



STUDY GUIDE

PATHOLOGY DEPARTMENT

NMU- N-73

Batch – 02: (2023-2028)

BLOCK-VII

3rd yr MBBS



Prepared by

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VISION STATEMENT NMU:

“We envision healthy mankind enlightened by most accomplished health professionals.”

MISSION STATEMENT NMU:

“Develop a patient oriented medical university that produces health professionals thriving for ethics, knowledge, skill and research.”

MISSION STATEMENT DEPARTMENT of PATHOLOGY NMU:

“Train health Professionals equipped with passion and proficiency by achieving excellence in health professional education, dedicated academic research and expertise in latest diagnostic techniques”

MISSION STATEMENT 3rd MBBS (PATHOLOGY) NMU:

‘To promote excellence in General Pathology and Microbiology through integrated teaching, research, leadership and professionalism’.



INTRODUCTION TO THE STUDY GUIDE BLOCK VII:

Dear Students, we, at the Department of Medical Education, have developed this study guide, especially for you. It acts as an aid to:

- Inform you how this module has been organized
- Help you organize and manage your studies throughout the module
- Guide you on assessment methods, rules and regulations.
- Communicate information on the organization and management of this module. This will help you to contact the right person in case of any difficulty.
- Define the objectives which are expected to be achieved at the end of the module.
- Identify the learning strategies that will be implemented to achieve the module's objectives.
- Provide a list of learning resources such as books, and articles for you to consult to maximize learning.
- You can also find the contact information for the faculty of each topic so that it is easy to communicate with them.



PATHOLOGY DEPARTMENT

INTRODUCTION:

As the scientific basis for comprehending how medications interact with biological systems, Pathology is a fundamental subject in healthcare education. It is a dynamic discipline that allows aspiring medical professionals to the knowledge and procedures, and monitor drugs by bridging the gap between basic sciences and clinical practice. To diagnose and treat illnesses, manage patient conditions, and avoid negative drug responses, a solid understanding of Pathology is necessary. However, students frequently face major obstacles due to the overwhelming amount of knowledge, the intricacy of Pathology mechanisms, and the quick speed at which new drugs are being developed. The purpose of this study guide is to offer a methodical, easily navigable, and thorough resource for navigating the complexities of Pathology, promoting a deeper comprehension and enhancing learning results.

RATIONALE:

Pathology needs not only memory but also a conceptual grasp of the diseased conditions that medications target, physiological processes, and biochemical pathways. Integrating this enormous quantity of information, relating Pathological symptoms, and remembering information over time are all challenges that students frequently face. Even though they are thorough, traditional textbooks might occasionally be too much to handle and don't provide the targeted study and review strategies required for integrated curricula. A supplemental resource that highlights high-yield concepts, condenses important material, and offers tools to support active learning and knowledge retention is obviously needed. By providing a succinct yet comprehensive summary of key pathological concepts and drug classes in a way that facilitates efficient study and test preparation, this study guide seeks to close this gap.

NEED ASSESSMENT:

The following are the main issues that this Pathology study guide seeks to answer, based on input from educators and students:

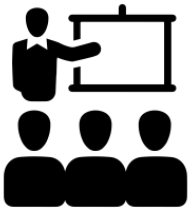
- **Simplifying Complicated mechanism:** Condensing complex Pathological mechanisms, procedures, and interactions into language that is easy to comprehend.
Students can more easily integrate relevant material and develop a cohesive understanding when topics are presented in a logical manner. This is known as structured learning.
- **Emphasis on High-Yield Information:** Assisting students in setting priorities for their study time by highlighting the most clinically important and often tested ideas.
- **Integration with Clinical Practice:** Connecting clinical applications with Pathological concepts to show how Pathological knowledge is used in actual patient care situations.
Supporting the Retention of Knowledge: Including tools to help with memory and recall, such as summaries, charts, diagrams, and possibly practice questions (to be introduced in later sections).
- **Portability and accessibility:** Providing a resource that is simple to use and explore for rapid review and reference.
- **Support for Integrated Curricula:** Pathology should be taught in a manner that enhances integrated systems-based learning strategies, which are popular in contemporary health science curricula.
By addressing these needs, this study guide seeks to empower students to approach pharmacology with confidence, achieve mastery of the subject, and ultimately become competent healthcare professionals capable of making informed decisions regarding drug therapy.



LEARNING STRATEGIES

The learning strategies that we will be using throughout this module, to promote better understanding, are:

- Large-Group Interactive Sessions/ Interactive Lecture
- Small-Group Discussion (SGD)
- Problem-Based Learning
- Case-Based Learning
- Task-Based Learning
- Team-Based Learning
- Role play
- E-lectures



Interactive lecture/ Large Group Interactive Sessions (LGIS):

In a large group, the lecturer introduces a topic and explains it through presentations, questions, pictures, videos, exercises, etc. Students are actively involved in the learning process.



Small-Group Discussion (SGD):

This format helps students to clarify concepts, acquired skills, or attitudes. Sessions are structured with the help of specific exercises such as cases, interviews, or discussion topics. Students exchange opinions and apply knowledge gained from lectures, tutorials, and self-study. The facilitator's role is to ask probing questions, summarize, or rephrase to help clarify concepts.



Role Play:

It is a technique that allows students to explore realistic situations by interacting with other people in a managed way in order to develop experience and trial different strategies in a supported environment.



Directed Self Learning (DSL):

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



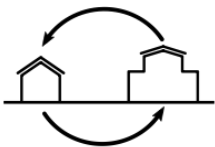
Team-Based Learning (TBL):

It is an active learning and small group instructional strategy that provides students with opportunities to apply conceptual knowledge through a sequence of activities that includes individual work, teamwork, and immediate feedback.(Parmelee, Michaelsen, Cook, & Hudes, 2012)



Task-Based Learning (TskBL):

Task-based learning is an approach in which learning revolves around the completion of meaningful tasks. The tasks to be used in this MHPE session will be real-life tasks that are very relevant.



Flipped classroom:

Flipped learning' or the 'flipped classroom' is a strategy that reverses traditional learning by delivering core content outside of the classroom (often online), and moves activities more traditionally thought of as 'homework', into the classroom. (Arfstrom & Network, 2014)



E-Learning:

It is electronically-mediated teaching and learning that is facilitated via information and Communications technology (ICT), both inside and outside the classroom



INFRASTRUCTURE

Lecture –Johar Hall (MK-PASHA Lecture Theater Complex)
Pathology Department 1-Pathology Practical Lab 2-Museum

INTEGRATED COMMITTEE

DESIGNATION	RANK	NAME	ROLE
MODULE HEAD	PROFESSOR	Prof. Dr Asghar Javaid Head of Pathology Department	Oversee all the activities of the module
MODULE COORDINATOR	Asst. Professor	Dr. Sabeen Fatima	Oversee the module coordination Oversee delivery and assessment as laid out in module descriptor
3RD YEAR TEAM MEMBERS	Demonstrators	Dr. Ali Abuzhar Raza Dr.Hira Sadia Dr.Unaiza Usmani Dr. Blossom Neelam Dr. Shahbaz Anwar Dr. Mehreen Furqan	Paper compilation, paper checking, result finalization, uploading rosters on Edicine, managing practical classes, OSPE paper compilation, checking & OSPE Result compilation.



NMU UNDERGRADUATE CURRICULUM COMMITTEE

DESIGNATION	RANK	NAME	ROLE
HEAD OF MEDICINE/DIRECTOR QEC	PROFESSOR	DR. ZAHRA NAZISH	Chairperson
DEAN OF BASIC SCIENCE	PROFESSOR	DR. ASGHAR JAVAID	Member
PROFESSOR OF RADIOLOGY	PROFESSOR	DR. ABDUL SATTAR ANJUM	Member
PROFESSOR OF SURGERY	PROFESSOR	DR. MUZAFFAR AZIZ	Member
PROFESSOR OF OBST & GYNAE	PROFESSOR	DR. SAIMA ASHRAF	Member
ASSISTANT PROFESSOR PHYSIOLOGY	ASSISTANT PROFESSOR	DR. FAIZA	Member/Secretary

DEPARTMENTAL CURRICULUM COMMITTEE

DESIGNATION	RANK	NAME	ROLE
CHAIRPERSON	PROFESSOR	Prof. Dr. ASGHAR JAVAID	Oversee technical review of curriculum proposals
MEMBERS		Prof. Dr. SYEDA SABAHA HAIDER Dr. M. SAMI ULLAH Dr. SABEEN FATIMA Dr. YASMEEN BATTOOL DR. QURATUL AIN Dr. KIRAN MUMTAZ DR. ALI ABUZAR RAZA	Review and recommend course and program additions, revisions, and deletions and recommend policies related to academic offerings.

SUPPORTING STAFF

DESIGNATION	NAME
IT SUPPORT	Dr. Aneeq/Mr. Arif
ASSOCIATE ENGINEER	-
RUNNER JOHAR HALL	Mr. Wajid
PRACTICAL LAB	Ms Rubina, Mr. Ramzan



CLASS REPRESENTATIVES

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FACULTY

DESIGNATION	NAME	CONTACT
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SWMO	DR. BLOSSOM NEELAM DR. MEHREEN AFZAL	0333-0671314 0331-9750278
WMO	DR. ANAM MALIK DR. AZKA AFZAL	0322-6028500



3rd Year MBBS (Pathology)

BLOCK: 7

**Modules Included: 1. FUNDAMENTAL MODULE (07 weeks)
2. INFECTIOUS MODULE (06 weeks)**

Module: Fundamental (07 WEEKS)

Theory					
General Pathology					
Sr. No.	Teacher Name	Code	Specific Learning Objectives	TOTAL HOURS =	
				DISCIPLINE	TOPIC
1	Dr. QURATULAIN Lecture 12		Cell Injury: TOPICS Introduction, Examples and clinicopathologic correlation Reactive oxygen species, Reversible and irreversible injuries, Adaptation Necrosis Gangrene Apoptosis Intracellular accumulations Pathological calcifications Fatty change Cell Injury: L/O •Describe the general mechanisms of cell injury, including the roles of ATP depletion, mitochondrial damage, reactive oxygen species, calcium influx, and membrane damage. • Explain	Pathology	Cell injury

			the morphologic changes associated with reversible cell injury (e.g., cellular swelling, fatty change) and irreversible cell injury (e.g., necrosis, apoptosis). • Differentiate between the various types of necrosis (e.g., coagulative, liquefactive, caseous, fat) and their characteristic features and causes. • Describe the process of apoptosis and its role in normal physiology and disease. • Explain the cellular adaptations to stress, including atrophy, hypertrophy, hyperplasia, and metaplasia, and how they can be beneficial or detrimental. • Discuss the causes and consequences of cellular aging.		
2	DR ALI ABUZAR RAZA Lecture 10	General Bacteriology: TOPICS Structure of bacterial cells Growth and genetics of bacteria The human microbes Pathogenesis of bacteria Mechanism of action of antibacterial drugs antimicrobial resistance Bacterial vaccines Sterilization and disinfection Laboratory diagnosis General Bacteriology: L/O • Describe the fundamental structural components of bacterial cells, including cell walls (Gram-positive and Gram-negative), capsules, flagella, pili, and endospores, and explain their respective functions. • Explain the mechanisms of bacterial growth, metabolism, and reproduction, including binary fission, nutrient requirements, and the influence of environmental factors. • Summarize the principles of bacterial classification and nomenclature, including the use of phenotypic and genotypic characteristics for identification and	Pathology	General Bacteriology	

			differentiation. • Outline the key processes of bacterial genetics, including transformation, transduction, and conjugation, and their roles in the spread of antibiotic resistance and other genetic traits. • Discuss the various factors contributing to bacterial pathogenicity, such as virulence factors (e.g., toxins, adhesins, enzymes), mechanisms of host-pathogen interaction, and the development of antibiotic resistance. General Virology: TOPICS Basic concepts Viral replication Viral genetics Pathogenesis Antiviral drugs General Virology: L/O • Describe the basic structural components of viruses, including their nucleic acid genomes (DNA or RNA), capsid, and envelope (if present), and explain their respective functions. • Explain the mechanisms of viral replication, including attachment, penetration, uncoating, biosynthesis, assembly, and release, highlighting the variations among different virus types. Summarize the principles of viral classification and nomenclature, including the criteria used to group viruses based on their structure, genome, and replication strategy. • Outline the different types of viral-host cell interactions, including lytic, persistent, latent, and transforming infections, and their potential consequences for the host. • Discuss the various methods used for viral detection, identification, and diagnosis, as well as the		
	DR BLOSSOM NEELAM Lectures=10				General virology
	DR SABEEN FATIMA Lecture 10				Hemodynamics

			principles of antiviral therapy and prevention. Hemodynamics: TOPICS Hemostasis Hyperemia and congestion Edema Thrombosis and embolism Infarction Shock Hemodynamics: L/O •Describe normal fluid exchange and how it's altered in disease. • Explain edema pathogenesis and its various types. • Discuss thrombosis mechanisms, including Virchow's triad. • Describe different emboli types and their consequences. • Explain infarction and its influencing factors. • Discuss the various types of shock and their mechanisms.		
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3	ANATOMY 01 Lecture		General Anatomy of Vascular System	Anatomy	General anatomy
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PHYSIOLOGY

Sr. No.	Teacher Name	Code	Specific Learning Objectives	TOTAL HOURS = 09	
				DISCIPLINE	TOPIC
	TEACHER Lectures= ?		Physiology of receptors, signal transduction pathways, regulation of gene expression by signal transduction pathways	PHYSIOLOGY	Physiology of Signal transduction and 2nd messengers
			functional organization of autonomic nervous system, parasympathetic & sympathetic nervous system, Central control of autonomic function Physiology of neuromuscular junction, synaptic transmission across neuromuscular junction, factors involved in synaptic transmission across neuromuscular junction	PHYSIOLOGY	Physiology of Autonomic nervous system Neuromuscular junction physiology

	DEPARTMENT OF BIOCHEMISTRY		Explain the biochemical basis of drug absorption, metabolism, and excretion (pharmacokinetics) • Correlate enzyme functions with drug metabolism (e.g., cytochrome P450). • Explain the biochemical basis of receptor interactions. (pharmacodynamics).	BIOCHEMISTRY	
	TEACHER Lecture= ?		Clinical Application • Interpret Liver Function Tests (LFTs) and Renal Function Tests (RFTs).		

PRACTICAL LAB WORK (FUNDAMENTAL MODULE)

Sr. No.	Teacher Name	Code	Specific Learning Objectives	TOTAL HOURS = 06	
				DISCIPLINE	TOPIC
5	1.Dr.Shahabaz Anwar 2.Dr.Jawaria 3.Dr. Hafeez ur Rehamn 4. Dr. Imran Hashmi 5. Dr. Hafeez ur Rehamn 6.Dr. Hiraa Sadia		STUDY OF MICROSCOPE - Identify and describe the different parts of a microscope and explain their functions. - Demonstrate the correct method of handling, focusing, and using a microscope to observe specimens. - Apply proper care, maintenance, and safety procedures while using and storing the microscope. NECROSIS - Define necrosis and identify its different types (e.g., coagulative, liquefactive, caseous, fat necrosis). - Recognize and		1.Study of microscope 2.Necrosis 3.Sterilization techniques 4. Infarction, Thrombosis 5.Biosafety equipment 6.Pathological calcification

			differentiate the morphological changes of necrotic cells under the microscope. 3. Explain the causes and pathological significance of necrosis in tissues. 1. Define sterilization and distinguish it from disinfection and sanitation. 2. Demonstrate different methods of sterilization (e.g., heat, filtration, chemical) and explain their uses. 3. Apply proper sterilization techniques and safety precautions while handling laboratory equipment and materials. Infarction 1. Define infarction and explain its pathophysiological basis due to interrupted blood supply. 2. Identify morphological features of infarcted tissues in gross and microscopic specimens. 3. Correlate different types of infarctions (e.g., white and red infarcts) with their causes and affected organs. Thrombosis 1. Define thrombosis and describe the mechanisms involved in		
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			clot formation (Virchow's triad). - Identify and differentiate types of thrombi based on location, composition, and appearance. - Explain the clinical consequences of thrombosis, including ischemia, infarction, and embolism BIOSAFETY - Identify different types of biosafety equipment (e.g., biological safety cabinets, PPE, autoclaves) and explain their functions in laboratory safety. - Demonstrate the correct use of biosafety equipment to minimize exposure to biological hazards during laboratory procedures. - Apply standard biosafety guidelines and protocols for safe handling, disposal, and containment of infectious materials. PATHOLOGICAL CALCIFICATION - Define pathological calcification and distinguish between dystrophic and metastatic calcification. - Identify and describe the morphological features of calcified tissues in gross and microscopic specimens. - Explain the causes, mechanisms, and clinical significance of pathological		
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			calcification in different organ		
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Block-7

INFECTIOUS DISEASES (6 WEEKS)

(Theory)

Sr. No.	Teacher Name	Code	Specific Learning Objectives	TOTAL HOURS = 39	
				DISCIPLINE	TOPIC
6	Dr. Mehreen afzal Lecture= 14		Special Bacteriology, = TOPICS	MICROBIOLOGY	Special Bacteriology
			Staphylococci		
			Streptococci		
			Gram negative Cocci		
			Gram positive Bacilli (Bacillus, Corynebacterium, Listeria)		
			Gram negative bacilli (Haemophilus, Escherichia coli, Salmonella, Shigella, Vibrio, Bordetella, Legionella, Klebsiella, Enterobacter, Campylobacter, Helicobacter, Clostridium, Pseudomonas Aeruginosa).		
			Spirochetes		
			Mycoplasma Mycobacterium tuberculosis Atypical mycobacteria		
	Dr. Ali Abuzar Raza Lecture = 06		Special Bacteriology: L/O Identify the key characteristics, virulence factors, and clinical manifestations of important bacterial pathogens, including Gram-positive cocci (e.g., Staphylococcus, Streptococcus), Gram-positive rods (e.g., Bacillus, Clostridium), Gram-negative cocci (e.g., Neisseria), Gram-negative rods (e.g., Escherichia,		

			Salmonella, Shigella, Pseudomonas), and other bacterial groups (e.g., Mycobacterium, Chlamydia, Treponema, Borrelia). • Correlate the mechanisms of pathogenesis with the clinical features of infections caused by specific bacterial species. • Describe the laboratory methods used for the identification and diagnosis of bacterial infections, including culture techniques, biochemical tests, and serological assays. • Outline the principles of antimicrobial therapy and the mechanisms of antibiotic resistance in clinically relevant bacteria. • Explain the epidemiology, transmission, and prevention strategies for bacterial diseases.		
	Dr. MEHREEN AFZAL (RNA Viruses) Lecture= 10 Dr. ALI ABUZAR (DNA Viruses) LECTURE =06		Special Virology = TOPIC Herpes virus, Varicella Zoster virus Cytomegalovirus, Ebstein Barr virus Papovaviridae, Adenoviridae, Pavoviridae Orthomyxoviruses: Influenza viruses Paramyxoviruses: Measles virus, Mumps virus, Respiratory syncytial virus (RSV), Parainfluenza viruses Coronaviruses Togaviruses: Rubella virus.	MICROBIOLOGY	Special virology

			Rhabdoviruses: Rabies virus Enteroviruses: i) Poliovirus. ii) Coxsackie viruses. iii) Echoviruses Rhinoviruses. Caliciviruses: Noroviruses. Reoviruses: Rotavirus Hepatitis viruses (A,B,C,D,E) RNA non-enveloped viruses Dengue virus HIV Special Virology: L/O - Identify the key characteristics, replication strategies, and clinical manifestations of important viral pathogens, including DNA viruses (e.g., herpesviruses, adenoviruses, papillomaviruses), RNA viruses (e.g., picornaviruses, influenza viruses, retroviruses, coronaviruses), and other viral groups. - Correlate the mechanisms of viral pathogenesis with the clinical features of viral infections. - Describe the laboratory methods used for the detection, identification, and diagnosis of viral infections, including serological assays, nucleic acid amplification tests, and viral culture. - Outline the principles of antiviral therapy and the mechanisms of antiviral resistance. - Explain epidemiology, transmission & prevention strategies for viral diseases including the use of vaccines.		
7	Dr. KAZIM ABBAS Lecture= 08		Mycology= TOPICS Structure and growth of fungi. Pathogenesis & classification Fungal toxins & allergens. Lab diagnosis Antifungal therapy Cutaneous Mycosis Subcutaneous Mycosis Systemic Mycosis Opportunistic Mycosis Mycology: L/O Identify the key	MICROBIOLOGY	Mycology

			characteristics, morphology, and growth requirements of medically important fungi, including yeasts (e.g., Candida, Cryptococcus), molds (e.g., Aspergillus, Mucor), and dimorphic fungi (e.g., Histoplasma, Blastomyces). • Correlate the mechanisms of fungal pathogenesis with the clinical features of fungal infections, including superficial, cutaneous, subcutaneous, and systemic mycoses. • Describe the laboratory methods used for the identification and diagnosis of fungal infections, including microscopy, culture techniques, and serological tests. • Outline the principles of antifungal therapy and the mechanisms of antifungal resistance. • Explain the epidemiology, transmission, and predisposing factors for fungal diseases.		
	TEACHER? Lecture= 01		Liver & Kidney Architecture	ANATOMY	General Anatomy
	TEACHER Lecture=		Explain biochemical mechanisms of bacterial resistance to antibiotics. • Correlate viral replication with antiviral drug targets (e.g., reverse transcriptase inhibitors in HIV). Essential Clinical Application • Role of vector in viral replication	BIOCHEMISTRY	
	PRACTICALS (INFECTIOUS MODULE)	1. Dr.Iqra Saleem 2. Dr.Uzma Nadeem 3. Dr.Usman Malik 4. Dr. Khadija Akram 5. Dr.Unaza Usmani 6. Dr.Safoora Shahzadi	1.Culture media, 2.ZN staining, 3.Gram staining 4.Biochemical reactions I & II	MICROBIOLOGY	PRACTICALS (INFECTIOUS MODULE)



3RD YEAR INTEGRATED MODULAR CURRICULUM

TABLE OF SPECIFICATION (TOS) Professional Examination

GENERAL PATHOLOGY & MICROBIOLOGY

COURSE CONTENT	No of OSPE Stations	No. Of MCQS	No. Of SAQs
BLOCK VII			
FUNDAMENTAL MODULE			
Cell Injury	01	03	-
Gen Bacteriology	01	02	01
Gen Virology	01	02	-
Hemodynamic	01	02	01
INFECTIOUS DISEASE MODULE			
Special Bacteriology	02	04	01
Special Virology	01	03	01
Mycology	01	02	-
BLOCK VIII			
CARDIOVASCULAR, BLOOD & INFLAMMATION MODULE			
Inflammation, Healing & repair	02	04	01
Blood Vessels & Heart	02	02+02	01
ENDOCRINOLOGY + PARASITOLOGY MODULE			
Parasitology	02	04	01
Endocrinology	02	06	01
BLOCK IX			
CNS & GIT MODULE			
CNS	02	03	
Oral Cavity, GIT	02	06	02
NEOPLASIA, IMMUNOLOGY MODULE			
Neoplasia	02	05	01

Immunology	02	04	01
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3RD YEAR INTEGRATED MODULAR CURRICULUM

TABLE OF SPECIFICATION (TOS) Module Examination

GENERAL PATHOLOGY & MICROBIOLOGY

COURSE CONTENT	No of OSPE Stations	No. Of MCQS	No. Of SAQs
BLOCK VII			
FUNDAMENTAL MODULE			
Cell Injury	01	04	01
Gen Bacteriology	01	04	01
Gen Virology	01	03	00
Hemodynamic	01	04	01
INFECTIOUS DISEASE MODULE			
Special Bacteriology	02	05	02
Special Virology	01	05	01
Mycology	01	05	01
BLOCK VIII			
CARDIOVASCULAR, BLOOD & INFLAMMATION MODULE			
Inflammation, Healing & repair	02	08	02
Blood Vessels & Heart	02	07	01
ENDOCRINOLOGY + PARASITOLOGY MODULE			
Parasitology	02	07	02
Endocrinology	02	08	02
BLOCK IX			
CNS & GIT MODULE			
CNS	02	05	01
Oral Cavity, GIT	02	10	02
NEOPLASIA, IMMUNOLOGY MODULE			
Neoplasia	02	09	02
Immunology	02	06	02



PATHOLOGY:

- Vinary Kumar, Abul K. Abbas and Nelson Fausto Robbins and Cotran, Pathologic basis of disease. WB Saunders.
- Robbins and Cotran Pathological Basis of Disease. Kumar, V., Abbas, A. and Aster, J. Latest Edition
- Richard Mitchall, Vinary Kumar, Abul K. Abbas and Nelson Fausto Robbins and Cotran, Pocket Companion to Pathologic basis of diseases, Saunder Harcourt.
- Walter and Israel. General Pathology. Churchill Livingstone.
- Robbins & Kumar, Medical Microbiology and Immunology Levinson.



TEACHING HOURS 3rd YEAR MODULAR

250 CREDIT HOURS AS PER PMDC

- Lecture structure: 6 hrs/week (1 hr × 6 days)
- Practical total: 27 hrs
- Teaching hours in 1st & 2nd year: 13 hrs (04 x 09 hours)
- Total duration: 35 weeks

Step 1: Lecture breakdown

Module	Weeks	Lecture hrs/week	Total Lecture Hours
1 FUNDAMENTAL	7	6	42
2 INFECTIOUS	6	6	36
3 CVS, BLOOD & INFLAMMATION	5	6	30
4 ENDOCRINOLOGY & PARASITOLOGY	6	6	36
5 CNS & GIT	7	6	42
6 IMMUNOLOGY, SKIN 7 NEOPLASIA	4	6	24
Total	35		210 hrs

Step 2: Practical breakdown

We distribute 29 hours according to weeks per module:

Module	Weeks	Practical Hours
1	7	6
2	6	5
3	5	4
4	6	5
5	7	3
6	4	4
Total	35	27 hrs

Step 3: Teaching Hours of Pathology in 1st & 2nd year

Class	Duration
1st year MBBS	04 hrs
2nd year MBBS	09hrs
Total	13hrs

Step 4: Final combined teaching table

Module	Weeks	Lectures (hrs)	Practicals (hrs)	Total Hours
1	07	42	06	48
2	06	36	05	41
3	05	30	04	34
4	06	36	05	41
5	07	42	03	45
6	04	24	04	28
Total	35	210	27	237

Grand Total: 238+13= 250 Hours

Step 5: Clean interpretation

- Teaching is uniformly structured at **6 lecture hours per week across all modules**
- Practical exposure is distributed **proportionally to module duration**
- **13 Hours** of Pathology taught to 1st & 2nd year MBBS have been added in the grand total
- Total academic load = **250 hours over 35 weeks**



NISHTAR MEDICAL UNIVERSITY, MULTAN

Student Feedback Proforma for Lecture Evaluation (3rd year MBBS)

Department: _____ Subject: _____

Name of Teacher: _____ Date: _____

Topic of Lecture: _____

Instructions:

Please tick (✓) the option that best reflects your opinion.

Evaluation Scale

☐ Strongly Disagree ☐ Disagree ☐ Neutral ☐ Agree ☐ Strongly Agree

Lecture Evaluation

Sr. No.	Statement	SD	D	N	A	SA
1	The objectives of the lecture were clearly stated.	☐	☐	☐	☐	☐
2	The teacher demonstrated good knowledge of the subject.	☐	☐	☐	☐	☐
3	The content was well-organized and easy to follow.	☐	☐	☐	☐	☐
4	The teacher explained concepts clearly.	☐	☐	☐	☐	☐
5	The lecture was engaging and interactive.	☐	☐	☐	☐	☐
6	Teaching aids (slides, board, etc.) were used effectively.	☐	☐	☐	☐	☐
7	The pace of the lecture was appropriate.	☐	☐	☐	☐	☐
8	The teacher encouraged questions and participation.	☐	☐	☐	☐	☐
9	The lecture improved my understanding of the topic.	☐	☐	☐	☐	☐
10	Overall, the lecture was effective.	☐	☐	☐	☐	☐

Suggestions / Comments for Improvement:
