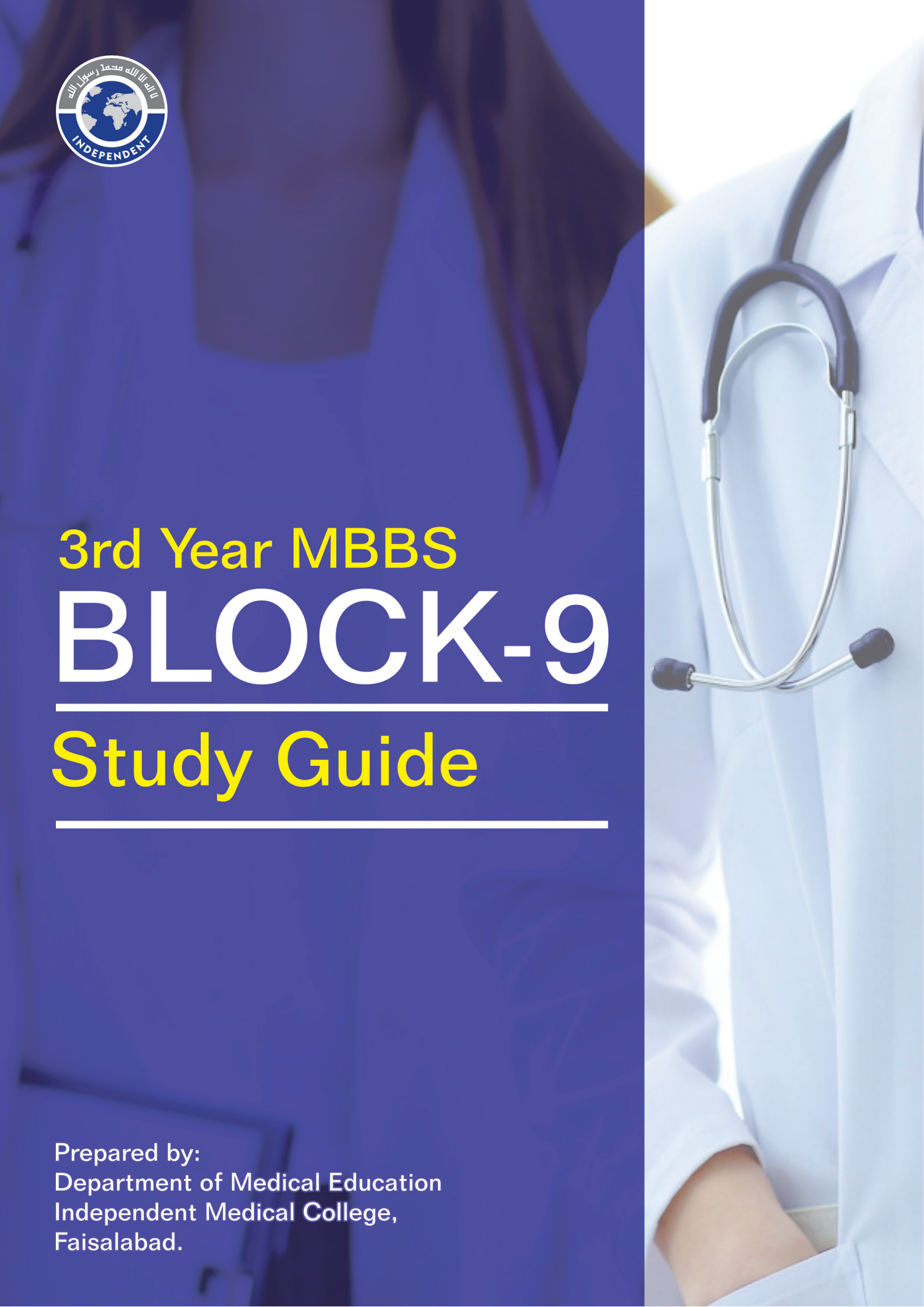


3rd Year MBBS

BLOCK-9

Study Guide

Prepared by:
Department of Medical Education
Independent Medical College,
Faisalabad.

BLOCK 9
3rd Year MBBS

Table of Content

Curricular Framework

The modular integrated curriculum aligns the MBBS program outcomes with the nationally defined competencies of seven-star doctors. The program outcomes are at par with the outcomes that the national regulatory authorities have processed till date for the MBBS graduates. Curriculum outcomes translate the seven-star competencies to the objectives specific learning outcomes for the sessions. The outcomes are fragmented to objectives representing the three domains of learning and then graduated in spirals and horizontally integrated so as to acquire a professional approach, develop a broad-based practical knowledge, to nurture the learner's epistemic curiosity and to promote higher order thinking.

The horizontal integration is evident in the modular configuration where different basic disciplines approach the themes simultaneously. Module has been structured where all the basic disciplines are represented based on their respective weightage of content. Assessment framework ensures that the applied/clinical aspect also is inculcated in the concept development of the learner keeping the clinical relevance and context at the core.

Clinical Skills follow a spiral which is entirely skills dominant. This spiral is the core of psychomotor training. The clinical orientation along with the applied/clinical component of the knowledge base will channelize the learner for the practical and professional aspect of learning.

All module objectives are preceded by the recommended themes and clinical relevance. These are grounded in the rationale of the module so that pattern of learning could be steered for a practical professional approach. However institutional discretion does not prohibit adopting any other thematic approach provided that the program outcomes are adequately achieved.

BLOCK VII	BLOCK VIII	BLOCK IX
FOUNDATION-2 & EBM	NEOPLASIA	CARDIOVASCULAR - 2
GENERAL & CLINICAL PHARMACOLOGY	INFECTIOUS DISEASES	RESPIRATORY – 2
HEMATOPOIETIC & IMMUNITY & TRANSPLANT	MUSCULOSKELETAL & LOCOMOTION – 2	COMMUNITY MEDICINE & FAMILY HEALTH – 1
FORENSIC MEDICINE & TOXICOLOGY – 3	FORENSIC MEDICINE & TOXICOLOGY – 3	FORENSIC MEDICINE & TOXICOLOGY – 3
PERLS-3	EXPOSITORY - 3	
C-FRC 3 (CLINICAL – FOUNDATION, ROTATION CLERKSHIPS.		

INTRODUCTION TO STUDY GUIDE

WHAT IS A STUDY GUIDE?

It is an aid to: Inform students how student learning program of the subject has been Organized
Help students organize and manage their studies throughout the module/block
Guide students on assessment methods, rules and regulations

THE STUDY GUIDE:

- Communicates information on organization and management of the module.
- This will help the student to contact the right person in case of any difficulty.
- Defines the objectives which are expected to be achieved at the end of the program.
- Identifies the learning strategies such as lectures, small group teachings, clinical skills,
- Demonstration, tutorial and case based learning that will be implemented to achieve the Learning objectives.
- Provides a list of learning resources such as books, computer assisted learning program, web-links, and journals, for students to consult in order to maximize their learning.
- Highlights information on the contribution of continuous and semester examinations on the Student's overall performance.
- Includes information on the assessment methods that will be held to determine every student's
- Achievement of objectives.
- Focuses on information pertaining to examination policy, rules and regulations

TIMELINE FOR BLOCK 9

BLOCK 9

Block 9			
1	28-09-26 to 03-10-26	Module 20: Cardiovascular System	Module 20 test: 10-10-26
2	05-10-26 to 10-10-26		
3	12-10-26 to 17-10-26	Module 21: Respiratory System	Module 21 test: 31-10-26
4	19-10-26 to 24-10-26		
5	26-10-26 to 31-10-26		
6	02-11-26 to 07-11-26	Module 22: Community Medicine & Family Helath - I	Module 22 test: 28-11-26
7	06-11-26 to 14-11-26		
8	16-11-26 to 21-11-26		
9	23-11-26 to 28-11-26		
10	30-11-26 to 05-12-26	Module 23: Forensic Medicine & Toxicology - III	Module test 23: 12-12-26
11	07-12-26 to 12-12-26		
12	14-12-26 to 19-12-26	Block 9 exam	
Parent Teacher Meeting		26-12-26	

Clinical rotation:

	SURGERY AND ALLIED		MEDICINE AND ALLIED	
	Surgical 1	Surgical 2	Medical 1	Medical 2
28-09-26 to 03-10-26	A	B	C	D
05-10-26 to 10-10-26	A	B	C	D
12-10-26 to 17-10-26	B	A	D	C
19-10-26 to 24-10-26	B	A	D	C
26-10-26 to 31-10-26	C	D	A	B
02-11-26 to 07-11-26	C	D	A	B
06-11-26 to 14-11-26	D	C	B	A
16-11-26 to 21-11-26	D	C	B	A

ASSESSMENT

BLOCK EXAM

MBBS 3rd Professional						
Block-9						
Subject	Written Exam		Oral/Practical/Clinical Exam			
	MCQ (1 mark)	Marks	OSPE /OSCE (8 marks Each observed)	OSCE (10 marks each observed)	OSVE (14 marks each observed)	Marks
Pharmacology	19	19	02	-	01	30
Pathology	22	22	02	-	-	16
Family Medicine	05	05	-	-	-	-
Community Medicine	42	42	03	-	01	38
Surgery	15	15	-	-	-	-
Medicine	15	15	01	-	-	08
Forensic	20	20	02	-	01	30
Behavioral	02	02	-	-	-	-
Patient Safety	-	-	-	-	-	-
CFRC	-	-	01	-	-	08
PERLs + ExposlTory	-	-	-	01	-	10
Total	140	140	11 stations x 08 = 88	01 stations x 10 = 10	03 stations x 14=42	140

Internal Assessment (Theory)			
No.	Scoring Parameter	Marks out of 20%	Marks distribution
1	Attendance in Lectures	85-90%=1%, > 90%=2%	85-90%= 01 mark > 90%=02 marks
		Remedial classes – re-sit examination allowed only after case endorsed and submitted by the college Principal and approval given by the Competent Authority. However, no marks given	
		Remedial classes – re-sit exam allowed only in genuine cases after approval from Competent Authority. However, no marks given	
2	Block Examination	15%	27
3	Continuous Internal Assessment/ Class Quiz/Class participation/ Professional Behaviour/ Ethical practices/ Leadership traits/ Module Exam Discipline/ Punctuality	3%	06

Internal Assessment (Theory)			
No.	Scoring Parameter	Marks out of 20%	Marks distribution
1	Attendance in Lectures	85-90%=1%, > 90%=2%	85-90%= 01 mark > 90%=02 marks
		Remedial classes – re-sit examination allowed only after case endorsed and submitted by the college Principal and approval given by the Competent Authority. However, no marks given	
		Remedial classes – re-sit exam allowed only in genuine cases after approval from Competent Authority. However, no marks given	
2	Block Examination (OSPE/OSCE/OSVE)	13%	23
3	CFRC Log Book / PERLs Portfolio	02%	06
4	Ward / Clinical / Bedside assessment based on the clinical rotation / DOPS	02%	04

EDUCATIONAL RESOURCES

Anatomy

- Snell's Clinical Anatomy 10th ed.
- Langman's Medical Embryology 12th ed
- Medical Histology by Laiq Hussain Siddiqui 8th edition.
- General Anatomy by Laiq Hussain Siddiqui 6th edition.

Biochemistry

- Harpers illustrated Biochemistry (latest edition). Rodwell.V.W MCGrawHill publishers.
- Lippincott illustrated Review (latest edition). Kluwer.W.
- Essentials of Medical Biochemistry vol 1&2 by Mushtaq Ahmed.

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.

General Medicine

- Principles and Practice of Medicine by Davidson (latest edition)
- Clinical Medicine by Parveen J Kumar & Michaell Clark
- Oxford Handbook of Medicine
- Macleod's Clinical Examination book
- Medicine and Toxicology by C.K. Parikh
- Hutchison's Clinical Methods by Michael Swash. 21st edition

Pharmacology And Therapeutics

- Katzung and Trevor's Pharmacology: Examination and Board Review- 15th Edition
- Basic and Clinical Pharmacology by Bertram G Katzung (case scenarios only) - 16th Edition-
- Current Medical Diagnosis and Treatment- reference book –Edition-2024
- Basic and Clinical Pharmacology by Bertram G Katzung (case scenarios only) - 15th Edition
- Basic and Clinical Pharmacology by Katzung, McGraw-Hill. 16th Edition. 305
- Pharmacology by Champe and Harvey, Lippincott Williams & Wilkins 8th Edition.
- Katzung Basic and Clinical pharmacology, Lippincot Illustated reviews.
- Clinical Pathology Interpretations by A. H. Nagi

Behavioural Sciences

- Handbook of Behavioural Sciences by Prof. Mowadat H.Rana, 3rd Edition
- Medical and Psychosocial aspects of chronic illness and disability 6th edition by Donna R.Falvo and Beverely E.Holland,
- Integrating behavioral sciences in healthcare, Asma Humayun,2003, 1st edition

Community Medicine

- Parks Textbook of Preventive and Social Medicine. K. Park
- Public Health and Community Medicine by Ilyas Ansari
- MSDS manual of Government of Punjab
- Text book of Community Medicine by Park J E. Latest Edition

Surgery
- Bailey & Love's Short Practice of Surgery (latest edition)
- Browse's Introduction to the Symptoms & Signs of Surgical Disease 4th Edition
- Bailey & Love Short Practice of Surgery, Clinical Surgery pearls by Dayananda Babu
- RACS for Surgical Audits.

Patient Safety
- Patient Safety Curriculum Guide: Multi Professional Guide

Microbiology
- Levinson's review of Microbiology
- Medical Microbiology and Immunology by Levinson and Jawetz,

Pediatrics Medicine
- Nelson Textbook of Pediatrics
- Basis of Pediatrics by Pervez Akbar Khan

Gynecology
- Gynecology by Ten Teachers

Infection Control
- National Guidelines Infection Prevention and control, National Institute of Health Pakistan

Biosafety
- Biosafety in Microbiological and Biomedical Laboratories, 6th Edition (CDC, USA)
- WHO Laboratory Biosafety Manual, Fourth Edition, And Associated Monographs
- WHO safe management of wastes from healthcare facilities chapter 7 -8 page 77-99,105-125)

Family Medicine
- Oxford Handbook of General Practice, 5th Edition

Orthopedics
- Apley and Solomon's System of Orthopaedics and Trauma by Ashley Blom (Editor)

Rheumatology
- Davidson's Principles and Practice of Medicine
- Clinical Medicine by Parveen J Kumar & Michaell, Clark
- Hutchison's Clinical Methods by Michael Swash

Radiology
- Aids to Radiological Differential Diagnosis by Chapman S. and Nakielny R. 4th edition. Elsevier Science Limited; 2003.

Forensic Medicine
- Knight's Forensic Pathology by Barnard Knight 3rd edition
- G. Principles and Practice of Forensic Medicine by Prof. NasibR. Awan,2nd edition
- Forensic DNA Typing – 2nd Edition, Author: John M. Butler
- Parikh's Text book of Medical Jurisprudence, Forensic Medicine and Toxicology by C.K. Parikh 6th Ed., CBS Publisher.
- Gun Shot Wounds 2nd edition by V.J.Deimaio
- Knight B. Simpson's Forensic Medicine.
- Knight and Pekka. Principles of Forensic Medicine

Forensic Pathology
- Forensic pathology 2nd edition by V.J.Deimaio CRC press Boca Raton London New York Washington DC

Toxicology
- Principles of clinical toxicology 3rd edition Thomas. Gossel CRC press Taylor and Francis group

Forensic Sciences

- Fundamentals of Forensic Science- 3rd Edition: Author: Max M Houck, Jay A. Siegel
- Text Book of forensic medicine and toxicology Principles and Practice 5th edition by Krishan Vig

Biomedical ethics

- Principles of Biomedical ethics, 8th edition by Tom. L. Beauchamp, James F. Childress.

Evidence Based Medicine

- Databases for the latest articles/manuscripts
- Clinical Practice Guidelines- local and international - (within last 3 years)
- Books (Latest edition-within last 5 years)

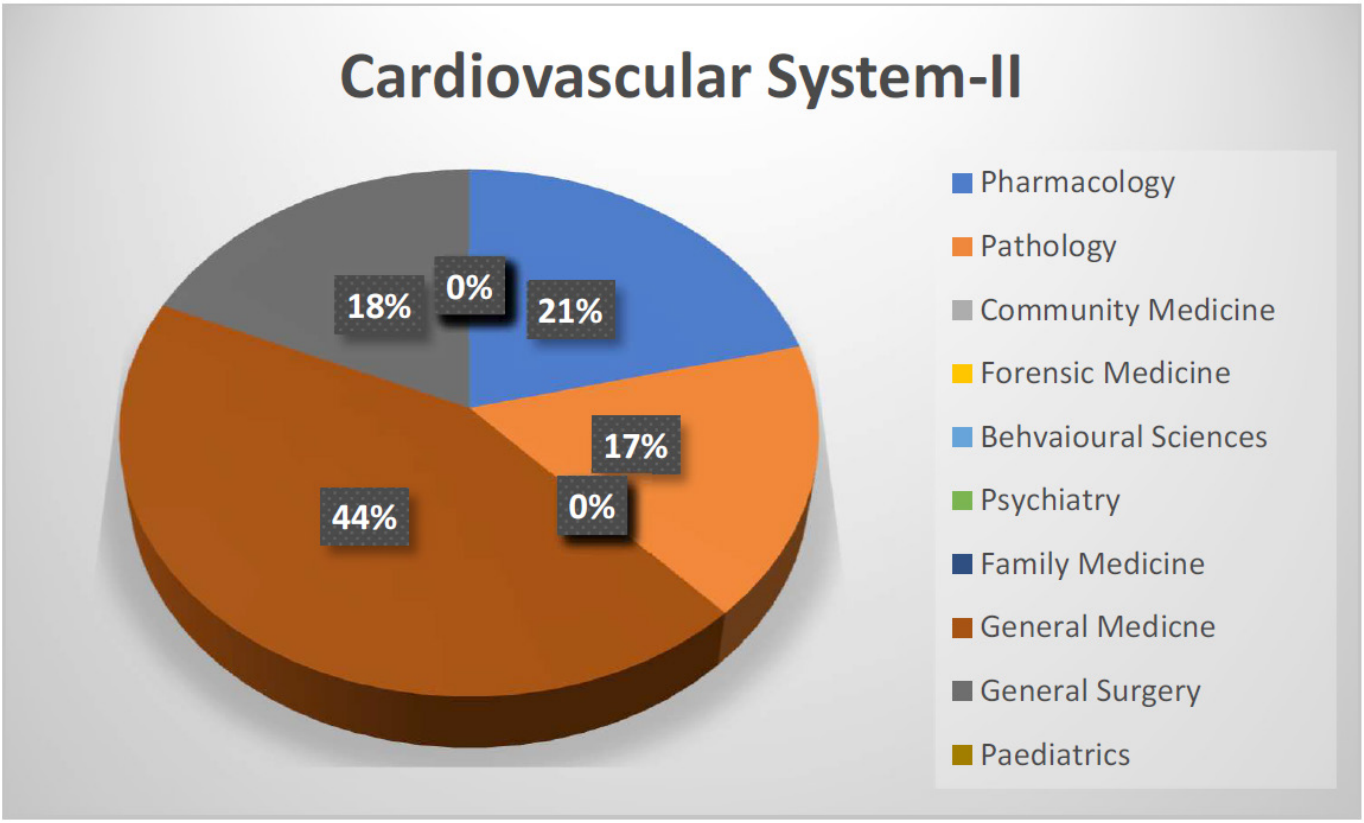
Pediatrics

- Nelson's Book of Pediatric 22 edition Illustrated book of Pediatrics, Pervaiz Akbar textbook peads medicine

Islamiyat

- Standard Islamiyat (compulsory) for B.A, BSc, MA, MSc, MBBS by Prof M Sharif Islahi.
- Ilmi Islamiyat(compulsory) for BA, BSc & equivalent.

MODULE - 20
CARDIOVASCULAR SYSTEM -II



Module weeks	Recommended Minimum Hours
02	71

End of module assessment
Written paper
25 MCQ, s 5 SEQ, s

	Subject	MCQ, s	SEQ	
1	Medicine	10	2	
2	Pharmacology	6	1	
3	Pathology	5	1	
4	Surgery	4	1	

Module Committee

Co Ordinator		
Co-coordinator		
Member	Pathology	
Member	Pharmacology	
Member	General Medicine	
Member	Cardiology	
Member	General Surgery / Vascular Surgery	

MODULE 20: CARDIOVASCULAR SYSTEM - II

The Cardiovascular System (CVS 2) Module is designed to provide a understanding of cardiovascular diseases (CVDs), which are a leading cause of global morbidity and mortality. This module is critical at this stage of medical education as it integrates foundational knowledge from basic sciences—such as anatomy, physiology, and pathology—with clinical application in general medicine, surgery, cardiology, pharmacology, and vascular surgery. The module emphasizes the pathophysiology, clinical manifestations, diagnostic approaches, and management strategies for common and critical cardiovascular conditions, including coronary artery disease, valvular heart disease, aneurysms, cardiomyopathies, congenital heart diseases, and vascular disorders.

Module outcomes

- Explain the underlying pathophysiological mechanisms of cardiovascular diseases and correlate them with clinical signs and symptoms.
- Apply concepts from general medicine, surgery, cardiology, pharmacology, pathology, and vascular surgery to understand and manage cardiovascular diseases.
- Recognize and diagnose common and critical cardiovascular disorders using clinical features, physical examination, and diagnostic tools such as ECG, echocardiography, and laboratory investigations.
- Develop comprehensive, evidence-based management strategies, including medical, pharmacological, and surgical interventions, for treating cardiovascular diseases.
- Competently interpret diagnostic studies (e.g., ECG, echocardiography, and imaging) and use them to guide patient care decisions.
- Understand the role of various pharmacological agents in the prevention, treatment, and management of cardiovascular conditions and complications.

Subjects integrated in module

1. Pathology
2. Pharmacology
3. General Medicine
4. Cardiology
5. General Surgery / Vascular Surgery

WEEK 1: Time Table Third year MBBS block 9, Module20, Dated: 06-10-25 to 11-10-25							
	Lecture 08:00 to 08:45	**Lecture 08:45 to 09:30**	**Ward 09:30 to 11:00**	**Practical/tutorial 11:00 to 12:15**	**Lecture 12:15 to 01:00**	**BREAK**	**Tutorial 01:15 to 02:00**
Mon 06-10	Introduction	Pharmacology CV-2-PH-001	Clinical rotation	A-pathology practical (Micro Re2-Pa016) B-pharmacology practical (CV2-PH006) C-forensic practical (FOR3-L-021/22/23) D-CFRC skills LAB	Pathology CV-2-PA-001		PERL
Tue 07-10	Pathology CV-2-PA-002	Pharmacology CV-2-PH-001	Clinical rotation	B-pathology practical (Micro Re2-Pa016) C-pharmacology practical (CV2-PH006) D-Forensic Practical (FOR3-L-021/22/23) A-CFRC skills LAB	Community medicine N-CM-001		Medicine CV-2-M-001-002
Wed 08-10	Forensic Medicine FOR-3-L-001 /2/3	Pharmacology CV-2-PH-002	Clinical rotation	C-pathology practical (Micro Re2-Pa016) D-pharmacology practical (CV2-PH006) A-Forensic Practical (FOR3-L-021/22/23) B-CFRC skills LAB	Pathology CV-2-PA-003		Behavioral Science
Thur 09-10	Pathology CV-2-M-005	Pharmacology CV-2-PH-002	Clinical rotation	D-pathology practical (Micro Re2-Pa016) A-pharmacology practical (CV2-PH006) B-Forensic Practical (FOR3-L-021/22/23) C-CFRC skills LAB	Forensic Medicine FOR-3-L-004		
Fri 10-10	Surgery CV-2-S-001	Medicine CV-2-M-003-004	Clinical rotation	A & B pathology tutorial C & D pharmacology tutorial			
Sat 11-10	Medicine CV-2-M-005	Forensic Medicine FOR-3-L-005	Clinical rotation	C & D pathology tutorial A & B pharmacology tutorial	Pathology CV-2-M-006		

WEEK 2: Time Table Third year MBBS block 9, Module 20, Dated: 13-10-25 to 18-10-25							
	Lecture 08:00 to 08:45	**Lecture 08:45 to 09:30**	**Ward 09:30 to 11:00**	**Practical/tutorial 11:00 to 12:15**	**Lecture 12:15 to 01:00**	BREAK	**Tutorial 01:15 to 02:00**
Mon 13-10	Medicine CV-2-M-006	Pharmacology CV-2-PH-003	Clinical rotation	A-pathology practical (Micro Re2-Pa017) B-pharmacology practical (CV2-PH006) C-forensic practical (FOR3-TOX-22) D-CFRC skills LAB	Pathology CV-2-M-007		PERL
Tue 14-10	Pathology CV-2-M-008	Pharmacology CV-2-PH-004	Clinical rotation	B-pathology practical (Micro Re2-Pa017) C-pharmacology practical (CV2-PH006) D-rorensic Practical (FOR3-TOX-22) A-CFRC skills LAB	Community medicine		Medicine CV-2-PH-007
Wed 15-10	Forensic Medicine FOR-3-L-006	Pharmacology CV-2-PH-004	Clinical rotation	C-pathology practical (Micro Re2-Pa017) D-pharmacology practical (CV2-PH006) A-Forensic Practical (FOR3-TOX-22) B-CFRC skills LAB	Pathology CV-2-M-009		Behavioral Scieicnes
Thur 16-10	Pathology CV-2-M-009	Pharmacology CV-2-PH-005	Clinical rotation	D-pathology practical (Micro Re2-Pa017) A-pharmacology practical (CV2-PH006) B-Forensic Practical (FOR3-TOX-22) C-CFRC skills LAB	Forensic Medicine FOR-3-L-007/8/9		
Fri 17-10	Medicine CV-2-PH-008	Pediatrics CV-2-PH-009	Clinical rotation	A & B pathology tutorial C & D pharmacology tutorial			
Sat 18-10	Surgery CV-2-S-001	Forensic Medicine FOR-3-L-010	Clinical rotation	C & D pathology tutorial A & B pharmacology tutorial	Test Module - 20		

Module 20: Cardiovascular System - II

PATHOLOGY 12 hours		
CV2-Pa-001	Aneurysms	Define aneurysm and differentiate between true and false aneurysms.
		Classify aneurysms based on their morphology (saccular, fusiform) and etiology (atherosclerotic, mycotic, and congenital).
		Understand the underlying mechanisms leading to aneurysm formation, including vessel wall weakening, genetic factors (e.g., Marfan syndrome, Ehlers-Danlos syndrome), and role of atherosclerosis.
		Identify the common sites where aneurysms form (e.g., aortic aneurysms, cerebral aneurysms, popliteal aneurysms) and explain why certain areas are more prone to aneurysm development.
		Discuss the clinical signs and symptoms of aneurysms depending on their location (e.g., abdominal aortic aneurysm, thoracic aortic aneurysm) and size.
		Correlate the presentation with possible complications like rupture, dissection, or compression of adjacent structures.
		List the common diagnostic modalities used in identifying aneurysms (e.g., ultrasound, CT angiography, MRI).
		Describe the complications of aneurysm
		Discuss the management of aneurysm
CV2-Pa-002	Vascular tumors	Define vascular tumors
		Classify vascular tumors
		Understand the underlying mechanisms involved in the development of vascular tumors, including genetic mutations, environmental factors (e.g., radiation, exposure to chemicals), and infections (e.g., HHV-8 in Kaposi sarcoma).
		Discuss the role of angiogenesis and endothelial cell Proliferation in tumor formation.
		Identify the characteristic clinical presentations of common vascular tumors (e.g., skin lesions in hemangiomas, liver involvement in cavernous hemangiomas, purple plaques in Kaposi sarcoma).
		Correlate the size, location, and aggressiveness of the tumor with its clinical manifestations.
		Discuss the diagnostic techniques used to detect and evaluate vascular tumors, including biopsy, histopathology (e.g., Doppler ultrasound, MRI), and immunohistochemically markers (e.g., CD31, CD34, VEGF).
		Describe the histological differences between various vascular tumors, emphasizing the appearance of endothelial cells, vascular channels, and mitotic activity
CV2-Pa-003	Cardiac tumors	Define cardiac tumors and differentiate between primary and secondary (metastatic) cardiac tumors.
		Classify primary cardiac tumors into benign (e.g., myxoma, rhabdomyoma, fibroma) and malignant (e.g., angiosarcoma, rhabdomyosarcoma).
		Discuss the possible genetic and molecular mechanisms involved in the development of cardiac tumors, including familial syndromes associated with cardiac tumors (e.g., Carney complex, tuberous sclerosis).
		Describe how cardiac tumors can disrupt normal cardiac function through obstruction, embolization, or invasion of adjacent structures.
		Identify the clinical presentations of cardiac tumors based on their location and size, including obstructive symptoms (e.g., dyspnea, syncope), embolic phenomena (e.g., stroke, systemic embolism), and constitutional symptoms (e.g., fever, weight loss).
		Describe the key diagnostic tools for identifying cardiac tumors, including echocardiography (trans esophageal and transthoracic), MRI, CT scan, and histopathological examination.
		Explain how histopathological analysis helps in distinguishing between benign and malignant cardiac tumors.
		Outline the Principles of Management for Cardiac Tumors

PHARMACOLOGY 14 hours		
CV2-Ph-001	Anti hypertensives	Classify antihypertensive drugs including vasodilators, calcium channel blockers, drugs acting on RAAS, central sympatholytic drugs and diuretics.
		Describe their mechanisms of action, clinical uses, adverse effects, drug-interactions and contraindications
		Identify the compensatory responses to antihypertensive drugs.
		Give an account of pharmacological considerations taken in hypertensive emergencies, malignant hypertension, IHDs, cardiac failure, cardiomyopathies, coarctation of aorta, diabetes mellitus, chronic renal diseases, Cerebrovascular Disease, Dementia, and pregnancy
CV2-Ph-002	Ischemic Heart Diseases	Explain strategies used in pharmacological treatment of angina.
		Classify anti-anginal drugs and describe the mechanism of action, uses, adverse effects and interactions of nitrates and nitrites, Beta Blockers, and Calcium Channel Blockers.
		Explain the role of Fatty Acid Oxidation Inhibitors in the treatment of Angina.
		How the Coronary Steal Phenomenon is addressed?
CV2-Ph-003	Cardiac Arrythmias:	Classify drugs used in cardiac arrhythmias; describe their mechanism of action, uses, adverse effects and drug interactions.
		Explain general strategies used in pharmacological treatment of cardiac arrhythmias.
CV2-Ph-004	Cardiac Failure.	Classify drugs used in cardiac failure and describe their mechanism of action, pharmacological effects, uses, adverse effects, interactions and contraindications.
		Describe the cardiovascular effects of Dopamine, Dobutamine, Phosphodiesterase Enzyme Inhibitors, ACE Inhibitors and ARBs, Beta Blockers, directly acting vasodilators in Cardiac Failure.
		Role of Diuretics, Renin–Angiotensin–Aldosterone System Inhibitors, Beta-blockers, Digitalis glycosides, Nitrates and Hydralazine, Ivabradine and their combination; Anticoagulation, Antiarrhythmic therapy, and Statin, etc.
CV2-Ph-005	Anti-Hyperlipidemic / Anti-Dyslipidemias	Classify Anti-Hyperlipidemic Drugs
		Describe their Mechanism of Action, Uses, Adverse Effects and Drug Interactions
		Enlist combination therapies for treatment of hyperlipidemias

General Medicine: 10 hours		
CV2-M-001	Rheumatic fever	Understand the Etiology and Pathogenesis of Rheumatic Fever
		Describe "Jones Criteria" and its significance in diagnosis of Rheumatic fever
		Identify the clinical features of acute Rheumatic fever
		Describe the Pathological Changes in Rheumatic Heart Disease
		Discuss the Diagnostic Approach to Rheumatic Fever
		Outline the Treatment and Prevention Strategies for Rheumatic Fever
CV2-M-002	Corpulmonale	Define cor-pulmonale and distinguish it from other causes of right heart failure.
		Classify cor-pulmonale into acute and chronic forms based on the onset and underlying causes (e.g., pulmonary embolism in acute cor-pulmonale vs. COPD in chronic cor-pulmonale).
		Explain the Pathophysiology of Cor Pulmonale
		Identify the Etiological Factors of Cor Pulmonale
		Identify the symptoms and signs of cor pulmonale
		Describe the Diagnostic Approach to Cor Pulmonale
		Outline the management plan for cor-pulmonale
CV2-M-003	Infective endocarditis	Define and Classify Infective Endocarditis (IE)
		Explain the Pathophysiology of Infective Endocarditis
		Identify the Common Etiological Agents of Infective Endocarditis
		Recognize the Clinical Features of Infective Endocarditis
		Discuss the Diagnostic Approach to Infective Endocarditis
		Explain the Complications of Infective Endocarditis
		Outline the Management and Treatment of Infective Endocarditis
		Describe the Prevention Strategies for Infective Endocarditis
CV2-M-004	Pericarditis	Define and Classify Pericarditis
		Describe the Etiology of Pericarditis
		Explain the Pathophysiology of Pericarditis
		Recognize the Clinical Features of Acute Pericarditis
		Discuss the Diagnostic Approaches to Pericarditis
		Explain the Complications of Pericarditis:
		Outline the Management plan of Acute Pericarditis
		Discuss Prevention and Prognosis of Pericarditis

CARDIOLOGY 14 hours		
CV2-M-005	Cardiomyopathies	Define cardiomyopathies as diseases of the heart muscle that affect its structure and function.
		Classify cardiomyopathies into the major subtypes i. Dilated cardiomyopathy (DCM) ii. Hypertrophic cardiomyopathy (HCM) iii. Restrictive cardiomyopathy (RCM) iv. Arrhythmogenic right ventricular cardiomyopathy (ARVC) Unclassified cardiomyopathies (e.g., left ventricular non-compaction)
		Explain the underlying Pathophysiology of Different Cardiomyopathies
		Recognize the Clinical Features of Cardiomyopathies
		Describe the role of echocardiography in diagnosing cardiomyopathies by assessing heart structure, wall thickness, chamber size, and ejection fraction.
		Highlight the use of ECG in detecting arrhythmias and conduction abnormalities associated with specific cardiomyopathies.
		Discuss the role of cardiac MRI in identifying myocardial fibrosis, particularly in hypertrophic and arrhythmogenic cardiomyopathies.
		Explain the importance of genetic testing in familial cardiomyopathies, especially HCM and ARVC, for risk assessment and family screening.
		Understand the Complications of Cardiomyopathies:
		Outline the Management of Cardiomyopathies
		Describe the Genetic and Preventive Aspects of Cardiomyopathies:
CV2-M-006	Congestive Cardiac Failure	Define and Classify Congestive Cardiac Failure
		Understand the Epidemiology and Risk Factors of Heart Failure
		Explain the Pathophysiology of Congestive Cardiac Failure
		Recognize the Clinical Features of Congestive Cardiac Failure
		Discuss the Diagnostic Approach to Congestive Cardiac Failure
		Differentiate Between Acute and Chronic Heart Failure
		Explain the Complications of Congestive Cardiac Failure
		Outline the non-pharmacological and pharmacological Management of Congestive Cardiac Failure
		Discuss strategies to prevent the development or progression of heart failure
		Understand the role of prognostic factors in heart failure
CV2-M-007	Coronary artery disease	Define coronary artery disease
		Differentiate between stable angina, unstable angina, myocardial infarction (MI), and acute coronary syndrome (ACS).
		Discuss the modifiable and non-modifiable risk factors for CAD
		Describe how CAD can lead to myocardial ischemia, affecting oxygen supply to the heart muscle, and the consequences of plaque rupture leading to thrombus formation and acute coronary syndromes.
		Differentiate between stable angina (caused by fixed plaque) and acute coronary syndromes (caused by plaque rupture and thrombosis).
		Recognize the Clinical Features of Coronary Artery Disease
		Discuss the Diagnostic Approach to Coronary Artery Disease:
		Enlist the complications of CAD
		Discuss the management plan of stable CAD
		Discuss the role of revascularization techniques in stable CAD, including percutaneous coronary intervention (PCI) and coronary artery bypass grafting (CABG) in selected patients.
		Outline the Management of Acute Coronary Syndromes (ACS

CV2-M-008	Valvular heart diseases	Define Valvular Heart Disease
		Differentiate between stenosis (narrowing of valve orifice) and regurgitation (incompetence or leakage of valve).
		Understand the Epidemiology and Etiology of Valvular Heart Disease
		Explain the Pathophysiology of Common Valvular Lesions
		Discuss the management plan for valvular heart diseases

PEDIATRICS		
CV2-M-009	Congenital heart diseases	Define congenital heart disease as structural or functional defects of the heart and great vessels present at birth.
		Classify Congenital Heart Diseases into: i. Cyanotic congenital heart diseases (e.g., Tetralogy of Fallot, Transposition of the Great Arteries).
		Cyanotic congenital heart diseases (e.g., Atrial Septal Defect, Ventricular Septal)
		Understand the Epidemiology and Risk Factors of Congenital Heart Disease.
		Explain the Pathophysiology of Common Congenital Heart Lesions (ASD, VSD, PDA, TOF, TGA)
		Recognize the Clinical Features of Congenital Heart Disease.
		Outline the Diagnostic Approach to Congenital Heart Disease.
		Explain the Complications of Congenital Heart Disease
		Discuss the Management of Common Congenital Heart Diseases.

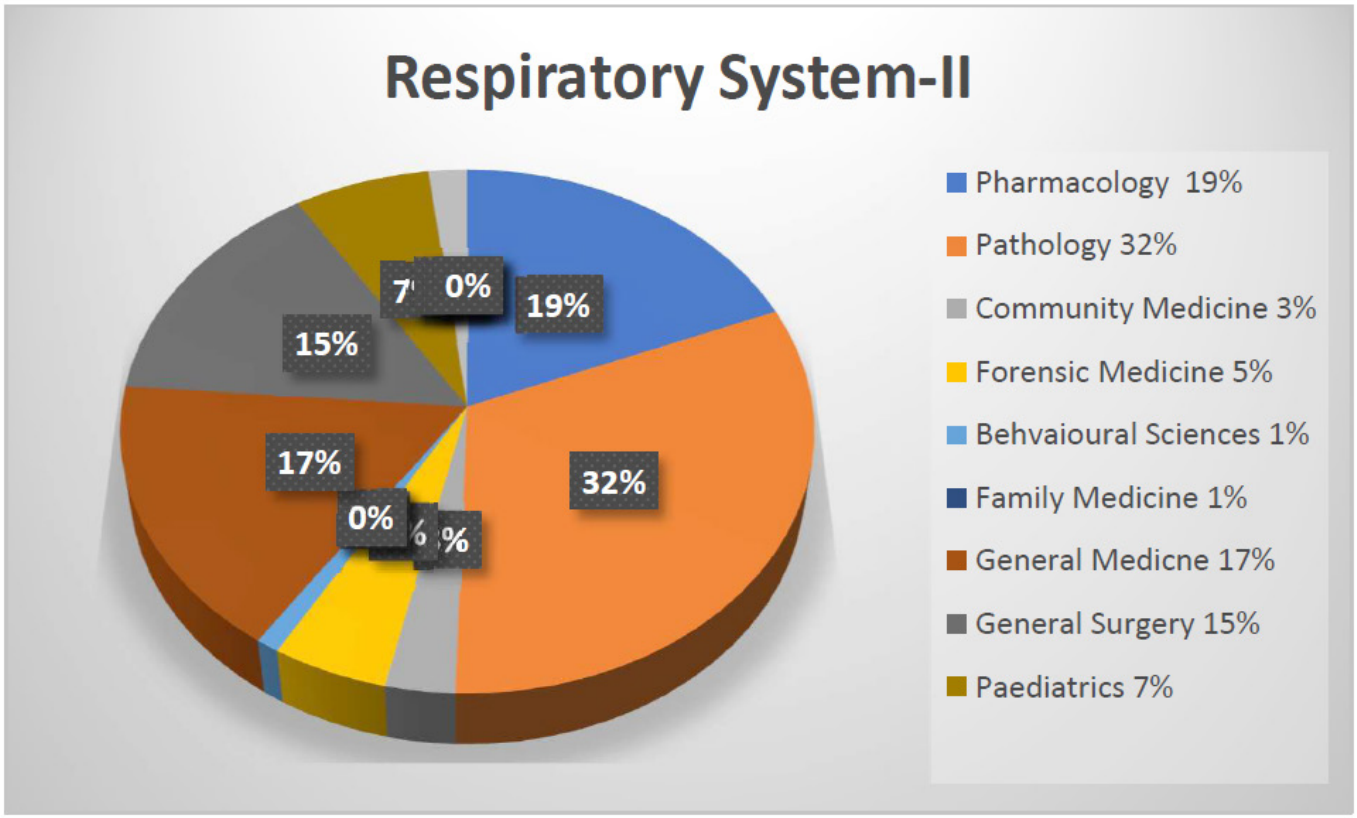
GENERAL SURGERY/VASCULAR SURGERY 10 hours		
CV2-S-001	Peripheral Vascular Diseases (PVD)	Discuss the Pathophysiology of Peripheral Vascular Diseases
		Identify key risk factors for peripheral vascular diseases
		Differentiate between the types of PVD, such as peripheral artery disease (PAD) and venous insufficiency.
		Discuss the role of embolism and thrombosis in the etiology of acute limb ischemia
		Describe the signs and symptoms of peripheral vascular diseases
		Enlist the investigations required to diagnose peripheral vascular disease
		Discuss the role of medical treatment and surgical interventions for management of peripheral vascular disease
		Describe the complications of untreated peripheral vascular diseases
		Differentiate between acute and chronic limb ischemia
		Classify different types of gangrene
		What are different dysfunctions of venous system?
		Discuss the etiology and pathophysiology of varicose veins and venous ulcers

PHARMACOLOGY LAB WORK 01 hours		
CV2-Ph-006	Cardiovascular System	Analysis and interpretation of Drugs (Acetylcholine, Atropine Adrenaline, Propranolol) on animal through online videos / simulations / graphs / practical performance.
		Analysis and interpretation of different Concentrations of Acetylcholine on Frog's heart through online videos / simulations / graphs / practical performance.

CLINICAL ROTATION		
CARDIOLOGY AND SURGERY 10 hours		
CV2-M-009	History taking	Take history specific to CVS
	GPE	Perform GPE relevant to CVS to observe signs of cyanosis, pallor, edema, hyper-lipidemia and clubbing
		Palpate peripheral pulses, observe signs of raised JVP
		Measure blood pressure
CV2-M-010	CVS examination	Perform CVS examination on a patient
CV2-M-011	ECG	Interpret changes in ECG and corelate them with clinical conditions
CV2-S-002	Examination of peripheral vascular system	Perform examination of an ischemic limb

Clinical skills 4 hours		

MODULE - 21
RESPIRATORY SYSTEM - II



Module weeks	Recommended Minimum Hours
03	101

End of module assessment
Written paper
50 MCQ, s 5 SEQ, s

	Subject	MCQ, s	SEQ	
1	Phamacology	10	1	
2	Pathology	15	2	
3	Medicine	10	1	
4	Surgery	10	1	
5	Pediatrics	05	0	

Module committee

Co Ordinator		
Co-coordinator		
Member	Physiology	
Member	Pharmacology	
Member	Medicine / Cardiology	
Member	Behavioral Sciences	
Member	Surgery	
Member	Pediatrics	
Member		
Member		

MODULE 21: Respiratory System - II

Module rationale

The curriculum for respiratory medicine and related fields is designed to equip students with essential knowledge and skills in managing thoracic trauma, respiratory complications, and conditions affecting respiration. Demonstrate the qualities of compassion, honesty, and integrity in interactions with patients, families, communities, and fellow medical professionals. Exhibit a professional demeanor, fostera team-oriented spirit, and employ effective communication skills by actively participating in collaborative problem-solving, particularly in small group exercises focused on understanding respiratory disorders.

Module Outcomes

- Integrate foundational concepts to address clinical respiratory issues.
- Interpret common respiratory symptoms with accuracy in assessments.
- Outline management plans for prevalent respiratory diseases during case discussions.
- Utilize a problem-solving approach to accurately diagnose respiratory emergencies in simulated scenarios.
- Demonstrate understanding of respiratory tract malignancies and referral criteria by the end of the module.
- Identify the morphological features of common respiratory tract diseases in practical examinations.
- Demonstrate effective communication strategies in patient interactions, evaluated through peer and instructor feedback.

SUBJECTS INTEGRATED IN THE MODULE

1. Medicine
2. Surgery
3. Pathology
4. Clinical Pharmacology & Therapeutics
5. Community Medicine
6. Behavioural Sciences
7. Forensic Medicine
8. Pead's
9. Radiology

WEEK 3: Time Table Third year MBBS block 9, Module 21, Dated: 20-10-25 to 25-10-25							
	Lecture 08:00 to 08:45	**Lecture 08:45 to 09:30**	**Ward 09:30 to 11:00**	**Practical/tutorial 11:00 to 12:15**	**Lecture 12:15 to 01:00**	**BREAK**	**Tutorial 01:15 to 02:00**
Mon 20-10	Medicine RE-02-M-001	Pharmacology RE-2-PH-001	Clinical rotation	A-pathology practical (Micro Re2-Pa018) B-pharmacology practical (RE2-PH012) C-forensic practical (FOR3-TOX-23/24) D-CFRC skills LAB	Pathology RE-2-PA-001		PERL
Tue 21-10	Pathology RE-2-PA-002	Pharmacology RE-2-PH-002	Clinical rotation	B-pathology practical (Micro Re2-Pa018) C-pharmacology practical (RE2-PH012) D-Forensic Practical (FOR3-TOX-23/24) A-CFRC skills LAB	Community medicine RE-2-M-014		Medicine RE-02-M-003
Wed 22-10	Forensic Medicine FOR-3-L-011	Pharmacology RE-2-PH-003	Clinical rotation	C-pathology practical (Micro Re2-Pa018) D-pharmacology practical (RE2-PH012) A-Forensic Practical (FOR3-TOX-23/24) B-CFRC skills LAB	Pathology RE-2-PA-003		Behavrioral Science
Thur 23-10	Pathology RE-2-PA-004	Pharmacology RE-2-PH-004	Clinical rotation	D-pathology practical (Micro Re2-Pa018) A-pharmacology practical (RE2-PH012) B-Forensic Practical (FOR3-TOX-23/24) C-CFRC skills LAB	Forensic Medicine FOR-3-L-012		
Fri 24-10	Surgery RE-2-S-001-002	Pharmacology RE-2-PH-005	Clinical rotation	A & B pathology tutorial C & D pharmacology tutorial			
Sat 25-10	Medicine RE-02-M-004	Forensic Medicine FOR-3-L-013	Clinical rotation	C & D pathology tutorial A & B pharmacology tutorial	Pathology RE-2-PA-005		

WEEK 4: Time Table Third year MBBS block 9, Module 21, Dated: 27-10-25 to 01-11-25							
	Lecture 08:00 to 08:45	**Lecture 08:45 to 09:30**	**Ward 09:30 to 11:00**	**Practical/tutorial 11:00 to 12:15**	**Lecture 12:15 to 01:00**	**BREAK**	**Tutorial 01:15 to 02:00**
Mon 27-10	Medicine RE-02-M-007	Pharmacology RE-2-PH-006	Clinical rotation	A-pathology practical (Micro Re2-Pa019) B-pharmacology practical (RE2-PH012) C-forensic practical (FOR3-TOX-25) D-CFRC skills LAB	Pathology RE-2-PA-007		PERL
Tue 28-10	Pathology RE-2-PA-008	Pharmacology RE-2-PH-007	Clinical rotation	B-pathology practical (Micro Re2-Pa019) C-pharmacology practical (RE2-PH012) D-Forensic Practical (FOR3-TOX-25) A-CFRC skills LAB	Medicine RE-02-M-011		Community Medicine
Wed 29-10	Forensic Medicine FOR-3-L-014	Pharmacology RE-2-PH-008	Clinical rotation	C-pathology practical (Micro Re2-Pa019) D-pharmacology practical (RE2-PH012) A-Forensic Practical (FOR3-TOX-25) B-CFRC skills LAB	Pathology RE-2-PA-009		Behavioral Scieicne
Thur 30-10	Pathology RE-2-PA-010-11	Pharmacology RE-2-PH-009	Clinical rotation	D-pathology practical (Micro Re2-Pa019) A-pharmacology practical (RE2-PH012) B-Forensic Practical (FOR3-TOX-25) C-CFRC skills LAB	Forensic Medicine FOR-3-L-015/16		
Fri 31-10	Surgery RE-02-S-003-004	Pediatrics RE-2-M-002 & 005	Clinical rotation	A & B pathology tutorial C & D pharmacology tutorial			
Sat 01-11	Medicine RE-02-M-013	Forensic Medicine FOR-3-L-017/18	Clinical rotation	C & D pathology tutorial A & B pharmacology tutorial	Pathology RE-2-PA-012		

WEEK 5: Time Table Third year MBBS block 9, Module 21, Dated: 03-11-25 to 08-11-25							
	Lecture 08:00 to 08:45	**Lecture 08:45 to 09:30**	**Ward 09:30 to 11:00**	**Practical/tutorial 11:00 to 12:15**	**Lecture 12:15 to 01:00**	**BREAK**	**Tutorial 01:15 to 02:00**
Mon 03-11	Medicine RE-02-M-015/16	Pharmacology RE-2-PH-010	Clinical rotation	A-pathology practical (Micro Re2-Pa020) B-pharmacology practical (RE2-PH012) C-forensic practical (FOR3-TOX-26/27/28) D-CFRC skills LAB	Pathology RE-2-PA-0012		PERL
Tue 04-11	Pathology Microbiology RE-2-PA-013	Pharmacology RE-2-PH-010	Clinical rotation	B-pathology practical (Micro Re2-Pa020) C-pharmacology practical (RE2-PH012) D-Forensic Practical (FOR3-TOX-26/27/28) A-CFRC skills LAB	Medicine RE-02-M-017/18		Community medicine
Wed 05-11	Forensic Medicine FOR-3-L-019/20	Pharmacology RE-2-PH-011	Clinical rotation	C-pathology practical (Micro Re2-Pa020) D-pharmacology practical (RE2-PH012) A-Forensic Practical (FOR3-TOX-26/27/28) B-CFRC skills LAB	Pathology Microbiology RE-2-PA-014		Behavioral Sciences
Thur 06-11	Pathology Microbiology RE-2-PA-015	Pharmacology RE-2-PH-011	Clinical rotation	D-pathology practical (Micro Re2-Pa020) A-pharmacology practical (RE2-PH012) B-Forensic Practical (FOR3-TOX-26/27/28) C-CFRC skills LAB	Forensic Medicine FOR-3-TOX-001/2		
Fri 07-11	Surgery RE-02-S-006/7/8	Peadiatrics RE-2-M-008/9 & 12	Clinical rotation	A & B pathology tutorial C & D pharmacology tutorial			
Sat 08-11	Medicine RE-02-M-019/20	Forensic Medicine FOR-3-TOX-003/4/5	Clinical rotation	C & D pathology tutorial A & B pharmacology tutorial	Pathology Microbiology RE-2-PA-015		

Module 21: Respiratory System - II

THEORY		
PATHOLOGY (Total Hours 16)		
Re2-Pa-001	Hypersensitivity reaction (HSR) Type II	Describe hypersensitivity reaction 1 with clinical examples Describe immune mechanism involved in HSR-I
Re2-Pa-002	Bronchial asthma	Define asthma Classify asthma Discuss pathogenesis of atopic and non -atopic asthma Discuss pathogenesis of atopic and non -atopic asthma.
Re2-Pa-003	Chronic bronchitis	Define chronic bronchitis Describe the pathogenesis of chronic bronchitis Discuss the pathogenesis of bronchiectasis Describe gross and microscopic morphological features of bronchitis. Describe gross and microscopic features of bronchiectasis.
Re2-Pa-004	Emphysema	Define emphysema Classify types of emphysema Describe protease-antiprotease imbalance hypothesis for development of emphysema
Re2-Pa-005	Restrictive Lung Diseases	Differentiate between obstructive and restrictive pulmonary diseases List the causes of restrictive lung diseases Describe pneumoconiosis with respect to etiology and pathogenesis Enlist asbestos related diseases Describe morphologic features of asbestosis Describe morphological features of cryptogenic organizing pneumonia, coal workers
Re2-Pa-006	Pneumonia	Describe various etiological factors of pulmonary pneumonia. Describe the histopathological subtypes of pulmonary pneumonia Describe morphological features of bronchogenic and lobar pneumonia. Describe four stages of lobar pneumonia Explain the complications associated with pulmonary pneumonia
Re2-Pa-007	Granulomatous Inflammation	Describe the morphological features of different types of granulomatous inflammation Describe Ghons complex. Differentiate between primary and secondary tuberculosis.
Re2-Pa-008	Hypersensitivity Reaction (Hsr) Type IV	Describe hypersensitivity reaction IV with clinical examples Describe the immune mechanism involved in HSR IV
Re2-Pa-009	Pleural Tumors	Classify pleural tumors List the risk factors for development of malignant mesothelioma Describe morphologic features of malignant mesothelioma
Re2-Pa-010	Lung Tumors	Classify lung tumors Benign & Malignant diseases of lungs and thorax Describe morphologic features of squamous cell carcinoma Adenocarcinoma, neuroendocrine tumors, other Tumors Enumerate paraneoplastic syndromes associated with lung tumors
Re2-Pa-011	Image Session Of Respiratory System-II	Small cell carcinoma lung Squamous cell carcinoma lung Adenocarcinoma lung Malignant Mesothelioma

Re2-Pa-012	Pulmonary Edema & Acute Respiratory Distress Syndrome (ARDS)	Classify pulmonary edema according to etiology Describe clinical conditions associated with development of ARDS Describe the pathogenesis of ARDS Describe morphologic features of Diffuse alveolar damage (DAD)
Re2-Pa-013 **Microbiology**	Mycobacterium Tuberculosis	Describe the important morphological features, virulence factors of Mycobacterium tuberculosis with their clinical significance Describe the pathogenesis of Pulmonary tuberculosis Describe the immunity and hypersensitivity against infections by Mycobacterium tuberculosis Extra pulmonary tuberculosis infections
Re2-Pa-014 **Microbiology**	COVID-19	Describe Corona virus Explain the structure and antigenicity of the virus Describe the pathogenesis of corona virus Discuss the relation with pneumonia
Re2-Pa-015 **Microbiology**	Microorganisms producing Respiratory tract infection	Correlate clinically the virulence factors, transmission, pathogenesis, laboratory diagnosis of organisms causing respiratory tract infections; • Mycobacterium tuberculosis • Streptococcus pneumoniae • Mycoplasma pneumoniae • Legionella pneumoniae • Haemophilus influenzae • Klebsiella • Corynebacterium diphtheria • Bordetella
		Correlate clinically the virulence factors, transmission, pathogenesis, laboratory diagnosis of organisms causing respiratory tract infections; • Influenza & para influenza viruses • RSV • Rhinovirus • Measles • Pneumocystis carinii • Aspergillus

PHARMACOLOGY (Total Hours 17)		
Re2-Ph-001	Anti-Asthmatic drugs	Discuss the role of different drugs in the prevention & treatment of asthma Describe the mechanism of action & adverse effects of Beta 2 agonists used in asthma Describe the mechanism of action, actions & adverse effects of Methylxanthines Describe mechanism of action and adverse effects of Mast Cell Stabilizers Discuss the roles of corticosteroids in the treatment of bronchial asthma. Discuss the role of ipratropium in asthma Discuss the mechanism of action and adverse effects of leukotriene synthesis and receptor blockers used in asthma Enlist drugs used in acute and chronic asthma
Re2-Ph-002	Anti-Inflammatory drugs	Discuss the role of Anti-inflammatory drugs in COPD Describe the pharmacodynamics of bronchodilators in COPD treatment Explain the mechanism of action and indications of corticosteroids in restrictive lung diseases.
Re2-Ph-003	Anti-tussive, expectorants, mucolytics	Describe anti-tussive, mucolytics and expectorants Interactive Classify Anti-tussive Lecture Describe Pharmacodynamics of these drugs.
Re2-Ph-004	Macrolides and cephalosporins	Explain the spectrum of activity for macrolides and cephalosporins Identify adverse reactions associated with common antibiotics
Re2-Ph-005	Drugs For Treatment Of Pneumonia	Classify the drugs used for hospital and communityacquired pneumonia Describe the mechanism of action for each class Discuss the mechanism of action of pneumococcal and influenza vaccines in stimulating the immune system
Re2-Ph-006	Anti-Tuberculous Drugs	Enumerate first and second line drugs for treatment of tuberculosis Describe mechanism of action of first line drugs used in tuberculosis Describe spectrum of antibacterial action of Rifampicin Describe drug interactions of Rifampicin Discuss adverse effects of 1st line Anti-TB drugs Discuss drugs used for various anti-TB regimes Discuss chemoprophylaxis of TB Discuss second line drugs used in TB
Re2-Ph-007	Autacoids	Define autacoids. Enlist major histamine receptors. Classify anti-histamine drugs. Describe clinical uses of antihistamines. Discuss the toxicity of antihistamines. Classify serotonin agonists & antagonists. Describe the clinical uses of serotonin agonists & antagonists. Discuss the adverse effects of serotonin agonists & antagonists. Enumerate ergot alkaloids. Describe the mechanism of action of ergot alkaloids. Discuss the clinical uses of ergot alkaloids. Discuss the toxicity of ergot alkaloids. Enlist the types of prostaglandins. Discuss the pharmacological actions of prostaglandins. Describe the clinical uses of prostaglandins. Discuss the adverse effects of prostaglandins
Re2-Ph-008	Chemotherapeutic Drugs	Explain the chemotherapeutic options for lung cancer
Re2-Ph-009	Drugs respiratory failure management	Discuss the management strategies for ARDS Explain the role of corticosteroids and sedatives in respiratory failure management

Re2-Ph-010	Opioid analgesics and NSAIDs	Describe the mechanism of action and adverse effects of opioid analgesics and NSAIDs in trauma management. Explain the role of local anesthetics in pain control through nerve blocks. Discuss the use of muscle relaxants in chest trauma to alleviate muscle spasms and improve breathing.
Re2-Ph-011	Vasopressors	Discuss the use of vasopressors in managing hypotension due to blood loss in trauma

SURGERY (Total Hours 08)		
Re2-S-001	lung cancer resection	Surgical approach to lung cancer resection, Complications of lung resection
Re2-S-002	Lung Metastasis	Management of Lung metastases
Re2-S-003	Tension Pneumothorax	Describe mechanism of tension pneumothorax (T.P.) Enlist the causes of T.P. Describe the clinical of features of tension pneumothorax (signs & symptoms) Outline the steps of treatment of T.P.
Re2-S-004	Open Pneumothorax	Describe sucking chest wound. Describe the underlying respiratory physiological changes in flail chest. Describe steps of management of such wound.
Re2-S-005	Thoracic Trauma	Enlist the causes of thoracic trauma in Describe significance of RTA mortality. Enlist the causative factors for breathing difficulty in chest trauma patients. Review the different thoracic injuries. Enumerate the sources of probable bleeding in a chest trauma. Describe the initial management of a patient with chest trauma. Outline the management of thoracic injuries
Re2-S-006	Thoracic Trauma-II	Define flail chest. Describe mechanism of respiratory sequel of flail chest. Describe the clinical features of flail chest. Describe treatment options in flail chest Define surgical emphysema. Enumerate the causes of surgical emphysema. Describe clinical features of Surgical emphysema Describe the steps of management of Surgical emphysema Enumerate complications.
Re2-S-007	Post Op Respiratory Complications	Describe the clinical features of following respiratory complications: Atelectasis, pneumonia, pulmonary embolism Interpret the X ray findings of post-operative pneumonia Outline the treatment option of complications. Enlist the causes of diaphragmatic rupture Enumerate the clinical features Describe the x-ray/USG findings Describe the steps of management
Re2-S-008	Lungs Injuries	Define the pulmonary contusions Enumerate the clinical features Describe the steps of management Describe complications of pulmonary contusion.

MEDICINE (Total Hours 19)		
Re2-M-001	Bronchial asthma	Correlate Clinical features of bronchial asthma to its pathogenesis Describe investigations of a patient with asthma Enlist features of acute severe asthma Enlist features of life-threatening asthma. Discuss the step-wise therapy of stable asthma Discuss the management of acute severe asthma
Re2-M-002 **Pediatrics**	Childhood asthma	Enumerate risk factors for asthma. Describe clinical features of acute and chronic bronchial asthma. Classify asthma symptoms according to GINA Guidelines. Outline management of childhood Asthma.
Re2-M-003	COPD, Chronic bronchitis, Emphysema	Define COPD Describe types of COPD Describe Clinical features of COPD Outline investigation plan of a patient with COPD Describe GOLD staging criteria for COPD Outline the management of acute exacerbation of COPD Describe long term management of COPD Describe criteria for long term oxygen therapy in COPD
Re2-M-004	Bronchiectasis	Enlist the causes of bronchiectasis Describe the clinical features of bronchiectasis Describe investigations of bronchiectasis Enlist the complications of bronchiectasis Describe the management of bronchiectasis
Re2-M-005 **Pediatrics**	Cystic fibrosis	Define cystic fibrosis. Describe pattern of inheritance of cystic fibrosis. Describe pathophysiology of CF Describe clinical features of CF. Interpret investigations for CF. Enumerate steps of management of CF.
Re2-M-006	Psychological implications of COPD	Identify psychological disturbances associated with respiratory diseases/COPD Enlist psychological consequences of COPD Describe steps to manage psychological effects of COPD
Re2-M-007	Interstitial Lung Diseases	Enlist the causes of ILD Describe the clinical features of interstitial lung diseases Outline investigation plan of interstitial lung diseases Describe the treatment of interstitial lung diseases
Re2-M-008 **Pediatrics**	Pertussis	Define pertussis. Describe clinical features of pertussis. Describe complications of pertussis. Interpret investigations for pertussis. Describe prognosis and prevention.
Re2-M-009 **Pediatrics**	Croup	Define Croup Describe etiology of croup. Describe clinical features of viral croup. Interpret investigations for viral croup. Discuss differential diagnosis of croup Describe management of viral croup. Describe clinical features of epiglottitis. Interpret investigations for epiglottitis. Describe management of epiglottitis.
Re2-M-010	Asphyxiants Poisons	Comprehend the MoA of the asphyxiant poisons. Diagnose a case when presented to him Plan management

Re2-M-011	Pneumonia	Classify pneumonia Enlist the microbiological agents causing pneumonia Describe the clinical features of pneumonia Enlist investigations plan in a patient of pneumonia Describe CURB-65 criteria for severity of pneumonia Describe the management of pneumonia Describe the complications of pneumonia
Re2-M-012 **Pediatrics**	Childhood Pneumonia	Define bronchiolitis and pneumonia. Enlist etiology of bronchiolitis and pneumonia. Describe clinical features of bronchiolitis/pneumonia. Interpret investigations for bronchiolitis/pneumonia. Describe management of bronchiolitis/pneumonia
Re2-M-013	Pulmonary Tuberculosis	Describe investigation plan of a patient with suspected tuberculosis. Describe investigation plan of a patient with suspected tuberculosis. Discuss primary and secondary tuberculosis. Correlate pathophysiology of pulmonary tuberculosis with its clinical presentation. Discuss clinical features of pulmonary tuberculosis. Interpret investigations for tuberculosis. Discuss management of pulmonary tuberculosis. Discuss prevention of tuberculosis. Drug resistant TB Discuss prevention of tuberculosis in a neonate of a mother suffering from tuberculosis.
Re2-M-014	Preventive Measures	Describe the epidemiology prevalence and preventive measures of Tuberculosis Describe the epidemiology prevalence and preventive measures of Respiratory infections Describe the epidemiology & Prevention of Pneumoconiosis Describe the epidemiology prevalence and preventive measures of Influenza, Diphtheria, whooping cough, meningococcal meningitis Discuss the efficacy of the BCG vaccine in different populations.
Re2-M-015	Bronchogenic Carcinoma	Describe Clinical features of bronchogenic carcinoma Enlist investigations of bronchogenic carcinoma Enumerate treatment options in bronchogenic carcinoma Complications of CA
Re2-M-016	Pleural Effusion	Define pleural effusion Differentiate between exudative and transudative pleural effusion Enlist causes of pleural effusion Describe Clinical features of pleural effusion Describe investigations in a patient with pleural effusion Describe palliative management of recurrent pleural effusion
Re2-M-017	Pneumothorax	Define pneumothorax Classify pneumothorax Enlist Risk factors of pneumothorax Describe clinical features of pneumothorax Enlist investigations of pneumothorax Describe management of pneumothorax
Re2-M-018	Respiratory Failure	Define respiratory failure Classify types of respiratory failure Describe clinical features of respiratory failure Describe management of respiratory failure
Re2-M-019	Obstructive Sleep Apnea	Define Etiology, clinical features, investigations, treatmentof OSA
Re2-M-020	COVID-19	Enumerate the lab investigations to diagnose Covid 19 Describe the Clinical presentation of Covid-19 Discuss the management protocols to treat Covid patient complications Discuss the vaccination and side effect (for COVID)

PRACTICAL / LAB WORK		
PATHOLOGY (Total Hours 16)		
Re2-Pa-016	Bordetella Pertussis	Describe the important morphological characteristics, biochemical reactions, virulence factors of Bordetella pertussis with their clinical Significance Describe pathogenesis of Bordetella pertussis infections Describe lab diagnosis of Bordetella pertussis infections.
Re2-Pa-017	Streptococcus Pneumoniae & H. Influenza	Describe the important morphological characteristics, biochemical reactions, virulence factors of Streptococcus pneumoniae with their clinical significance Enumerate the diseases caused by Streptococcus Pneumoniae Describe the pathogenesis of lobar Pneumonia caused by S. pneumonia Describe the lab investigation of Streptococcus Pneumoniae infections Describe the important morphological characteristics, biochemical reactions, virulence factors of H. influenzae with their clinical significance Describe the pathogenicity of H. influenzae in causation of respiratory tract infections Describe the lab diagnosis of H. influenzae infections
Re2-Pa-018	Mycoplasma Pneumoniae	Describe the important morphological characteristics, biochemical reactions, virulence factors of Mycoplasma pneumoniae Describe the pathogenesis of atypical pneumonia caused by M. pneumoniae Describe the lab diagnosis of M. pneumoniae infections
Re2-Pa-019	Legionella	Describe the important morphological characteristics, biochemical reactions, virulence factors of Legionella pneumophila Describe the pathogenesis of atypical pneumonia caused by Legionella pneumophila
Re2-Pa-020	Chlamydiae & Coxiella Laburnetii	Define Chlamydia, enumerate their medically important species Enumerate the diseases caused by Chlamydia Describe the important morphological characteristics, biochemical reactions, virulence factors of Chlamydia and their clinical significance Describe the pathogenesis of C. trachomatis, C. pneumoniae, C. psittaci mediated atypical pneumonias Describe the lab diagnosis of Chlamydial infections
Re2-Pa-021	Bacillus Anthracis	Describe the important morphological Characteristics, biochemical reactions, virulence factors of Bacillus anthracis with their clinical significance. Describe the lab diagnosis of Bacillus anthracis infections.
Re2-Pa-022	Yersinia Pestis	Describe the important morphological characteristics, biochemical reactions, virulence factors of Yersinia pestis and their clinical significance Describe the pathogenesis of plague Describe the lab diagnosis of Yersinia pestis infections
Re2-Pa-023	Mycobacte-rium Tuberculosis	Describe the lab diagnosis of Pulmonary (ZN staining and cultures)

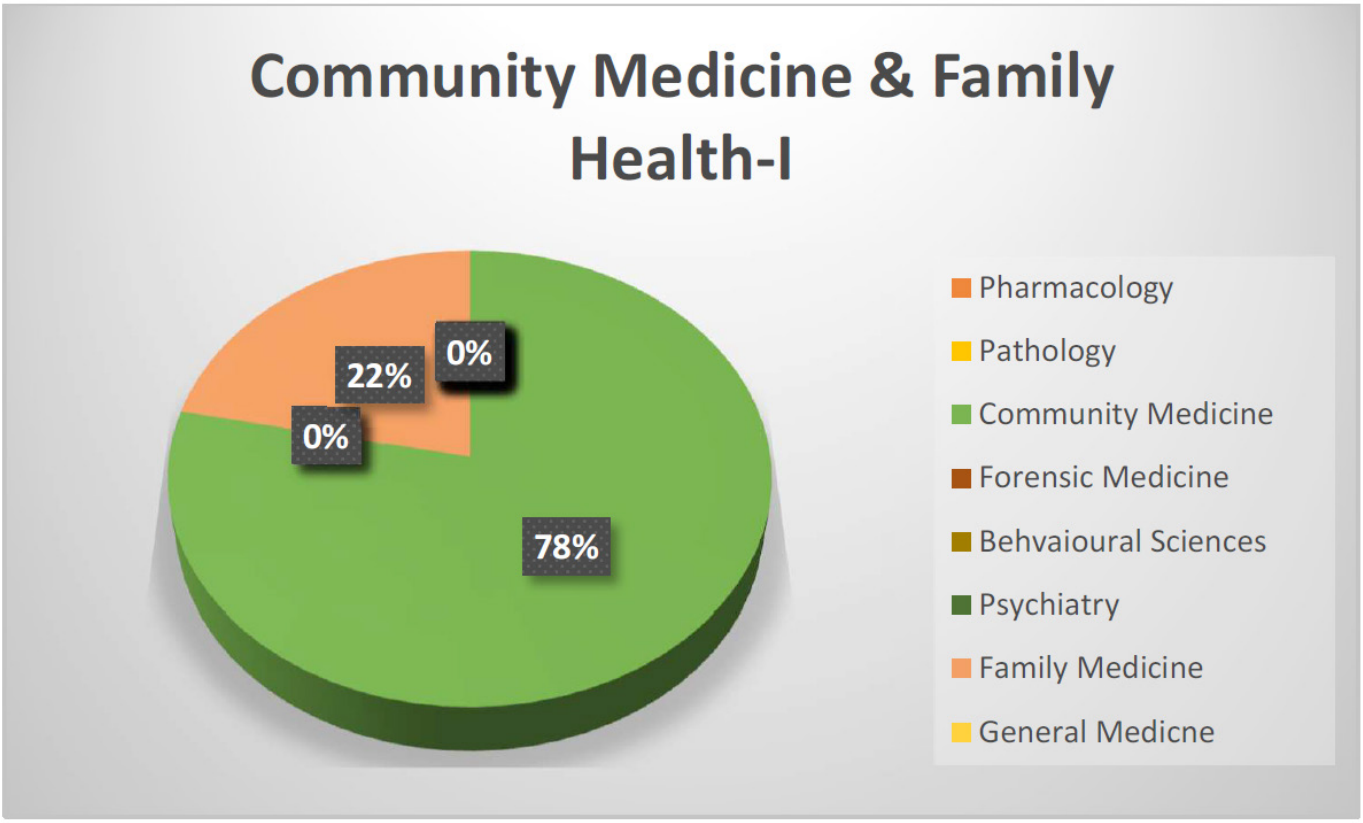
FORENSIC MEDICINE (Total Hours 05)		
Re2-For-001	Hanging/ Strangulation	Define hanging Enlist types of hanging Enumerate causes of death in hanging Enlist autopsy findings in hanging. Define strangulation. Enlist its sub types Enlist autopsy findings in case of manual strangulation Enlist autopsy findings in case of ligature strangulation Differentiate between strangulation and hanging ligature mark
Re2-For-002	Suffocation, Smothering	Define suffocation Enumerate deaths which are caused due to suffocation. Define smothering Enlists autopsy findings in case of death due to smothering
Re2-For-003	Gagging, Choking Traumatic Asphyxia and Autoerotic Asphyxia	Define gagging Enlists autopsy findings in case of death due to gagging Define choking Enlists autopsy findings in case of death due to choking Define traumatic asphyxia Enlists autopsy findings in case of traumatic asphyxia Discuss medicolegal importance
Re2-For-004	Asphyxiant poisons	The student be able to: Enlist important Asphyxiant present in the environment Describe their Mechanism of action. Discuss effect on different body systems with increasing blood concentration Enlist sign and symptoms Enlist autopsy findings Describe their medico legal importance Comprehend the MoA of the Asphyxiant poisons, Diagnose a case when presented to him Plan management

PHARMACOLOGY (Total Hours 02)		
Re2-Ph-012	Prescription Writing	Write down the prescription for Tuberculosis Write down the prescription for Asthma Write down the prescription for Cough Discuss the steps involved in selection of P-drug for bronchial asthma

COMMUNITY MEDICINE (Total Hours 02)		
Re2-CM-001	Isolation Precautions	Describe the standard preventive precautions for all patients. Describe the additional precautions for infected patients & for patient requiring single isolated room. Describe the precautions for family members providing care to the patient in hospital & home. Describe the use of face mask, gloves, shoe cover, cap and gown. Recognize the common errors made while using personal protective equipment. Demonstrate the method to wear face mask, gloves, shoe cover, cap and gown & remove them aseptically.

CLINICAL ROTATIONS / COMMUNITY HEALTHCARE		
MEDICINE & SURGERY (Total Hours 17)		
Re2-M-021	Instruct patients in the use of devices for inhaled medication	Use of Devices for Inhaled Medication: Types of Inhalation Devices: Metered-dose inhalers >Explain to a patient how to use an inhaler correctly, including spacers, and check that their technique is correct.
Re2-M-022	Prescribe and administer oxygen	Indications for Oxygen Therapy Oxygen Delivery Methods Monitoring Oxygen Saturation > Prescribe and administer oxygen safely using a delivery method appropriate for the patient's needs and monitor and adjust oxygen as needed. Knows the exact volume given per Minute
Re2-M-023	Interpretation of x-rays of chest	Common Findings of Pneumothorax, pleural effusion, lung consolidation, fractures. > Students should be able to identify rib fractures, hemothorax, pneumothorax, free air under diaphragm, pelvic fractures
Re2-M-024	Tuberculosis Mantoux Test	Define Mantoux test Enumerate the indications and contraindications Describe the procedure and interpretation of results
Re2-S-009	Pneumothorax	Clinical Presentation, Management Strategies & Complications Students should be able to identify and differentiate between types of pneumothoraxes (primary, secondary, and tension pneumothorax) through clinical assessment and imaging techniques
Re2-S-010	Pulmonary embolism	Management & Complications >Should be able to perform risk assessments using validated scoring systems (e.g., Wells criteria) interpret imaging findings to differentiate pulmonary embolism from other respiratory conditions.
Re2-S-011	Principles of management of trauma	ABCDE approach in trauma settings >Students should be able to assess and prioritize the management of thoracic trauma by identifying key injuries (such as pneumothorax, hemothorax, rib fractures, and flail chest)
Re2-S-012	Principles of management of trauma	Student should be able to demonstrate appropriate interventions (including airway management and fluid resuscitation)
Re2-S-013	Pleural Tap	Students should be able to identify the anatomical landmarks of the pediatric patient for pleural tap 2) perform the pleural tap procedure on simulation in skill lab 3) Counsel the attendants for the indication, procedure, and contraindication of the pleural tap.

MODULE - 22
COMMUNITY MEDICINE & FAMILY HEALTH -I



Module weeks	Recommended Minimum Hours
3.3	115

End of module assessment
Written paper
25 MCQ, s 5 SEQ, s

	Subject	MCQ, s	SEQ	
1	Family Medicine	5	1	
2	Community Medicine	20	4	

Module committee

Co Ordinator		
Co-coordinator		
Member	Family Medicine	
Member	Community Medicine	
Member		
Member		
Member		
Member		
Member		

Module Rationale

The module on Community Medicine and Family Medicine is crucial for addressing the learning needs of medical students about holistic concept of health, prevalent health problems, their determinants and provision of comprehensive healthcare to the communities.

Curriculum on Community Medicine and family medicine equips future healthcare professionals with the knowledge, skills and attitude to implement preventive strategies, health promotion & reduce the burden of disease through primary health care approach targeting universal health coverage. Health outcomes are influenced by social, economic & environmental factors. It helps students understand the broader determinants of health & how to address health disparities.

Public health crises such as pandemics, natural disasters & environmental hazards require professionals trained in community-based responses & health emergencies and reaching at door step through provision of family health services. Healthcare professionals must be equipped to engage in provision of health care needs at smaller scale and building health policy at local, national and global levels to improve public health outcomes.

Module outcomes

- To apply principles of epidemiological study designs in research methodology to establish association and causations
- To apply principles of community diagnosis, screening in general population and high-risk population
- To apply the concept of environmental safety and global environmental concerns including air, water, waste disposal, radiation, noise and climate change
- To apply principles of infectious disease epidemiology in classification, prevention and control of communicable diseases
- To apply different types of surveillance in disease control, elimination and eradication
- To understand the concept of herd immunity and role of immunizing agents in disease prevention and control
- To demonstrate the difference between health education and propaganda, application of different health education, communication, information in different settings using different techniques and approaches
- To apply principles of primary health care targeting universal health care coverage through family medicine.
- To demonstrate comprehensive health care services as a concept of One Health which is attainable and achievable.
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SUBJECTS INTEGRATED IN THE MODULE

1. Community Medicine
2. Family Health

WEEK 6: Time Table Third year MBBS block 9, Module 22, Dated: 10-11-25 to 15-11-25							
	Lecture 08:00 to 08:45	**Lecture 08:45 to 09:30**	**Ward 09:30 to 11:00**	**Practical/tutorial 11:00 to 12:15**	**Lecture 12:15 to 01:00**	**BREAK**	**Tutorial 01:15 to 02:00**
Mon 10-11	Community Medicine CMFH1-CM-001	Pharmacology	Clinical rotation	A-pathology practical (Micro Re2-Pa021) B-Community Medicine (MSDS) C-forensic practical (FOR3-TOX-029/30/31) D-CFRC skills LAB	Pathology		PERL
Tue 11-11	Pathology	Pharmacology	Clinical rotation	B-pathology practical (Micro Re2-Pa021) C-Community Medicine (MSDS) D-Forensic Practical (FOR3-TOX-029/30/31) A-CFRC skills LAB	Community medicine CMFH1-CM-001		
Wed 12-11	Forensic Medicine FOR-3-TOX-006	Community Medicine CMFH1-CM-002	Clinical rotation	C-pathology practical (Micro Re2-Pa021) D-Community Medicine (MSDS) A-Forensic Practical (FOR3-TOX-029/30/31) B-CFRC skills LAB	Pathology		Behavioral Science
Thur 13-11	Community Medicine CMFH1-CM-002	Pharmacology	Clinical rotation	D-pathology practical (Micro Re2-Pa021) A-Community Medicine (MSDS) B-Forensic Practical (FOR3-TOX-029/30/31) C-CFRC skills LAB	Forensic Medicine FOR-3-TOX-007		
Fri 14-11	Community Medicine CMFH1-CM-003	Forensic Medicine FOR-3-TOX-008	Clinical rotation	A & B pathology tutorial C & D pharmacology tutorial			
Sat 15-11	Medicine CMFH-009	Community Medicine CMFH1-CM-004	Clinical rotation	C & D pathology tutorial A & B pharmacology tutorial	Community Medicine Field Visits		

WEEK 7: Time Table Third year MBBS block 9, Module 22, Dated: 17-11-25 to 22-11-25							
	Lecture 08:00 to 08:45	**Lecture 08:45 to 09:30**	**Ward 09:30 to 11:00**	**Practical/tutorial 11:00 to 12:15**	**Lecture 12:15 to 01:00**	**BREAK**	**Tutorial 01:15 to 02:00**
Mon 17-11	Community Medicine CMFH1-CM-005	Pharmacology	Clinical rotation	A-pathology practical (Micro Re2-Pa022) B-Community Medicine (MSDS) C-forensic practical (FOR3-TOX-033/34) D-CFRC skills LAB	Pathology MS2-PA-001		PERL
Tue 18-11	Pathology	Pharmacology	Clinical rotation	B-pathology practical (Micro Re2-Pa022) C-Community Medicine (MSDS) D-Forensic Practical (FOR3-TOX-033/34) A-CFRC skills LAB	Community medicine CMFH1-CM-006		
Wed 19-11	Forensic Medicine FOR-3-TOX-009/10	Community Medicine CMFH1-FM-001	Clinical rotation	C-pathology practical (Micro Re2-Pa022) D-Community Medicine (MSDS) A-Forensic Practical (FOR3-TOX-033/34) B-CFRC skills LAB	Pathology MS2-PA-001		Behavioral Science
Thur 20-11	Community Medicine CMFH1-FM-002	Pharmacology	Clinical rotation	D-pathology practical (Micro Re2-Pa022) A-Community Medicine (MSDS) B-Forensic Practical (FOR3-TOX-033/34) C-CFRC skills LAB	Forensic Medicine FOR-3-TOX-011/12		
Fri 21-11	Community Medicine CMFH1-FM-003	Forensic Medicine FOR-3-TOX-013	Clinical rotation	A & B pathology tutorial C & D pharmacology tutorial			
Sat 22-11	Medicine CMFH1-CM-005	Community Medicine CMFH1-FM-004	Clinical rotation	C & D pathology tutorial A & B pharmacology tutorial	Community Medicine Field Visits		

WEEK 8: Time Table Third year MBBS block 9, Module 22, Dated: 24-11-25 to 29-11-25							
	Lecture 08:00 to 08:45	**Lecture 08:45 to 09:30**	**Ward 09:30 to 11:00**	**Practical/tutorial 11:00 to 12:15**	**Lecture 12:15 to 01:00**	**BREAK**	**Tutorial 01:15 to 02:00**
Mon 24-11	Community Medicine CMFH1-FM-006	Pharmacology	Clinical rotation	A-pathology practical (Micro Re2-Pa023) B-Community Medicine (MSDS) C-forensic practical (FOR3-TOX-035) D-CFRC skills LAB	Pathology		PERL
Tue 25-11	Pathology	Pharmacology	Clinical rotation	B-pathology practical (Micro Re2-Pa023) C-Community Medicine (MSDS) D-Forensic Practical (FOR3-TOX-035) A-CFRC skills LAB	Community medicine CMFH1-FM-007		Medicine
Wed 26-11	Forensic Medicine FOR-3-TOX-014/15	Community Medicine CMFH1-FM-008	Clinical rotation	C-pathology practical (Micro Re2-Pa023) D-Community Medicine (MSDS) A-Forensic Practical (FOR3-TOX-035) B-CFRC skills LAB	Pathology		Behavioral Science
Thur 27-11	Community Medicine	Pharmacology	Clinical rotation	D-pathology practical (Micro Re2-Pa023) A-Community Medicine (MSDS) B-Forensic Practical (FOR3-TOX-035) C-CFRC skills LAB	Forensic Medicine FOR-3-TOX-016/17		
Fri 28-11	Community Medicine	Forensic Medicine FOR-3-TOX-018/19/20/21	Clinical rotation	A & B pathology tutorial C & D pharmacology tutorial			
Sat 29-11	Surgery	Community Medicine	Clinical rotation	C & D pathology tutorial A & B pharmacology tutorial	Community Medicine Field Visits		

WEEK 9: Time Table Third year MBBS block 9, Module 22, Dated: 01-12-25 to 06-12-25							
	Lecture 08:00 to 08:45	**Lecture 08:45 to 09:30**	**Ward 09:30 to 11:00**	**Practical/tutorial 11:00 to 12:15**	**Lecture 12:15 to 01:00**	**BREAK**	**Tutorial 01:15 to 02:00**
Mon 01-12	Community Medicine	Pharmacology	Clinical rotation	A-pathology practical B-Community Medicine (MSDS) C-forensic practical (FOR3-FS-011/12) D-CFRC skills LAB	Pathology		PERL
Tue 02-12	Pathology	Pharmacology	Clinical rotation	B-pathology practical C-Community Medicine (MSDS) D-Forensic Practical (FOR3-FS-011/12) A-CFRC skills LAB	Community medicine		Medicine
Wed 03-12	Forensic Medicine FOR-3-FS-001	Community Medicine	Clinical rotation	C-pathology practical D-Community Medicine (MSDS) A-Forensic Practical (FOR3-FS-011/12) B-CFRC skills LAB	Pathology		Behavioral Science
Thur 04-12	Community Medicine	Pharmacology	Clinical rotation	D-pathology practical A-Community Medicine (MSDS) B-Forensic Practical (FOR3-FS-011/12) C-CFRC skills LAB	Forensic Medicine FOR-3-FS-002		
Fri 05-12	Community Medicine	Forensic Medicine FOR-3-FS-003	Clinical rotation	A & B pathology tutorial C & D pharmacology tutorial			
Sat 06-12	Surgery	Community Medicine	Clinical rotation	C & D pathology tutorial A & B pharmacology tutorial	Community Medicine Field Visits		

THEORY			
COMMUNITY MEDICINE			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 44	
		INTEGRATING DISCIPLINE	TOPIC
CMFH1-CM-001	To understand the development of Public Health in Pakistan.	Community Medicine	Health Systems in Pakistan
	To describe the Health Policy and planning in Pakistan.		
	To explain the background, concepts and progress made towards achieving "Health for all",		
	To understand the concepts and assess the progress of "Primary Health Care"		
	To describe the National Disease Control programs including policies, strategies and operations.		
	To analyze the roles Federal and Provincial Governments in managing Healthcare services in Pakistan		
	To understand The District Health System, in the context of devolution. The Physician as a manager: Functions of manager management of material, human and financial resources.		
	To understand key principles of leadership and motivation in healthcare settings		
	To describe the collaboration between the public and private sectors in health care		
	To evaluate the role of Non-governmental Organizations and International Agencies.		
	To analyze the resources available for health.		
	To understand the importance of community mobilization		
CMFH1-CM-002	To understand the background, concepts, uses and basic measurements of epidemiology (morbidity, mortality, disability and fatality)	Community Medicine	General Epidemiology and
	To describe the different epidemiological methods including descriptive, analytic and experimental approaches		
	To differentiate between association and causation		Research Methodology and Screening
	Investigation of an outbreak or an epidemic.		
	To understand the principles and methods of disease screening		
	To conduct a community diagnosis and interpret its findings		
	To describe research and survey methodologies		

CMFH1-CM-003	To understand the composition of air	Community Medicine	Environmental Health Sciences
	To describe the causes of air pollution and methods of air purification		
	To explain the diseases caused by impurities in the air and their prevention		
	To identify the sources of water and understand daily water requirements		
	To analyze the causes of water pollution and methods for its prevention		
	To understand the process of water purification and water quality standards		
	To describe diseases caused by polluted water and their prevention		
	To explain the contents, hazards, and safety measures for the disposal of solid and liquid waste from domestic, industrial, and hospital sources and To understand global and marine problems related to waste disposal		
	To differentiate between climate and weather		
	To analyze global environmental concerns like greenhouse effect, depletion of Ozone layer and acid rains		
	To explain the effects of extremes in temperature, humidity, and atmospheric pressure on human health, along with prevention methods		
	To describe the sources, types, causes, hazards, and prevention of radiation exposure		
	To understand the concepts of healthful housing and the challenges faced in urban and rural slums		
	To define noise, its causes, acceptable levels, and the hazards and methods of control		
CMFH1-CM-004	Definitions to differentiate between Infection, contamination, pollution, infestation	Community Medicine	Prevention and control of Infectious diseases
	To understand the terminology of Infectious disease, communicable disease, contagious disease		
	To define Host, Immune and susceptible persons		
	To differentiate between Sporadic, Endemic, Epidemic, Pandemic, Epizootic, Exotic and Zoonotic		
	To understand the roles of contact, fomites, carriers, insect vectors, and reservoirs of infection		
	To describe the incubation period, infective period, and generation time		
	To differentiate between cross infection, nosocomial infections, opportunistic infections, and iatrogenic disorders (Physician induced)		
	To explain the concepts of surveillance, control, eradication, and elimination		
	To analyze the various modes of disease transmission		
	To understand the principles of disease prevention and control		
	To describe the methods and types of disinfection		
	To explain the concept of immunity		
	To identify different immunizing agents		

CMFH1-CM-005	Describe the concepts aims and approaches of IEC and approaches used in public health (Knowledge)	Community Medicine	Communication, information and health education
	Recall the contents, principles and stages of health education (Knowledge)		
	Explain the process, types, methods and barriers of communication		
	Identify the role of health care provider in health education (knowledge)		
	Plan, organize and evaluate a health education program (skill)		
	Describe the concept of social marketing and its' applications in health sector (knowledge and skill)		
	Conduct health education sessions		
CMFH1-CM-006	Developing new models for patient care, such as telemedicine, personalized medicine, and digital health tools.	Community Medicine	Clinical entrepreneurship
	Focusing on improving patient outcomes and experiences through technology, services, or products that cater to specific needs		
	Working with professionals from various fields—technology, business, and healthcare—to foster innovation and create comprehensive solutions.		
	Identifying gaps in the market and understanding patient and provider needs to create viable business models.		
	Designing solutions that can grow and adapt over time while maintaining quality and efficiency.		
	Securing funding through grants, venture capital, or partnerships to support the development and launch of new products or services.		
	Utilizing advancements in technology, such as AI, big data, and wearables, to enhance clinical practice and patient management targeting ethical and social responsibility		

FAMILY MEDICINE			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 15	
		INTEGRATING DISCIPLINE	TOPIC
CMFH1-FM-001	Understand and describe the impact of social, demographic, cultural, environmental, and climate factors on health and disease.	Community Medicine	Epidemiology
CMFH1-FM-002	Describe principles of prevention and control and apply them to common/prevalent diseases		Health promotion
CMFH1-FM-003	Describe the role, purpose, and method of counseling and patient education		Counselling and advocacy
CMFH1-FM-004	Discuss breaking bad news and effective communication strategies and their role in violence de-escalation and management.		Communicati on skills
CMFH1-FM-005	Understand the history and evolution of general practice as a medical specialty and the structure and organization of general practice at national and international levels.	Medicine, surgery	Scope of GP practice
CMFH1-FM-006	Describe health literacy and shared decision-making concepts.	Community Medicine	Concept of health & disease
	Discuss evidence-based clinical decision-making.		
	Describe different healthcare models and the concept of universal health coverage.		
CMFH1-FM-007	Define and apply ethical practices in clinical decisionmaking within family medicine		Epidemiology of diseases
	Discuss the principles of patient-centered care, focusing on the individual's needs and preferences.		
CMFH1-FM-008	Discuss the importance of quality care across preventive, therapeutic, rehabilitative, and palliative domains of healthcare.		Preventive medicine
	Learn how to effectively utilize available healthcare resources to optimize patient care.		
CMFH1-FM-009	Implement strategies to reduce risk in clinical practice and ensure patient safety being a safe doctor	Medicine & surgery	Patient Safety

PRACTICAL / LAB WORK			
COMMUNITY MEDICINE			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 10	
		INTEGRATING DISCIPLINE	TOPIC
CMFH1-CM-007	To assess the application of standards and KPIs in hospital lab settings and Blood banks	Pathology	MSDS Standards
	To assess the application of standards and Quality assurance indicators for imaging services	Radiology	
	To assess the application of standards and Quality assurance indicators for emergency services	Emergency and traumatology	
	To assess the application of standards and Quality assurance indicators for high-risk obstetrical services	Gynae & Obs	
	To assess the application of standards and Quality assurance indicators for anesthetic services	Anaesthesia	
	To assess the application of standards and Quality assurance indicators for surgical procedures	Surgery and Allied	
	To assess the application of standards and Quality assurance indicators for prescription and dispensing and administration of the drugs	Working Pharmacies	
	To assess the application of standards and Quality assurance indicators for patients' rights and education	Medical and Surgical OPDS	
	To collect data and transform into a report with recommendations	Community Medicine	

FAMILY HEALTH			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 10	
		INTEGRATING DISCIPLINE	TOPIC
CMFH1-FM-010	Conduct patient history and physical exams. Identify common conditions and refer when necessary. Develop patient-centered management plans.	General OPD	History taking and physical examination. Diagnosis of acute and chronic conditions. Patient education on lifestyle and disease management. Recognizing red flags and making appropriate referrals.
CMFH1-FM-011	Symptomatic Approach to Adults with nutritional supplements	Clinical pharmacology	Fever, Body aches and Pain, Flulike symptoms, Cough (Dry & Productive), Muscles Pain, Joint Pains, Diarrhea, Dysentery, Abdominal Cramps and Allergic Reactions
CMFH1-FM-012	Symptomatic Approach to pregnant female with nutritional supplements	Gynae & Obs.	Fever, Body aches and Pain, Flulike symptoms, Cough (Dry & Productive), Muscles Pain, Joint Pains, Diarrhea, Dysentery, Abdominal Cramps and Allergic Reactions

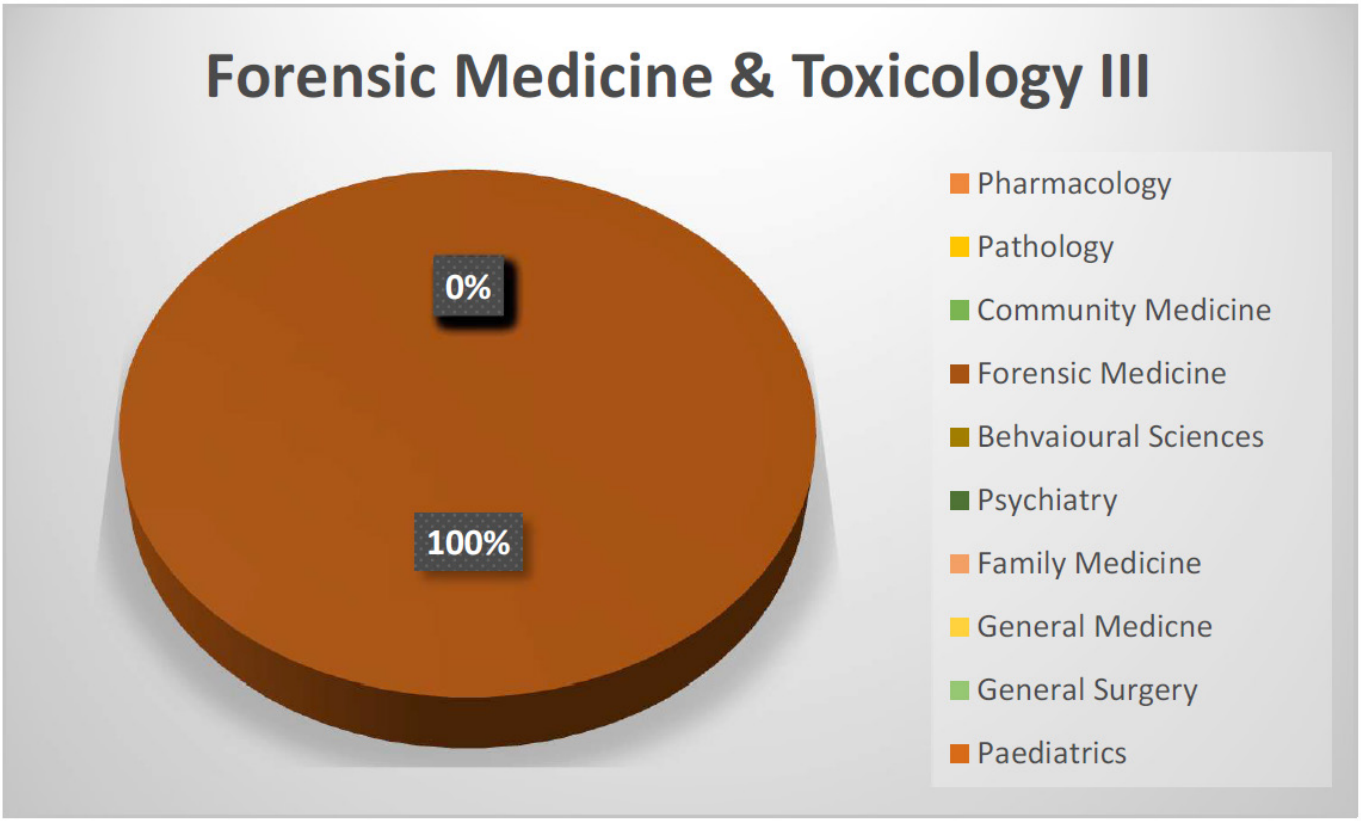
CMFH1-FM-013	Symptomatic Approach to children with nutritional supplements	Clinical pharmacology	Fever, Body aches and Pain, Flulike symptoms, Cough (Dry & Productive), Diarrhea (Role of ORS / Homemade), dysentery, Abdominal Cramps and Allergic Reactions
CMFH1-FM-014	Engage in community health promotion and disease prevention. Participate in health screening, vaccination drives, and education.	Community Health Center Rotation	Conduct health education sessions and screening programs Participate in vaccination drives and community outreach activities. Identify health needs in the community and implement preventive strategies.

CLINICAL ROTATIONS / COMMUNITY HEALTHCARE			
COMMUNITY MEDICINE			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 36	
		INTEGRATING DISCIPLINE	TOPIC
CMFH1-CM-008	Assess the appropriateness of location of a water purifying facility. Elaborate the process of delivering and transporting water to a water treatment plant. Differentiate the critical aspects of water supply from various sources. Identify the physical and chemical characteristics of the water. Determine the characteristics of the ingredients contained in water purification plants. Characterize infectious organisms and indicators. Explain how chemical compounds affect human health. Discuss the physical, chemical, and biological unit operations that are commonly encountered in treatment processes; Determine which rules, regulations, and guidelines govern the selection of various water treatment processes at the local, national, and international levels. Highlight the requirement for surface water and some ground water treatment for drinking reasons. Comprehend the role of each treatment procedure in the treatment of drinking water. Provide a fundamental overview of technology selection. Evaluate the working of water treatment plants.	Community Medicine	Water purification plant/Water testing lab
CMFH1-CM-009	Identify working biomedical waste department Describe various type of biomedical waste & their disposal in hospital Explain with rationale about the waste management plan of their hospital Describe color coding scheme for various type of waste according to WHO Describe the various methods to dispose of waste, their advantages and disadvantages. Describe non risk waste Describe risk waste Describe incineration working and cost analysis Describe storage site of waste at hospital	Community Medicine	Visit to hospital waste management

CMFH1-CM-010	Describe the various physical, emotional and cognitive disabilities experienced by people who receive rehabilitation services and understand their functional limitations. Explain the medical & psychosocial impact of disabilities. Explain the impact of society's attitudes towards disabilities on the treatment of people with disabilities Critically evaluate the effect of physical, mental, gender, racial, cultural, and environmental factors on the lives of people with disabilities. Develop interaction skills to accommodate cultural sensitivity when working with consumers & their families. Explain the local context to familiarize the wide variety of generic and specialized community resources available to serve people with disabilities. Describe the major services provided in rehabilitation (e.g., rehabilitation counseling, vocational evaluation, adjustment services, job placement, physical restoration, environmental adaptations). Explain the role of the rehabilitation case manager in coordinating services for people with disabilities. Explain the local, state, and federal laws that affect rehabilitation services and the rights of people with disabilities. Explain the importance of advocacy (including selfadvocacy) in the field of rehabilitation Discuss awareness and imparting skills to empower consumers to be active participants in their own rehabilitation plan. Critically appraise the ethical guidelines based on principles that encompass the rehabilitation field. Develop the verbal, written, and nonverbal communication skills necessary to work with people with disabilities, their families, and other service providers. Develop basic rehabilitation service delivery skills Describe the rehabilitation process and techniques used to evaluate eligibility for services, assess consumers to identify employment and independent living options, develop appropriate treatment plans, and provide followup Explain the similarities and differences among public, private not-for-profit, and private-for-profit rehabilitation practice. Discuss the community-based employment options for individuals with disabilities Recognize the social, political, economic, and legal issues pertinent to an aging society and rehabilitation Develop the knowledge and skills pertinent to the procedures and programs provided to persons with developmental disabilities. Develop the knowledge and skills pertinent to the procedures and programs provided to persons with psychiatric disabilities	Community Medicine	Visit to Rehabilitation center

	Develop the knowledge and skills to train, supervise, and evaluate employees who are providing direct care to consumers. Discuss the professional organizations, professional journals, and job opportunities in the field of rehabilitation. Discuss the integration of the biological, physical, behavioral, and clinical sciences into physical therapy services Exhibit professional conduct and behaviors that are consistent with the legal and ethical practice of physical therapy. Demonstrate compassion, care, integrity, and respect for differences, values, and preferences in all interactions with patients/clients, family members, health care providers, students, other consumers, and payers. Screen patients/clients to determine if they are candidates for physical therapy services or if a referral to, or consultation with, another health care professional oragency is warranted. Complete a patient/client examination/re-examination and evaluate and interpret the examination data to determine a physical therapy diagnosis and prognosis Employ critical thinking, self-reflection, and evidencebased practice to make clinical decisions about physical therapy services. Collaborate with patients/clients, caregivers, and other health care providers to develop and implement an evidence-based plan of care that coordinates human and financial resources. Critically appraise the services and information related to health promotion, fitness, wellness, health risks, and disease prevention within the scope of physical therapy practices and rehabilitation		
CMFH1-CM-011	Apply 5 levels of prevention for diseases of public health importance. Design and implement community-based Health education and promotion projects. Collect, organize, analyze, interpret and disseminate data of disease burden in community and present report	Community Medicine	Visit to BHU & RHCs
CMFH1-CM-012	House hold survey of 10 houses. Data collection and report writing	Community Medicine	Acquired community in vicinity of Medical College

MODULE - 23
FORENSIC MEDICINE AND TOXICOLOGY III



Module weeks	Recommended Minimum Hours
1.14	40

End of module assessment
Written paper
25 MCQ, s 5 SEQ, s

	Subject	MCQ, s	SEQ	
	Forensic Medicine	25	5	

Module committee

Co Ordinator		
Co-coordinator		
Member	Forensic Medicine	
Member		
Member		
Member		
Member		
Member		
Member		

MODULE RATIONALE

This module prepares the 3rd year MBBS students for the real-world challenges of crime scene investigation, medico-legal frameworks of Pakistan, and dealing with cases of poisoning. This module is critical in developing a holistic understanding of the intersection of the medical profession and law.

MODULE OUTCOMES

- Describe different types of Laws
- Define legal terms relevant to medical practice and explain procedures in the courts of law
- Explain legal aspects of medical practice
- Discuss the principles and methods of crime scene investigations
- Describe different analytical techniques to diagnose the nature of poison/drugs

SUBJECTS INTEGRATED IN THE MODULE

1. Pathology
2. Pharmacology
3. Behavioral Sciences

WEEK 10: Time Table Third year MBBS block 9, Module 23, Dated: 08-12-25 to 13-12-25							
	Lecture 08:00 to 08:45	**Lecture 08:45 to 09:30**	**Ward 09:30 to 11:00**	**Practical/tutorial 11:00 to 12:15**	**Lecture 12:15 to 01:00**	**BREAK**	**Tutorial 01:15 to 02:00**
Mon 08-12	Community Medicine	Pharmacology	Clinical rotation	A-pathology practical B-Community Medicine (MSDS) C-forensic practical (FOR3-FS-013/14) D-CFRC skills LAB	Pathology		PERL
Tue 09-12	Pathology	Pharmacology	Clinical rotation	B-pathology practical C-Community Medicine (MSDS) D-Forensic Practical (FOR3-FS-013/14) A-CFRC skills LAB	Community medicine		Medicine
Wed 10-12	Forensic Medicine FOR-3-FS-004	Community Medicine	Clinical rotation	C-pathology practical D-Community Medicine (MSDS) A-Forensic Practical (FOR3-FS-013/14) B-CFRC skills LAB	Pathology		Behavioral Science
Thur 11-12	Community Medicine	Pharmacology	Clinical rotation	D-pathology practical A-Community Medicine (MSDS) B-Forensic Practical (FOR3-FS-013/14) C-CFRC skills LAB	Forensic Medicine FOR-3-FS-005		
Fri 12-12	Community Medicine	Forensic Medicine FOR-3-FS-006/7	Clinical rotation	A & B pathology tutorial C & D pharmacology tutorial			
Sat 13-12	Surgery	Community Medicine	Clinical rotation	C & D pathology tutorial A & B pharmacology tutorial	Community Medicine Field Visits		

WEEK 11: Time Table Third year MBBS block 9, Module 23, Dated: 15-12-25 to 20-12-25							
	Lecture 08:00 to 08:45	**Lecture 08:45 to 09:30**	**Ward 09:30 to 11:00**	**Practical/tutorial 11:00 to 12:15**	**Lecture 12:15 to 01:00**	**BREAK**	**Tutorial 01:15 to 02:00**
Mon 15-12	Community Medicine	Pharmacology	Clinical rotation	A-pathology practical B-pharmacology practical C-forensic practical D-CFRC skills LAB	Pathology		PERL
Tue 16-12	Pathology	Pharmacology	Clinical rotation	B-pathology practical C-pharmacology practical D-Forensic Practical A-CFRC skills LAB	Community medicine		Medicine
Wed 17-12	Forensic Medicine FOR-3-FS-008/9/10	Community Medicine	Clinical rotation	C-pathology practical D-pharmacology practical A-Forensic Practical B-CFRC skills LAB	Pathology		Behavioral Science
Thur 18-12	Community Medicine	Pharmacology	Clinical rotation	D-pathology practical A-pharmacology practical B-Forensic Practical C-CFRC skills LAB	Forensic Medicine FOR-3-FSC-001		
Fri 19-12	Community Medicine	Forensic Medicine FOR-3-FSC-002/3	Clinical rotation	A & B pathology tutorial C & D pharmacology tutorial			
Sat 20-12	Surgery	Community Medicine	Clinical rotation	C & D pathology tutorial A & B pharmacology tutorial	Community Medicine Field Visits		

THEORY			
LAW			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 05	
		INTEGRATING DISCIPLINE	TOPIC
For3-L-001	Define and describe different types of law.	Forensic Medicine	Law
For3-L-002	Describe different levels of courts of Pakistan and their judicial powers.		Hierarchy of courts and their judicial powers
For3-L-003	Define different legal terms.		Legal Terms and Procedures
	Understand legal procedures and its presentation in the courts		
For3-L-004	Define and describe types of evidence		Evidence
	Describe the stages of presentation of evidence in the court of law.		
	Explain the types of witness and its presentation in the court		
	Differentiate between dying deposition and declaration.		
For3-L-005	Describe general presumptions and exemptions in law to fix the criminal responsibility		Forensic psychiatry and Criminal Responsibility
	Define insanity, immaturity and intoxication.		
	Define illusions, delusions and hallucinations and their types and medico legal significance.		
	Differentiate between true and feigned insanity.		
	Reproduce different sections of PPC dealing with these factors.		
	Describe Mc Naughtan's rule, Durham,s rule to test the criminal responsibility.		
	Outline the fate of criminal responsibility- Unfit to plead, Diminished responsibility		
	State testamentary capacity.		
For3-L-006	Define consent; describe its types and its role in medical treatment, consent & its legal basis.	Forensic medicine & Behavioral sciences	Consent
	Differentiate between valid and invalid consent.		
	Outline standard procedure of informed consent.		
	Explain the informed consent procedure from a patient before undergoing a major surgical procedure		
	Explain the consent protocol of a minor		
	Prepare a blanket consent form		
	Apply modified procedure of consent taking in special Circumstances.		
For3-L-007	Define medical bioethics.		Doctor patient relationship
	Describe principles of ethics.		
	Explain different codes of medical ethics		
	Reproduce duties of doctor towards patients, society and state.		
	Outline the factors responsible for the deterioration of ethical values in medical practice.		
For3-L-008	Explain professional misconduct and its different types.		Professional misconduct
	Describe professional secrecy, privileged communication, medico legal significance of medical records.		

For3-L-009	Differentiate between professional misconduct and professional negligence.	Forensic medicine & Behavioral sciences	Professional Negligence
	Describe different types of professional negligence.		
	Establish the extent of damage to patient in medical practice.		
	Outline the laws dealing with negligence.		
For3-L-010	Describe composition of PMDC	Forensic Medicine	Laws dealing with medical practice
	Explain functions of body-supervision of standards of proficiency, maintenance of register, disciplinary powers.		
	Compare composition of PMDC and PMC ACT 2020		
	Describe objective of ALLOPATHIC SYSTEM 1962		
	Outline Medical and Dental Degree Ordinance 1982.		
	Explain relevant sections of Drug act 1976 and subsequent Amendments.		
	Write Dangerous drug act 1930 and their different sections and rules.		
For3-L-011	Describe sections2,4,5 and 6 of Hadood Ordinance 1979		Laws dealing with sexual offences Hadood Ordinance 1979, Women Protection Act 2006 Legal aspects of marriage, Muslim family law ordinance 1961.
	Explain natural & un-natural sexual offences		
	Reproduce criteria of legal marriage and dissolution of marriage.		
For3-L-012	Define different terms used in the Qisas and Diyat Act relevant to hurt and Qatl		Law relevant to Hurtand killings Qisas and Diyat Act 1997
	Classify hurt and its subtypes as per Qisas and Diyat Act 1997		
	Classify QATL and its subtypes.		
	Describe ISQAT-E-HAML AND ISQAT-E-JANIN.		
For3-L-013	Understand Mental Health Act 2001		Law relevant to mental health
	Describe the composition and functions of the FEDERAL MENTAL HEALTH AUTHORITY. SEC 3		
	Explain composition and functions of BOARD OF VISITORS.SEC 4		
	Reproduce duration for period of detention for assessment, treatment, urgent admission and emergency holding.SEC 9		
	Outline the procedure of admission of the patient in the psychiatric centre. SEC 10,11		
	Explain holding of mentally disordered persons wandering in public places. SECT19		
	Write the procedure of discharge from psychiatric centre SEC 20		

For3-L-014	Define child abuse	Forensic Medicine	Laws relevant to Domestic violence Child abuse,
	Explain epidemiology		
	Describe clinical features		
	Diagnose a case of child abuse.		
	Reproduce medico legal significance. Apply the knowledge to relevant situation for problemsolving		
For3-L-015	Describe the provisions for medical aid and treatment of injured persons to save their lives and protect their health during emergency.		Injured Person (Medical Aid) Act 2004
	Describe the concept of the ancient law of torts		
For3-L-016	Diagnose the injuries causing disablement and percentage loss of earning capacity.		Workman Compensation Act 1923 Employee social security ordinance 1965
For3-L-017	Discuss the Health Commission Act		Health Commission Act
For3-L-018	Describe the Consumers Protection Act in relation to Forensic Medicine		Consumers Protection Act
For3-L-019	Define and classify euthanasia.		
	Describe different progonist and antagonist views.		
	Reproduce global laws relevant to euthanasia.		
For3-L-020	Define and classify suicide.	Forensic Medicine	Suicide
	Describe different views about suicide in society.		
	Elaborate high risks groups.		
	Explain different methods used		
	Reproduce preventive measures.		
	Discuss moral and ethical issues.		
	Explain the psychopathology of suicide		

GENERAL TOXICOLOGY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 04	
		INTEGRATING DISCIPLINE	TOPIC
For3-Tox-001	Enlist & define various branches of Toxicology	Forensic Medicine & Chemical Pathology	General Toxicology
	Define terms like drug, poison, dose, acute and chronic poisoning.		
	Explain the therapeutic index and toxicity rating scale		
	Quote and cite characteristics of homicidal, suicidal, and accidental poisons in home and environment		
	Describe preventive measures of such poisonings		
For3-Tox-002	Differentiate between Drug and Poison Classify different poisons according to their mode of action		Classification of Poisons
	Enumerate legal classification of poisons		
For3-Tox-003	Describe routes of absorption, sites of metabolism and routes of excretion of poisons Enlist and describe different factors that modify the patient's response to a toxic agent.		Factors affecting the absorption of poison
For3-Tox-004	Enlist the clinical, ethical & statutory duties of a doctor while managing a case of poisoning. Collection, preservation, storage and dispatch of samples for toxicological analysis		Duties of doctor
For3-Tox-005	Diagnose a case of poisoning in living Enlist various bed side tests used for diagnosis of poisoning Interpret post-mortem findings in a suspected case of poisoning		Diagnosis of a Poisoning case
For3-Tox-006	Apply general principles in treatment of poisoning cases Prescribe general treatment measures to poisoning cases Briefly describe the procedures to remove the unabsorbed poisons from the body Describe the procedure of Gastric lavage Enlist complications of Gastric Lavage Enumerate contra indications of gastric lavage procedure Describe the role of Activated Charcoal in poisoning patient Enlist indications & contraindications of administering cathartics in poisoning cases Classify antidotes according to their mode of action Define & classify Chelators Enlist properties of ideal chelating agents Enlist &briefly describe the methods of removal of absorbed poisons from the body		Treatment of a poisoned patient
For3-Tox-007	Enlist medico-legal implications of poisoning cases Comprehend different laws relating to poisons & drugs Enlist important relevant points of Rule 8, Rule 13 & Rule 14 of the Dangerous Drug Act 1930 Enlist WHO recommendations being incorporated in the Drug act 1976 Enlist the WHO criteria for Drug Dependence Define National Formulary	Forensic Medicine & Chemical Pathology	Laws related to Drugs & poisons

For3-Tox-008	Explain, observe/perform the following analytical techniques: I. Spectrophotometric: i. Calorimetric ii. Fluorometric iii. Automation. II. Chromatographic: i. Thin layer chromatography (TLC). ii. Gas liquid chromatography (GLC). iii. High pressure liquid chromatography (HPLC). iv. Gas liquid mass spectrometry (GL-MS). III. Competitive binding assay or immunoreactive assay: i. Radioimmunoassay (RIA). ii. Enzyme immunoassay (EIA). iii. Fluorescent Polarization immunoassay (FPIA). iv. Immunoturbidimetric assay.	Forensic Medicine & Chemical Pathology	Analytical techniques

SPECIAL TOXICOLOGY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 04	
		INTEGRATING DISCIPLINE	TOPIC
For3-Tox-009	Classify corrosive poisons. Describe sources, physical and chemical properties. Explain mechanism of action. Write the fatal dose and fatal period. Describe the clinical features of the poison. Manage the patient clinically. Explain the autopsy findings. Describe medico-legal aspects. Define Vitriol age. Apply the relevant section of qisas and diyat act to the hurt caused by the poison.	Forensic medicine & medicine	Corrosives Mineral acids- Sulfuric acid Nitric acid Hydrochloric acid Strong alkalis
For3-Tox-010	Classify corrosive poisons. Describe sources, physical and chemical properties. Explain mechanism of action. Write the fatal dose and fatal period. Describe the clinical features of the poison. Manage the patient clinically. Explain the autopsy findings. Describe medicolegal aspects.		Organic acid – Oxalic acid, Carbolic acid, Hydrocyanic acid
For3-Tox-011	Classify snakes Differentiate between poisonous and non-poisonous snakes. Tabulate the differences between the elapids and vipers. Discuss the characteristics of snake venom. Describe the clinical feature of venomous snake bite. Explain clinical management of venomous snake bite. Discuss post mortem features and medico legal aspects of venomous snake bite.	Forensic medicine & medicine	Irritant Poisons Snakes- Elapids Vipers Hydrophidate or seasnakes

For3-Tox-012	Describe the sources, properties, routes of absorption of the poison. Reproduce the fatal dose, clinical features of the poison. Outline the clinical management of such case. Enlist the samples to be collected, preserved and sent to chemical examiner for its detection. State the post mortem appearances of the poison. Explain the medico legal aspects of acute poisoning of the poison. Describe the clinical features of chronic poisoning of the poison. Explain the laboratory investigations to establish the diagnosis. Summarize the clinical management of a case of poisoning with irritant poisons Describe post mortem findings. Describe post mortem findings. Discuss medico legal aspects of chronic poisoning.	Forensic medicine & medicine	Irritant Metallic poisons – (Inorganic metallic origin- Arsenic, Mercury, Lead, Copper Nonmetallic irritant poisons- Phosphorus
For3-Tox-013	Classify pesticides. Classify organophosphates. Describe the sources of exposure, mechanism of action and fatal dose and fatal period Explain clinical features of poisoning Summarize laboratory investigations and bed side test to confirm the diagnosis. Enlist the samples to be collected and sent to the chemical examiner. Know the clinical management. Reproduce the autopsy findings. Discuss the medico legal aspects.		Agricultural poisons – Organophosphates, Carbamates, Chlorinated Hydrocarbon, Endrin Paraquet Aluminium Phosphide
For3-Tox-014	Recall physical and chemical properties of the poison Describe different preparations of Cannabis Explain clinical features in acute and chronic poisoning, Reproduce fatal dose and fatal period. Know the clinical management of the poison. Enlist the samples to be collected and sent to the chemical examiner. Describe autopsy findings of the case. Explain the difference between the seeds of Datura and chilli. Outline medico legal aspects of acute and chronic poisoning.	Forensic medicine & medicine	Deleriant Poisons – Dhatura Canabis Sativa
For3-Tox-015	Classify barbiturates. Know fatal dose and fatal period. Describe clinical features. Explain clinical management. Describe autopsy findings. Reproduce medico legal importance.	Pharmacology	Sedatives and Hypnotics – Barbiturates
For3-Tox-016	Classify alkaloids of opium. Know the fatal dose and fatal period. Describe clinical features in acute and chronic poisoning. Describe the differential diagnosis of opium coma. Know laboratory investigations and bedside test. Explain clinical management. Explain autopsy findings Reproduce medico legal aspects Define drug dependence. Differentiate between drug dependence and drug habituation. Enlist drugs Describe criteria of drug dependence as per WHO criteria. of dependence.		Somniferous / Narcotics– (Opium - Morphine, Heroine Drugs of dependence

For3-Tox-017	Define Alcohols Describe different alcohol beverages with different alcohol concentrations. Explain toxicokinetic of alcohols Reproduce clinical features of acute ethyl alcohol poison. Correlate different clinical features with different BAC. Outline clinical management of poisoning Describe the laboratory investigation and samples to be sent to the chemical examiner. Describe protocol of examination of a drunken person. Describe autopsy findings. Reproduce medicolegal aspects. Describe clinical features of alcoholism. Explain clinical features of methanol toxicity Describe autopsy findings Reproduce medicolegal aspects of methanol poisoning.	Pharmacology	Inebriants – Ethyl Alcohol / Methanol,
For3-Tox-018	Describe the sources of exposure of asphyxiant gases. State the mechanism of action. Explain clinical features of poisoning. Reproduce clinical management of cases of poisoning. Enlist samples to be collected and sent to chemical examiner. Outline autopsy features Explain medico legal aspects of acute poisoning of asphyxiants gases.	Forensic Medicine	Asphyxiant Gases - Carbon Mono oxide, Hydrogen Sulphide, Carbon Dioxide
For3-Tox-019	Describe source of exposure Explain methods of inhalation. Reproduce clinical features Know the diagnostic findings on X rays chest. Explain clinical management Discuss autopsy findings Outline medico legal aspects of acute poisoning.		CNS Stimulant – Cocaine Amphetamine Methyl phenidate (ritalin) Hallucinogens-LSD,MESCALINE,PHENCYCLIDINE Tricyclic anti depressants - Sheesha (Nicotine + Fruits & Herbal Flavors & Coal
For3-Tox-020	Describe source of exposure Explain methods of inhalation. Reproduce clinical features Know the diagnostic findings on X rays chest. Explain clinical management Discuss autopsy findings Outline medico legal aspects of acute poisoning	Forensic Medicine	Hydrocarbons--kerosene oil, Volatile substance abuse Glue sniffing Sniffling Huffed Bagged
For3-Tox-021	Describe source of exposure Reproduce clinical features Know the diagnostic findings Explain clinical management Discuss autopsy findings Outline medico legal aspects of acute poisoning.		Black stone Paraphenylene diamine (PPD)

FORENSIC SEROLOGY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 04	
		INTEGRATING DISCIPLINE	TOPIC
For3-FS-001	Define Forensic Serology Describe the Medico-legal importance of Forensic Serology	Forensic Medicine	Definition &medico-legal importance of Forensic Serology
For3-FS-002	Define Trace Evidence Classify Trace Evidence Describe Locard's Exchange Principle		Trace Evidence
For3-FS-003	Describe the protocol of scientific study (identification, collection, preservation, storage, labeling and transport to the concerned quarter) of trace evidentiary material.		Scientific study of trace evidentiary material
For3-FS-004	Enlist the medico-legal importance of different biological fluids & stains	Forensic Medicine	Biological fluids
For3-FS-005	Outline principles of chain of custody and its medicolegal significance		chain of custody
For3-FS-006	Briefly describe the principles of chemical & physiochemical tests to determine the presence of blood in suspected stains Interpret the physical characteristics of a blood stain	Pathology	Blood
	Describe the procedure of examination of blood stain comprising of physical, chemical, physiochemical & confirmatory tests		
	Discuss the principle & importance of spectroscopic analysis of blood in the stain.		
	Briefly describe microscopic, Immunological & enzymological methods for species determination of blood stain		
	Explain different blood group systems		
	Briefly describe medico-legal importance of blood grouping		
	Interpret the phenotype & genotype of different ABO blood groups		
For3-FS-007	Briefly describe the scheme for examination of Seminal stain including physical, chemical, microscopic & serological tests including DNA Analysis.	Forensic Medicine	Semen
	Briefly describe the Medico-legal importance of seminal stain		
For3-FS-008	Briefly describe the physical, chemical, serological & microscopic examination of hair		Hair
	Compare & contrast human and animal hair& hair like Structures as fibers.		
	Enlist the Medico-legal significance of hair		
For3-FS-009	Enumerate the tests for determination of other body fluids like Milk, saliva, urine, fecal matter		Body Fluids
	Briefly describe their medico-legal significance		
For3-FS-010	Explain the Structure of DNA.		DNA
	Describe DNA fingerprinting methods		
	Outline the samples needed for DNA profiling, their collection, preservation, storage and dispatch to the analyst.		
	Explain National DNA databank (CODIS).		
	Discuss Ethical Issues relevant to DNA.		

FORENSIC SCIENCES			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 02	
		INTEGRATING DISCIPLINE	TOPIC
For3-FSc-001	Describe search patterns of scene of crime. Photograph the area/object of interest from scene of crime. Examine, collect, preserve and dispatch traceevidence and record his findings at scene of crime. Identify the stains of different biological fluids, collect, preserve, dispatch and record his findings Explain and demonstrate screening, chemical and microscopic analysis of biological stains. Describe forensic analysis of DNA.	Forensic medicine	Principles and methods of crime scene investigation
For3-FSc-002	Describe the examination of firearm and tool mark evidence	Forensic medicine	Examination of firearm and tool mark evidence
For3-FSc-003	Explain the examination of broken glass		Examination of broken glass

PRACTICAL / LAB WORK			
LAW			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 02	
		INTEGRATING DISCIPLINE	TOPIC
For3-L-021	Demonstrate legal procedures and its presentation in the courts	Forensic Medicine	Legal Terms and Procedures
For3-L-022	Demonstrate presentation of different stages of evidence in the court of law.		Evidence
	Distinguish between different types of witness and its presentation in the court		
For3-L-023	Demonstrate the recording of dying deposition and dying declaration step wise.		Dying deposition and declaration

GENERAL TOXICOLOGY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 03	
		INTEGRATING DISCIPLINE	TOPIC
For3-Tox-022	Assess a suspected patient of poisoning	Forensic Medicine	Poisoning
	Collect, preserve & dispatch the routine viscera of a suspected poisoning case sent to chemical examiner		
	Demonstrate the procedure of gastric lavage on a mannequin		

SPECIAL TOXICOLOGY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 04	
		INTEGRATING DISCIPLINE	TOPIC
For3-Tox-023	Identify corrosive poisons. Describe identifying features. Recognize Autopsy features of H2SO4 and HNO3 Apply the relevant section of qisas and diyat act to the hurt caused by the poison	Forensic Medicine	Mineral acids-Sulfuric acid Nitric acid Hydrochloric acid Strong alkalis
For3-Tox-024	Identify organic acid corrosive poisons Describe identifying features. Explain laboratory investigations Recognize autopsy findings.	Forensic Medicine	Organic acid – Oxalic acid, Carbolic acid, Hydrocyanic acid
For3-Tox-025	Label salient differentiating features of poisonous and non-snakes. Identify snake bite wound. Apply the tourniquet above the site of bite of a patient.	Forensic Medicine	Irritant Animal Poisons (Snakes-Elapids Vipers Hydrophidate or seasnakes
For3-Tox-026	Identify poison. Describe identifying features. Identify features of chronic arsenic poisoning Identify chronic lead poisoning on x rays Identify chronic lead poisoning (basophilic stippling) on blood cell slide. Collect samples to be sent to the chemical examiner.	Forensic Medicine	Irritant Metallic poisons – (Inorganic metallic origin-Arsenic, Mercury, Lead, Copper Nonmetallic irritant poisons-Phosphorus
For3-Tox-027	Diagnose a case of insecticide poisoning Explain laboratory investigations Manage a case of insecticide poisoning Recognize autopsy features Collect, preserve and dispatch the specimens to chemical examiner Perform bedside test for certain pesticides (aluminium phosphide	Forensic Medicine	Agricultural poisons – Organophosphates, Carbamates Chlorinated Hydrocarbon, Endrin Paraquet Aluminum Phosphide
For3-Tox-028	Identify the poison Describe identifying features Diagnose a case of deliriant poisoning Explain lab investigation Manage the case Recognize autopsy features Collect, preserve and dispatch the specimens to chemical examiner	Forensic Medicine	Deliriant Poisons – Dhatura Canabis Sativa
For3-Tox-029	Diagnose a case of sedatives / hypnotic's toxicity Explain lab investigation Manage the case Recognize autopsy features Collect, preserve and dispatch the specimens to chemical examiner	Forensic Medicine	Sedatives and Hypnotics – Barbiturates

For3-Tox-030	Identify the poison (Opium / Poppy capsule) Describe identifying features Diagnose a case of narcotic poisoning Perform bedside test Explain lab investigations Recognize autopsy features Collect, preserve and dispatch the specimens to chemical examiner	Forensic Medicine	Somniferous / Narcotics– (Opium - Morphine, Heroine Drugs of dependence
For3-Tox-031	Diagnose a case of Acute alcohol Toxicity (Ethanol / Methanol) Explain lab investigations Manage the case Conduct examination of a case of ethyl alcohol toxicity and certify findings with opinion Collect appropriate samples Recognize autopsy features Collect, preserve and dispatch the specimens to chemical examiner	Forensic Medicine	Inebriants – Ethyl Alcohol / Methanol,
For3-Tox-032	Diagnose a case of Asphyxiant gases Explain lab investigations Manage the case Recognize autopsy features Collect, preserve and dispatch the specimens to chemical examiner	Forensic Medicine	Asphyxiant Gases - Carbon Mono oxide, Hydrogen Sulphide, Carbon Dioxide
For3-Tox-033	Identify the poison Describe identifying features Diagnose the case Explain lab investigation Manage the case Recognize autopsy features Collect, preserve and dispatch the specimens to chemical examiner	Forensic Medicine	CNS Stimulant – Cocaine Amphetamine Methyl phenidate (ritalin) Hallucinogens-LSD, MESCALINE, PHEN CYCLIDINE Tricyclic anti depressants - Sheesha (Nicotine + Fruits & Herbal Flavors & Coal)
For3-Tox-034	Identify the poison Diagnose the case Explain lab investigation. Manage the case Recognize autopsy features Collect, preserve, and dispatch the specimens to the chemical examiner	Forensic Medicine	Hydrocarbons--kerosene oil - Volatile substance abuse - Glue sniffing - Sniffling - Huffed - Bagged
For3-Tox-035	Identify the poison Diagnose the case Explain lab investigation Manage the case Recognize autopsy features Collect, preserve, and dispatch the specimens to the chemical examiner	Forensic Medicine	Black stone Paraphenylene diamine (PPD)

FORENSIC SEROLOGY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 06	
		INTEGRATING DISCIPLINE	TOPIC
For3-FS-011	Categorize different trace evidence to Biological & Non-biological sources	Forensic Medicine	Trace evidence
For3-FS-012	Identify, collect, preserve, label and dispatch trace evidentiary material to the concerned quarters.		The scientific study of trace evidentiary material
For3-FS-013	Interpret the physical characteristic of a suspected blood stain with naked eye & under UV lamp		Bloodstain
For3-FS-014	Preserve & seal the clothes with suspected blood/seminal stain	Forensic Medicine	Cloth examination
For3-FS-015	Perform Screening tests (Benzedine & Phenolphethein/Kastle Mayer) on suspected blood stain		Blood stain
	Identify the Takayama (Haemochoromogen) & Teichmann (Haemin) Crystals under the microscope		
	Identify different absorption bands of hemoglobin & its derivatives with spectroscope		
	Perform forward & reverse blood grouping techniques & interpret the results		
	Differentiate various species (human, hen, goat and camel) with the help of microscopic examination of RBCs		
For3-FS-016	Identify & confirm the presence of semen with the help of microscopic examination		Semen
For3-FS-017	Prepare the slide of hair & Differentiate Human & Animal Hair under the microscope		Hair
	Differentiate human/animal hair from cotton fiber, polyester fiber		

BLOCK - 9

(CFRC)
CLERKSHIPS ROTATION FOUNDATION CLINICAL SKILLS

BLOCK 9			
CFRC Code	**Task/Skill**	**Discipline**	**Module**
CFRC3-028	Chest pain history	Medicine and Allied/Surgery	Cardio vascular-II
CFRC3-029	Dyspnea (shortness of breath) history		
CFRC3-030	Palpitations history		
CFRC3-031	Inspection of precordium and JVP		
CFRC3-032	Palpation (apex beat, peripheral pulses)		
CFRC3-033	Auscultation (heart sounds, murmurs)		
CFRC3-034	Rate, rhythm, axis interpretation	Skill Lab/ Medicine and Allied/Surgery	
CFRC3-035	ST segment changes, T-wave abnormalities	Medicine and Allied	
CFRC3-036	Hypertension diagnosis		
CFRC3-037	Heart failure diagnosis		
CFRC3-038	Ischemic heart disease diagnosis		
CFRC3-039	Cough and sputum production history		
CFRC3-040	Dyspnea (shortness of breath) history		
CFRC3-041	Wheezing history		
CFRC3-042	Inspection of respiratory effort, cyanosis		
CFRC3-043	Palpation for chest expansion, tactile fremitus		
CFRC3-044	Percussion of the lungs		
CFRC3-045	Auscultation (breath, sounds, wheezing, crackles)		
CFRC3-046	Recognize obstructive vs restrictive patterns		
CFRC3-047	Perform history and physical examination, suggesting to a diagnosis of asthma		
CFRC3-048	Perform history and physical examination , suggesting to a diagnosis COPD		
CFRC3-049	Perform history and physical examination , suggesting to a diagnosis Pneumonia		
CFRC3-050	Focused history-taking for common presentations (e.g., respiratory infections, diabetes)	Medicine and Allied (overarching competency)	
CFRC3-051	Patient-centered clinical decision-making	All clinical rotations	
CFRC3-052	Provide evidence-based management for common primary care conditions		
CFRC3-053	Develop comprehensive care plans (biological, psychological, social factors)		
CFRC3-054	Effective communication during consultations (shared decision-making)		
CFRC3-055	Ethical considerations (confidentiality, informed consent)	All clinical rotations/ community medicine	

BLOCK - 9

PERL
PROFESSIONALISM ETHICS,
RESEARCH LEADERSHIP SKILLS

CARDIOVASCULAR-II				
*Proposed Sequence of Topics Men oned below. Medical Colleges are at liberty to manage according to their resources. Topics can switch within each Block				**Total Hours = 1.5**
Code	**Domain**	**Topic**	**Specific Learning Objectives**	**Proposed Portfolio Entry**
	Research	Research Methodology: Study designs	• Describe the different types of study designs in medical research. • Evaluate selecting an appropriate study design based on the identified research question. • Submit a short report outlining a research question and the selected study design, explaining why this design is chosen and how it addresses the research objectives.	Evidence of submitting Research population selection and size calculation to Research Mentor.

RESPIRATORY-II				
*Proposed Sequence of Topics Men oned below. Medical Colleges are at liberty to manage according to their resources. Topics can switch within each Block				**Total Hours = 4.5**
Code	**Domain**	**Topic**	**Specific Learning Objectives**	**Proposed Portfolio Entry**
	Research	Research Methodology: Population selection and sample size	• Describe the principles of population selection and determining sample size in medical research • Evaluate how these factors impact the • validity and generalizability of research findings. • Select a population for a hypothetical research study and calculate an appropriate sample size, providing a rationale based on the research question and study design chosen earlier. • Submit a brief report detailing the population selection and sample size calculation for your planned study, including an explanation of the criteria for choosing the population and determining the sample size.	Evidence of submitting Research population selection and size calculation to Research Mentor.
	Ethics	Ethical clinical trials, drug safety in trials	• Discuss the ethical considerations in clinical trials, including the importance of informed consent, patient safety, and drug safety throughout the trial process. • Discuss the importance of Clinical Trial Registration for Clinical Trials.	Provide recommendations on how the trial could better ensure ethical compliance and drug safety.
	Leadership	Team Leadership	• Discuss the key qualities and skills required for effective team leadership in a healthcare setting, including communication, delegation, and conflict resolution, to foster a collaborative and efficient work environment. • Participate in a group project, take on the team leader role, and practice delegation, communication, and conflict resolution skills. Reflect on the challenges faced and strategies used to ensure team success	As a team, create a simple poster or video presentation on how you managed team dynamics to achieve project goals. Focus on key takeaways and provide basic recommendations for effective team leadership in healthcare settings.

COMMUNITY MEDICINE & FAMILY HEALTH-I				
*Proposed Sequence of Topics Men oned below. Medical Colleges are at liberty to manage according to their resources. Topics can switch within each Block				**Total Hours = 4.5**
Code	**Domain**	**Topic**	**Specific Learning Objectives**	**Proposed Portfolio Entry**
	Ethics	Health Equity: Resource allocation	• Understand the ethical principles behind resource allocation in healthcare, particularly in promoting health equity, and how decisions about resource distribution impact vulnerable populations.	Create a basic plan to distribute a limited supply of healthcare resources (e.g., vaccines, beds, or medications) in a community clinic. Explain how you would ensure fair treatment for everyone, specially vulnerable patients, and briefly discuss the ethical reasons behind your choices.
	Leadership	Role Modelling via Mentoring Session VII	• Participate in a mentoring session where they will discuss their strengths and weaknesses with their mentor, receive feedback, and collaboratively create an action plan for personal and professional development	Submit a summary of your mentoring session, including feedback, areas identified for improvement, and the action plan you developed with your mentor to enhance your professional growth.
	Research	Research Methodology: Study designs	• Describe the different types of study designs in medical research. • Evaluate selecting an appropriate study design based on the identified research question.	To be submitted in next module.

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