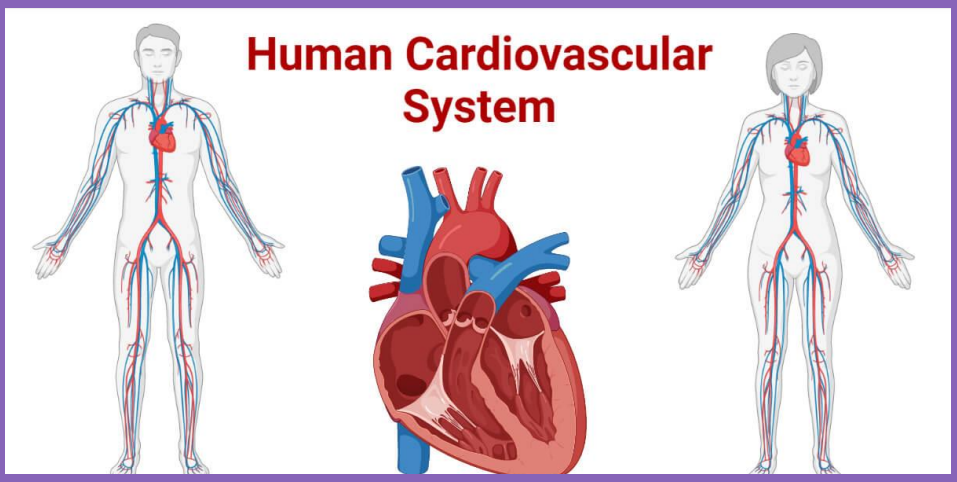
SWAT MEDICAL COLLEGE
SWAT

DEPARTMENT OF MEDICAL EDUCATION

CARDIOVASCULAR SYSTEM-II



3RD YEAR MBBS

BLOCK: I

CLASS OF 2021-26

TOTAL DURATION: 3 WEEKS

FROM: 2ND TO 20TH SEP

STUDENT NAME _____

Contents

1 Academic Calendar

Tentative Annual Calendar MBBS – 2023-24
Swat Medical College, Swat

Activity/ Events	Week	Date	1st Year	2nd Year	3rd Year	4th Year	5th Year
Orientation Week	1	12th to 16th Feb	Foundation-I *(6 weeks)* 22nd March, Module Exam	Neurosciences-IA *(6 weeks)* 22nd March, Module Exam	Foundation II *(5 weeks)* 22nd March, Module Exam	Neurosciences – II *(6 weeks)* 25th and 26th March Block J Exam	*Previous 5th Year Preparatory leaves and annual exam*
Regular Classes	2	19th to 23rd Feb					
Regular Classes	3	26th Feb to 1st March					
Regular Classes	4	4th to 8th March					Foundation-III *(2 weeks)* 22nd March Module Exam
Regular Classes	5	11th to 15th March			Infection & Inflammation *(6 weeks)* 6th May to 7th May Block G exam		
Regular Classes	6	18th to 22nd March					
Regular Classes	7	25th to 29th March	Blood & Immunology *(5 weeks)* 6th & 7th May Block A exam	Neurosciences-IB *(5 weeks)* 13th & 14th May Block D		GIT and Hepatobiliary – II *(9 weeks)* 10th and 11th June Block K Exam	Blood & Immunology-III *(2 weeks)* 5th April Module Exam
Regular Classes	8	1st to 5th April					
Spring Break/Eid ul Fitr	9	8th to 12th April					MSK-III *(2 weeks)* 06th & 07th May Block N exam
Sports Week	10	15th to 19th April					
Regular Classes	11	22nd to 26th April					
Regular Classes	12	29th to 3rd May			Multisystem *(5 weeks)* Module Exam 31st May		Cardiorespiratory-III *(5 weeks)* 3rd & 4th June Block O Exam
Regular Classes	13	6th to 10th May	MSK-I *(8 weeks)* 1st & 2nd July Block-B Exam	GIT, Hepatobiliary & Metabolism- *(8 weeks)* 1st & 2nd July			
Regular Classes	14	13th to 17th May					Renal- III Module *(2 weeks)* 14th June Module Exam
Regular Classes	15	20th to 24th May			Blood & immunology *(3 weeks)* 1st & 2nd July module exam	Renal – II Module *(4 weeks)* 1st and 2nd July Module Exam	
Regular Classes	16	27th May to 31st May					Endocrine & Reproduction- III *(3 weeks)* 29th & 30th July Block P Exam
Regular Classes	17	3rd to 7th June					
Regular Classes	18	10th to 14th June					
Eid-ul-Adha Holidays	19	17th to 21st June					
Regular Classes	20	24th to 28th June					
Summer Vacations	21-23	3rd to 21st July					
Regular Classes	24	22nd to 26th July	CVS-I *(5 weeks)* 23rd August Module Exam	Renal *(3 weeks)* 12th to 13th August Block E	MSK-II *(5 weeks)* 2nd Sep 3rd Sep Block H exam	Endocrine and Reproduction – II *(8 weeks)* 16th and 17th September Block-L exam	Neurosciences – III *(3 weeks)* 16th August Module Exam
Regular Classes	25	29th July to 2nd Aug					
Regular Classes	26	5th to 9th Aug		Endocrine-I *(4 weeks)* 6th Sep			GIT & Hepatobiliary *(2 weeks)* 6th Sep Module Exam
Regular Classes	27	12th to 16th Aug			CVS-II *(3 weeks)* 20th September Module exam		
Regular Classes	28	19th 23rd Aug	Respiratory-I *(4 weeks)* 23rd -24th SEP Block-C Exam	Reproduction-I *(4 weeks)* 30th Sep 1st Oct			
Regular Classes	29	26th to 30th Aug			RES-II *(4 weeks)* 21st and 22nd October Block L exam	EYE and ENT *(6 weeks)* 14th to 18th Oct Block M1 & M2 Exam	Multisystem-II *(4 weeks)* 7th -8th Oct Block Q exam
Regular Classes	30	2nd to 6th Sep					
Regular Classes	31	9th to 13th Sep					
Regular Classes	32	16th to 20th Sep					
Regular Classes/ Preparatory Leaves	33	23rd to 27th Sep	PREPARATORY LEAVES	PREPARATORY LEAVES	PREPARATORY LEAVES	PREPARATORY LEAVES	PREPARATORY LEAVES
Regular Classes/ Preparatory Leaves	34	30th Sep to 4th Oct					
Regular Classes/ Preparatory Leaves	35	7th to 11th Oct					
Regular Classes/ Preparatory Leaves	36	14th to 18th Oct					
Regular Classes/ Preparatory Leaves	37	21st to 25th Oct					
Regular Classes/ Preparatory Leaves	38	28th Oct to 1st Nov					
Regular Classes/ Preparatory Leaves	39	4th to 8th Nov					
Regular Classes/ Preparatory Leaves	40	11th to 15th Nov	Annual Exam as per KMU schedule.	Annual Exam as per KMU			
Regular Classes/ Preparatory Leaves	41	18th to 22nd Nov					
Regular Classes/ Preparatory Leaves	42	25th to 29th Nov					
Regular Classes/ Preparatory Leaves	42	2nd to 6th Dec					
Regular Classes/ Preparatory Leaves	43	9th to 13th Dec					
Regular Classes/ Preparatory Leaves	44	16th to 20th Dec					
Regular Classes/ Preparatory Leaves	45	23rd to 27th Dec	Winter vacation	Winter vacation	Annual Exam as per KMU schedule.	-------	
Regular Classes/ Preparatory Leaves	46-49	November 2024					
Regular Classes/ Preparatory Leaves	50-53	December 2024			Winter vacation	Annual Exam as per KMU schedule.	
Regular Classes/ Preparatory Leaves	54-57	January 2025					
Start of new academic session 2025-26			February 2025	February 2025	February 2025	February 2025	March 2025

Note: The given dates are tentative and may be subject to change as needed/demanded. The KMU will share the annual exam schedule at the end of the current session.

Dear Student

The Department of Medical Education (DME) has successfully conducted faculty training for the curation of study guides. In accordance with the guidelines set by Khyber Medical University, Peshawar, this study guide has been meticulously developed by the respective block coordinator. For any queries or concerns, kindly refer to the "Query and Troubleshooting" section for contact information.

Please be advised that the timetables provided in the study guides are tentative, and the final versions will always be accessible on the official website, notice boards, and social media platforms.

It is crucial to acknowledge that this guide is subject to continuous improvement, aligning with updates to module learning objectives and blueprints by KMU Peshawar. It is noteworthy that the learning objectives and blueprints outlined in this guide represent an enhanced and revised version of those originally provided by KMU.

For more information on modules and examination blueprints, please visit https://kmu.edu.pk/examination/guidelines.

Your login link of official website: https://mis.swatmedicalcollege.edu.pk/login/student_login

List Of Abbreviation

KEY:	Abbreviation	KEY:	Abbreviation
Anat-L	Anatomy Lecture	**MCQ:**	Multiple Choice Questions
Anat-SGD	Small Group Discussion in Anatomy	**EMQ:**	Extended Matching Question
Bio-L	Biochemistry Lecture	**IL:**	Interactive Lectures
Bio-P	Biochemistry Practical	**CBL:**	Case Based Learning
CMed	Community Medicine	**SBL:**	Scenario Based Learning
DSL	Directed Self Learning	**OSPE:**	Objective structured Practical Evaluation
FDT	Film/Demonstration/Tutorial	**OSCE:**	Objective structured Clinical Evaluation
FMed	Forensic Medicine	**HEC:**	Higher Education Commission
Histo-P	Histology Practical	**MIT:**	Mode of transfer of informations
IPS	**Islamiyat/Pak Studies**	**QEC:**	Quality Enhancement Cell

2 Module Committee:

s.no	Name	Department	Role
•	Prof. Dr. Aziz Ahmad	Dean / principal	
•	Dr. M Junaid Khan	DME	Director
Module Team			
	Prof. Dr. Imran-ud-Din	Pathology	Chairperson
•	Dr. Aurangzeb Khan	Pathology	Block Coordinator
•	Dr. Muneeb Khan	Community Medicine	Member
•	Dr. Rehman Shah	Pharmacology	Member
•	Dr. Shabir Ahmed	Pathology	Member
•	Dr. Siyab Ahmed	Pathology	Member
•	Prof. Dr. Mukammil Shah	Pathology	Member

3 Recommended List Of Icons

Introduction To Case

For Objectives

Critical Questions

Assessment

Resource Material

4 Mission/ Vision of the College

4.1 Mission Statement of the Institution:

To impart quality medical education through evidence based teaching incorporating professionalism, patient safety, research, critical thinking, ethics and leadership.

4.2 Vision Statement of the Institution:

To be a center of excellence in medical education, patient care and research globally.

5 Overview of the Module/ Preface

Welcome to the Cardiovascular System-2 module of the third year MBBS curriculum, where we embark on a comprehensive exploration of cardiovascular health and diseases. This module is designed to deepen students' understanding of the intricate workings of the cardiovascular system, focusing on advanced topics such as cardiac pathophysiology, clinical presentations, diagnostic modalities, and therapeutic interventions. Through a combination of didactic lectures, practical demonstrations, and clinical case discussions, students will develop the skills and knowledge necessary to diagnose and manage a variety of cardiovascular conditions. With an emphasis on evidence-based practice and clinical reasoning, this module aims to equip students with the expertise required for effective patient care and management in cardiovascular medicine.

Students will gain hands-on experience through clinical rotations in diverse settings such as Skill lab, interactive lectures and SGD, providing a well-rounded education. The study guide serves as a crucial reference for assessment and evaluation. It outlines the components that will be assessed, such as knowledge and basic sciences practical implications, and the corresponding assessment tools, which include MCQs, SEQ and OSPE.

6 Introduction/ Organization of Module

6.1 Introduction:

In this Cardiovascular System-2 module, we delve into the intricacies of cardiovascular health and pathology, building upon the foundational knowledge acquired in previous coursework. With a focus on advanced topics, such as cardiac pathophysiology, clinical presentations, and therapeutic strategies, this module aims to equip third-year MBBS students with a deeper understanding of cardiovascular diseases. Through a blend of theoretical learning, practical demonstrations, and clinical case discussions, students will enhance their diagnostic and management skills, preparing them to address the complexities of cardiovascular medicine with confidence and competence.

6.2 Rational:

The rationale of this module is to provide third-year MBBS students with a comprehensive understanding of cardiovascular diseases, their pathophysiology, clinical manifestations, and management. Given the significant burden of cardiovascular disorders worldwide and their impact on public health, it is imperative for medical students to develop proficiency in diagnosing and treating these conditions. By focusing on advanced topics within the cardiovascular system, this module aims to bridge the gap between theoretical knowledge and clinical practice, preparing students to become competent healthcare professionals capable of addressing the complex challenges posed by cardiovascular diseases. Moreover, mastering the concepts covered in this module is crucial for students' overall medical education, as cardiovascular diseases represent a cornerstone of clinical medicine and are frequently encountered in clinical practice across various specialties. Thus, the importance of this module lies in its role in shaping well-rounded physicians equipped to provide high-quality care to patients with cardiovascular conditions throughout their medical careers.

6.3 Organization of the Study guide:

The module is organized around three key themes, each focusing on different aspects of cardiovascular health:

Chest Pain: This theme delves into the evaluation, diagnosis, and management of chest pain, a common symptom with diverse etiologies ranging from cardiac to non-cardiac causes. Students will learn about the various presentations of chest pain, differential diagnoses, and appropriate diagnostic tests and interventions.

Blood Pressure: This theme centers on understanding blood pressure regulation, hypertension, and hypotension. Students will explore the pathophysiology of hypertension, including its risk factors, complications, and management strategies. Additionally, they will learn to interpret blood pressure readings, understand the significance of blood pressure monitoring, and recognize the importance of lifestyle modifications and pharmacological interventions in managing blood pressure disorders.

Shortness of Breath: This theme focuses on the evaluation and management of dyspnea or shortness of breath, a symptom commonly associated with cardiovascular and respiratory disorders. Students will gain insights into the anatomical and physiological mechanisms underlying dyspnea, along with the diagnostic approach to identify underlying conditions such as heart failure, pulmonary embolism,

or chronic obstructive pulmonary disease (COPD). They will also learn about treatment modalities aimed at alleviating symptoms and improving patient outcomes.

6.4 Teaching Strategies:

The content of this module will be delivered by a combination of different teaching strategies. These include interactive lectures, small group discussion (SGD), large group discussion (LGF), self-directed learning (SDL), history taking, patient examination, laboratory tests, practicals and clinicopathological conferences.

The following teaching/ learning methods are used to promote better understanding:

A. Large Group Formats:

Interactive Lectures: In large group, the lecturer introduces a topic or common clinical conditions and explains the underlying phenomena through questions, pictures, videos of patients' interviews, exercises, etc. Students are actively involved in the learning process.

Directed Self Learning: Directed self-learning is an active learning approach where the learners are provided with predefined learning objectives and some facilitation through the learning process in the form of guidance and supervision. It helps establish a strong foundation for autonomous and deep learning.

Self-Directed Learning: Students assume responsibilities of their own learning through individual study, sharing and discussing with peers, seeking information from the Learning Resource Center, teachers, and resource persons within and outside the college. Students can utilize the time within the college scheduled hours of self-study.

B. Small Group Formats:

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

Practical Demonstration: Basic science practical related to anatomy, biochemistry, and physiology are scheduled for student learning.

6.5 Assessment strategies

Assessments within the MBBS program at STMC consist of both formative and summative evaluations. These assessments are integral to monitoring student progress and academic performance.

Formative Assessment:

Formative assessments, accounting for 10% of the total marks assigned to each block, serve as ongoing evaluations designed to provide feedback and facilitate learning. The allocation of this 10% can be determined in accordance with the blueprint of KMU and further distributed as per the academic council's recommendations at STMC. Formative assessments are conducted after the completion of each module, ensuring that students receive timely feedback to enhance their understanding and performance.

Summative Assessment:
Summative assessments, which comprise the majority of the assessment weighting (90% of all marks), are conducted and overseen by KMU, as part of the annual examination process. The summative annual examination is organized and conducted by KMU, which carries out the evaluation and grading. This summative assessment evaluates students' comprehensive understanding of the curriculum and accounts for a significant portion of their final scores.

Assessment Tools:
Various assessment tools are employed to gauge students' knowledge and competencies. These tools include:
Written Examinations: These encompass Multiple Choice Questions (MCQ) and Short Essay Questions (SEQ) that evaluate students' theoretical knowledge.
Performance Assessments: Objective Structured Practical Examinations (OSPE) and Objective Structured Clinical Examinations (OSCE) are used to assess practical skills and clinical competence.
In-Training Assessments: Clinical logbooks provide a comprehensive record of students' practical experiences and serve as a valuable tool for tracking their progress.
Assignments: Presentations, projects, and self-reflection assignments are included in the assessment process to enhance students' critical thinking and research skills
Students will be assessed via MCQs, SEQs, SAQs, OSPE/OSCE, and assignments/Presentations.

6.6 Feedback mechanism and summary

At the end of each module a “Module Evaluation Form” will be provided to the students whether in hard copies or online and the students will give their opinion regarding the “Course Contents”, “Learning Resources”, “Teaching Methods”, “Engagement& Motivation” and “Assessment Methods The students' feedback will be taken at the end of each module to further improve the medical education quality and their learning capabilities to continually upgrade the standards of medical education.
In short, the study guides will help the students a lot by facilitating them in studying various subjects being integrated into various modules along with bringing improvement in learning by the students, assessment through various means, and feedback.

7 Hours Allocation

S. No	Subject	Hours needed
1	Pathology	18
2	Pharmacology	20
3	Forensic medicine	2
4	Community medicine	2
5	General medicine / cardiology	7
6	Pediatrics	2
7	Anatomy	1
8	Physiology	1
9	Biochemistry	1
10	PRIME/MEDICAL EDUCATION	3
	Total	**57**

8 Learning Objectives

Theme 1: Chest pain			
Subjects	**Topics**	**Hours**	**LOs**
Anatomy	**Gross anatomy of heart, valves and coronary arteries**	1	Describe surface anatomy of the heart and heart valves
			Describe the anatomy of coronary circulation
			Enumerate heart valves and describe their gross morphology
Biochemistry	**Lipoproteins and cholesterol**	1	Classify and Describe types of lipoproteins
			Summarize cholesterol synthesis
Pathology	**Atherosclerosis**	1	Discuss the risk factors, Morphology, pathological changes and consequences of Atherosclerotic plaque
	Ischemia and infarction		Define Ischemia and infarction, and differentiate it from infarction
			Discuss Classification and pathophysiology of ischemic heart disease
			Discuss pathophysiology of myocardial infarction
Pharmacology	**Antianginal drugs**	1	Classify antianginal drugs
			Explain mechanism of action, pharmacokinetics and adverse effects of organic nitrates and calcium channel blockers
			Explain the rationale for use of β-adrenergic blockers and sodium channel blocker in the management of angina pectoris
	Lipid lowering drugs	2	Briefly describe the types of dyslipidemias
			List the lipid lowering drug classes

			Explain the mechanism of action, effect on serum lipid profile and adverse effects of each of the five drug classes
			Discuss drug-drug interaction of lipid lowering drugs
	Anticoagulant drugs	2	Classify anticoagulant drugs
			Discuss mechanism of action, uses of Unfractionated heparin
			Compare low molecular weight and unfractionated heparin
			Describe adverse effects of heparin and treatment of heparin overdose
			Describe mechanism of action and uses of direct Xa and IIa inhibitors
			Describe mechanism of action and uses of warfarin
			Describe adverse effects of warfarin and treatment of warfarin overdose
			Compare heparin and warfarin in terms of mechanism and onset of action
			Explain monitoring of anticoagulant therapy
			Describe important diet and drug interactions of warfarin
	Antiplatelet and thrombolytic drugs	1	Classify antiplatelet drugs
			List indications of antiplatelet therapy
			Explain the mechanism of action and adverse effects of each antiplatelet drug group
			Name thrombolytic drugs and explain their mechanism of action, uses and adverse effects
Forensic Medicine	**Chest trauma**	1	Describe heart injuries caused by regional injuries
			Discuss chest wall injuries in general
			Enumerate the complications of rib fracture

	Sudden death	1	Define sudden death
			Explain the causes of sudden death
			Describe autopsy findings in sudden death
			Describe the medicolegal importance of sudden death
Community	**Non-communicable diseases:** **Cardiovascular diseases of public health importance**	2	Define Cardiovascular disease (CVD)
			Elaborate the concept of CVD risk stratification
			Describe the epidemiology of cardiovascular diseases and explain cardiovascular diseases of Public Health importance globally and in Pakistan
			Explain the known risk factors of CVD and cultural, racial and gender difference in CVD prevalence and incidence
	Hypertension		Describe the epidemiology of hypertension and its public Health importance globally and in Pakistan
General Medicine/Cardiology	**Coronary Heart disease**	1	Discuss CAD risk factors and strategies to reduce them
			Discuss strategies for primary and secondary prevention of CHD in
			Define chronic stable angina, its clinical signs and symptoms, laboratory findings, imaging techniques for assessment of it and management protocols
			Discuss coronary vasospasm and angina with normal coronary angiograms
	Acute coronary syndrome	1	Define Acute coronary syndrome
			Explain the spectrum of illness in ACS and relevant management steps
			Describe the clinical features and steps of the management of Myocardial infarction
			Describe risk stratification in myocardial infarction
			Describe complications of acute MI

	Hypertrophic cardiomyopathy		Discuss clinical features, imaging protocols, risk stratification and short/long-term
PRIME/MEDICAL EDUCATION	**Informed consent**	1	Obtaining informed consent from a patient before an invasive procedure
Theme II: blood pressure			
Pathology	**Blood pressure**	2	Describe the mechanisms of blood pressure regulation
			Classify shock
	Shock		Describe the pathophysiology and
			Describe the stages pf shock
			Define sepsis and septic shock
			Discuss causes, pathogenesis, and laboratory findings in shock
			Discuss Disseminated intravascular coagulation in the context of sepsis
			Describe classification and
	Hypertension	1	Describe the causes, Pathogenesis, morphologyand complications of Hypertension
	Aneurisms	1	Discuss pathophysiology of
			Describe the etiology, morphology and manifestations of vascular aneurisms
			Describe the causes, Pathogenesis and types of Aortic Aneurysm
	Aortic dissection		Describe the pathogenesis, morphology and clinical features of Aortic Dissection
	Vasculitis	1	Define vasculitis
			Classify vascilitides
			Describe the immunological mechanisms of non-infectious vasculitis
			Describe the morphology and clinical features of Giant cell arteritis
			Describe the morphology and clinical features of Takayasu

			Describe the morphology and clinical features of Polyarteritis nodosa
			Describe the morphology and clinical features of Kawasaki disease
			Describe the morphology, serological markers and clinical features of Wegener granulomatosis
			Describe the morphology and clinical features of Thromboangitis obliterans
	Diseases of veins	1	Differentiate between thrombophlebitis and Phlebothrombosis
			Describe the etiology and clinical features of varicose veins
			Enlist the benign and malignant tumors of the arteries and veins
Pharmacology	**Antihypertensive drugs**	2	Classify antihypertensive drugs
			Discuss role of diuretics in the
			Discuss the role of ACE inhibitors, Angiotensin receptor-blocking agents, Renin inhibitor in hypertension
			Explain the rationale for the use of ß-blockers, α-adrenoceptor blocking agent, centrally acting sympatholytic drugs in hypertension
			Describe the direct vasodilators (mechanism of action and drug toxicity) in relation to antihypertensive drug therapy
			Describe the role of Calcium channel blockers in hypertension
General Medicine/Cardiology	**Hypertension**	1	Define and classify hypertension
			Discuss drug treatment protocols for hypertension
			Describe the risk factors and complications of hypertension

			Describe the management of hypertensive emergencies and urgencies
Forensic medicine	**Cardiac poisons**	1	Classify Cardiac Poisons
			Describe the characteristic, clinical signs/symptoms, treatment and medicolegal aspects of cardiac glycosides
			Discuss cardiac effects of methylphenidate, cocaine and Ice
			Describe the characteristic, clinical signs/symptoms, treatment and medico legal aspects of Oleander
PRIME/MEDICAL EDUCATION	**Counselling skills**	1	Develops counselling skills in professional life
Theme III: Shortness of breath			
Physiology	**Cardiac cycle**	1	Outline major events in cardiac cycle
			Discuss physiology of heart sounds
Pathology	**Congestive heart failure**	2	Describe the types, etiology, pathogenesis, and clinical features of congestive heart failure
	Cardiomyopathies		Describe the Pathological patterns, causes, morphological changes and clinical features of Cardiomyopathies
	Congenital heart diseases	2	Describe the Etiology, Pathogenesis and clinical features of Tetrology of Fallots, ASD, VSD and pulmonary stenosis
	Valvular heart diseases		Describe the Etiology, pathogenesis and clinical features of Aortic stenosis, Aortic regurgitation, Mitral stenosis and Mitral regurgitation
	Rheumatic fever	1	Discuss pathophysiology and laboratory findings in rheumatic fever
	Rheumatic heart disease		Discuss pathological changes and morphology of rheumatic heart disease

	Thrombosis and Embolism	1	Describe the mechanism and pathogenetic mechanisms of vascular thrombosis
			Enlist hypercoagulable states
			Define embolism
			Discuss types of embolism
			Describe the etiology, pathogenesis, morphology and clinical features of pulmonary embolism
	Endocarditis	1	Discuss Etiology, Pathogenesis, Morphology, diagnostic criteria, clinical features and complications of infective endocarditis
			Discuss the types of non-infected vegetation
Pharmacology	**Drugs used in heart failure**	2	Define the different classes of the drug used in the treatment of heart failure
			Explain the pharmacological effects, clinical uses, adverse effects and drug interactions of digitalis glycosides
			Explain the signs symptoms and treatment of digoxin overdose
			Enlist positive inotropic drugs (other than digoxin) that are used in heart failure
			Classify the five major groups of diuretic drugs and relate them to their site of action
			Discuss the mechanism of action, clinical applications and adverse effects of carbonic anhydrase enzyme inhibitors, osmotic diuretics, thiazide diuretics, loop diuretics and potassium sparing diuretics
			Enlist potassium sparing and potassium losing diuretics
	Antiarrhythmic drugs	2	Classify antiarrhythmic drugs

			Describe the effect of different classes of antiarrhythmic drugs on membrane potential of cardiomyocytes
			Explain the mechanism of action of all the classes of antiarrhythmic drugs
			Discuss the adverse effects and clinical uses of antiarrhythmic drugs
			Discuss workup and management of pulmonary edema
General Medicine/Cardiology	**Heart failure**	1	Enlist and explain causes of heart failure
			Describe workup and management of heart failure
	Disorders of heart rate and rhythm	1	Classify arrhythmias and heart blocks
			Describe the etiology, ECG findings and management of Atrial fibrillation
			Discuss types, workup and management of ventricular arrhythmias
	Pulmonary embolism	1	Describe the etiology, clinical features and diagnostic workup of pulmonary embolism
			Discuss risk stratification and management of pulmonary embolism
	Pulmonary hypertension		Discuss cardiac causes of pulmonary hypertension and outline their management
	Myocarditis	1	Discuss causes and management of myocarditis
	Pericardial diseases		Define and classify pericarditis
			Discuss clinical findings and treatment of pericarditis
			Describe the etiology and management of pericardial effusion
Pediatrics	**Cyanotic and acyanotic**	1	Delineate the difference between the acyanotic and cyanotic heart disease conditions

	congenital heart disease		Enumerate the various defects, involving both conditions
	Rheumatic fever	1	Describe the etiology of rheumatic fever
			Describe Duckett Johns criteria for diagnosis of RF
			Discuss about primary and secondary prophylaxis of rheumatic heart disease
PRIME/MEDICAL EDUCATION	**SWOT Analysis**	1	Perform SWOT analysis for a particular task

Practical			
Subjects	**Topics**	**Hours**	**LOs**
Pharmacology	Myocardial Infarction	1.5	Construct a prescription for a patient with Myocardial Infarction
	Hypertension	1.5	Construct a prescription for a patient with Hypertension
	Congestive Cardiac Failure	1.5	Construct a prescription for a patient with Congestive Cardiac Failure
Pathology	Lipid Profile	1.5	Demonstrate Estimation of total cholesterol
	Hemangioma	1.5	Identify the morphological changes occurring in hemangioma
Forensic medicine	Cardiac toxins	1.5	Identify the following cardiogenic toxins: • Digitalis • Cannabis • Heroin

9 Learning Opportunities and Resources

9.1 Instruction (if any)

Following study material will help a student to grasp full the content of the subjects taught.

Recommended **books are to be studied first, followed by reference books if needed..**

9.2 Books:

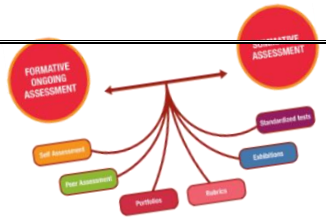
Subjects	Textbooks
Community Medicine	1. Community Medicine by Parikh 2. Community Medicine by M Illyas 3. Basic Statistics for the Health Sciences by Jan W Kuzma
Forensic Medicine	1. Nasib R. Awan. Principles and practice of Forensic Medicine 1st ed. 2002. 2. Parikh, C.K. Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology. 7th ed.2005. 3. Knight B. Simpson's Forensic Medicine. 11th ed.1993. 4. Knight and Pekka. Principles of forensic medicine. 3rd ed. 2004 5. Krishan VIJ. Text book of forensic medicine and toxicology (principles and practice). 4th ed. 2007 6. Dikshit P.C. Text book of forensic medicine and toxicology. 1st ed. 2010 7. Polson. Polson's Essential of Forensic Medicine. 4th edition. 2010. 8. Rao. Atlas of Forensic Medicine (latest edition). 9. Rao.Practical Forensic Medicine 3rd ed ,2007. 10. Knight: Jimpson's Forensic Medicine 10th 1991,11th ed.1993 11. Taylor's Principles and Practice of Medical Jurisprudence. 15th ed.1999
Pathology	1. Robbins & Cotran, Pathologic Basis of Disease, 9th edition. 2. Rapid Review Pathology, 4th edition by Edward F. Goljan MD
PHARMACOLOGY	1. Lippincott Illustrated Pharmacology 2. Basic and Clinical Pharmacology by Katzung

9.3 Website:

https://www.medscape.com https://www.PathologyOutlines.com

https://pubmed.ncbi.nlm.nih.gov https://scholar.google.com

https://medlineplus.gov https://medicine.nus.edu.sg/pathweb



11.Examination and Methods of Assessment:

1 The year-3 will be assessed in 3 blocks.
2 Block-1 (Foundation 2 and Infection and Inflammation modules) will be assessed in **paper-G.**
3 Block-2 (Multisystem, blood and MSK modules) will be assessed in **paper-H.**
4 Block-3 (CVS and Respiratory module) will be assessed in **paper-I.**
5 Each written paper consists of 120 MCQs.
6 Internal assessment will be added to final marks in KMU.
7 In OSPE, each station will be allotted 6 marks, and a total of 120 (+10% marks of internal assessment) marks are allocated for each OSPE/OSCE examination.
8 Practical assessment will be in the form of OSPE/OSCE which will also include
9 embedded viva stations. The details of each section are given in the tables given below.

Total marks distribution- 3rd Year MBBS

Table-1 ASSESSMENT PLAN OF 3RD YEAR

THEORY PAPER	MODULES	THEORY MARKS	INTERNAL Assessment theory(10%)	OSPE/ OSCE	Internal assessment OSPE (10%)	Total marks
Paper G	Foundation-II	120	14	120	14	268
	Inf. & inflammation					
Paper H	Multisystem	120	13	120	14	267
	Blood					
	MSK					
Paper I	CVS-II	120	13	120	12	265
	Respiratory-II					
Total Marks		**360**	**40**	**360**	**40**	**800**

Paper-I (CVS-II MCQs)

Subjects	Total MCQs
CVS	60
Respiratory II	60
Total	**120**

Table 4 CVS OSCEs

Subject	Total OSCE stations
Respiratory-II	10
CVS	10
Total	**20**

* A minimum of 20 stations will be used in final exams. Total marks will be 120 (6 marks for each station).

12.For inquiry and troubleshooting

Please contact
Dr. Rehman Shah

13. Module Evaluation Form

This is an example of feedback form and real-time feedback will be obtained through an electronic link and/or your LMS

MBBS Year: _____ Block: _____ Module: _____

Date: _____

1. (Unsatisfactory) 2 (Fair) 3 (Satisfactory) 4 (Good) 5 (Excellent)

Category: Course Contents

No.	Question	1	2	3	4	5
1	To what extent did the course contents align with the stated learning objectives of the module?					
2	How clear and comprehensive were the course materials provided in this module?					
3	Were the core topics adequately covered, ensuring a well-rounded understanding of the subject?					
4	How current and up-to-date were the course contents in reflecting recent advancements?					
5	Did the module incorporate real-world applications and case studies effectively?					
	Category: Learning Resources					
6	Were the learning resources (e.g., textbooks, online materials, laboratory facilities) readily available and easily accessible?					
7	How helpful were additional learning resources such as supplementary readings or multimedia content?					
8	Did the module offer adequate support for research and independent study?					
9	Were digital resources and online platforms effectively utilized to enhance the learning experience?					
10	Were there sufficient opportunities for hands-on practice and practical application of knowledge?					
	Category: Teaching Methods					
11	How well did instructors engage with students and create a supportive learning environment?					
12	Were diverse teaching methods (e.g., lectures, group discussions, simulations) effectively employed?					
13	How responsive were instructors to questions, concerns, and feedback from students?					
14	To what extent did instructors provide timely and constructive feedback on assignments and assessments?					
15	Were opportunities for collaborative learning and peer-to-peer interactions encouraged and facilitated?					
No.	**Category: Engagement and Motivation**					
16	To what extent did the module use real-world examples and practical applications to engage students?					

17	How well were active learning techniques (e.g., problem-solving, case studies) integrated into the curriculum?					
18	Did the module provide opportunities for students to pursue their individual interests within the subject matter?					
19	Were assessments designed to challenge and motivate students to excel in their studies?					
Category: Inclusivity and Diversity						
20	How well did the module accommodate different learning styles and preferences among students?					
21	Were efforts made to include diverse perspectives, cultures, and backgrounds in the curriculum?					
22	How effectively were accommodations provided for students with varying levels of prior knowledge?					
	Category: Overall					
No.	**Question**	**1 (Very Poor)**	**2 (Poor)**	**3 (Fair)**	**4 (Good)**	**5 (Excellent)**
23	How would you rate the overall quality of this module?					

14. Students Diary/Notes

S.NO	DATE	TASK	PENDING/COMPLETED	COMMENTS

PROGESS:___________________

ACHIEVMENT: _______________________________