCIPLINE	TOPIC
N-Pa-001	Define neoplasia. Describe the nomenclature of tumors. Differentiate between benign and malignant tumors based on morphological and functional characteristics. Explain the epidemiology of cancer.		Introduction of neoplasia
N-Pa-002	Discuss the mechanisms of cell cycle dysregulation, apoptosis evasion, and angiogenesis in tumor progression. Explain the molecular basis of cancer. Describe the pathogenesis of neoplasia, including the role of genetic mutations, oncogenes, and tumor suppressor genes.		Neoplasia

	suppressor genes. Explain the process of metastasis. Differentiate between carcinomas, sarcomas, and lymphoreticular neoplasms.	Pathology	
N-Pa-003	Enlist the different types of carcinogenic agents. Describe the cellular mechanisms by which these carcinogenic agents induce neoplastic transformation.		Carcinogenic agents
N-Pa-004	Describe the role of biopsy and histopathology in the diagnosis of neoplasia. Explain the application of immunohistochemistry (IHC) and special stains in tumor diagnosis. Discuss the role of molecular diagnostics and common tumor markers in cancer detection and classification.		Tumor markers

N-Pa-005	Explain the tumor grading and staging. Describe treatment strategies for neoplasia in relation to grade and stage. Differentiate the processes of invasion and metastasis. Enlist common tumor markers with their clinical relevance.		Grading and Staging Invasion and metastasis
N-Pa-006	Discuss the molecular basis of cancer.		Molecular basis of cancer
N-Pa-007	Define paraneoplastic syndrome. Describe the clinical features of common paraneoplastic syndromes. Correlate specific paraneoplastic syndromes with their corresponding neoplastic lesions.		Paraneoplastic syndrome

PATHOLOGY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 06	
		INTEGRATING DISCIPLINE	TOPIC
N-Pa-008	Identify and differentiate between benign and malignant tumours based on gross and microscopic characteristics.	Pathology	Gross and Microscopic Identification of Benign and Malignant Tumours
	Identify lipoma, leiomyoma, and fibroadenoma of the breast under the microscope and on gross specimens.		
	Identify and differentiate the gross and microscopic features of carcinoma in situ, including ductal carcinoma in situ (DCIS) and Bowen's disease.		
	Identify and describe the gross and microscopic features of adenocarcinoma. Identify and describe the gross and microscopic features of squamous cell carcinoma.		

MICROBIOLOGY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 53	
		INTEGRATING DISCIPLINE	TOPIC
ID-Pa-001	Explain the morphological, pathological and diagnostic aspects of Staphylococci, Streptococci, Clostridia, Bacillus, Corynebacterium, Listeria, and Gardnerella.	Microbiology	Bacterial infectious agents
	Explain the morphological, pathological, and diagnostic aspects of *Neisseria gonorrhoeae* (gonococci), *Neisseria meningitidis* (meningococci), *Escherichia coli*, *Salmonella*, *Shigella*, *Vibrio*, *Proteus*, *Pseudomonas*, *Helicobacter pylori*, *Campylobacter*, spirochetes, *Mycobacterium*, *Chlamydia*, *Rickettsia*, and *Actinomyces*.	Microbiology	
ID-Pa-002	Explain the life cycles and diagnostic aspects of *Wuchereria bancrofti*, *Dracunculus medinensis*, *Loa loa*, *Taenia saginata*, *Taenia solium*, *Echinococcus granulosus*, *Diphyllobothrium latum*, *Hymenolepis nana*, *Giardia lamblia*, *Entamoeba histolytica*,	Microbiology	Parasitic infectious agents

002	*nana*, *Giardia lamblia*, *Entamoeba histolytica*, *Plasmodium* species, *Leishmania*, *Toxoplasma gondii*, *Trypanosoma* species, Schistosoma, liver fluke, and *Naegleria fowleri*.		agents
ID-Pa-003	Explain the morphological, pathological, and diagnostic aspects of dermatophytes, *Malassezia furfur*, *Sporothrix schenckii*, and *Histoplasma capsulatum*.	Microbiology	Fungal infections
	Explain the morphological, pathological, and diagnostic aspects of *Coccidioides*, *Paracoccidioides*, *Blastomyces*, *Candida*, *Mucor*, *Aspergillus*, and *Cryptococcus*.		
ID-Pa-004	Explain the morphological, pathological, and diagnostic aspects of adenoviruses, papillomaviruses, polyomaviruses, poxviruses, herpesviruses,	Microbiology	Viral infectious agents

ID-Pa-005	Enlist the organisms causing central nervous system (CNS) infections. Compare the CSF findings of viral and bacterial meningitis.	Microbiology	Microorganisms causing CNS infections
	Correlate the clinical features of CNS infections with the virulence factors, transmission, pathogenesis, and laboratory diagnosis of Streptococcus pneumoniae, Streptococcus agalactiae, Neisseria meningitidis, Haemophilus influenzae, Escherichia coli, Listeria monocytogenes, and Mycobacterium tuberculosis.		
	Correlate the clinical aspects of CNS infections with the virulence factors, transmission, pathogenesis, and laboratory diagnosis of enteroviruses, mumps virus, herpes simplex virus, adenoviruses, Cryptococcus neoformans, rabies virus, Plasmodium species (malaria), Toxoplasma gondii, and Naegleria fowleri.		
ID-Pa-006	Enlist organisms causing diarrhea & food poisoning.	Microbiology	Microorganisms causing GIT infections
	Correlate the clinical aspects of gastrointestinal (GIT) infections with the virulence factors, transmission, pathogenesis, and laboratory diagnosis of *Escherichia coli*, *Bacillus cereus*, *Salmonella* species, *Shigella* species, *Vibrio cholerae* and other *Vibrio* species, *Helicobacter pylori*, *Campylobacter jejuni*, *Clostridium* species, and *Entamoeba histolytica*.	Microbiology	

	latum, *Hymenolepis nana*, *Ancylostoma duodenale*, *Necator americanus*, *Ascaris lumbricoides*, *Enterobius vermicularis*, *Trichuris trichiura*, *Trichinella spiralis*, poliovirus, hepatitis A and E viruses, norovirus, and rotavirus.	Microbiology	
	Correlate clinically the following viruses via their virulence factors, transmission, pathogenesis, laboratory diagnosis in acute & chronic hepatitis; Hepatitis A, B, C, D, E, G	Microbiology	
	Correlate clinically the virulence factors, transmission, pathogenesis, laboratory diagnosis of Entamoeba & Echinococcus in liver infections.	Microbiology	
ID-Pa-007	Correlate clinically the virulence factors, transmission, pathogenesis, and laboratory diagnosis of organisms causing genital tract infections, including *Neisseria gonorrhoeae*, *Treponema pallidum*, *Chlamydia trachomatis*, *Mycoplasma hominis*, *Candida albicans*, *Trichomonas vaginalis*, *Gardnerella vaginalis*, hepatitis B virus, HIV, and herpes simplex virus type II.	Microbiology integrates with medicine	Sexually transmitted infections
ID-Pa-008	Describe and identify the key features, pathogenicity, and diagnostic aspects of the causative organisms of anthrax, plague, and selected bacterial zoonoses, including *Rickettsia*, *Leptospira*, *Brucella*, *Bacillus anthracis*, *Yersinia pestis*, *Francisella*, and *Bartonella*.	Microbiology	Zoonotic infections

PATIENT SAFETY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 05	
		INTEGRATING DISCIPLINE	TOPIC
ID-PS-001	Define biosafety and biosafety levels according to WHO. Describe biosafety levels. Enlist the bio risk organisms in each of biosafety levels. Discuss the safety protocols of BSL 1. Discuss the safety protocols of BSL 2. Discuss the safety protocols of BSL 3. Discuss the safety protocols of BSL 4.	Microbiology	Bio-risk management (BRM)
	Define biological waste. Categorize the biological wastes. Describe procedures for segregation, storage, treatment and disposal of biological waste.		
	Define spill management. Discuss the steps for the management of a laboratory spill.		

	Define personal protective equipment. Discuss the situations under which PPE should be used by the health care professionals.		
	Discuss the SOP of transportation of biological samples.		
	Define bio risk management. Explain its relevance in healthcare and laboratory settings. Identify common biological hazards encountered in clinical, surgical, and laboratory environments. Describe key components of biorisk management. Outline the steps of proper specimen handling, safe waste disposal, and correct use of protective equipment in healthcare facilities. Explain the role of institutional policies, training, and emergency preparedness in ensuring effective biorisk management.		

PRACTICAL

MICROBIOLOGY

CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 10 + 04	
		INTEGRATING DISCIPLINE	TOPIC
ID-Pa-009	Identify the stained slides of Gram-positive organisms (Staphylococci, Streptococci, Streptococcus pneumoniae), Gram-negative organisms (Neisseria, Escherichia coli, Proteus), and acid-fast bacilli under microscope. *(If slides are not available, photographic slides should be used)*	Microbiology	Staining
ID-Pa-010	Interpret the culture sensitivity reports and antibiogram of gram positive and gram-negative bacteria.		Laboratory reporting
ID-Pa-011	Identify and describe the growth characteristics of organisms on common culture media: Blood agar, Chocolate agar, Nutrient agar, TCBS, MacConkey agar, LJ medium, CLED agar, TSI, Urease, Citrate, blood culture bottles, and in anaerobic jars.		Culture sensitivity

CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 02+04+02	
		INTEGRATING DISCIPLINE	TOPIC
MS2-Pa-001	Describe the morphological features of acute and chronic osteomyelitis.	Pathology	MSK Diseases & Tumors
	Discuss the etiology, pathophysiology, morphology, clinical manifestations and diagnostic criteria of Rheumatoid Arthritis (RA)		
	Discuss the etiology, pathophysiology, morphology, clinical manifestations and diagnostic criteria of Osteoarthritis (OA)		
	Discuss the etiology, pathophysiology, morphology, clinical manifestations and diagnostic criteria of Crystal Arthritis (Gout/Pseudogout).		
	Describe the pathophysiology and morphology of Paget disease		
	Classify bone, cartilaginous and soft tumors.		
	Discuss the etiology, pathophysiology, morphology, clinical manifestations and radiological findings of bone, cartilaginous and soft tumors.		
	Classify the drugs used in acute and chronic gout. Describe key pharmacokinetic parameters of commonly used anti-gout drugs.		

PRACTICAL

CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 09	
		INTEGRATING DISCIPLINE	TOPIC
MS2-Pa-002	Interpret various investigations related to joint diseases including: i. Complete Blood Count (CBC) ii. Erythrocyte Sedimentation rate (ESR) iii. C-reactive protein (CRP) iv. Creatine Kinase (CK) v. Rheumatoid factor (RF) vi. Antinuclear antibody (ANA) vii. Anti-Neutrophil Cytoplasmic Antibodies (ANCA) viii. Serum uric acid level	Pathology	Test Interpretation
	Identify morphological features of Osteomyelitis (Pictorial/slide).	Pathology	
	Identify morphological features of Osteogenic sarcoma (Pictorial/slide). Identify morphological features of lipoma and hemangioma.	Pathology	
	Interpret related cultures for diagnosis for infections	Microbiology, Pathology	

BLOCK IX

- Block Duration: 11 weeks

- Number of modules: 04
- Module 20-Cardiovascular-2
- Module 21- Respiratory-2
- Module 23- Community Medicine & Family Health
- Module 24- Fornsic Medicine & Toxicology-3

BLOCK MANAGEMENT TEAM	
HOD PATHOLOGY	Prof. Dr. Raees Abbas
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Introduction/Rationale Module 20,21

- The Cardiovascular System (CVS 2) Module is designed to provide an understanding of cardiovascular diseases (CVDs)

- The curriculum for respiratory medicine and related fields is designed to equip students with essential knowledge and skills in managing thoracic trauma, respiratory complications, and conditions affecting respiration.

Block Outcomes.. Module 20,21

- Explain the underlying pathophysiological mechanisms of cardiovascular diseases and correlate them with clinical signs and symptoms.
- Integrate foundational concepts to address clinical respiratory issues.

- Demonstrate understanding of respiratory tract malignancies and referral criteria by the end of the module.
- Identify the morphological features of common respiratory tract diseases in practical examinations.

Themes

- Heart / Circulation
- Cardiovascular disorders
- Respiration
- Respiratory disorders

Specific Learning Outcomes

PATHOLOGY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 12	
		DISCIPLINE	TOPIC
CV2-Pa-001	Define aneurysm and differentiate between true and false aneurysms.	Integrate with biochemistry	Aneurysms
	Classify aneurysms based on their morphology (saccular, fusiform) and etiology (atherosclerotic, mycotic, and congenital).		
	Understand the underlying mechanisms leading to aneurysm formation, including vessel wall weakening, genetic factors (e.g., Marfan syndrome, Ehlers-Danlos syndrome), and role of atherosclerosis.		
	Identify the common sites where aneurysms form (e.g., aortic aneurysms, cerebral aneurysms, popliteal aneurysms) and explain why certain areas are more prone to aneurysm development.		
	Discuss the clinical signs and symptoms of aneurysms depending on their location (e.g., abdominal aortic aneurysm, thoracic aortic aneurysm) and size.		

	Correlate the presentation with possible complications like rupture, dissection, or compression of adjacent structures.		
	List the common diagnostic modalities used in identifying aneurysms (e.g., ultrasound, CT angiography, MRI).		
	Describe the complications of aneurysm		
	Discuss the management of aneurysm		

PATHOLOGY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 25	
		DISCIPLINE	TOPIC
Re2-Pa-001	Describe hypersensitivity reaction 1 with clinical examples Describe immune mechanism involved in HSR-I	Pathology	Hyper-sensitivity reaction (HSR) Type II
Re2-Pa-002	Define & classify asthma Discuss pathogenesis of atopic and non -atopic asthma.		Bronchial asthma
Re2-Pa-003	Define chronic bronchitis Describe the pathogenesis and morphological features of chronic bronchitis and bronchiectasis		Chronic bronchitis
Re2-Pa-004	Define and classify emphysema Describe the pathogenesis and morphological features of of emphysema		Emphysema
Re2-Pa-005	Differentiate between obstructive and restrictive pulmonary diseases List the causes of restrictive lung diseases Describe pneumoconiosis with respect to etiology and pathogenesis Enlist asbestos related diseases Describe morphologic features of asbestosis		Restrictive Lung Diseases

Re2-Pa-007	Describe the morphological features of different types of granulomatous inflammation Describe Ghons complex.		Granulomatous Inflammation
	Differentiate between primary and secondary tuberculosis.		
Re2-Pa-008	Describe hypersensitivity reaction IV with clinical examples Describe the immune mechanism involved in HSR IV		Hypersensitivity Reaction (Hsr) Type IV
Re2-Pa-009	Classify pleural tumors Describe morphologic features of malignant mesothelioma		Pleural Tumors
Re2-Pa-010	Classify lung tumors Describe etiopathogenesis and morphologic features of lungs Tumors Enumerate paraneoplastic syndromes associated with lung tumors		Lung Tumors

Re2-Pa-011	Classify pulmonary edema according to etiology Describe clinical conditions associated with development of ARDS Describe the pathogenesis of ARDS Describe morphological features of Diffuse alveolar damage (DAD)		Pulmonary Edema & Acute Respiratory Distress Syndrome (ARDS)
Re2-Pa-012	Describe the important morphological features, virulence factors of Mycobacterium tuberculosis with their clinical significance Describe the pathogenesis of Pulmonary tuberculosis Describe the immunity and hypersensitivity against infections by Mycobacterium tuberculosis Extra pulmonary tuberculosis infections	Microbiology	Mycobacterium Tuberculosis
Re2-Pa-013	Describe Corona virus Explain the structure and antigenicity of the virus Describe the pathogenesis of corona virus Discuss the relation with pneumonia	Microbiology	COVID-19
	Enlist organisms producing respiratory tract infections	Microbiology	

Re2-Pa-014	respiratory tract infections; i. Mycobacterium tuberculosis ii. Streptococcus pneumoniae iii. Mycoplasma pneumoniae iv. Legionella pneumoniae	Microbiology	Microorganisms producing Respiratory tract infection
	Correlate clinically the virulence factors, transmission, pathogenesis, laboratory diagnosis of organisms causing respiratory tract infections; i. Haemophilus influenzae ii. Klebsiella iii. Corynebacterium diphtheria iv. Bordetella	Microbiology	
	Correlate clinically the virulence factors, transmission, pathogenesis, laboratory diagnosis of organisms causing respiratory tract infections; i. Influenza & para influenza viruses ii. RSV iii. Rhinovirus	Microbiology	
	Correlate clinically the virulence factors, transmission, pathogenesis, laboratory diagnosis of organisms causing respiratory tract infections; i. Measles ii. Pneumocystis carinii iii. Aspergillus	Microbiology	

Re2-Pa-016	Describe the important morphological characteristics, biochemical reactions, virulence factors of Streptococcus pneumoniae with their clinical significance Enumerate the diseases caused by Streptococcus Pneumoniae Describe the pathogenesis of lobar Pneumonia caused by S. pneumonia Describe the lab investigation of Streptococcus Pneumoniae infections	Microbiology	Streptococcus Pneumoniae
Re2-Pa-017	Describe the important morphological characteristics, biochemical reactions, virulence factors of H. influenzae with their clinical significance Describe the pathogenicity of H. influenzae in causation of respiratory tract infections Describe the lab diagnosis of H. influenzae infections	Microbiology	H. Influenza
Re2-Pa-018	Describe the important morphological characteristics, biochemical reactions, virulence factors of Mycoplasma pneumoniae Describe the pathogenesis of atypical pneumonia caused by M. pneumoniae Describe the lab diagnosis of M. pneumoniae infections	Microbiology	Mycoplasma Pneumoniae

Re2-Pa-020	Define Chlamydia. Enumerate their medically important species Enumerate the diseases caused by Chlamydia Describe the important morphological characteristics, biochemical reactions, virulence factors of Chlamydia and their clinical significance. Describe the pathogenesis of C. trachomatis, C. pneumoniae, C. psittaci mediated atypical pneumonias	Microbiology	Chlamydiae & Coxiella Laburnetii
Re2-Pa-021	Describe the important morphological characteristics, biochemical reactions, virulence factors of Bacillus anthracis with their clinical significance. Describe the lab diagnosis of Bacillus anthracis infections.	Microbiology	Bacillus Anthracis
Re2-Pa-022	Describe the important morphological characteristics, biochemical reactions, virulence factors of Yersinia pestis and their clinical significance Describe the pathogenesis of plague Describe the lab diagnosis of Yersinia pestis infections	Microbiology	Yersinia Pestis

PRACTICAL

PATHOLOGY

CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 4+3	
		DISCIPLINE	TOPIC
Re2-Pa-023	Identify the morphological features of the following: Small cell carcinoma lung, Squamous cell carcinoma lung, Adenocarcinoma lung, Malignant Mesothelioma (Pictorial/slide).	Pathology	Image Session Of Respiratory System-II
Re2-Pa-024	Interpret the laboratory findings of infections Streptococcus Pneumoniae.	Microbiology	Streptococcus Pneumoniae
Re2-Pa-025	Observe/perform Ziehl–Neelsen staining on a sputum sample to detect acid-fast bacilli (Mycobacterium tuberculosis) accurately, following all biosafety and staining protocols.	Microbiology	Mycobacterium Tuberculosis
Re2-Pa-026	Interpret RT-PCR results for SARS-cov-2, identifying positive, negative, and inconclusive reports under supervision.	Microbiology	COVID-19

Learning Resources

- Robbins and Cotran Pathologic Basis of Disease — 10th Edition
- Robbins Basic Pathology — 11th Edition
- Rapid Review Pathology — 5th Edition by Edward F. Goljan
- Rubin's Pathology: Clinicopathologic Foundations of Medicine — 8th Edition
- BRS Pathology (Board Review Series) — 6th Edition

TIME TABLES

SAHIWAL MEDICAL COLLEGE, SAHIWAL

TIME TABLE FOR 3RD YEAR MBBS (S-14) BLOCK 7 2026

No. Pharma/SLMC/SWL 41 24 March to 15 May Dated: 16/03/2026

DAYS	08:00 AM to 09:00 AM	09:00 AM to 10:00 AM	10:00 AM to 11:00 AM	11:00 AM to 11:15 AM	11:15 AM TO 12:15 PM			12:15 PM to 2:00 PM
MONDAY	Forensic Medicine	Pharmacology	Pathology	BREAK	Pharmacology Practical -A	Pathology Practical -B	Forensic Medicine Practical-C	Clinical Wards
TUESDAY	Pathology	Forensic Medicine	Pharmacology		Pharmacology Practical-B	Pathology Practical -C	Forensic Medicine Practical-A	Clinical Wards
WEDNESDAY	Pharmacology	Pathology	B. Sciences		Pharmacology Practical-C	Pathology Practical -A	Forensic Medicine Practical-B	Clinical Wards
THURSDAY	Pathology	Pharmacology	Pharmacology		Pharmacology SGD/Practical-A	Pathology SGD/Practical -B	Forensic Medicine SGD/Practical-C	Clinical Wards
FRIDAY	Forensic Medicine	Pathology	10:00 AM to 11:30 AM			JUMMA BREAK		
			Pharmacology SGD/Practical -B	Pathology SGD/Practical -C	F. Medicine SGD/Practical-A			

DAYS	08:00 AM to 09:00 AM	09:00 AM to 10:00 AM	10:00 AM to 11:00 AM	11:00 AM to 11:15 AM	11:15 AM TO 12:15 PM			12:15 PM to 01 PM	01 PM to 02:00 PM
Saturday	Pharmacology/SDL	PERLs	Surgery/ Medicine (Alternative week)	BREAK	Pharmacology SGD/Practical-C	Pathology SGD/Practical -A	Forensic Medicine SGD/ Practical-B	Biochemistry /Anatomy/ Physiology (3 week each)	C. Medicine

Prof. Dr. Asad Mahmood
HOD Pharmacology

Prof. Dr. Raees Abbas
HOD Pathology

Dr. Shahid Nadim
HOD F. Medicine

Dr. Muntazir Mehdi
HOD B. Sciences

Prof. H. Mohammad
HOD Surgery

Dr.Rizwan Ishaque
HOD Medicine

Dr. Fariha Muzammil
Director Students Affairs

DR. H. M. AMJAD
MBBS,FCPS
Professor of Surgery
STH / Sahiwal Medical College
Sahiwal

CC:

1. The Principal Sahiwal Medical College
2. The Director DME

DEPARTMENT OF MEDICAL EDUCATION

SAHIWAL MEDICAL COLLEGE, SAHIWALTEACHING HOSPITAL, Sahiwal – 57000,
Pakistan Ph. #: 040-4502470

No. 631/DME/SLMC/SWL **Dated: 04-06-2025**

TIME TABLE FOR 3RD YEAR MBBS SESSION 2025 BLOCK 08

DAYS	08:00 AM to 09:00 AM	09:00 AM to 10:00 AM	10:00 AM to 11:00 AM	11:00 AM to 11:15 AM	11:15 AM TO 12:15 PM			12:15 PM to 02:00 PM
MONDAY	Forensic Medicine	Pharmacology	Pathology	BREAK	Pharmacology Practical -A	Pathology Practical -B	Forensic Medicine Practical-C	Clinical Wards
TUESDAY	Pathology	Pharmacology	B. Sciences		Pharmacology Practical-B	Pathology Practical -C	Forensic Medicine Practical-A	Clinical Wards
WEDNESDAY	Pharmacology	Pathology	Forensic Medicine		Pharmacology Practical-C	Pathology Practical -A	Forensic Medicine Practical-B	Clinical Wards
THURSDAY	Surgery	Pharmacology	Pathology		Pharmacology Practical-A	Pathology Practical -B	Forensic Medicine Practical-C	Clinical Wards
FRIDAY	Pharmacology	Pathology	11:00 AM to 12:00 PM			JUMMA BREAK		
			Pharmacology Practical -B	Pathology Practical -C	F. Medicine Practical-A			

DAYS	08:00 AM to 09:00 AM	09:00 AM to 10:00 AM	10:00 AM to 11:00 AM	11:00 AM to 11:15 AM	11:15 AM TO 12:15 PM			12:15 PM to 01:15 PM	01:15 PM to 02:00 PM
Saturday	Forensic Medicine	PERLs	Medicine	BREAK	Pharmacology Practical-C	Pathology Practical -A	Forensic Medicine Practical-B	Pharmacology	C. Medicine

Dr. Ahmad Zeeshan
Director DME
Sahiwal Medical College, Sahiwal

cc.

1. The Principal Sahiwal Medical College, Sahiwal
2. The Director Student affairs SLMC, Sahiwal
3. The Director Admin & Co SLMC, Sahiwal
4. All Basic & Clinical HODs, SLMC, Sahiwal.
5. Office Copy

DEPARTMENT OF MEDICAL EDUCATION

SAHIWAL MEDICAL COLLEGE, SAHIWALTEACHING HOSPITAL, Sahiwal – 57000,
Pakistan Ph. #: 040-4502470

No. 692/DME/SLMC/SWL **Dated: 01-10-2025**

TIME TABLE FOR 3RD YEAR MBBS SESSION 2025 BLOCK 09

DAYS	08:00 AM to 09:00 AM	09:00 AM to 10:00 AM	10:00 AM to 11:00 AM	11:00 AM to 11:15 AM	11:15 AM TO 12:15 PM			12:15 PM to 02:00 PM
MONDAY	Forensic Medicine	Pharmacology	Pathology	BREAK	Pharmacology Practical -A	Pathology Practical -B	Forensic Medicine Practical-C	Clinical Wards
TUESDAY	Medicine	Pharmacology	C. Medicine		Pharmacology Practical-B	Pathology Practical -C	Forensic Medicine Practical-A	Clinical Wards
WEDNESDAY	Pharmacology	Pathology	Forensic Medicine		Pharmacology Practical-C	Pathology Practical -A	Forensic Medicine Practical-B	Clinical Wards
THURSDAY	Surgery	Pharmacology	Pathology		Pharmacology Practical-A	Pathology Practical -B	Forensic Medicine Practical-C	Clinical Wards
FRIDAY	Pharmacology	Pathology	11:00 AM to 12:00 PM			JUMMA BREAK		
			Pharmacology Practical -B	Pathology Practical -C	F. Medicine Practical-A			

DAYS	08:00 AM to 09:00 AM	09:00 AM to 10:00 AM	10:00 AM to 11:00 AM	11:00 AM to 11:15 AM	11:15 AM TO 12:15 PM			12:15 PM to 01:15 PM	01:15 PM to 02:00 PM
Saturday	Forensic Medicine	PERLs	Medicine	BREAK	Pharmacology Practical-C	Pathology Practical -A	Forensic Medicine Practical-B	Pharmacology	B. Sciences

Dr. Ahmad Zeeshan
Director DME
Sahiwal Medical College, Sahiwal

cc.

1. The Principal Sahiwal Medical College, Sahiwal
2. The Director Student affairs SLMC, Sahiwal
3. The Director Admin & Co SLMC, Sahiwal
4. All Basic & Clinical HODs, SLMC, Sahiwal.
5. Office Copy

ASSESSMENT METHODS

MBBS 3rd Professional

Block-7

Subject	Written Exam		Oral/Practical/Clinical Exam			
	MCQ (1 mark)	Marks	OSPE /OSCE (8 marks each observed)	OSCE (10 marks each observed)	OSVE (14 marks each observed)	Marks
Pharmacology	55	55	03	-	01	38
Pathology	50	50	03	-	01	38
Community Medicine	02	02	01		-	08
Surgery	05	05	01	-	-	08
Medicine	05	05	01	-	-	08
Forensic	18	18	01	-	01	22
Behavioral	02	02	-	-	-	-
Patient Safety	03	03	-	-	-	-
CFRC	-	-	01	-	-	08
PERLs + ExposITory	-	-	-	01	-	10
Total	**140**	**140**	**11 stations x 08 = 88**	**01 stations x 10 = 10**	**03 stations x 14=42**	**140**

MBBS 3rd Professional

Block-8

Subject	Written Exam		Oral/Practical/Clinical Exam			
	MCQ (1 mark)	Marks	OSPE /OSCE (8 marks each observed)	OSCE (10 marks each observed)	OSVE (14 marks each observed)	Marks
Pharmacology	22	22	03	-	01	38
Pathology	55	55	04	-	02	60
Community Medicine	04	04	-	-	-	-
Surgery	20	20	01	-	-	08
Medicine	20	20	01	-	-	08
Forensic	15	15	01	-	-	08
Behavioral	02	02	-	-	-	-
Patient Safety	02	02	-	-	-	-
CFRC	-	-	01	-	-	08
PERLs + ExposITory	-	-	-	01	-	10
Total	**140**	**140**	**11 stations x 08 = 88**	**01 stations x 10 = 10**	**03 stations x 14=42**	**140**

MBBS 3rd Professional

Block-9

Subject	Written Exam		Oral/Practical/Clinical Exam			
	MCQ (1 mark)	Marks	OSPE /OSCE (8 marks each observed)	OSCE (10 marks each observed)	OSVE (14 marks each observed)	Marks
Pharmacology	19	19	02	-	01	30
Pathology	22	22	02	-	-	16
Family Medicine	05	05	-	-	-	-
Community Medicine	42	42	03	-	01	38
Surgery	15	15	-	-	-	-
Medicine	15	15	01	-	-	08
Forensic	20	20	02	-	01	30
Behavioral Sciences	02	02	-	-	-	-
Patient Safety	-	-	-	-	-	-
CFRC	-	-	01	-	-	08
PERLs + ExposITory	-	-	-	01	-	10
Total	**140**	**140**	**11 stations x 08 = 88**	**01 stations x 10 = 10**	**03 stations x 14=42**	**140**

Yearly Planner for 3rd Yr MBBS

Third Year MBBS		
Sr.	**Event**	**Timeline**
1.	Commencement of Classes	16 March 2026
2.	Coursework for Block-7 (09 weeks)	16th March 2026 to 22nd May 2026
3.	Block-7 Exam & submission of Internal Assessment	25th May 2026 to 5th June 2026
4.	Coursework for Block-8 (11 weeks)	8th June 2026 to 14th June 2026
5.	Summer Vacation	15th June 2026 to 12th July 2026
6.	Coursework for Block-8 (continuation)	13th July 2026 to 19th September 2026
7.	Block-8 Exam & submission of Internal Assessment	21st September 2026 to 26th September 2026
8.	Coursework for Block-9 (11 weeks)	28th September 2026 to 4th October 2026
9.	Extracurricular/Sports Week *With conduct of Classes/academic activities in morning	5th October 2026 to 10th October 2026
10.	Coursework of Block-9 (Continuation)	12th October 2026 to 12th December 2026
11.	Block-9 Exam & submission of Internal Assessment	15th December 2026 to 24th December 2026
12.	Preparation Leaves	28st December 2026 to last week January 2027
13.	Commencement of Professional Examination	1st Week of February 2027