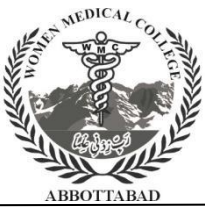


# Women Medical College, Abbottabad

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## STUDY GUIDE

### Class Name

### Department Name

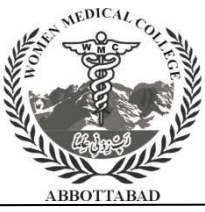
#### Description:

#### Overview:

Program	Bachelor of Medicine, Bachelor of Surgery
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Contact Hours total	500
Infrastructure Requirements	Lecture Hall Museum Histology Lab

Contact Hours/Year	
1 <sup>st</sup> year MBBS	09
2 <sup>nd</sup> Year MBBS	15
3 <sup>rd</sup> year MBBS	238
4 <sup>th</sup> Year MBBS	238
5 <sup>th</sup> year MBBS	0



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## Faculty Responsible for Course Conduction:

Sr. No	Faculty	Designation
1.	Dr Mariam Riaz	Associate Professor
2	Dr Henna Khalid	Associate Professor
3	Dr Hassan Ikram	Associate Professor
4	Dr Sara Ali	Assist. Professor
5	Dr Saba Shafiq	Assist. Professor
6	Dr Muhammad Kaleem Khan	Assist. Professor
7	Dr Tallat Bahadur	Sr. Lecturer
8	Dr Ayesha Shahid	Sr. Lecturer
9	Dr Sidra Maqbool	Sr. Lecturer
10	Dr Abdul Haseeb	Sr. Lecturer
11	Dr Sumera Javed	Sr. Lecturer
12	Dr abadullah Khan	Sr. Lecturer

## Details of Supporting Staff:

Sr. No	Staff	Designation
	Mr Muhammad Nadeem	Store Keeper



# Women Medical College, Abbottabad

	Mrs Sadia	Lab Attendent
	Miss Riffat	Lab Attendent
	Mr Zardad Khan	Lab Technician
	Mr Kashif Khan	Lab Technician

## Objectives & Learning Strategies/TOS:

S. No	Class	Topic	Module	Learning Outcomes	Teaching Hours	Mode of Teaching	Assessment Tools
1	1st yr MBBS	Cell injury	<b>Foundation Module I THEME-II: CELL (1 week)</b>	Describe the various causes of cell injury. Describe the response of a normal cell to stimuli. Describe the mechanisms of cell injury.	1	LGF	MCQS
2	1st yr MBBS	Necrosis	<b>Foundation Module I THEME-IV: HUMAN BODY TISSUES, BONES &amp; JOINTS (2 weeks)</b>	Discuss the Process of necrosis Explain the process of apoptosis Differentiate between apoptosis and necrosis	1	LGF	MCQS
3	1st yr MBBS	Inflammation		Describe acute inflammation Describe events of acute inflammation Describe chronic inflammation Differentiate between acute and chronic inflammation.	1	LGF	MCQS
4	1st yr MBBS	Anemia's of diminished erythropoiesis	<b>Blood &amp; Immunology Module THEME -I Pallor and Swelling (1 week)</b>	Define anemia  List the factors for regulation of erythropoiesis  Enlist the types of anemia	1	LGF	MCQ
5	1st yr MBBS	Hemolytic anemia's		Define hemolytic anemia.  Enlist types of hemolytic	1	LGF	MCQ



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				anemia.			
6	1st yr MBBS	Introduction to Bone pathology	<b>Musculoskeletal Module THEME –VI Foot Drop (3 days)</b>	Define and differentiate osteopenia, osteoporosis, osteomalacia  Define osteomyelitis  Enlist various forms of arthritis		LGF	MCQ
7	1st yr MBBS	Coronary Artery Disease	<b>CVS Module Theme I- Chest Pain (1 week)</b>	Describe the risk factors, and lab. Diagnosis of CAD  Define and Enlist the stages of atherosclerosis	1	LGF	MCQ
8	1st yr MBBS	Pneumonias	<b>Respiratory Module Theme-2: Cough and Hemoptysis (1 week)</b>	Define pneumonia and enlist the causative pathogens of pneumonia	1	LGF	MCQ
9	1st yr MBBS	Pulmonary Tuberculosis		Define primary and secondary Tuberculosis and state its etiology	1	LGF	MCQ
10	1st yr MBBS	Bronchial Asthma		Describe the etiology, pathogenesis and clinical features of asthma	1	LGF	MCQ
11	1st yr MBBS	Pulmonary Edema		Define pulmonary edema and classify it according to underlying causes	1	LGF	MCQ
1	2nd yr MBBS	Alzheimer's disease	<b>Neurosciences-1 Module Theme 6- Headache (1 week)</b>	Explain the pathogenesis and microscopic findings of Alzheimer's disease and its types	1	LGF	MCQ
2	2nd yr MBBS	Inflammation of brain		Describe the inflammatory processes related to meninges and brain parenchyma Describe the pathogenic mechanisms of meningitis and encephalitis	1	LGF	MCQ
3	2nd yr MBBS	Carcinoma of Esophagus	<b>Gastrointestinal, Hepatobiliary and Metabolism Module Theme I- Painful swallowing (1 week)</b>	Describe the histological types and presentation of esophageal carcinoma	1	LGF	MCQ
4	2nd yr	Peptic ulcer disease	<b>Gastrointestinal, Hepatobiliary and</b>	Describe the mechanism of formation of peptic ulcers, its	1	LGF	MCQ

	MBBS		<b>Metabolism Module Theme II- Pain abdomen (2 weeks)</b>	<p>stages and complications</p> <p>Describe the etiology, pathology and clinical presentation of gastric cancer</p> <p>Describe the mechanism of development, presentation and complications of acute pancreatitis</p>			
5	2nd yr MBBS	Acute/ chronic viral hepatitis	<b>Gastrointestinal, Hepatobiliary and Metabolism Module Theme III- Jaundice (1 week)</b>	<p>Describe the different viruses causing acute and chronic hepatitis</p> <p>Describe the pathogenesis, stages and clinical presentation of liver cirrhosis</p>	1	LGF	MCQ
6	2nd yr MBBS	Carcinoma of colon and Rectum	<b>Gastrointestinal, Hepatobiliary and Metabolism Module Theme V: Bleeding Per Rectum (1 week)</b>	Describe the etiology, histological findings, clinical presentation and staging of carcinoma of colorectal carcinoma	1	LGF	MCQ
7	2nd yr MBBS	Smoky urine	<b>Renal Module Theme-1 Loin pain/ Flank Pain</b>	<p>List the common kidney symptoms</p> <p>Discuss the pathophysiology of renal infections</p> <p>Describe Symptoms associated with renal pathology</p> <p>Classify renal diseases</p> <p>Explain Pathophysiology of renal infections</p> <p>Describe Treatment of chronic pyelonephritis</p>	1	LGF	MCQ
8	2nd yr MBBS	Renal disorders		<p>Define the terms Nephrotic syndrome, nephritic syndrome, Azotemia.</p> <p>Enlist the Causes types of renal stones.</p> <p>Enlist the causes and describe the pathogenesis of urinary tract infection.</p> <p>Explain how systemic diseases can affect renal function</p>	2	LGF	MCQ

9	2nd yr MBBS	Systemic disease affecting kidneys		Systemic diseases affecting renal function - Diabetes -Cardiovascular disorders (hypertension, CHF) - Immunological disorders (SLE, glomerulonephritis) -Cancers (myeloma) -Hematological disorders (sickle cell anemia, HUS)	2	LGF	MCQ
10	2nd yr MBBS	Renal failure	<b>Renal Module- Theme II Scanty Urine /Urinary retention and Edema</b>	Enlist the causes of Renal failure/ uraemia and abnormalities related to micturition including incontinence  Discuss the causes and pathophysiology of Chronic Renal failure	1	LGF	MCQ
11	2nd yr MBBS	Urinary stones		Describe the pathophysiology of Urinary stones	1	LGF	MCQ
12	2nd yr MBBS	Glomerular diseases		Describe the etiology and pathogenesis of glomerulonephritis	1	LGF	MCQ
13	2nd yr MBBS	Classification of kidney disorders		Classify kidney disorders according to etiology, site of dysfunction and type of dysfunction  - Acute/ chronic Infectious -Immunological - Neoplastic -Vascular/interstitial /parenchymal - Primary/systemic	1	LGF	MCQ
14	2nd yr MBBS	Nephrotic syndrome		Describe Nephrotic syndrome and its etiology	1	LGF	MCQ
16	2nd yr MBBS	Common pathologies of perineal region	<b>Renal Module Theme III-Urinary Incontinence</b>	List and define the common pathologies of the perineal region  Describe Urethral infection	1	LGF	MCQ
1	3rd yr	Introduction;	<b>FOUNDATION-II</b>	Define pathology, microbiology	1	LGF	MCQ



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	MBBS	essential characteristics of five major groups of microorganisms	<b>MODULE WEEK 1,2 &amp;3</b> <b>Theme 1 Molecules and Bacteria</b>	and list its major branches Describe essential characteristics of five major groups of microorganisms Differentiate between prokaryotes and eukaryotic cells based on their structure and complexity of their organization			
2	3rd yr MBBS	Classification of Bacteria		Describe classification of bacteria based on oxygen requirement as aerobes and anaerobes with examples.  Describe classification of bacteria based on staining characteristics, nature of cell wall, ability to grow in the presence of oxygen and ability to form spores.	1	LGF	MCQ
3	3rd yr MBBS	Structure of bacterial cell		Describe structure and function of each of various parts of the bacterial cell including cell wall, cytoplasmic membrane, Mesosome, ribosomes, granules and nucleoid Describe specialized structures outside the cell wall including capsule, flagella, pilli and glycocalyx List the differences between cell wall characteristics of Gram Positive and Gram Negative Bacteria Describe classification and important functions of plasmids  Describe functions and arrangement of transposons. Describe structure, functions and medical importance of bacterial spores with examples.	2	LGF	MCQ
4	3rd yr MBBS	Bacterial growth curve		Describe various phases of bacterial growth curve	1	LGF	MCQ
5	3rd yr MBBS	Normal Flora		Describe medically important members of normal flora and their anatomic location	1	LGF	MCQ
6	3rd yr	Bacterial		Define mutation Describe the	1	LGF	MCQ



	MBBS	genetics		classification of various types of mutations and their common causes. Describe methods of transfer of DNA within bacterial cells including process of conjugation, transduction, recombination and transformation			
7	3rd yr MBBS	Bacterial pathogenesis		Define the term pathogen, infection, virulence, communicable, endemic, epidemic and pandemic diseases, carrier, pathogens, opportunists, commensals and colonizers. Describe stages/determinants of bacterial pathogenesis. Describe colonization, invasion, toxins, immune-pathogenesis. Differentiate between exotoxins and endotoxins. Describe the various modes of action of endotoxins and endotoxins produced by gram positive and gram-negative bacteria. Describe the four stages of a typical infectious disease and Koch's postulates for establishing the causal role of an organism in the disease.	2	LGF	MCQ
8	3rd yr MBBS	Antibacterial Vaccines		Define immunization and vaccination. Describe role of immunization in inducing active and passive acquired immunity. Enlist the current bacterial vaccines and their indications. Describe various types of bacterial vaccines in terms of composition, preparation, indications, route of administration and common side effects.	1	LGF	MCQ
9	3rd yr MBBS	Lab diagnosis of bacterial infections		Describe the bacteriologic approach to diagnosis of bacterial infections including blood, throat,	1	LGF	MCQ

				stool, sputum, spinal fluid, urine, genital tract and wound cultures. Describe general principals of various immunologic and nucleic acid based methods for identification of an organism.			
10	3rd yr MBBS	Biosafety procedures; sterilization and disinfection		Define sterilization and disinfection. Demonstrate steps of hand washing. Enlist various physical and chemical methods of sterilization and disinfection. Define biosafety and biosecurity.	2	PRACTICAL	OSPE
11	3rd yr MBBS	Tissue processing		Describe steps involved in tissue processing. Identify various tools/instruments involved in tissue processing and their indications. Demonstrate slide focusing			
12	3rd yr MBBS	Gram staining		Describe principal and significance of Gram staining. Enlist steps of Gram staining. Demonstrate Gram staining procedure. Identify Gram positive and Gram-negative bacteria morphologically under the microscope.	2	PRACTICAL	OSPE
	3rd yr MBBS	ZN staining		Describe principal and significance of ZN staining. Enlist steps of ZN staining. Demonstrate ZN staining procedure. Identify AFB and inflammatory cells microscopically.			
13	3rd yr MBBS	Culture media		Define terms like culture, bacterial colony, media, aerobe, anaerobe, agar, selective and differential. Describe classification of culture media. Describe basic and enriched media, transport media, selective media and differential media. Describe preparation/ inoculation of culture media. Enlist ingredients, indications, important properties	2	PRACTICAL	OSPE

				and organisms grown on various culture media.			
14	3rd yr MBBS	Bacterial motility		Enumerate motile bacteria Identify motile bacteria under the microscope			
1	3rd yr MBBS	Cellular injury, cell death	<b>FOUNDATION-II MODULE WEEK 4&amp; 5 Theme 2 Cell injury, Ageing and Death</b>	Define the following terms: Pathology, disease, etiology, pathogenesis, morphology, cell injury and homeostasis. Describe the causes of cell injury from gross physical trauma to single gene defect. Describe the nature and severity of cell injury with cellular responses. Enumerate different classes of pathology. Describe the following basic mechanisms of cell injury: General Biochemical mechanisms, Ischemic and hypoxic injury, Ischemic/reperfusion injury, Free radical induced cell injury and chemical injury.	1	LGF	MCQ
2	3rd yr MBBS	Morphological and biochemical changes; reversible and irreversible cell injury.		Differentiate between reversible and irreversible cell injury. Describe the mechanism, morphological and biochemical changes and functional alterations in reversible and irreversible cell injury.  Define phagocytosis, endocytosis, pinocytosis, autophagy and heterophagy. Describe the subcellular responses to injury including lysosomal catabolism, heterophagy and autophagy.	1	LGF	MCQ
3	3rd yr MBBS	Cellular adaptation		Describe types of cellular adaptations. Differentiate between physiologic and pathologic adaptation. Define hypertrophy, hyperplasia, atrophy and metaplasia. Describe the causes and mechanism of hypertrophy,	1	LGF	MCQ

				hyperplasia, atrophy and metaplasia. Describe hypertrophy of the smooth endoplasmic reticulum with examples and mitochondrial alterations. Describe cytoskeletal abnormalities in pathological states with examples.			
4.	3rd yr MBBS	Necrosis		Define necrosis. Describe types of necrosis with examples. Describe the mechanism and morphology of necrosis.	1	LGF	MCQ
5	3rd yr MBBS	Apoptosis		Define apoptosis. Describe physiological and pathological causes of apoptosis with examples. Describe morphology with alterations in cell structure. Describe the biochemical features of apoptosis altering the cell structure. Describe the intrinsic and extrinsic pathways of apoptosis. Differentiate between necrosis and apoptosis. Describe role of apoptosis in health and disease. Describe the mechanism and causes of cellular ageing including genetic & environmental factors, structural & biochemical changes. Describe adaptive changes in clinical settings.	1	LGF	MCQ
6	3rd yr MBBS	Steatosis		Describe causes and mechanism of steatosis. Explain the morphology and consequences of steatosis	1	LGF	MCQ
7.	3rd yr MBBS	Intracellular accumulations		Describe three general pathways for abnormal intracellular accumulations.  Define steatosis. Describe causes, mechanism, morphology and consequences of lipid accumulation.  Describe causes, mechanism, morphology, consequences of	1	LGF	MCQ

		Pathologic calcification		<p>protein and glycogen accumulation Describe types of pigments Differentiate between endogenous and exogenous pigments.</p> <p>Define Pathologic calcification Describe types, morphology and functional alterations of pathologic calcification with examples. Differentiate between dystrophic and metastatic calcification.</p>			
8.	3rd yr MBBS	Hyperplasia (BPH), Atrophy (Testicular atrophy) Pathologic calcification		<p>Define hypertrophy and hyperplasia. Differentiate between hypertrophy and hyperplasia. Describe gross and microscopic morphology of BPH. Identify the slide of BPH. Atrophy (Testicular atrophy) Define atrophy Describe gross and microscopic features of atrophy over a slide of testicular atrophy as an example Pathologic calcification Describe causes and various types of calcification. Identify the slide.</p>	2	PRACTICAL	OSPE
1	3rd yr MBBS	Cells of Inflammation	<b>INFLAMMATION AND INFECTION MODULE WEEK 1 Theme 1 (Pain and Fatigue)</b>	-Describe different cells of inflammation -Describe the functions of various cells of inflammation - Enumerate different causes of leukopenia and leucocytosis(each neutrophil, lymphocyte, monocyte, eosinophil, basophil separately)	1	LGF	MCQ
2	3rd yr MBBS	Overview to Acute Inflammation and vascular phase		Define acute inflammation - Describe causes of acute inflammation -Describe the vascular events of acute inflammation	1	LGF	MCQ
3	3rd yr MBBS	Recognition of microbes		-Describe various molecular patterns and appropriate receptors used by the inflammatory cells to identify microbes -Relate the recognition of microbes to the	1	LGF	MCQ

				initiation of inflammation			
4	3rd yr MBBS	Cellular phase of acute inflammation		-Describe the sequence of events and cellular changes involved in cellular phase of acute inflammation	1	LGF	MCQ
5	3rd yr MBBS	Plasma Derived Mediators		-Enumerate plasma derived mediators -Enlist the functions of each mediator -Describe the different cascades involved in the generation of mediators	1	LGF	MCQ
	3rd yr MBBS	Cell Derived Mediators		-Enumerate cell derived mediators -Enlist the functions of each mediator			
8.	3rd yr MBBS	Cell of inflammation,		Identify Cells of inflammation in the microscope	2	PRACTICAL	OSPE
	3rd yr MBBS	Acute Appendicitis		Identify the histopathological changes in acute appendicitis	2	PRACTICAL	OSPE
1	3rd yr MBBS	Morphological patterns, outcomes, defects of inflammation Overview to chronic inflammation	<b>INFLAMMATION AND INFECTION MODULE WEEK 2 Theme 1 (Pain and Fatigue)</b>	-Enumerate the different morphological patterns of inflammation -Describe the histological changes in each pattern - Enlist the outcomes of inflammation -Enumerate the various defects of inflammation - Describe the consequences of the defects of inflammation  -Define chronic inflammation - Differentiate chronic from acute inflammation -Describe the causes and morphological features of chronic inflammation	1	LGF	MCQ
2	3rd yr MBBS	Granulomatous inflammation		Define granulomatous inflammation -Describe the morphological features and mediators involved in granulomatous inflammation	1	LGF	MCQ

3	3rd yr MBBS	Cells and mediators of chronic inflammation		-Enlist the cells of chronic inflammation -Enumerate the mediators of chronic inflammation - Describe the function of the mediators -Relate the functions of mediators to their morphological changes seen in chronic inflammation	1	LGF	MCQ
4.	3rd yr MBBS	Systemic effects of inflammation		-Enumerate the systemic effects of inflammation -Describe the pathophysiology of the systemic effects of inflammation	1	LGF	MCQ
	3rd yr MBBS	Granuloma		Identify the various cells and their arrangement in a granuloma	2	PRACTICAL	OSPE
	3rd yr MBBS	Chronic cholecystitis		-Identify the morphological changes occurring in chronic cholecystitis			
1	3rd yr MBBS	Prostaglandins	<b>INFLAMMATION AND INFECTION MODULE WEEK 3 Theme 2 (Trauma and repair)</b>	Enlist various prostaglandins- - Describe the mechanism of action of Prostaglandins. - Describe the organ system effects of Prostaglandins. - Describe the clinical uses of Prostaglandins.	1	LGF	MCQ
2	3rd yr MBBS	Overview to tissue healing and repair, Tissue regeneration		-Differentiate between regeneration and repair -Describe various steps involved in the process of tissue healing and repair -Define regeneration -Enlist organs capable of regeneration -Describe the process and mediators involved in regeneration	1	LGF	MCQ
3	3rd yr MBBS	Cell Cycle and its role in repair		-Define cell cycle -Describe the initiation, various phases and proteins involved in the cell cycle	1	LGF	MCQ

		Growth factors and receptors		-Discuss cells capable of entering the cell cycle -Describe proliferative capabilities of various cells			
	3rd yr MBBS	Repair by scarring  Growth factors and receptors		-Describe the various steps involved in process of repair by scarring -Describe the various mediators involved in the steps of scarring -enumerate various growth factors and the receptors -Describe the most common pathways by which growth factors affect tissue repair and regeneration			
4	3rd yr MBBS	ECM, Factors affecting wound healing/abnormal scarring		-Enumerate various growth factors and their receptors -Describe the most common pathways by which growth factors affect tissue repair and regeneration	1	LGF	MCQ
5	3rd yr MBBS	Granulation Tissue		-Identify the histological features of granulation tissue	2	PRACTICAL	OSPE
1	3rd yr MBBS	Bacteria: Pyrogenic Bacteria	<b>INFLAMMATION AND INFECTION MODULE WEEK 4 Theme 3 (Fever and Infection)</b>	-Define boil and furuncle -Enlist organisms responsible for pyrogenic infections	1	LGF	MCQ
2	3rd yr MBBS	Properties, pathophysiology, lab diagnosis of GPC & GNC		Describe important properties, pathophysiology, lab diagnosis of GPC & GNC	2	LGF	MCQ
3	3rd yr MBBS	Bacteria: Rickettsia		-Define Rickettsia -Describe the important properties, pathophysiology, lab diagnosis of diseases caused by Rickettsia		LGF	MCQ
4	3rd yr MBBS	Spore forming GP rods		-Enumerate spore forming GP rods - Describe the important properties, pathophysiology,	1	LGF	MCQ



				clinical features and lab diagnosis of spore forming GP rods			
5	3rd yr MBBS	Non Spore forming GP rods		Enumerate non spore forming GP rods  - Describe the important properties, pathophysiology, clinical features and lab diagnosis of non-spore forming GP rods	1	LGF	MCQ
6	3rd yr MBBS	Chlamydia		Describe the important properties, pathophysiology, clinical features and lab diagnosis of chlamydia.	1	LGF	MCQ
7	3rd yr MBBS	Sepsis and Septic Shock		-Define sepsis and septic shock - -Enlist organisms capable of causing sepsis and inducing septic shock - -Describe the pathophysiology and clinical features of septic shock	1	LGF	MCQ
8	3rd yr MBBS	Zoonotic Infections		-Enlist organisms causing zoonotic infections  -Describe the important properties, pathophysiology, clinical features and lab diagnosis of different zoonotic diseases	1	LGF	MCQ
9	3rd yr MBBS	Catalase test,		-Perform and interpret the result of catalase test by tube and slide method	2	PRACTICAL	OSPE
	3rd yr MBBS	Coagulase test		-Perform and interpret the result of coagulase test by tube method	2	PRACTICAL	OSPE
1	3rd yr MBBS	Parasites: Hydatid Cyst, Taenia	<b>INFLAMMATION AND INFECTION MODULE WEEK 5 Theme 3 (Fever and Infection)</b>	-Describe the life cycle and important properties of Echinococcus  -Relate the pathogenesis to the clinical features and lab work up of Echinococcus  -Identify cysts of Echinococcus in the lab  Describe the life cycle, important properties, of <i>Tenia saginata</i> and <i>solium</i> -Relate pathogenesis to the	1	LGF	MCQ

				clinical features and lab work up of <i>Tenia saginata</i> and <i>solium</i>			
2	3rd yr MBBS	Leishmania, Toxoplasma		Describe the life cycle, and important properties of Leishmania -Relate the pathogenesis to the clinical features and lab work up of Leishmania -Describe the life cycle and important properties of Toxoplasma -Relate the pathogenesis to the clinical features and lab work up of Toxoplasma	1	LGF	MCQ
3	3rd yr MBBS	Malaria		Describe the life cycle and important properties of Malarial parasite -Relate the pathogenesis to the clinical features and lab work up of Malaria	1	LGF	MCQ
4	3rd yr MBBS	Oxidase test			2	PRACTICAL	OSPE
1	3rd yr MBBS	Viruses: Corona	<b>INFLAMMATION AND INFECTION MODULE WEEK 6 Theme 3 (Fever and Infection)</b>	Describe the structure, important properties, pathogenesis and clinical features along with lab work up of Corona Virus	1	LGF	MCQ
2	3rd yr MBBS	Viruses: HIV		Describe the structure, important properties, pathogenesis and clinical features along with lab work up of HIV	1	LGF	MCQ
3	3rd yr MBBS	Viruses: Herpesviruses		Describe the structure, important properties, pathogenesis and clinical features along with lab work up of Herpes viruses	1	LGF	MCQ
	3rd yr MBBS	Tumor Viruses MMR		Describe the structure, important properties, pathogenesis and clinical features along with lab work up of Tumor viruses	1	LGF	MCQ
				Describe the structure, important			

				properties, pathogenesis and clinical features along with lab work up of MMR viruses			
6	3rd yr MBBS	Fungi: Aspergillus, Candida Tenia		Describe the structure, important properties, pathogenesis and clinical features along with lab work up of Aspergillus  Describe the structure, important properties, pathogenesis and clinical features along with lab work up of Candida Describe the structure, important properties, pathogenesis and clinical features along with labwork up of Tenia	1	LGF	MCQ
7	3rd yr MBBS	Hydatid Cyst, Taenia saginata/solium		Identify cysts and ova of Echinococcus in the lab  Identify leishmania in slides of bonemarrow/ skin biopsies  Identify Malarial parasite trophozoites and gametocytes under microscope  Identify ova of Taenia in the lab	2	PRACTICAL	OSPE
1	3rd yr MBBS	Genetics; Mutations	<b>MULTISYSTEM -I MODULE WEEK 1 Theme 1: 1 (Vomiting and Blurred vision)</b>	Define the term mutation, hereditary, congenital, genotype, phenotype, codon, Mendelian Disorder  Describe various types of mutations  Describe trinucleotide-repeat Mutations  Enlist few examples of trinucleotide-Repeat Disorders  Describe mutations in mitochondrial genes	1	LGF	MCQ
2	3rd yr MBBS	Transmission pattern of single Gene		Enumerate transmission patterns of single gene disorders  Describe biochemical and	1	LGF	MCQ

		disorders		<p>molecular basis of Autosomal Dominant Disorders</p> <p>Enlist few examples of Autosomal Dominant Disorders</p> <p>Describe biochemical and molecular basis of Autosomal Recessive disorder</p> <p>Enlist few Examples of Autosomal Recessive Disorders</p> <p>Describe mechanism of transmission of X-Linked disorders</p> <p>Enumerate examples of X-Linked Disorders</p>			
3	3rd yr MBBS	NILL					Practical
1	3rd yr MBBS	Biochemical and molecular basis of single gene disorders	<b>MULTISYSTEM -I MODULE WEEK 2 Theme 2: 2: (Palpitation, fainting and death)</b>	<p>Discuss enzyme defects and their consequences</p> <p>Describe defects in receptors and transport system</p> <p>Describe alterations in structure, functions or quantity of non-enzyme proteins</p> <p>Describe genetically determined adverse reactions to drugs</p>	1	LGF	MCQ
2	3rd yr MBBS	Complex multigenic disorders		Describe multigenic disorders with Examples	1	LGF	MCQ
	3rd yr MBBS	NILL					Practical
1	3rd yr MBBS	Cytogenetic Disorders involving Autosomes	<b>MULTISYSTEM -I MODULE WEEK 3 &amp; 4 Theme 3: (Heredity and Cancers)</b>	<p>Discuss Trisomy 21 and its molecular basis</p> <p>Describe diagnostic clinical features of Trisomy 21</p>	1	LGF	MCQ
2	3rd yr MBBS	Molecular genetic diagnosis		Describe the basic principles of various molecular techniques including PCR, FISH and	1	LGF	MCQ

				Southern/Western blotting Enumerate indications of these techniques.			
3	3rd yr MBBS	Introduction to Neoplasia Nomenclature of Tumors		Define the terms: neoplasia, neoplasm, oncology, tumor, benign tumor, malignant tumor, anaplasia, metaplasia, differentiation and dysplasia.  Describe the basic principle of nomenclature of tumors with respect to tissue of origin, benign and malignant nature	1	LGF	MCQ
4	3rd yr MBBS	Characteristics of Benign and Malignant Tumors		Describe characteristics of benign and malignant tumors  Differentiate between benign and malignant tumors  Describe characteristics of benign and malignant neoplasms in terms of differentiation, anaplasia, rate of growth, local invasion and Metastasis	1	LGF	MCQ
5	3rd yr MBBS	Epidemiology of Cancer		Describe the epidemiology of cancer with respect to overall incidence of cancer and various host factors (age and hereditary) that predisposes to cancer  Discuss the epidemiology of cancer with respect to geographical and environmental factors that predispose to cancer	1	LGF	MCQ
	3rd yr MBBS	Molecular Basis of Cancer		Describe the molecular/genetic basis of carcinogenesis  Describe genetic lesions in cancer Define oncogene, proto-oncogene and Oncoproteins.			
6	3rd yr	Carcinogenesis Types of		Enumerate carcinogens Describe the process of carcinogenesis	1	LGF	MCQ

	MBBS	Carcinogens		Describe the hallmarks of cancer cells and process involved Describe the role of p53  Discuss properties of chemical Carcinogens Describe direct and indirect chemical carcinogens and their mechanism of action Describe the mechanism of radiation carcinogenesis Enumerate viral and bacterial Carcinogens Describe mechanism of carcinogenesis by viral and microbial oncogenes			
7	3rd yr MBBS	Clinical Aspects of neoplasia, Diagnosis of Cancer		Define cachexia Describe the clinical features of neoplasia including effects of tumor on host cancer cachexia Describe the clinical significance of paraneoplastic syndromes Describe clinical syndromes with respect to its causal mechanism and major forms of underlying Cancer	1	LGF	MCQ
	3rd yr MBBS	Diagnosis of Cancer		Describe morphologic, biochemical and molecular methods employed for diagnosis of cancer			
8	3rd yr MBBS	Pathways for tumor spread		Describe the pathways for spread of tumors like local invasion and metastasis	1	LGF	MCQ
9	3rd yr MBBS	Grading and Staging of tumors		Describe grading and staging of Tumors	1	LGF	MCQ
10	3rd yr MBBS	Tumor immunity		Discuss host defenses against Tumors Describe tumor antigens and antitumor effect mechanisms  Describe tumor surveillance and Immune evasion by the tumors	1	LGF	MCQ
11	3rd yr MBBS	Lipoma, Fibro adenoma, Squamous cell carcinoma		Identify the morphological changes occurring in lipoma  Identify morphological changes of squamous cell carcinoma	2	PRACTICAL	OSPE

				Identify morphological changes of squamous cell carcinoma			
12	3rd yr MBBS	Karyotyping,		Demonstrate preparation of Karyogram Identify gender on the basis of Karyogram Identify common numerical chromosomal abnormalities on Karyogram	2	PRACTICAL	OSPE
1	3rd yr MBBS	Anemia, Blood loss	<b>BLOOD AND IMMUNOLOGY II MODULE WEEK 1 Theme 1: Pallor and Fatigue</b>	Discuss physiologic basis of anemia. Classify anemia's according to underlying Mechanism  Describe the pathogenesis of blood loss Anemia	1	LGF	MCQ
2	3rd yr MBBS	Hereditary Spherocytosis, Sickle cell Anemia		Discuss the pathogenesis of Hereditary Spherocytosis Describe morphological changes in peripheral Smear of HS patient Explain how will you diagnose a case of HS?  Discuss the morphology of rbcs in Sickle cell Anemia Describe the etiology and pathogenesis in SA Explain how will you diagnose a case of SA?	1	LGF	MCQ
3	3rd yr MBBS	Thalassemia Glucose 6 phosphate dehydrogenase deficiency		Describe Thalassemia Discuss the conditions contributing to the Pathogenesis of beta - thalassemia Explain the genetics of thalassemia Describe the morphological changes physically And on peripheral smear Explain how will you diagnose a case of alpha Or beta thalassemia?  Classify G6PD Discuss the pathogenesis of G6PD with Reference to oxidative injury of rbcs Describe the morphology of rbcs in G6PD Explain how will you diagnose a case of G6PD Deficiency	1	LGF	MCQ

4	3rd yr MBBS	Paroxysmal Nocturnal Hemoglobinuria Immune hemolytic anemia		Describe the pathophysiology of Paroxysmal Nocturnal Hemoglobinuria Explain the diagnosis of a case of PNH?  Classify immune hemolytic anemia's Discuss the etiological mechanism of warm and cold antibody immune hemolytic anemia Explain the diagnostic workup of immune Hemolytic anemia	1	LGF	MCQ
5	3rd yr MBBS	Iron deficiency anemia		Discuss the pathophysiological mechanism of Iron deficiency anemia Describe the clinical course and morphological changes in Ida Explain laboratory investigations for the diagnosis of IDA	1	LGF	MCQ
	3rd yr MBBS	Megaloblastic Anemia		Describe Megaloblastic Anemia Describe the pathogenesis of MA with respect to Vitamin B12 and Folic acid Discuss the morphological changes in RBCs, WBCs and platelets in MA. Explain how will you diagnose the cause of MA?			
6	3rd yr MBBS	Aplastic Anemia Polycythemia vera		Enumerate causes of Aplastic anemia Describe the pathophysiology of aplastic anemia Diagnose a case of aplastic anemia  Discuss the pathophysiology of polycythemia vera Describe the clinical course and morphological features of Polycythemia vera Explain how will you diagnose a case of Polycythemia vera?	1	LGF	MCQ
7	3rd yr MBBS	IMMUNITY		Describe the functions and types of immunity. Enlist the three lines of defenses and outline their properties Describe the characteristics, origin and functions of cells of immune system	1	LGF	MCQ



				Compare innate and acquired immunity Compare the mechanism of active and passive immunity			
	3rd yr MBBS	HUMERAL IMMUNITY CELL MEDIATED IMMUNITY		Describe the role of T and B lymphocytes in immunity Describe the role of B lymphocytes in humeral immunity Describe humeral immunity Explain how helper T cells regulate the immune system Differentiate between humeral and cell mediated immunity Explain the Specificity of immune response Describe cell mediated components of Cell mediated immunity (CMI), Explain types of cells in CMI system Describe T-cell activation and diversity Illustrate Schematic representation of T cell activation and diversity			
8	3rd yr MBBS	ANTIBODIES		Differentiate between Primary and secondary immune response Describe antigen and antibodies. Differentiate B/W Monoclonal and polyclonal antibodies. Classify immunoglobulin Illustrate structure (diagram) of immunoglobulin A. Describe important functions of immunoglobulin Explain How antibodies neutralize toxins, microbes and viruses	1	LGF	MCQ
9	3rd yr MBBS	Normal Complete blood count		Differentiate between a normal blood cells of different lineages	2	PRACTICAL	OSPE
10	3rd yr MBBS	ABNORMAL PERIPHERAL SMEAR IN DIFFERENT ANEMIAS		Differentiate between a normal and an abnormal RBC Identify different shapes of RBCs. Identify the common types of Anemia on the basis of RBC morphology	2	PRACTICAL	OSPE
1	3rd yr	ACUTE	<b>BLOOD AND</b>	Classify acute	1	LGF	MCQ

	MBBS	MYELOGENOUS LEUKEMIA	<b>IMMUNOLOGY II</b> <b>MODULE WEEK 2</b> <b>Theme 2: Fever</b>	myelogenous leukemias according to FAB. Discuss the pathophysiology of AML. Describe the morphological features of AML. Explain how will you proceed for diagnosis of AML?			
2	3rd yr MBBS	CHRONIC MYELOGENOUS LEUKEMIA		Discuss the pathophysiology of CML. Describe the peripheral blood findings in CML Explain how will you proceed for diagnosis of CML?	1	LGF	MCQ
3	3rd yr MBBS	MYELOYDYSPLASTIC SYNDROME (MDS)		Enlist types of MDS. Discuss causes, pathogenesis and Morphology. Interpret blood and bone marrow changes in patient with MDS. Discuss symptoms and diagnostic strategies for patient with MDS.	1	LGF	MCQ
4	3rd yr MBBS	LYMPHOID NEOPLASMS ACUTE LYMPHOCYTIC LEUKEMIA		Enumerate Lymphoid neoplasm Classify lymphoid neoplasms according to WHO classification.  Discuss the pathophysiology of Acute lymphocytic leukemia Discuss the morphological features of ALL Explain how will you diagnose a case of ALL?	1	LGF	MCQ
5	3rd yr MBBS	CHRONIC LYMPHOCYTIC LEUKEMIA		Discuss the pathophysiology of Chronic lymphocytic leukemia Describe the distinguishing morphological features of CLL Explain the diagnostic workup for a case of CLL	1	LGF	MCQ
	3rd yr MBBS	PLASMA CELL DISORDER		Describe the pathogenesis of multiple myeloma Describe the molecular genetics involved in multiple myeloma			
6	3rd yr MBBS	HODGKIN'S LYMPHOMA		Discuss the type of multiple myeloma Enlist the clinical features Classify Hodgkin's lymphoma Discuss the etiology and pathogenesis of Hodgkin's	1	LGF	MCQ

				lymphoma Describe the morphological changes and clinical course of the disease in Hodgkin's Lymphoma			
7	3rd yr MBBS	NON-HODGKIN'S LYMPHOMA		Enlist Non-Hodgkin's lymphoma Describe the basic pathologic classification of NHL (the WHO classification). Describe the predisposing factors to developing NHL, including infectious agents associated with development of specific lymphomas. Describe the morphologic features of lymph nodes involved in Non-Hodgkin Lymphoma Enlist the lab investigations required for diagnosis of NHL	1	LGF	MCQ
9	3rd yr MBBS	Normal white cell smear		Describe causes of leukocytosis Differentiate different types of white blood cells under microscope	2	PRACTICAL	OSPE
1	3rd yr MBBS	THROMBOCYT OPENIA & 2. VoNWILLE BRAND DISEASE	<b>BLOOD AND IMMUNOLOGY II</b> <b>MODULE WEEK 3</b> <b>Theme 3: Bleeding</b>	Enlist causes of Thrombocytopenia Describe the pathogenesis of immune thrombocytopenic purpura List thrombotic microangiopathies Explain the diagnostic plan for ITP Classify VWD Enlist investigations required for diagnosis of VWD	1	LGF	MCQ
2	3rd yr MBBS	HEMOPHILIA 1 DISSEMINATED INTRAVASCULAR COAGULOPATHY		Discuss the pathogenesis of hemophilia A and B Describe the clinical course of the disease. Enlist the laboratory investigation for diagnosing a case of hemophilia  Enlist major disorders associated with DIS Discuss the pathophysiology of DIC Explain the morphological changes in DIC Explain how will you diagnose DIC?	1	LGF	MCQ
3	3rd yr MBBS	Transfusion medicine		Describe various blood component preparation Identify indications for different blood components	1	LGF	MCQ

				Describe transfusion reactions associated with blood transfusion			
4	3rd yr MBBS	ALLERGY & HYPERSENSITIVITY		Describe the pathophysiology of allergy and hypersensitivity with examples Compare immediate and delayed hypersensitivity reactions Enlist the diseases associated with hypersensitivity reactions	1	LGF	MCQ
5	3rd yr MBBS	IMMUNE TOLERANCE		Describe Immunotolerance. Describe Immunological unresponsiveness of the body especially to self-antigens. Explain the role of immune system in protecting the human body. Distinguishing between types of immunotolerance Explain the mechanism of graft rejection and graft vs host disease	1	LGF	MCQ
6	3rd yr MBBS	AUTOIMMUNE DISEASES		Describe Autoimmunity. Discuss Pathogenesis of Autoimmune diseases. Explain the factors leading to Autoimmune Diseases.	1	LGF	MCQ
7	3rd yr MBBS	IMMUNODEFICIENCY DISEASES		Describe immunodeficiency Differentiate between Autoimmune and immunodeficiency diseases. Classify Congenital and acquired Immunodeficiency diseases. Describe the pathogenesis of HIV.	1	LGF	MCQ
	3rd yr MBBS	COMPLEMENT		Describe complement. Describe components of the Complement System Describe the synthesis of complements Describe pathways of activation and inactivation of complement Describe important functions of each component of complement system Describe the diseases associated with deficiency of the complement proteins			

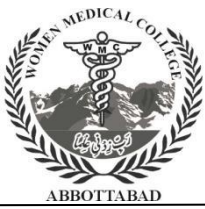
	3rd yr MBBS	Coagulation tests		Interpret Prothrombin time and activated partial thromboplastin time Interpret bleeding time and clotting time	2	PRACTICAL	OSPE
1	3rd yr MBBS	Metabolic diseases of bone	<b>MUSCULOSKELETAL MODULE WEEK 1&amp;2 Theme 1 Aching Bones</b>	Describe the following metabolic diseases of bone from pathological point of view: • Osteopenia and Osteoporosis	1	LGF	MCQ
2	3rd yr MBBS			Paget Disease (Osteitis Deformans)  Osteomalacia and Rickets	1	LGF	MCQ
3	3rd yr MBBS	Fracture and Osteonecrosis		Classify fractures and describe healing process in fractures  Enlist etiology of osteonecrosis (Avascular Necrosis)  Describe clinical features and morphological findings in osteonecrosis		LGF	MCQ
4	3rd yr MBBS	Osteomyelitis		Classify osteomyelitis and delineate its etiology, pathogenesis, common clinical features, morphological findings, and  complications related to osteomyelitis	1	LGF	MCQ
5	3rd yr MBBS	Bone Tumors		Classify bone tumors  Describe the frequency of different bone tumors in general population  Enlist common clinical features found in  common types of bone tumors.  Enlist key morphological features of Osteosarcoma, Osteoid osteoma and  Osteoblastoma	1	LGF	MCQ
6	3rd yr	Cartilage-Forming			Discuss the frequency of different	1	LGF

	MBBS	Tumors		<p>cartilaginous tumors in general population</p> <p>Enlist common clinical features of common cartilaginous tumors</p>			
7	3rd yr MBBS	<p>Tumors of Unknown Origin</p> <p>Lesions Simulating Primary Neoplasms</p>		<p>Describe etiology, pathogenesis, and key clinico-morphological features of Ewing's Sarcoma and Giant Cell Tumor Describe key clinico-morphological features and essential points in the pathogenesis of Fibroma</p>	1	LGF	MCQ
8.	3rd yr MBBS	Tuberculous osteomyelitis		Identify gross and microscopic morphological features of tuberculous osteomyelitis	2	PRACTICAL	OSPE
9.	3rd yr MBBS	Osteogenic sarcoma, Osteoclastoma and chondrosarcoma		Identify gross and microscopic morphologic features of osteogenic sarcoma, osteoclastoma and chondrosarcoma	2	PRACTICAL	OSPE
1	3rd yr MBBS	Osteoarthritis	<p><b>MUSCULOSKELETAL MODULE WEEK 3</b></p> <p><b>Theme 2 Joint Stiffness</b></p>	<p>Describe aetiology and pathogenesis of osteoarthritis</p> <p>Discuss clinical and morphological features of osteoarthritis</p> <p>Enumerate complications of osteoarthritis</p>	1	LGF	MCQ
2	3rd yr MBBS	Rheumatoid Arthritis		<p>Describe aetiology and pathogenesis of Rheumatoid Arthritis</p> <p>Discuss clinical and morphological features of Rheumatoid Arthritis</p> <p>Enumerate complications of Rheumatoid Arthritis</p>	1	LGF	MCQ

3	3rd yr MBBS	Seronegative Spondyloarthr opathies		<p>Classify and explain Spondyloarthropathies</p> <p>Discuss pathogenesis and clinical features of Ankylosing Spondylitis Discuss pathogenesis and clinical features of Reactive Arthritis Discuss pathogenesis and clinical features of Psoriatic Arthritis</p>	1	LGF	MCQ
4.	3rd yr MBBS	Infectious Arthritis		<p>Describe etiology and pathogenesis of Suppurative Arthritis</p> <p>Discuss clinical features and morphological features of Suppurative arthritis.</p> <p>Enumerate complications of Suppurative arthritis</p> <p>Describe etiology and pathogenesis of Mycobacterial Arthritis</p> <p>Discuss clinical features and morphological features of Mycobacterial Arthritis</p> <p>Enumerate complications of Mycobacterial Arthritis</p>	1	LGF	MCQ
5	3rd yr MBBS	Rheumatic Fever		<p>Describe key structural features, virulence factors, modes of pathogenesis and diagnosis of Streptococcus pyogenes 1 Explain etiology, pathogenesis, clinical features, diagnosis, and complications of Rheumatic Fever</p>	1	LGF	MCQ
6	3rd yr MBBS	Crystal- Induced Arthritis		<p>Describe key points of aetiology, pathogenesis, clinical features, morphological features, and complications of:</p> <ul style="list-style-type: none"> <li>• Gout</li> <li>• Calcium Pyrophosphate Crystal deposition Disease (Pseudo-</li> </ul>	1	LGF	MCQ

				Gout)			
7.	3rd yr MBBS	ASO (Anti Streptolysin O) test		Perform ASO (Anti Streptolysin O) test by latex agglutination technique	2	PRACTICAL	OSPE
1	3rd yr MBBS	Tumors of adipose tissue	<b>MUSCULOSKELETAL MODULE WEEK 4 Theme 3 Muscle weakness and Trauma</b>	Classify soft tissue tumors and provide a brief description of their salient clinical features  Enlist key morphological features of lipoma and liposarcoma	1	LGF	MCQ
2	3rd yr MBBS	Fibrous Tumors		Describe important clinicopathological and morphological features of: <ul style="list-style-type: none"> <li>• Nodular Fasciitis</li> <li>• Fibromatoses</li> </ul>	1	LGF	MCQ
3	3rd yr MBBS	Muscle tumors		Classify muscle tumors Describe etiology, clinicomorphological features, and complications of Rhabdomyosarcoma Describe etiology, clinicomorphological features, and complications of Leiomyoma  Describe etiology, clinicomorphological features, and complications of Leiomyosarcoma  Describe etiology, clinicomorphological features, and complications of Fibrosarcoma	1	LGF	MCQ
4	3rd yr MBBS	Skeletal muscle atrophy and myopathies		Describe pathological features of Skeletal Muscle Atrophy  Describe pathological features of Neurogenic and Myopathic changes in Skeletal Muscle  Describe pathological features of Inflammatory Myopathies  Describe pathological features of Dermatomyositis  Describe pathological features of	1	LGF	MCQ





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				<p>Polymyositis</p> <p>Describe pathological features of Inclusion Body Myositis</p> <p>Describe pathological features of Toxic Myopathies</p>			
5	3rd yr MBBS	Inherited Diseases of Skeletal Muscle		Describe genetic abnormality, morphology and clinical features of Muscular Dystrophies	1	LGF	MCQ
1	3rd yr MBBS	Important pathological terms	<p><b>MUSCULOSKELETAL</b></p> <p><b>MODULE WEEK 5</b></p> <p><b>Theme 4 : Skin Rash and Itching</b></p>	<p>Define the following skin lesions and describe these with respect to their etiologies and gross morphological features.</p> <ul style="list-style-type: none"> <li>• Macule</li> <li>• Papule</li> <li>• Nodule</li> <li>• Plaque</li> <li>• Vesicle</li> <li>• Bulla</li> <li>• Blister</li> <li>• Pustule</li> <li>• Scale</li> <li>• Lichenification</li> <li>• Excoriation</li> <li>• Hyperkeratosis</li> <li>• Parakeratosis</li> <li>• Acanthosis</li> <li>• Dyskeratosis</li> <li>• Acantholysis</li> <li>• Papillomatosis</li> </ul> <p>Lentiginousspongiosis</p> <ul style="list-style-type: none"> <li>• Urticaria</li> </ul>	1	LGF	MCQ

				<ul style="list-style-type: none"> <li>• Pemphigus</li> <li>• Bullous pemphigoid</li> <li>• Warts</li> </ul>			
2	3rd yr MBBS	Eczematous dermatitis		Classify eczematous dermatitis  Describe the morphological and clinical features of acute eczematous dermatitis  Describe the etiology and pathogenesis of <ul style="list-style-type: none"> <li>• Contact dermatitis</li> <li>• Atopic dermatitis</li> <li>• Drug related eczematous dermatitis</li> <li>• Photoeczematous eruption</li> <li>• Primary irritant dermatitis</li> </ul>	1	LGF	MCQ
3	3rd yr MBBS	Erythema multiforme  Psoriasis		List the conditions which are associated with erythema multiforme and describe its clinical features  Describe the etiopathogenesis, morphological and clinical features of psoriasis	1	LGF	MCQ
4	3rd yr MBBS	Pre-malignant epithelial lesions		List the pre-malignant epithelial lesions (Epidermal) <ul style="list-style-type: none"> <li>• List the predisposing factors for squamous cell carcinoma of skin</li> <li>• Differentiate squamous cell carcinoma from basal cell carcinoma on the basis of morphology and clinical features</li> </ul>	1	LGF	MCQ
5	3rd yr	Nevocellular Nevi and		List types of Nevocellular Nevi (Congenital Nevus, blue nevus,	2	LGF	MCQ

	MBBS	Malignant Melanoma		Spitz's Nevus, halo nevus dysplastic nevus) along with their clinical significance. (Dermal)			
				<ul style="list-style-type: none"> <li>Describe the clinical and morphological features of dysplastic nevi</li> <li>Describe malignant melanoma with respect to frequent site of origin, clinical and morphological features</li> </ul>			
6	3rd yr MBBS	Viral skin infections		Describe the following viral skin infections in context of etiopathogenesis:	2	LGF	MCQ
		Fungal skin infections		<ul style="list-style-type: none"> <li>Herpes simplex virus</li> <li>Herpes zoster virus</li> </ul> Classify and describe the following fungal skin infections in context of etiopathogenesis:			
		Skin and soft tissue infections		<ul style="list-style-type: none"> <li>Tinea</li> <li>Candida</li> </ul> Describe the following skin lesions in context of etiopathogenesis and diagnosis Impetigo Cellulitis / Erysipelas Folliculitis Skin Abscess (Furuncle & Carbuncle)			
8.	3rd yr MBBS	Tumors of Skin		Identify gross and microscopic features of	2	PRACTICAL	OSPE
				<ul style="list-style-type: none"> <li>Squamous cell carcinoma</li> <li>Basal cell carcinoma</li> </ul>			
1	3rd yr MBBS	Atherosclerosis	<b>CVS MODULE Theme 1: Chest pain WEEK</b>	Discuss the risk factors, Morphology, pathological changes	1	LGF	MCQ

			<b>1&amp;2</b>	and consequences of Atherosclerotic plaque			
2	3rd yr MBBS	Ischemia and infarction		Define Ischemia and infarction, and differentiate it from infarction Discuss Classification and pathophysiology of ischemic heart disease Discuss pathophysiology of myocardial infarction	1	LGF	MCQ
3	3rd yr MBBS	Lipid Profile		Demonstrate Estimation of total cholesterol	2	Practical	OSPE
1	3rd yr MBBS	Blood pressure Hypertension	<b>CVS MODULE Theme 2: Blood Pressure WEEK 3</b>	Describe the mechanisms of blood pressure regulation. Describe the causes, Pathogenesis, morphology and complications of Hypertension Discuss pathophysiology of hypertension in pregnancy	1	LGF	MCQ
2	3rd yr MBBS	Shock		Classify shock Describe the pathophysiology and types of shock Describe the stages of shock. Define sepsis and septic shock Discuss causes, pathogenesis, and laboratory findings in shock Discuss Disseminated intravascular coagulation in the context of sepsis	1	LGF	MCQ
3	3rd yr MBBS	Aneurysms		Describe the etiology, morphology and manifestations of vascular aneurysms Describe the causes, Pathogenesis and types of Aortic Aneurysm Describe the	2	LGF	MCQ

		Aortic dissection		pathogenesis, morphology and clinical features of Aortic Dissection			
5	3rd yr MBBS	Vasculitis		<p>Define vasculitis</p> <p>Classify vasculitides</p> <p>Describe the immunological mechanisms of non-infectious vasculitis</p> <p>Describe the morphology and clinical features of Giant cell arteritis</p> <p>Describe the morphology and clinical features of Takayasu arteritis</p> <p>Describe the morphology and clinical features of Polyarteritis nodosa</p> <p>Describe the morphology and clinical features of Kawasaki disease</p> <p>Describe the morphology, serological markers and clinical features of Wegener granulomatosis</p> <p>Describe the morphology and clinical features of Thromboangitis obliterans</p>	1	LGF	MCQ
6.	3rd yr MBBS	Diseases of veins		<p>Differentiate between thrombophlebitis and Phlebothrombosis</p> <p>Describe the etiology and clinical features of varicose veins</p>	1	LGF	MCQ

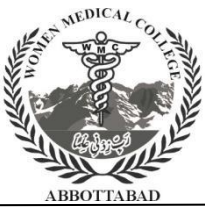
				Enlist the benign and malignant tumors of the arteries and veins			
7	3rd yr MBBS	Hemangioma		Identify the morphological changes occurring in hemangioma	2	Practical	OSPE
1	3rd yr MBBS	Congestive heart failure	<b>CVS MODULE Theme 3: Shortness of breath week 4&amp;5</b>	Describe the types, etiology, pathogenesis, and clinical features of congestive heart failure	1	LGF	MCQ
2	3rd yr MBBS	Congenital heart diseases		Describe the Etiology, Pathogenesis and clinical features of Tetralogy of Fallots, ASD, VSD and pulmonary stenosis	1	LGF	MCQ
3	3rd yr MBBS	Valvular heart diseases		Describe the Etiology, pathogenesis and clinical features of Aortic stenosis, Aortic regurgitation, Mitral stenosis and Mitral regurgitation	1	LGF	MCQ
4	3rd yr MBBS	Cardiomyopathies		Describe the Pathological patterns, causes, morphological changes and clinical features of Cardiomyopathies	1	LGF	MCQ
5	3rd yr MBBS	Rheumatic fever		Discuss pathophysiology and laboratory findings in rheumatic fever	1	LGF	MCQ
6	3rd yr MBBS	Rheumatic heart disease		Discuss pathological changes and morphology of rheumatic heart disease	1	LGF	MCQ
7	3rd yr MBBS	Thrombosis and Embolism		Describe the mechanism and pathogenetic mechanisms of vascular thrombosis Enlist hypercoagulable states Define embolism	1	LGF	MCQ
					Discuss types of embolism Describe the etiology, pathogenesis, morphology and clinical features of		

				pulmonary embolism			
8	3rd yr MBBS	Endocarditis		Discuss Etiology, Pathogenesis, Morphology, diagnostic criteria, clinical features and complications of infective endocarditis Discuss the types of non-infected vegetation	1	LGF	MCQ
1	3rd yr MBBS	Legionella	<b>RESPIRATORY MODULE</b>  <b>Theme 1: Cough with sputum, &amp; fever Week 1&amp;2</b>	Describe Pathogenesis, Structure, Clinical Findings & Laboratory Diagnosis of Legionella infection	1	LGF	MCQ
2	3rd yr MBBS	Mycoplasma		Describe Pathogenesis, Structure, Clinical findings & Laboratory Diagnosis of mycoplasma infection.	1	LGF	MCQ
3	3rd yr MBBS	H-Influenza		Describe Pathogenesis, Structure, Clinical Findings & Laboratory Diagnosis of H-Influenza infection	1	LGF	MCQ
4	3rd yr MBBS	Bordetella		Describe Pathogenesis, Structure, Clinical Findings & Laboratory Diagnosis of Bordetella infection	1	LGF	MCQ
5	3rd yr MBBS	Mycobacteriu m Tuberculosis		Describe Pathogenesis, Important Properties, Clinical Findings & Laboratory Diagnosis of Mycobacterium Tuberculosis.	1	LGF	MCQ
6	3rd yr MBBS	Pulmonary Infections		Describe community acquired pneumonia and its different types.  Describe community acquired atypical Pneumonia.  Describe etiology, pathogenesis & clinical features of nosocomial pneumonia.  Describe etiology, pathogenesis & clinical features of pneumonia.  Describe etiology, pathogenesis & clinical features of chronic pneumonia.	1	LGF	MCQ
7	3rd yr	Granulomatou		Describe sarcoidosis its etiology,	1	LGF	MCQ

	MBBS	s diseases		<p>pathogenesis, morphology and clinical course.</p> <p>Describe etiology, pathogenesis, clinical &amp; radiologic features of hypersensitivity pneumonitis.</p> <p>Describe etiology, pathogenesis, clinical &amp; radiologic features of pulmonary eosinophilia.</p>			
8.	3rd yr MBBS	Lung abscess, Empyema, laryngeal tumors		<p>Define Lung Abscess Describe Pathogenesis, morphology &amp; Clinical Course of Lung abscess</p> <p>Describe empyema &amp; its pathogenesis</p> <p>Describe the risk factors, morphology, clinical features and staging of laryngeal tumors.</p>	1	LGF	MCQ
	3rd yr MBBS						
1	3rd yr MBBS	Atelectasis	<b>RESPIRATORY MODULE Theme 2: Wheezy chest &amp; shortness of breath week 3&amp;4</b>	Define Atelectasis Describe different types of atelectasis	1	LGF	MCQ
2	3rd yr MBBS	Acute Lung injury		Define Acute Respiratory distress Syndrome (ARDS) Describe Pathogenesis and morphological features of ARDS	1	LGF	MCQ
3	3rd yr MBBS	Obstructive Pulmonary disease		<p>Define obstructive pulmonary disease and enlist its different types Define Emphysema Describe different types of emphysema Describe the pathogenesis morphology and underline course of emphysema Define chronic bronchitis Describe its pathogenesis and morphology Describe asthma and its pathogenesis Differentiate between types of asthma Describe morphology and clinical course of asthma</p> <p>Define bronchiectasis, describe the</p>	2	LGF	MCQ



4	3rd yr MBBS	Restrictive or infiltrative lung diseases		causes, morphology and pathogenesis of bronchiectasis  Define diffuse interstitial lung disease. Describe pathogenesis of diffuse interstitial lung disease. Enlist major categories of chronic interstitial lung disease Describe the fibrosing lung diseases. Describe pneumoconiosis, its morphology and different types. Describe drug and radiation induced pulmonary diseases.	2	LGF	MCQ
5	3rd yr MBBS	Diseases of vascular origin		Describe pulmonary embolism, hemorrhage and infarction. Describe pulmonary Hypertension. Describe diffuse alveolar hemorrhage syndromes.	1	LGF	MCQ
6	3rd yr MBBS	lung tumors		Describe carcinoma of lung, its etiology pathogenesis, morphology and clinical course. Differentiate between small cell lung carcinoma and non-small cell lung carcinoma. Describe bronchial carcinoids Describe malignant mesothelioma and its morphology.	1	LGF	MCQ
7	3rd yr MBBS	Pleural lesions		Describe pleural effusion and pleuritis. Describe pneumothorax, Hemothorax and chylothorax	1	LGF	MCQ
1	4th yr MBBS	Basic terms	<b>RENAL MODULE</b> <b>Theme I: Facial Swelling</b>	Define the terms:  Azotemia, uremia, Nephrotic syndrome, Nephritic syndrome, asymptomatic hematuria, rapidly progressive  glomerulonephritis Acute kidney injury, chronic kidney disease, end-stage renal  disease (ESRD), Renal tubular defects, Nephrosclerosis, UTI,	1	LGF	MCQ



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				<p>urolithiasis, Hydronephrosis, Oncocytoma and carcinoma</p> <p>Describe the pathogenesis of Nephrotic and Nephritic syndrome</p>			
2	4th yr MBBS	Glomerular Disease		<p>Describe the pathological responses, pathogenesis and mediators of glomerular injury</p> <p>Classify Glomerular diseases.</p> <p>Differentiate between major Primary Glomerular diseases in terms of clinicopathological features and different microscopic findings</p> <p>Discuss the etiologies, clinicopathological features and morphology of the diseases presenting as Nephritic syndrome and Nephrotic syndrome</p> <p>Explain the pathogenesis and morphology of minimal change disease</p> <p>Describe the etiology, pathogenesis, morphology and clinical presentation of focal segmental glomerulosclerosis</p> <p>Describe the etiology, pathogenesis, morphology and clinical presentation of membranoproliferative glomerulonephritis</p> <p>Describe the etiology, pathogenesis, morphology and clinical presentation of IgA nephropathy</p>	1	LGF	MCQ

				Describe the pathogenesis, morphology of diabetic and other types of secondary nephropathies			
3	4th yr MBBS	Acute Tubular Injury (ATI)		<p>Define Acute Tubular Injury (ATI).</p> <p>Describe the etiology, clinico-pathological features and morphology of ischemic and toxic ATI.</p> <p>Compare the pattern of tubular damage in ischemic and toxic injury</p>	1	LGF	MCQ
4	4th yr MBBS	Vascular events		<p>Discuss the etiology, pathogenesis, and morphology of</p> <p>Nephrosclerosis, malignant hypertension and Renal Artery stenosis.</p>	1	LGF	MCQ
5	4th yr MBBS	Renal function test	<b>RENAL MODULE Theme II: Scanty Urine</b>	<p>Describe the normal ranges of Blood urea, creatinine, and electrolytes</p> <p>Explain creatinine clearance and other radiological and biochemical renal function tests and their clinical significance</p>	1	LGF	MCQ
6	4th yr MBBS	Acute kidney injury		<p>Explain the etiology, pathogenesis, morphology and clinical presentation and complications of acute kidney injury</p>	1	LGF	MCQ
7	4th yr MBBS	Chronic Renal Failure		<p>Explain the etiology, pathogenesis, morphology and clinical</p>	1	LGF	MCQ

				presentation and complications of chronic renal failure.			
8	4th yr MBBS	Interstitial Glomerulonephritis		<p>Explain the etiology and pathogenesis of interstitial nephritis</p> <p>Explain the etiology, pathogenesis, and morphology of glomerulonephritis.</p>	1	LGF	MCQ
9	4th yr MBBS	Pyelonephritis	<b>RENAL MODULE Theme III: Loin pain and Dysuria</b>	<p>Discuss the etiology, clinico-pathological presentation, morphology, and complications of Acute Pyelonephritis, Discuss the etiology, clinico-pathological presentation, morphology and complications of, chronic pyelonephritis</p> <p>Discuss the etiology, clinico-pathological presentation, morphology, and complications of drug induced nephritis</p>	1	LGF	MCQ
10	4th yr MBBS	Cystic Diseases of the Kidney		<p>Classify the cystic diseases of Kidney.</p> <p>Describe the inheritance, Pathological features, Complications, and prognosis of polycystic diseases of Kidneys.</p> <p>Differentiate between the inheritance, pathological features, typical outcomes and clinical features of Adult and Childhood Polycystic Kidney Diseases</p> <p>Differentiate between the inheritance, pathological features, typical outcomes, and clinical</p>	1	LGF	MCQ

			features of Childhood Polycystic Kidney Diseases			
11	4th yr MBBS	Urolithiasis	<p>Enlist the types of Renal stones.</p> <p>Discuss the etiology and pathogenesis of Renal stones</p> <p>Co-relate the occurrence of renal stones with different metabolic diseases</p> <p>Differentiate between the different renal stones based on frequency, predisposing factors, urine PH and morphology.</p>	1	LGF	MCQ
12	4th yr MBBS	Neoplasms of the Kidneys Renal cell carcinoma Wilm's Tumor Diagnosis and management of renal tumors	<p>Classify the benign and malignant tumors of the Kidney.</p> <p>Discuss the etiology, morphology, and prognosis of Renal cell carcinoma</p> <p>Discuss the genetics, clinico-pathological features, morphology, and prognosis of Wilm's tumor</p> <p>Describe the various investigations to diagnose renal tumors albumin/creatinine ratio, urine for micro albumin)</p> <p>Discuss management of renal tumors</p>	1	LGF	MCQ
13	4th yr MBBS	Congenital anomalies of bladder Acute Cystitis Chronic	<p>Describe the congenital anomalies of bladder and urethra</p> <p>Discuss the etiology, morphology clinico-pathological features and complications of Acute Discuss the etiology,</p>	1	LGF	MCQ

		Cystitis		morphology clinico-pathological features and complications of Chronic Cystitis			
14	4th yr MBBS	Obstructive Uropathy	<b>RENAL MODULE Theme IV: Urinary retention</b>	Discuss the obstruction in urogenital tract at different levels.  Discuss the effects of obstruction on function and morphology of kidney.  Describe clinico-pathological features and morphology of Hydronephrosis	1	LGF	MCQ
15	4th yr MBBS	Tumors of urinary bladder  BPH  Prostatic carcinoma		Classify tumors of urinary bladder.  Discuss the etiology, pathogenesis, morphology, staging and prognosis of urothelial (Transitional Cell) Tumors Describe pathophysiology of Benign prostatic hypertrophy and risk factors  Describe pathogenesis, risk factors and staging of Prostatic carcinoma	1	LGF	MCQ
16	4th yr MBBS	Urine collection methods, physical examination of urine specimen  Microscopic	<b>RENAL MODULE PRACTICAL WORK</b>	Demonstrate the procedure of urine collection, physical examination volume, color, appearance, pH of specimen.  Perform the physical examination of urine and prepare report of an abnormal urine with pyuria and hematuria  Interpret the results.	1.5	Practical	OSPE



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		examination of centrifuge specimen					
17	4th yr MBBS	Chemical examination of non-centrifuged urine specimen		<p>Demonstrate substances for chemical examination and the different procedures of detection of protein in urine.</p> <p>Demonstrate the Principle of protein detection by heat method in urine</p> <p>Perform the heat and acetic acid test and the test for Bence Jones protein.</p> <p>Interpret the results</p> <p>Demonstrate the tests for detection of reducing substances in urine and the principle of Benedict's test</p> <p>Perform the Benedict's test.</p> <p>Interpret the results</p> <p>Demonstrate the substances seen in urine under microscope i.e. cells (Pus cells, RBCs, Epithelial cells and other different cells), Crystals, castes etc</p> <p>Prepare the sediment for urine examination.</p> <p>Detect various substances in a slide prepared from sediment under the microscope</p> <p>Interpret the results</p>	1.5	Practical	OSPE
18	4th yr	Urine staining,		Demonstrate the Staining methods	1.5	Practical	OSPE

	MBBS	and culture		<p>and their principles for urine specimens of acute and chronic UTI</p> <p>Identify the uropathogens shown in the slide</p> <p>Demonstrate sterilized methods for collections of specimens for culture and sensitivity.</p> <p>Perform a practical for culture and sensitivity by disc diffusion method for any uropathogen.</p>			
19	4th yr MBBS	Pituitary gland- Physiological anatomy	<b>ENDOCRINE &amp; REPRODUCTION</b> <b>MODULE Theme-1:</b> <b>Tall / short stature</b>	<p>Explain the gross and microscopic structure of pituitary gland</p> <p>Explain the functions of hormones of the anterior and posterior pituitary gland and their regulation by the Hypothalamus</p>	1	LGF	MCQ
20	4th yr MBBS	Hyperpituitarism/Pituitary adenomas: Prolactinomas Somatotrophic tumors Corticotrophic tumors others		<p>Explain the causes of hyperpituitarism</p> <p>Discuss the gross and microscopic structure of pituitary adenomas, and the hormones secreted from these Explain the clinical manifestations of different types of pituitaryadenomas</p>	1	LGF	MCQ
21	4th yr MBBS	Hypopituitarism		Describe the etiology and clinical manifestations of hypopituitarism	1	LGF	MCQ



22	4th yr MBBS	Physiologic anatomy of the Thyroid gland	<b>ENDOCRINE &amp; REPRODUCTION</b> <b>MODULE Theme-2:</b> <b>Neck swelling and muscle cramps</b>	Explain the gross and microscopic structure of Thyroid.  Explain the synthesis and functions of hormones of the thyroid gland and their regulation by the anterior pituitary	1	LGF	MCQ
23	4th yr MBBS	Hyperthyroidism including Grave's disease		Discuss the etiology, pathogenesis and morphology of Hyperthyroidism and Grave's disease	1	LGF	MCQ
	4th yr MBBS	Hypothyroidism		Discuss the etiology, pathogenesis, morphology and clinical features of Hypothyroidism	1	LGF	MCQ
24	4th yr MBBS	Thyroiditis  Multinodular goitre		Discuss the classification, morphology and presentations of Thyroiditis  Explain the etiology, clinical features, and complications of multinodular goitre	1	LGF	MCQ
25	4th yr MBBS	Thyroid malignancies		Classify thyroid malignant disorders  Explain morphology, clinical features and prognosis of thyroid malignancies	1	LGF	MCQ
26	4th yr	Diabetes	<b>ENDOCRINE &amp;</b>	Classify Diabetes mellitus	1	LGF	MCQ

	MBBS	Mellitus Classification Diagnosis  Insulin resistance Beta cell dysfunction  Complications Acute Chronic	<b>REPRODUCTION MODULE Theme-3: Excessive thirst and urination</b>	Explain the diagnostic criteria of DM Explain the mechanisms of insulin resistance Explain the mechanisms of beta cell dysfunction  Explain the acute and chronic complications of DM			
27	4th yr MBBS	Pancreatic neuroendocri ne tumors		Describe the types and clinical presentations of pancreatic neuroendocrine tumors	1	LGF	MCQ
28	4th yr MBBS	Hypercortisolism and Cushing's syndrome	<b>ENDOCRINE &amp; REPRODUCTION MODULE Theme-4: Moon face</b>	Discuss the etiology of Hypercortisolism  Explain the etiology and clinical features, of Cushing's syndrome	1	LGF	MCQ
29	4th yr MBBS	Hyperaldosteronism  Adrenogenital syndrome		Explain the etiology, and presentation of primary  Hyperaldosteronism Explain the etiology, clinical features, of Adrenogenital syndrome	1	LGF	MCQ
30	4th yr MBBS	Adrenal insufficiency  Primary		Classify adrenal insufficiency in the context  of its etiology Discuss the clinical	1	LGF	MCQ

		(Acute and Chronic) Secondary		presentations and complications of adrenal insufficiency			
31	4th yr MBBS	Adrenal neoplasms		Discuss the types of adrenal neoplasms  Explain the morphology, and clinical features of adrenal neoplasms	1	LGF	MCQ
32	4th yr MBBS	Pheochromocytoma		Explain the morphology, and clinical features of Pheochromocytoma	1	LGF	MCQ
33	4th yr MBBS	Multiple Endocrine Neoplasia syndromes (MEN)		Classify Multiple endocrine neoplasia syndrome  Explain the morphology and clinical features of MEN	1	LGF	MCQ
34	4th yr MBBS	Testicular tumors	<b>ENDOCRINE &amp; REPRODUCTION MODULE Theme-5: Infertility and pregnancy</b>	Classify testicular tumors Explain the gross and microscopic morphology of benign and malignant testicular tumors  Discuss the staging and prognosis of testicular malignant tumors	1	LGF	MCQ
35	4th yr MBBS	Prostatic disorders  Prostatitis  Benign		Explain the etiology and morphology of Prostatitis  Explain the gross and microscopic morphology	1	LGF	MCQ

		prostatic hyperplasia (BPH)		and complications of BPH			
36	4th yr MBBS	Prostatic carcinoma		Explain the clinical features, types and staging of Prostatic carcinoma	1	LGF	MCQ
37	4th yr MBBS	Sexually transmitted diseases (STDs) ☐ Syphilis ☐ Gonorrhoea		Explain the types of STDs  Explain the stages, morphology, clinical features and complications of Syphilis  Name the organisms causing Gonorrhoea and its clinical features	1	LGF	MCQ
38	4th yr MBBS	Introduction to gynecological Cancers  Cervical carcinoma		Enlist different types of gynecological cancers  Explain the gross and microscopic morphology, clinical features and staging of Cervical carcinoma	1	LGF	MCQ
39	4th yr MBBS	Endometritis  Uterine fibroids  Endometriosis		Explain the etiology and pathogenesis of endometritis  Explain the etiology and morphology of uterine fibroids  Explain the etiology, pathogenesis and morphology of endometriosis	1	LGF	MCQ
40	4th yr	Endometrial hyperplasia		Explain the etiology, pathogenesis,	1	LGF	MCQ

	MBBS	and endometrial carcinoma		morphology of Endometrial hyperplasia /carcinoma			
41	4th yr MBBS	Polycystic ovarian disease		Explain the etiology, risk factors, clinical features and morphology of Polycystic ovary syndrome	1	LGF	MCQ
42	4th yr MBBS	Tumors of the ovary  Benign Malignant		Classify benign and malignant tumors of the ovary  Explain the gross and microscopic morphology, clinical features, staging and complications of ovarian carcinoma	1	LGF	MCQ
43	4th yr MBBS	Fibrocystic changes  Cysts and fibrosis  Epithelial hyperplasia  Adenosis  Fibro- adenoma  Papilloma	<b>ENDOCRINE &amp; REPRODUCTION MODULE Theme-6: Breast lump</b>	Explain the fibrocystic changes in breast including cysts, fibrosis, epithelial hyperplasia and adenosis  Explain the morphology of Fibro- adenoma of the Breast  Explain the morphology of papilloma of the breast	1	LGF	MCQ
44	4th yr MBBS	Carcinoma of the breast  Gynecomastia		Explain the risk factors, etiopathogenesis, clinical features, staging, and complications of carcinoma of the breast Discuss	1	LGF	MCQ

				the causes and morphology of Gynecomastia			
45	4th yr MBBS	Glucose estimation	<b>ENDOCRINE &amp; REPRODUCTION MODULE Practical work</b>	Check glucose in urine Check blood glucose in a given samp	1.5	SGF	OSPE
46	4th yr MBBS	Multinodular goitre		Identify the microscopic features of multinodular goitre	1.5	SGF	OSPE

## Learning Resources:

Sr.no	Text Books	Edition
01	Robbins & Cotran, Pathologic Basis of Disease	9th edition
02	Rapid Review Pathology by Edward F. Goljan MD	4th edition
03	Review of Medical Microbiology and Immunology by Warren Levinson	15 <sup>th</sup> edition
	<b>Reference Books</b>	
01	Textbook of Pathology, by Harsh Mohan	7 <sup>th</sup> edition
02	Clinical Microbiology Made Ridiculously Simple by Mark Gladwin	8th edition
03	Essentials Of Medical Microbiology by Apurba Sankar Sastry, Sandhya Bhat	3 <sup>rd</sup> edition
04	Fundamentals of Pathology Pathoma by HUSAIN .A SATTAR	1 <sup>st</sup> edition
05	Muir's Textbook of Pathology by CS Herrington	16 <sup>th</sup> edition
06	Pathology secrets. by: Damjanov, Ivan	3 <sup>rd</sup> edition

## Additional Learning Resources:

Hands on	<p>The following facilities are available for the students in order to have a good hands-on experience.</p> <p>A multi head microscope with camera and screen facility.</p> <p>Microscopes for individual use.</p> <p>Multiple stations for practice of staining techniques.</p> <p>A vast collection of slides related to microbiology, hematology and histopathology.</p> <p>A 36-inch LED screen used to project slides when required by the facilitator.</p> <p>Two Refrigerators for storage of culture media. g. A designated -20 °C freezer for storage of bacterial strains.</p> <p>Autoclave &amp; Hot air oven (for sterilization purposes)</p> <p>Incubator</p> <p>A distillation apparatus for a continued supply of distilled water in the laboratory.</p> <p>Tissue processor</p> <p>Museum Models available in the museum</p>
Skills Lab	Tissue Processing, Staining techniques, Laboratory diagnostic tests, Bacteriological culture techniques
Videos	<p><a href="https://osmosis.org/library/md">https://osmosis.org/library/md</a></p> <p><a href="https://www.lecturio.com/concepts/bacteriology-overview/">https://www.lecturio.com/concepts/bacteriology-overview/</a></p>
Internet	<p><a href="http://site.ebrary.com/lib/hec">http://site.ebrary.com/lib/hec</a></p> <p><a href="http://journals.informs.org/">http://journals.informs.org/</a></p> <p><a href="https://www.wmcmis.com/student/login">https://www.wmcmis.com/student/login</a></p>

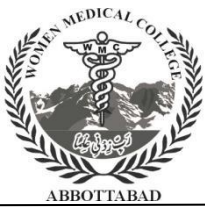
**Assessment Method**

• M

**CQS**

**Multipi**

- **e Choice questions;** Single best Type
- **OSPE/OSCE:** Objective Structured Practical/Clinical Examination
- **Presentation:**



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## Multiple Choice Questions:

1. Single best type MCQs having five options with one correct answer and four distractors are part of assessment.
2. Correct answer carries one mark, and incorrect will be marked zero. Rule of negative marking is not applicable.
3. Students mark their responses on specified computer-based designed sheet.

## Objective Structured Practical/Clinical Examination

1. **OSPE/OSCE** stations are used for formative as well as summative assessment.
2. Time allocated for each station is five minutes as per Examination rules of Khyber Medical University, Peshawar.
3. All students are rotated through the same stations.
4. Stations used are unobserved, observed, interactive and rest stations.
5. On unobserved stations, models, lab reports, radiographs, flowcharts, case scenarios may be used to assess cognitive domain.
6. On observed station, examiners don't interact with candidate and just observe the performance of skills /procedures.
7. On interactive station, examiner ask questions related to the task within the allocated time.
8. On rest station, students are not given any task. They just wait to move to the next station.

## Presentation:

Students are given topics for presentation either individually or in groups. They are encouraged to prepare presentations on power point to enhance their understanding of the topic.

## Internal Assessment Criteria:

1. Internal Assessment of each block according to the policy of Khyber Medical





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University is given below.

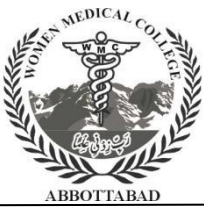
<b>Total Marks</b>	<b>Paper A = 14</b>	<b>Paper D = 14</b>	<b>Paper G = 14</b>
	<b>Paper B = 13</b>	<b>Paper E = 13</b>	<b>Paper H = 13</b>
	<b>Paper C = 13</b>	<b>Paper F = 13</b>	<b>Paper I = 13</b>
<b>Total Marks</b>	<b>Paper J = 13</b>	<b>Paper L = 14</b>	
	<b>Paper K = 13</b>	<b>Paper M = 13</b>	

2. This Internal Assessment will comprise of following components

- a) Attendance
- b) Block Examination Results
- c) Logbooks
- d) Short Cases (in case 5<sup>th</sup> Year MBBS)
- e) Long Cases (in case 5<sup>th</sup> Year MBBS)
- f) Ward Tests (in case 5<sup>th</sup> Year MBBS)

## Examination Rules & Regulations:

1. Exam Cell conducts the End of Module and Block Assessments according to the blueprint provided by the Khyber Medical University, marks of which will be included in internal assessment.
2. The minimum passing marks in each subject shall be 50% in theory and practical. A student who fails in theory or practical examination of a subject shall be considered to



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have failed in the subject.

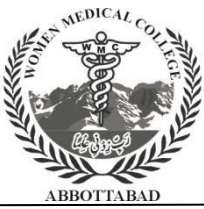
3. No student is eligible for university examination without attending at least 75% of lectures, demonstrations, tutorials, and practical/clinical work in both in-patient and out-patient departments in that academic session.

## Feedback on Examination:

1. Students' feedback on assessment strategies will be taken in a preformed proforma for feedback at the end of the session.
2. Department of Medical Education & Quality Enhancement Cell in collaboration with Exam Cell of WDC is responsible to conduct this exercise.

## Model Questions:

### Multiple Choice Question



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## MCQ

Patients with bloodstream infections with Gram-positive bacteria can develop septic shock. Which inflammatory components are present in the envelopes of Gram-positive bacteria?

Options List:

- a. Lipid A of Lipopolysaccharide.
- b. O-antigen chains of Lipopolysaccharide.
- c. pilli
- d. Peptidoglycan and teichoic acids.
- e. Polysaccharide capsule

## Key:

- d. Peptidoglycan and teichoic acids.

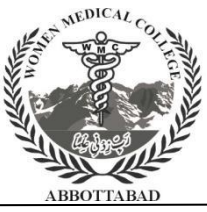
## Suggestions for Next Academic Year:

Provide this study guide to students as their comprehensive academic roadmap and guidance for the upcoming year.

## Prepared By:

Dr Mariam Riaz

Assoc. Prof.



# Women Medical College, Abbottabad

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Dept Of Pathology, WMC, Atd