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FIRST PROFESSIONAL M.B.B.S.
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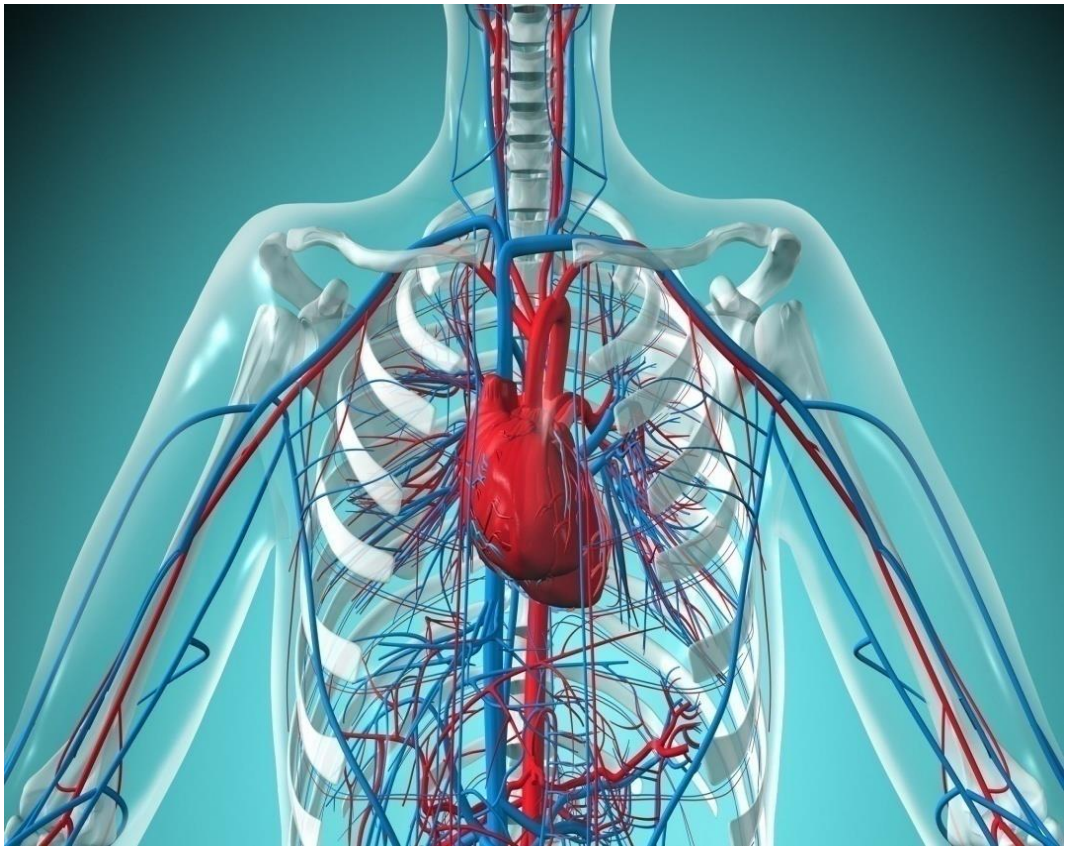

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BAQAI MEDICAL COLLEGE

FIRST PROFESSIONAL M.B.B.S

STUDY GUIDE 2024 - 2025

CARDIOVASCULAR (CVS) MODULE

5 weeks

Prepared and Compiled by
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Phone (092-21)34410-293 to 298, 34410-427 to 430.
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LIST OF ABBREVIATIONS

BMC	Baqai Medical College
BMU	Baqai Medical University
LGIF	Large Group Interactive Format
LOs	Learning Objectives
MCQs	Multiple Choice Questions

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OSCE	Objective Structured Clinical Examination
OSPE	Objective Structured Practical Examination
PEaRLS	Professionalism, Ethics, Research, Leadership, Communication Skills
SDL	Self Directed Learning
SGD / SGT	Small Group Discussion / Small Group Teaching
TS	Teaching Strategy

BAQAI MEDICAL UNIVERSITY VISION STATEMENT

To evolve as a nucleus for higher learning with a resolution to be socially accountable, focused on producing accomplished health care professionals for services in all spheres of life at the national and global level.

BAQAI MEDICAL UNIVERSITY MISSION STATEMENT

University is dedicated to the growth of competencies in its potential graduates through dissemination of knowledge for patient care, innovation in scholarship, origination of leadership skills, and use of technological advancements and providing.

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BAQAI MEDICAL COLLEGE MISSION STATEMENT

The mission of the Baqai medical college is to produce medical graduates, who are accomplished and responsible individuals and have skills for problem solving, clinical judgment, research & leadership for medical practice at the international level and are also aware of the health problems of the less privileged rural and urban population of Pakistan.

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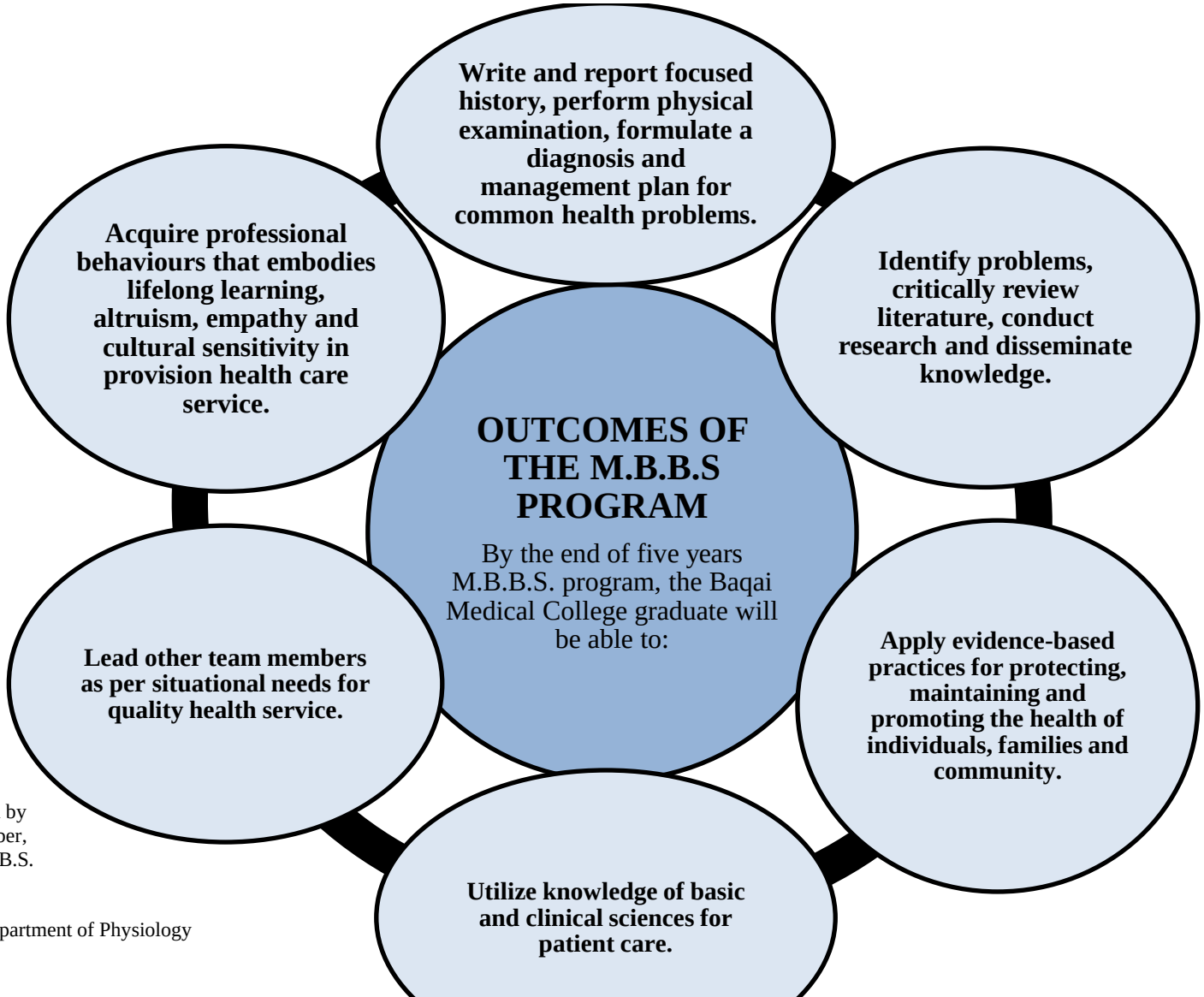

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MBBS CURRICULUM COMMITTEE TEAM

NAME OF FACULTY	DEPARTMENT	DESIGNATION IN COMMITTEE
Prof. Dr. Farrukh Naheed	Gynaecology & Obstetrics	Chairperson
Dr. Maeesa Sajeel	Pathology	Co-Chairperson
Dr. Saadia Akram	Gynaecology & Obstetrics	Secretary
Dr. Tayyaba Kazmi	Anatomy	Member
Dr. Iffat Ara Aziz	Biochemistry	Member
Dr. Saba Abrar	Physiology	Member
Prof. Dr. Nasima Iqbal & Dr. Sarah Azhar	Pathology	Members
Dr. Rafay Ahmed Siddqui	Forensic Medicine	Member
Dr. Faraz Saleem	Pharmacology	Member
Prof. Dr. Nazia Jameel	Community Medicine	Member
Dr. Rehana Babar	ENT	Member
Prof. Dr. Mir Amjad Ali	Ophthalmology	Member
Dr. Mahira Shafi	Psychiatry	Member
Dr. Tahira Saeed	Paediatrics	Member
Dr. Mahwish Rizwan	Radiology	Member
Dr. Sumayyah Liaquat & Dr. Saima Askari	General Medicine	Members
Dr. Sidra Abbas & Dr. Danish Muneeb	General Surgery	Member
Dr. Saadia Akram	Gynaecology & Obstetrics	Member
Ms. Maria Rahim	Research	Member
Prof. Dr. Shaheen Malik	Assessment Cell	Member
Dr. Saeeda Junaid	QEC	Member
Dr. Azra Shaheen	Behavioural Sciences	Member
Dr. Saima Qamar	Medical Education	Member

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Dr. Urooj Aamir	Bioethics	Member
Class Representatives from 1st year, 2nd year, 3rd year, 4th year and 5th year MBBS	Student Feedback	Members

CIC SPIRAL-1 1st Year MBBS MODULAR TIME TABLE, STUDY GUIDE and CBL COMMITTEE

NAME OF FACULTY	DEPARTMENT	DESIGNATION IN COMMITTEE
Prof. Dr. Syed Inayat Ali	Anatomy	Head of CIC Spiral-1
Dr. Tayyaba Kazmi	Anatomy	Class In-charge 1st Year MBBS
Dr. Iffat Aziz	Biochemistry	Coordinator of 1st Year MBBS Study Guide & Time Table Team
Dr. Hina Shaheen	Anatomy	Member
Dr. Muhammad Ali	Physiology	Member
Dr. Hina Masood	Pharmacology	Member
Dr. Rozeena	Pathology	Member
Dr. Rafey Siddiqui	Forensic Medicine	Member
Dr. Ammara	Community Medicine	Member
Dr. Aneeta / Dr. Saima Askari	Medicine	Members
Dr. Danish / Dr.Abdullah	Surgery	Member
Dr. Nikhat Ashraf	Gynaecology & Obstetrics	Member
Dr. Maria Rahim	Research	Member

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Dr. Mariam Ibrahim	Department of Medical Education	Member
Dr. Azra Shaheen	Behavioural Sciences	Member
Dr. Danish/ Dr. Abdullah	Orthopeadics	Members
Dr. Mehwish	Radiology	Member
Dr. Kahkashan Perveen	Biochemistry	Spiral-1 CBL Coordinator
Dr. Shahid Pervez	Anatomy	CBL team member
Dr. Saleemullah Abro	Physiology	CBL team member

INTRODUCTION TO CARDIOVASCULAR (CVS) MODULE GUIDE

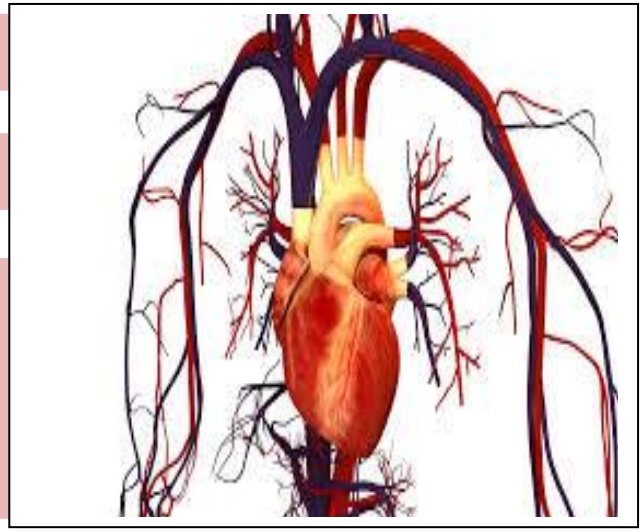
Year to be taught: First Professional M.B.B.S. 2024 &2025

Placement of CVS Module:FOURTH

Duration: 5 **weeks**

Tentative Date: As per updated timetable

End of Module Assessment End of module



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This module is the first step towards producing doctors who have the basic information for decision making. This module provides the basis for Cardiovascular and then rotations of Medicine in later years and help students develop necessary skills in diagnosing and developing management plans for common Cardiovascular related conditions. This module will focus on the normal structure and function of the cardiovascular system and will help students apply this information to solve clinically relevant problems.

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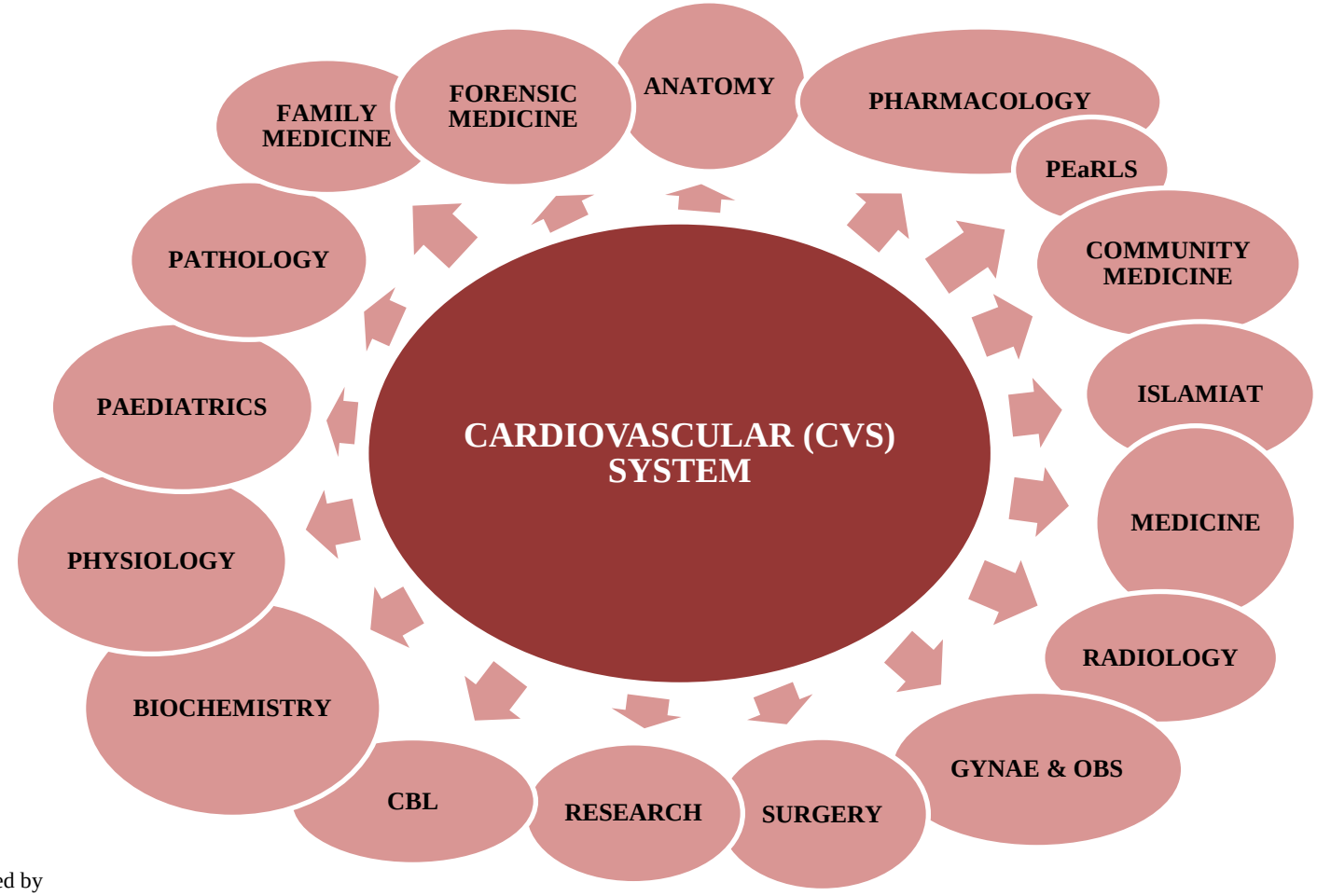

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INTEGRATED TEACHING

CVS Modular outcomes

At the end of this module, First Professional M.B.B.S. student will be able to;

1. Explain the development of heart & congenital anomalies
2. Report the chambers of heart, its valves & surface marking of great vessels
3. State the internal structure of cardiomyocytes, excitatory conductive tissue of heart & segments of circulatory tree
4. Describe arrangement of blood supply of heart & disease associated with it
5. Define normal blood pressure, its measurement & regulation, events of cardiac cycle & basic principles of ECG
6. Find the types & mechanism of compensation & progression of circulatory shock
7. Identify the cardiac enzymes & steps of cholesterol metabolism

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8. Discuss the way by which intimal plaque proceed to complete atheromatous occlusion & guidelines of treatment of hypercholesterolemia & hypertension
9. Recall the significance of artificial hypothermia during cardiac surgery
10. Apply skill of basic life support & observation of chest radiograph

INTEGRATED TEACHING

S. No:	TOPICS WITH OBJECTIVES	DEPARTMENT	DURATION	FACILITATOR	TEACHING STRATEGY	VENUE
1.	**MEDIASTINUM.** **At the end of this lecture 1st year MBBS students will be able to:** - Define mediastinum. - Describe the division of mediastinum. - Discuss the structures present in the superior and inferior mediastinum.	**ANATOMY**	60 minutes	Dr. Aneela	Lecture	Lecture hall – 1, Ground floor, Block-A.

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	- Describe the applied anatomy of mediastinum.					
2.	**STUDY STYLES I** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Identify different study approaches. - Discuss how to improve their study skills	**PEARLS**	60 minutes	Dr. Talal Bin Taheer	Lecture	Lecture hall – 1, Ground floor, Block-A
3.	**DEVELOPMENT OF HEART – I** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Explain the formation of cardiac loop	**ANATOMY**	60 minutes	Dr. Tayyaba	Lecture	Lecture hall – 1, Ground floor, Block-A
4.	**DEVELOPMENT OF HEART- II** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Discuss partioning of primordial heart	**ANATOMY**	60 minutes	Dr. Tayyaba	Lecture	Lecture hall – 1, Ground floor, Block-A

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5.	**Pericardium** **<u>At the end of lecture students of 1st year MBBS will be able to:</u>** - Describe the layers of pericardium. - Discuss the sympathetic, para-sympathetic - Explain the sinuses formed by the pericardium. - Describe the applied anatomy of pericardium.	**ANATOMY**	60 minutes	Dr. Aneela	Lecture	Lecture hall – 1, Ground floor, Block-A
6.	**PERICARDIAL DISEASES I** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Describe Pericarditis -Explain Pericardial Effusion	**PATHOLOGY**	60 minutes	Dr. Nasima Iqbal	Lecture	Lecture hall – 1, Ground floor, Block-A
7.	**HEART – 1** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Identify the location and position of heart. - Describe the structure of heart. - Describe the external features of heart.	**ANATOMY**	60 minutes	Dr. Aneela	Lecture	Lecture hall – 1, Ground floor, Block-A
8.	**HEART- 2** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Discuss the internal structure of heart. - Differentiate between left and right atria and ventricles.	**ANATOMY**	60 minutes	Dr. Aneela	Lecture	Lecture hall – 1, Ground floor, Block-A

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	- Describe the applied anatomy of heart.					
9.	**SDL**					
10.	**VALVES & OPENINGS OF THE HEART** **At the end of this lecture 1st year MBBS students will be able to:** - Describe the structure of atrio-ventricular, aortic and pulmonary valves. - Enumerate openings in left and right atria. - Discuss the clinical aspects of valves of heart.	**ANATOMY**	60 minutes	Dr. Aneela	Lecture	Lecture hall – 1, Ground floor, Block-A
11.	**ARTERIAL SUPPLY OF HEART** **At the end of this lecture 1st year MBBS students will be able to:** - List the arteries which supply the heart. - Define origin, course and branches of the coronary arteries. - Discuss the area supplied by left and right coronary arteries. - State the venous drainage of heart. - Describe the applied anatomy of coronary arteries.	**ANATOMY**	60 minutes	Dr. Hina	Lecture	Lecture hall – 1, Ground floor, Block-A

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12.	**DEVELOPMENT OF ARTERIAL SYSTEM** **At the end of this lecture 1st year MBBS students will be able to:** - Describe the development of aortic arches & its derivatives - Explain the developmental defects related with development of arterial system	**ANATOMY**	60 minutes	Dr. Tayyaba	Lecture	Lecture hall – 1, Ground floor, Block-A
13.	**INTRODUCTION OF BEHAVIOURAL SCIENCE** **At the end of this lecture 1st year MBBS students will be able to:** - Define health and behavioural sciences - Associate the health with behavioural science - Identify an importance of health in behavioural Sciences	**BEHAVIOURAL SCIENCE**	60 minutes	Miss. Azra	Lecture	Lecture hall – 1, Ground floor, Block-A
14.	**GREAT VESSELS OF HEART- I** **At the end of this lecture 1st year MBBS students will be able to:** - Describe in detail the arteries and veins that enter and leave the heart. - Identify the course and tributaries of superior and inferior vena cava. - Explain the branches of aorta and arch of aorta.	**ANATOMY**	60 minutes	Dr. Aneela	Lecture	Lecture hall – 1, Ground floor, Block-A

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15.	**DEVELOPMENT OF VENOUS SYSTEM** **At the end of this lecture 1st year MBBS students will be able to:** - Describe the developmental changes in sinus venosus - Discuss the development of vena cava - Explain the developmental defects related with development of venous system	**ANATOMY**	60 minutes	Dr. Tayyaba	Lecture	Lecture hall – 1, Ground floor, Block-A
16.	**GREAT VESSELS OF HEART- II** **At the end of this lecture 1st year MBBS students will be able to:** -Describe the branches of pulmonary trunk and distribution of left and right pulmonary arteries. - Discuss the applied anatomy of great vessels.	**ANATOMY**	60 minutes	Dr. Aneela	Lecture	Lecture hall – 1, Ground floor, Block-A
17.	**VENOUS SYSTEM-I** **At the end of this lecture 1st year MBBS students will be able to:** - Define vein. - List main functions of veins. - Categorize the venous pressure & discuss their contributing factors. - Describe the role of veins as a venous pump. - Explain the function of veins as blood reservoir	**PHYSIOLOGY**	60 minutes	Dr. Adnan Ahmed	Lecture	Lecture hall – 1, Ground floor, Block-A
18.	**VENOUS SYSTEM-II**	**PHYSIOLOGY**	60 minutes	Dr. M Ali	Lecture	Lecture hall – 1,

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	At the end of this lecture 1st year MBBS students will be able to: - Define central venous pressure (CVP). - Draw CVP curve. - Explain the effect of gravity on venous pressure. - Identify the importance of venous valve. - Define varicose veins.					Ground floor, Block-A
19.	**HISTOLOGY OF HEART** **At the end of this lecture 1st year MBBS students will be able to:** - Identify the histological features of Cardiac muscles.	**ANATOMY**	60 minutes	Prof. Dr. Inayat	Lecture	Lecture hall – 1, Ground floor, Block-A
20.	**HISTOLOGY OF VESSELS** **At the end of this lecture 1st year MBBS students will be able to:** - Describe the histological structure of arteries and veins. - Differentiate between artery and vein.	**ANATOMY**	60 minutes	Prof. Dr. Inayat	Lecture	Lecture hall – 1, Ground floor, Block-A
21.	**VASCULITIS VARICOSE VEINS/THROMBOPHLEBITIS** **At the end of this lecture 1st year MBBS students will be able to:** - Define Vasculitis - List its Infectious & Non-Infectious causes - Define Varicose Veins & Thrombophlebitis	**PATHOLOGY**	60 minutes	Dr. Nasima Iqbal	Lecture	Lecture hall – 1, Ground floor, Block-A

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22.	**SOCIAL SYSTEM OF ISLAM:** **BASIC CONCEPTS OF SOCIAL SYSTEM OF ISLAM** **At the end of this lecture 1st year MBBS students will be able to:** - Describe and explain the basic concepts of social systems of Islam	**ISLAMIAT**	60 minutes	Miss. Uzma	Lecture	Lecture hall – 1, Ground floor, Block-A.
23.	**HEART AS A PUMP** **At the end of this lecture 1st year MBBS students will be able to:** - Differentiate the action potentials of the skeletal & cardiac muscles.	**PHYSIOLOGY**	60 minutes	Dr. Adnan Ahmed	Lecture	Lecture hall – 1, Ground floor, Block-A
24.	**PROPERTIES OF CARDIAC MUSCLES** **At the end of this lecture 1st year MBBS students will be able to:** - Lists and define the cardiac muscle properties	**PHYSIOLOGY**	60 minutes	Dr. M Ali	Lecture	Lecture hall – 1, Ground floor, Block-A
25.	**ACTION POTENTIALS OF CARDIAC MUSCLES** **At the end of this lecture 1st year MBBS students will be able to:** - Enumerate the phases of the action potential of cardiac muscle - Explain plateau phenomenon in ventricular muscle - Compare plateau of ventricular muscle with atria and SA node	**PHYSIOLOGY**	60 minutes	Dr. Sobia	Lecture	Lecture hall – 1, Ground floor, Block-A

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	- Explain refractory period					
26.	**PLATEAU IN CARDIAC MUSCLE** **At the end of this SGT 1st year MBBS students will be able to:** -Define plateau in cardiac muscle -Explain the formation of plateau -Explain the role of plateau in increasing refractory period	**PHYSIOLOGY**	60 minutes	Dr Adnan Dr M Ali Dr Saba Abrar	SGT	Physio LAB, Lecture hall 1 & LRC (Physio:)
27.	**CONDUCTING SYSTEM OF HEART** **At the end of this lecture 1st year MBBS students will be able to:** - Define conducting system of heart. - Identify the location and position of SA node, AV node and AV bundle. - Describe the areas supplied by SA, AV nodes and bundle of HIS. - Describe applied anatomy of conducting system.	**ANATOMY**	60 minutes	Dr. Aneela	Lecture	Lecture hall – 1, Ground floor, Block-A
28.	**SURGICAL ANATOMY OF HEART** **At the end of this lecture 1st year MBBS students will be able to:** - Explain the surgical anatomy of heart - Identify the cardiac landmarks on the human body	**CARDIO THORACIC SURGERY**	60 minutes	Dr. Abdullah	Lecture	Lecture hall – 1, Ground floor, Block-A

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29.	**DEVELOPMENT OF CONDUCTING SYSTEM OF HEART** **At the end of this lecture 1st year MBBS students will be able to:** - Describe the development of conducting system of heart**.**	**ANATOMY**	60 minutes	Dr. Tayyaba	Lecture	Lecture hall – 1, Ground floor, Block-A
30.	**RHYTHMIC EXCITATION OF THE HEART** **At the end of this lecture 1st year MBBS students will be able to:** - Name the pace make of the heart - List the conductive system of the heart - Explain the conduction of impulse from SA node to the base of the heart - Define ectopic pacemaker of heart.	**PHYSIOLOGY**	60 minutes	Dr. M Ali	Lecture	Lecture hall – 1, Ground floor, Block-A
31.	**REGULATION OF HEART PUMPING I** **At the end of this lecture 1st year MBBS students will be able to:** - Define frank starling law - Descibe bain-bridge reflex - Disscus the parasympathetic effect on heart - Explain the sympathetic effect on heart - Identify the effects of Ca^{2+}, K^{+} and temperature on heart	**PHYSIOLOGY**	60 minutes	Dr. Sobia	Lecture	Lecture hall – 1, Ground floor, Block-A

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32.	**NORMAL HEART RATE AND ARRHYTHMIAS I** **At the end of this lecture 1st year MBBS students will be able to:** - Define normal heart rate, tachycardia and bradycardia. - Define arrhythmias. - List and summarize types of heart blocks.	**PHYSIOLOGY**	45 minutes	Dr. M Ali	Lecture	Lecture hall – 1, Ground floor, Block-A
	- Define atrial & ventricular flutter and fibrillation. - Explain re-entry phenomenon- circus movement					
33.	**FETAL CIRCULATION** **At the end of this lecture 1st year MBBS students will be able to:** - Describe fetal circulation - Explain the developmental defects related with fetal circulation	**ANATOMY**	60 minutes	Dr. Tayyaba	Lecture	Lecture hall – 1, Ground floor, Block-A
34.	**CORONARY CIRCULATION** **At the end of this lecture 1st year MBBS students will be able to:** - Recognize the percentage of cardiac output in coronary circulation. - Discuss the cardiac muscle compression causing changes in coronary circulation during systole and diastole.	**PHYSIOLOGY**	60 minutes	Dr. Adnan	Lecture	Lecture hall – 1, Ground floor, Block-A

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	- Explain the autoregulation of coronary circulation.					
35.	**CYANOTIC HEART DISEASES- I** **At the end of this lecture 1st year MBBS students will be able to:** - Define cyanotic heart defects - List the incidence of cyanotic disease - Explain different types of cyanotic congenital defects	**PAEDS**	60 minutes	Dr. Aneela	Lecture	Lecture hall – 1, Ground floor, Block-A
36.	**CYANOTIC HEART DISEASES- II** **At the end of this lecture 1st year MBBS students will be able to:** - Describe the etiology, clinical manifestation, diagnosis and management of cyanotic congenital heart defects.	**PAEDS**	60 minutes	Dr. Aneela	Lecture	Lecture hall – 1, Ground floor, Block-A
37.	**VALVULAR HEART DISEASES** **At the end of this lecture 1st year MBBS students will be able to:** - Define Rheumatic Heart Disease - Describe its pathophysiology - Define Infective Endocarditis - List its causes	**PATHOLOGY**	60 minutes	Dr. Nasima Iqbal	Lecture	Lecture hall – 1, Ground floor, Block-A

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38.	**CARDIAC CYCLE – I** **At the end of this lecture 1st year MBBS students will be able to:** - Define cardiac cycle, systole and diastole. - Calculate the duration of cardiac cycle. - List & define the phases & events of cardiac cycle.	**PHYSIOLOGY**	60 minutes	Dr. M Ali	Lecture	Lecture hall – 1, Ground floor, Block-A
39.	**CARDIAC CYCLE – II** **At the end of this lecture 1st year MBBS students will be able to:** - List & define the volume changes during cardiac cycle. - Relate the volume changes with the phases of cardiac cycle. - Explain the ventricular pressure changes during cardiac cycle. - Define stroke volume output, end-systolic volume, end-diastolic volume and ejection fraction	**PHYSIOLOGY**	60 minutes	Dr. Sobia	Lecture	Lecture hall – 1, Ground floor, Block-A
40.	**CARDIAC CYCLE-III** **At the end of this lecture 1st year MBBS students will be able to:** - Correlate the events of cardiac cycle with the ECG.	**PHYSIOLOGY**	60 minutes	Dr. Sobia	Lecture	Lecture hall – 1, Ground floor, Block-A

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	- Correlate the events of cardiac cycle with the heart sounds. - Name the atrial pressure waves. - Explain the aortic pressure curve. - Draw and explain the graphical analysis of ventricular pumping-work output of the heart. - Define pre-load, after-load and cardiac efficiency.					
41.	**CARDIAC CYCLE** **<u>At the end of this SGT 1st year MBBS students will be able to:</u>** -Draw the ventricular pressure curve during cardiac cycle -Draw ventricular volume curve -Draw atrial pressure curve during cardiac cycle	**PHYSIOLOGY**	60 minutes	Dr Adnan Dr M Ali & Dr Saba Abrar	SGT	Physio Lab, Lecture hall 1 & LRC (Physio)
42.	**VALVULAR HEART DISEASE** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Discuss pathogenesis of the damaged valves - Interpret various clinical features of diseased valves - Explain investigation required for the diagnosis of valvular heart disease - Compute the treatment options available to treat the damaged valves	**MEDICINE**	60 minutes	Dr. Masooda	Lecture	Lecture hall – 1, Ground floor, Block-A

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43.	**ELECTROCARDIOGRAM (ECG)-I** **At the end of this lecture 1st year MBBS students will be able to:** - Define electrocardiogram "ECG" - List ECG waves - Define intervals and segments - Explain the development of depolarization & repolarization waves. - Explain how ECG can be helpful in the diagnosis of various cardiovascular disorders.	**PHYSIOLOGY**	60 minutes	Dr. Saba Abrar	Lecture	Lecture hall – 1, Ground floor, Block-A
44.	**VECTORIAL ANALYSIS I** **At the end of this lecture 1st year MBBS students will be able to:** - Define "vector". - Explain the concept of vector direction in ECG. - Describe the vectorial analysis in terms of potential determination. - Relate the ventricular potential changes with the development of "QRS complex" & "T" waves on ECG. - Relate the atrial potential changes with the development of Atrial "P" & "T" waves on ECG.	**PHYSIOLOGY**	60 minutes	Dr. Adnan Ahmed	Lecture	Lecture hall – 1, Ground floor, Block-A

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45.	**ECG – IICALCULATION OF MEAN ELECTRICAL AXIS OF QRS I** **At the end of this lecture 1st year MBBS students will be able to:** - Identify the right axis deviation in the ECG. - Identify the left axis deviation in the ECG. - Name the conditions that cause axis deviation. - Identify axis deviation in bundle branch block. - Name the condition that increases/decreases voltages in QRS complexes. - Define current of injury. - Identify J-point. - Identify T-wave inversion in coronary ischemia. - Recognize acute myocardial infarction and differentiate it from old infarction.	**PHYSIOLOGY**	60 minutes	Prof. Qamer Aziz	Lecture	Lecture hall – 1, Ground floor, Block-A
46.	**ECG – AXIS CALCULATION** **At the end of this SGT 1st year MBBS students will be able to:** -Calculate electrical axis in the given ECG -Identify J point in the given ECG	**PHYSIOLOGY**	45 minutes	Dr Adnan, Dr M Ali & Dr Saba Abrar	SGT	Physio lab, Lecture hall 1 & LRC (Physio:)

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47.	**ELECTROCARDIOGRAPHY** **At the end of this activity 1st year MBBS students will be able to:** - Identify normal waves and intervals of heart - Interpret heart rate of any given ECG - Compute the rhythm of the heart as normal or Abnormal	**PHYSIOLOGY**	60 minutes	Dr. Saleemullah	Activity	Lecture hall – 1, Ground floor, Block-A
48.	**ELECTROCARDIOGRAPHY** **At the end of this lecture 1st year MBBS students will be able to:** - Identify normal waves and intervals of heart - Interpret heart rate of any given ECG - Compute the rhythm of the heart as normal or Abnormal	**MEDICINE**	60 minutes	Dr. Masooda	Lecture	Lecture hall – 1, Ground floor, Block-A
49.	**CARDIAC ENZYMES** **At the end of this lecture 1st year MBBS students will be able to:** - Identify the different enzymes useful in diagnosis of acute myocardial infarction - Describe the interpretations of the pattern of enzymes in Myocardial Infarction.	**BIOCHEMISTRY**	60 minutes	Dr. Iffat	Lecture	Lecture hall – 1, Ground floor, Block-A
50.	**ELEMENTS OF FAMILY** **At the end of this lecture 1st year MBBS students will be able to:** - Describe and explain the elements of family.	**ISLAMIAT**	60 minutes	Miss. Uzma	Lecture	Lecture hall – 1, Ground floor, Block-A.

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51.	**CHOLESTEROL CHEMISTRY I** **At the end of this lecture 1st year MBBS students will be able to:** - Describe the structure of cholesterol. - State the normal range of cholesterol in blood - Discuss the biomedical importance of Cholesterol.	**BIOCHEMISTRY**	60 minutes	Dr. Iffat	Lecture	Lecture hall – 1, Ground floor, Block-A
52.	**CARDIAC OUTPUT I** **At the end of this lecture 1st year MBBS students will be able to:** - Define cardiac output & the cardiac index with their values. - Define venous return. - Explain the inter-relationship between the venous return andcardiac output. - Name the methods of measuring cardiac output.	**PHYSIOLOGY**	60 minutes	Dr. Saba	Lecture	Lecture hall – 1, Ground floor, Block-A
53.	**CHOLESTEROL METABOLISM** **At the end of this lecture 1st year MBBS students will be able to:** - Discuss the synthesis of cholesterol - List the tissues in which cholesterol biosynthesis takes place - Discuss the importance of rate limiting step in cholesterol synthesis & describe its regulation	**BIOCHEMISTRY**	60 minutes	Dr. Iffat	Lecture	Lecture hall – 1, Ground floor, Block-A

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54.	**MYOCARDIAL INFARCTION** **At the end of this lecture 1st year MBBS students will be able to:** - Define Myocardial Infarction - List its complications - List its investigations	**PATHOLOGY**	60 minutes	Dr. Sidra Izhar	Lecture	Lecture hall – 1, Ground floor, Block-A
55.	**AUSCULTATION OF HEART SOUNDS AND APEX BEAT (PRACTICAL)** **At the end of this practical 1st year MBBS students will be able to:** - Define heart sound. - Auscultate different areas of heart sounds - Locate & measure the apex beat - Identify cardiac murmurs	**PHYSIOLOGY**	120 minutes	Dr. M Ali	Practical	Phsyiology laboratory, First floor, Block-A
56.	**ECG MACHINE & LEADS (PRACTICAL)** **At the end of this practical 1st year MBBS students will be able to:** - List the requirement for recording ECG. - Mention the names of leads and electrodes with its placement. - Describe the protocol for performing ECG. - Explain the voltage & time calibration on ECG paper. - List ECG leads &compares deflection with the location of leads.	**PHYSIOLOGY**	120 minutes	Dr. M Ali	Practical	Phsyiology laboratory, First floor, Block-A

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	- Calculate the heart rate and P-R interval by using electrocardiogram					
57.	**TEST FOR CHOLESTEROL BY FERRIC CHLORIDE ACETIC ACID REAGENT (PRACTICAL)** **<u>At the end of this practical 1st year MBBS students will be able to:</u>** - Detect the presence of cholesterol in a given sample by ferric chloride reagent - Describe the principle of the reaction - Record the observations	**BIOCHEMISTRY**	120 minutes	Dr. Farhan / Miss. Nazish	Practical	Biochemistry laboratory, First floor, Block-A
58.	**CARDIAC MUSCLES** **<u>At the end of this practical 1st year MBBS students will be able to:</u>** - Explain the structure of cardiac muscle - Identify the slide of cardiac muscles	**HISTOLOGY**	120 minutes	Dr. Aneela	Practical	Histology laboratory, First floor, Block-A

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59.	**ISCHEMIC HEART DISEASE** **At the end of this lecture 1st year MBBS students will be able to:** - Memorize the various clinical presentations of ischemic heart disease including angina and myocardial infarction - Summarize the investigations required to diagnose the disease - Identify pharmacological as well as non-pharmacological options for treatment of disease	**MEDICINE**	60 minutes	Dr. Masooda	Lecture	Lecture hall – 1, Ground floor, Block-A
60.	**X RAY CHEST IN HEART FAILURE** **At the end of this lecture 1st year MBBS students will be able to:** - Define interpretation of cardiomegaly from x ray chest PA view - Describe signs of infiltration & consolidation Explain role of x ray in differential diagnosis of CHF	**RADIOLOGY**	60 minutes	Dr. Farheen	Lecture	Lecture hall – 1, Ground floor, Block-A
61.	**FACTORS REGULATING CARDIAC OUTPUT** **At the end of this lecture 1st year MBBS students will be able to:** - Associate the role of nervous system in regulation of C.O. - Explain the role of preload on C.O. - Explain the role of cardiac contractility on C.O. - Explain the role of after-load on C.O.	**PHYSIOLOGY**	60 minutes	Dr. Adnan Ahmed	Lecture	Lecture hall – 1, Ground floor, Block-A

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62.	**ISCHEMIC HEART DISEASE** **At the end of this lecture 1st year MBBS students will be able to:** - Define Ischemic Heart Diseases - List its Types	**PATHOLOGY**	60 minutes	Dr. Rozina Khan	Lecture	Lecture hall – 1, Ground floor, Block-A
63.	**MYOCARDIAL INFARCTION** **At the end of this SGT 1st year MBBS students will be able to:** -Define infarction -Differentiate infarction from ischemia -Identify ECG changes in left sided block - Identify ECG changes in right sided block	**PHYSIOLOGY**	60 minutes	Dr Adnan, Dr M Ali & Dr Saba Abrar	SGT	Physio lab, Lecture hall1 & Physio LRC
64.	**STUDY STYLES** **At the end of this lecture 1st year MBBS students will be able to:** - Identify different learning styles of learners. - Discuss importance of different learning styles.	**PEaRLS**	60 minutes	Dr. Saima Qamar	Lecture	Lecture hall – 1, Ground floor, Block-A
65.	**CHOLESTEROL DEGRADATION** **At the end of this lecture 1st year MBBS students will be able to:** - Explain the metabolic fate of cholesterol in the body. - Discuss the formation and functions of bile acids and bile salts	**BIOCHEMISTRY**	60 minutes	Dr. Iffat	Lecture	Lecture hall – 1, Ground floor, Block-A

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66.	**HEART SOUNDS I** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Define heart sounds. - Relate the heart sounds with movement of valves & with cardiac events. - Define "murmurs", list the abnormalities that produce murmur.	**PHYSIOLOGY**	60 minutes	Dr. M Ali	Lecture	Lecture hall – 1, Ground floor, Block-A
67.	**SDL**					
68.	**SODIUM METABOLISM** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Describe the metabolism of sodium - State the normal blood levels of sodium - List the functions of it and the clinical conditions associated with its excess and deficiencies.	**BIOCHEMISTRY**	60 minutes	Dr. Farhan Sabir	Lecture	Lecture hall – 1, Ground floor, Block-A
69.	**POTASSIUM METABOLISM** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Describe the metabolism of potassium - State the normal blood levels of potassium - List the functions of it and the clinical conditions associated with its excess and deficiencies.	**BIOCHEMISTRY**	60 minutes	Dr. Farhan Sabir	Lecture	Lecture hall – 1, Ground floor, Block-A

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70.	**CIRCULATORY SYSTEM I** **At the end of this lecture 1st year MBBS students will be able to:** - Define blood circulation. - List the importance / functions of circulatory system. - List & define the functional parts / components of circulatory system. - List the types of circulation (systemic and pulmonary). - Enumerate the volume of blood in different parts of circulation**.**	**PHYSIOLOGY**	60 minutes	Dr. Adnan Ahmed	Lecture	Lecture hall – 1, Ground floor, Block-A
71.	**CIRCULATORY SYSTEM II** **At the end of this lecture 1st year MBBS students will be able to:** - Recognize the cross-sectional areas and velocities of blood flow - Explain the pressure in various portions of circulation - Identify the functions of capillaries - List & define the basic principles of circulation	**PHYSIOLOGY**	60 minutes	Dr. M Ali	Lecture	Lecture hall – 1, Ground floor, Block-A
72.	**LIPOPROTEIN METABOLISM-1 (LIPID METABOLISM)** **At the end of this lecture 1st year MBBS students will be able to:**	**BIOCHEMISTRY**	60 minutes	Dr. Iffat	Lecture	Lecture hall – 1, Ground floor, Block-A

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	- Define lipoproteins - Explain the structure of a lipoprotein complex - List the different types of lipoproteins, their sources, composition and functions.					
73.	**CLASSIFICATION OF VARIABLES** **At the end of this lecture 1st year MBBS students will be able to:** - Define the types of variables - Explain the differences between various types of Variables	**RESEARCH**	60 minutes	Miss. Maria	Lecture	Lecture hall – 1, Ground floor, Block-A
74.	**LIPOPROTEIN METABOLISM-2 (LIPID METABOLISM)** **At the end of this lecture 1st year MBBS students will be able to:** - Describe the synthesis of chylomicrons and VLDL in the intestinal cells and the liver cells respectively. - Describe the mode of action of lipoprotein lipase on chylomicrons and VLDL - Describe the production of LDL from VLDL	**BIOCHEMISTRY**	60 minutes	Dr. Iffat	Lecture	Lecture hall – 1, Ground floor, Block-A
75.	**PREVENTIVE CARDIOLOGY** **At the end of this lecture 1st year MBBS students will be able to:** - Describe the epidemiology of cardiovascular diseases	**COMMUNITY MEDICINE**	60 minutes	Prof. Dr. Nazia Jameel	Lecture	Lecture hall – 1, Ground floor, Block-A

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	- List the risk factors of cardiovascular diseases - Discuss the preventive approaches for cardiovascular diseases					
76.	**CARDIO MYOPATHIES** **At the end of this lecture 1st year MBBS students will be able to:** -Define and classify cardio myopathies - Describe each type with respect to its etiopathogenesis, morphology and clinical manifestations - Describe myocarditis	**PATHOLOGY**	60 minutes	Dr. Rozina Khan	Lecture	Lecture hall – 1, Ground floor, Block-A
77.	**LIPOPROTEIN METABOLISM-3 (LIPID METABOLISM)** **At the end of this lecture 1st year MBBS students will be able to:** - Identify the metabolic fate of LDL - Discuss the synthesis and metabolism of HDL - Explain the scavenging action of HDL - Describe the process of plaque formation in relation to formation of oxidized LDL	**BIOCHEMISTRY**	60 minutes	Dr. Iffat	Lecture	Lecture hall – 1, Ground floor, Block-A
78.	**OVERVIEW OF PHARMACOLOGY OF HYPERLIPIDEMIA** **At the end of this lecture 1st year MBBS students will be able to:** - Recall the physiology of hyperlipidemia.	**PHARMACOLOGY**	60 minutes	Dr. Sehrish / Dr. Hina Masood	Lecture	Lecture hall – 1, Ground floor, Block-A

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	- Discuss the pathophysiology of hyperlipidemia. - Explain the mechanistic pharmacology of hyperlipidemia.					
79.	**ATHEROSCHLEROSIS** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Define Atheroschlerosis - Describe its Pathophysiology - List its Complications	**PATHOLOGY**	60 minutes	Dr. Nasima Iqbal	Lecture	Lecture hall – 1, Ground floor, Block-A
80.	**ETHICAL VALUES OF ISLAMIC SOCIETY** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Describe and explain the ethical values of Islamic Society	**ISLAMIAT**	60 minutes	Miss. Uzma	Lecture	Lecture hall – 1, Ground floor, Block-A
81.	**SURGICAL ANATOMY OF HEART AND CORONARY ARTERY** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Discuss the role of surgery in cardiac diseases - Describe the role of investigation in planning Surgery - Find the role of surgery in valvular and congenital heart diseases	**CARDIO THORACIC SURGERY**	60 minutes	Dr. Abdullah	Lecture	Lecture hall – 1, Ground floor, Block-A

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82.	**BLOOD FLOW** **At the end of this lecture 1st year MBBS students will be able to:** - Identify determinants of blood flow - Categorize the types of blood flow - State ohm's law in determining the blood flow - List the methods for recording the blood flow - Explain Reynold's phenomenon	**PHYSIOLOGY**	45 minutes	Dr. Muhammad Ali	Lecture	Lecture hall – 1, Ground floor, Block-A
83.	**UNDERSTANDING BEHAVIOUR** **At the end of this lecture 1st year MBBS students will be able to:** - Define behaviour - Explain the cause of behaviour difference in same situations - Define attention and concentration - Name the factors affecting attention and concentration - Explain the management to improve the Concentration	**BEHAVIORAL SCIENCES**	60 minutes	Miss. Azra	Lecture	Lecture hall – 1, Ground floor, Block-A
84.	**ARTERIAL PULSE** **At the end of this practical 1st year MBBS students will be able to:** - Identify Arterial pulse - Explain protocol for measuring arteial pulse	**PHYSIOLOGY**	120 minutes	Dr. M Ali	Practical	Physiology laboratory, First floor, Block-A
85.	**SDL**					

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86.	**HISTOLOGY OF ARTERY** **<u>At the end of this practical 1st year MBBS students will be able to:</u>** - Explain the structure of artery -Identify the slide of artery	**HISTOLOGY**	120 minutes	Dr. Aneela	Practical	Histology laboratory, First floor, Block-A
87.	**INTRODUCTION TO FLUID AND ELECTROLYTE BALANCE I** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Identify the different body compartments - Define "transcellular fluid" - List the types of solutes present in the body Fluids - Discuss electrolyte composition of Extracellular fluid and Intracellular fluid - Identify the chief cation in Extracellular fluid and Intracellular fluid	**BIOCHEMISTRY**	60 minutes	Dr. Kehkashan	Lecture	Lecture hall – 1, Ground floor, Block-A
88.	**PRESSURE IN CIRCULATORY SYSTEM I** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Define blood pressure. - Explain the Korotokoff sound. - Explain the clinical importance of blood pressure. - Explain the effects of pressures on vascular	**PHYSIOLOGY**	60 minutes	Dr. Adnan Ahmed	Lecture	Lecture hall – 1, Ground floor, Block-A

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	resistance. - Define law of laplace. - Define vascular shear stress					
89.	**MOVEMENT OF WATER AND ELECTROLYTES BETWEEN COMPARTMENTS** **At the end of this lecture 1st year MBBS students will be able to:** - Recognize the properties of vessel wall and cell membrane with regards to water and electrolyte movements - Describe the mechanism of movement of electrolytes mainly of sodium and potassium. - Describe starling hypothesis	**BIOCHEMISTRY**	60 minutes	Dr. Kehkashan	Lecture	Lecture hall – 1, Ground floor, Block-A
90.	**RESISTANCE** **At the end of this lecture 1st year MBBS students will be able to:** - Cite the units of resistance. - Define resistance. - Recognize the conductance of blood in relation to resistance. - State Poisuillie's law.	**PHYSIOLOGY**	60 minutes	Dr. Muhammad Ali	Lecture	Lecture hall – 1, Ground floor, Block-A
91.	**SDL**					
92.	**RESISTANCE AND BLOOD FLOW I** **At the end of this lecture 1st year MBBS students will be able to:**	**PHYSIOLOGY**	60 minutes	Dr. M Ali	Lecture	Lecture hall – 1,

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	- Explain the importance of fourth power law in determining arteriolar resistance. - Classify flow in blood vessels - Classify resistance of blood flow in series and parallel circuits. - Identify the importance of blood hematocrit and viscosity on vascular resistance and blood flow.					Ground floor, Block-A
93.	**VASCULAR COMPLIANCE AND CONDUCTANCE** **At the end of this lecture 1st year MBBS students will be able to:** - Define vascular distensibility. - Define vascular compliance. - Explain the effect of autonomic nerves on volume-pressure relationship. - Explain delayed compliance in vessels. - Explain arterial pulsations.	**PHYSIOLOGY**	60 minutes	Dr. Fatima	Lecture	Lecture hall – 1, Ground floor, Block-A
94.	**SDL**					
95.	**MICROCIRCULATION** **At the end of this lecture 1st year MBBS students will be able to:** - Define Microcirculation along with its function - List the Starling forces causing fluid exchange across the capillary - Explain the net filtration pressure with the help of starling forces	**PHYSIOLOGY**	60 minutes	Dr. Adnan Ahmed	Lecture	Lecture hall – 1, Ground floor, Block-A

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	- Define interstitial fluid					
96.	**LYMPHATIC SYSTEM** **At the end of this lecture 1st year MBBS students will be able to:** - List the function of lymphatic system. - Describe Formation of lymph. - List the composition of lymph. - Explain the importance of lymphatic pump. - Define lymphatic system and lymph flow. - Explain the importance of lymphatic system in controlling interstitial fluid.	**PHYSIOLOGY**	60 minutes	Prof. Dr. Qamer Aziz	Lecture	Lecture hall – 1, Ground floor, Block-A
97.	**NORMAL WATER AND ELECTROLYTE BALANCE** **At the end of this lecture 1st year MBBS students will be able to:** - List the various sources of water intake - Define "metabolic water" - Describe the processes of output of water - Define "obligatory losses" - Differentiate between "insensible and "sensible perspiration" - Define "minimal excretory volume". - Discuss the factors determining minimum excretory volume. - Define "internal circulation of salts" by GIT and Kidneys	**BIOCHEMISTRY**	60 minutes	Dr. Kehkashan	Lecture	Lecture hall – 1, Ground floor, Block-A

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98.	**STUDY STYLES II** **At the end of this lecture 1st year MBBS students will be able to:** - Develop a working plan for studying - Compare individual and group learning benefits.	**PEARLS**	60 minutes	Dr. Saima Qamar	Lecture	Lecture hall – 1, Ground floor, Block-A
99.	**CARDIOVASCULAR PHYSIOLOGY OF PREGNANCY** **At the end of this lecture 1st year MBBS students will be able to:** - Explain the reason of increase heart rate during normal pregnancy - Describe the changes in plasma volume and red cell mass - Appreciate the changes in cardiac output throughout pregnancy and labour	**GYNEA**	60 minutes	Dr. Nighat	Lecture	Lecture hall – 1, Ground floor, Block-A
100.	**REGULATORY MECHANISMS OF FLUID AND ELECTROLYTE BALANCE** **At the end of this lecture 1st year MBBS students will be able to:** - List the regulatory mechanisms that operate to maintain homeostasis - Describe the involvement of thirst stimuli. - Identify the hormones that maintain the level of water and sodium. - Explain the role of kinins and atrial natriuretic	**BIOCHEMISTRY**	60 minutes	Dr. Kehkashan	Lecture	Lecture hall – 1, Ground floor, Block-A

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	peptide in water and electrolyte balance.					
101.	**SDL**					
102.	**FORMATIVE ASSESSMENT** **<u>At the end of this activity 1st year MBBS students will be able to:</u>** -Explain the hemodynamics	**PHYSIOLOGY**	90 minutes	Dr. Adnan	Lecture hall – 1, Ground floor, Block-A	
103.	**LOCAL CONTROL OF BLOOD FLOW-I** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Define local blood flow with its importance. - Categorize & define the phases of control of local blood flow.	**PHYSIOLOGY**	60 minutes	Dr. Muhammad Ali	Lecture	Lecture hall – 1, Ground floor, Block-A
104.	**LOCAL CONTROL OF BLOOD FLOW-II** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - List the different theories for acute control of local blood flow. - Describe vasodilator theory and metabolic theory (auto-regulation) for local regulation of blood flow. - Define active and reactive hyperaemia. - Describe long term control of local blood flow. - Explain long term regulation of local blood flow. - List the hormones and their effects in local	**PHYSIOLOGY**	60 minutes	Dr. Muhammad Ali	Lecture	Lecture hall – 1, Ground floor, Block-A

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	control of blood flow					
105.	**CARDIAC POISONING 1** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - List the Uses of Digitalis, Oleander, Aconite, Nicotine, Quinine & Adrenaline. - Diagnose the Acute Signs & Symptoms of Poisoning by all above. - Diagnose the Chronic Signs & Symptoms of Nicotine (Tobacco) Poisoning. - List the Treatment options for Acute Poisoning by all above.	**FORENSIC MEDICINE**	45 minutes	Dr. Rafay	Lecture	Lecture hall – 1, Ground floor, Block-A
106.	**ACUTE ARTERIAL BLOOD PRESSURE (ABP) REGULATION** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Define arterial blood pressure. - Define pulse pressure and mean arterial pressure. - Calculate mean arterial pressure. - List the short term (Acute) regulators of ABP. - Identify the role of autonomic nervous system (ANS) in acute regulation of ABP. - Explain the role of vasomotor center in control of ABP.	**PHYSIOLOGY**	60 minutes	Dr. Muhammad Ali	Lecture	Lecture hall – 1, Ground floor, Block-A

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	- Explain baroreceptor reflex in acute regulation of ABP. - Explain the resetting phenomenon for baroreceptors.					
107.	**ACYANOTIC HEART DISEASE I** **At the end of this lecture 1st year MBBS students will be able to:** - Classify congenital heart disease. - Discuss the pathophysiological changes in circulation that occurs after birth. - Compare innocent murmur vs pathological murmur.	**PAEDS**	45 minutes	Dr. Areeba	Lecture	Lecture hall – 1, Ground floor, Block-A
108.	**ACYANOTIC HEART DISEASE II** **At the end of this lecture 1st year MBBS students will be able to:** - Identify appropriate investigations. - Explain management options. - List indications for infective endocarditis prophylaxis.	**PAEDS**	45 minutes	Dr. Areeba	Lecture	Lecture hall – 1, Ground floor, Block-A
109.	**OTHER REGULATORS OF ACUTE ARTERIAL BLOOD PRESSURE (ABP)-I** **At the end of this lecture 1st year MBBS students will be able to:** - Explain chemoreceptor reflex. - Explain the atrial and pulmonary artery reflexes	**PHYSIOLOGY**	60 minutes	Dr. Muhammad Ali	Lecture	Lecture hall – 1, Ground floor, Block-A

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	in acute ABP. - Explain the volume reflex. - Identify the role of atrial natriuretic peptide (ANP) in volume reflex. - Explain bain-bridge reflex.					
110.	**CHRONIC CONGESTIVE HEART FAILURE** **At the end of this lecture 1st year MBBS students will be able to:** - Recall etiology and pathogenesis of congestive heart failure - Recite clinical presentations of the disease - Discuss the investigations requited to diagnose the disease - Describe treatment options available for the Disease	**MEDICINE**	45 minutes	Dr. Masooda	Lecture	Lecture hall – 1, Ground floor, Block-A
111.	**OTHER REGULATORS OF ACUTE ARTERIAL BLOOD PRESSURE (ABP)-II** **At the end of this lecture 1st year MBBS students will be able to:** - Explain CNS-ischemic response and its importance as a last ditch response during shock. - Define cushing reaction.	**PHYSIOLOGY**	60 minutes	Dr. Adnan Ahmed	Lecture	Lecture hall – 1, Ground floor, Block-A
112.	**OVERVIEW OF PHARMACOLOGY OF HYPERTENSION**	**PHARMALOGY**	45 minutes	Dr. Sehrish /	Lecture	Lecture hall – 1,

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	At the end of this lecture 1st year MBBS students will be able to: - Recall the physiology of hypertension. - Discuss the pathophysiology of hypertension. - Explain the mechanistic pharmacology of hypertension.			Dr. Hina Masood		Ground floor, Block-A
113.	**INTERMEDIATE REGULATORS OF ACUTE BLOOD PRESSURE (ABP)** **At the end of this lecture 1st year MBBS students will be able to:** - List the Intermediate regulators of Acute blood pressure (ABP) - Explain stress relaxation - Explain capillary fluid shift mechanism - Explain the integrated response according to time.	**PHYSIOLOGY**	45 minutes	Dr. Muhammad Ali	Lecture	Lecture hall – 1, Ground floor, Block-A
114.	**CARDIOVASCULAR EXERCISE – PRINCIPLES & GUIDELINES** **At the end of this lecture 1st year MBBS students will be able to:** - Discuss how to design cardiovascular program and what kind of exercises should be included in it. - Explain how to monitor your heart rate during cardiovascular exercises.	**COMMUNITY MEDICINE**	60 minutes	Dr. Ammara Altaf	Lecture	Lecture hall – 1, Ground floor, Block-A

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115.	**CIRCULATORY SHOCK (CS) I** **At the end of this lecture 1st year MBBS students will be able to:** - Define circulatory shock. - List the stages of circulatory shock. - Explain how non-progressive shock changes into progressive one -Describe other pathophysiological aspects of CS	**PHYSIOLOGY**	60 minutes	Dr. Muhammad Ali	Lecture	Lecture hall – 1, Ground floor, Block-A
116.	**CIRCULATORY SHOCK (C.S) II** **At the end of this lecture 1st year MBBS students will be able to:** - Name the types of CS - Explain hypovolumic shock. - Explain septic shock. - Explain anaphylactic shock - Explain neruogenic shock - Explain cardiogenic shock.	**PHYSIOLOGY**	45 minutes	Dr. Saba Abrar	Lecture	Lecture hall – 1, Ground floor, Block-A
117.	**SHOCK** **At the end of this SGT 1st year MBBS students will be able to:** -Differentiate hypovolemic shock with cardiac shock -List the different types of hypovolemic shock with examples -List the causes of cardiogenic shock	**PHYSIOLOGY**	60 minutes	Dr Adnan, Dr M Ali & Dr Saba leeza	SGT	Physio lab, Lecture hall 1 & LRC (Physio:)

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	-describe compensation of shock					
118.	**SDL**					
119.	**HYPERTENSION** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Compute the etiology and pathogenesis of hypertension - Describe primary and secondary hypertension - Identifysecondary causes of hypertension - Classify antihypertensive drugs and their use in hypertensive patients	**MEDICINE**	60 minutes	Dr. Masooda	Lecture	Lecture hall – 1, Ground floor, Block-A
120.	**HYPERTENSION** **<u>At the end of this SGT 1st year MBBS students will be able to:</u>** -Define hypertension -List the causes of hypertension -List the different types of hypertension -Summarize treatment options in hypertension	**PHYSIOLOGY**	60 minutes	Dr Adnan, Dr M Ali & Dr Saba Abrar	SGT	Physio lab, Lecture hall 1 & Physio LRC
121.	**LONG TERM CONTROL OF ARTERIAL BLOOD PRESSURE (ABP)** **<u>At the end of this lecture 1st year MBBS students will be able to:</u>** - Define renin-angiotensin aldosterone system. - Draw a flow diagram showing renin-angiotensin aldosterone system.	**PHYSIOLOGY**	45 minutes	Prof. Dr. Qamer Aziz	Lecture	Lecture hall – 1, Ground floor, Block-A

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	- Define juxta glomerular (JG) apparatus. - Explain the role of rennin in renin-angiotensin aldosterone system. - Explain the mechanism of long term regulation of ABP.					
122.	**BLOOD PRESSURE RECORDING (PRACTICAL)** **At the end of this practical 1st year MBBS students will be able to:** - List the requirements for recording blood pressure. - Describe the methods to perform blood pressure. - Predict the normal range of blood pressure. - Describe the methods to perform blood pressure. - Identify the precautions taken while performing blood pressure.	**PHYSIOLOGY**	120 minutes	Dr. M Ali	Practical	Physiology laboratory, First floor, Block-A
123.	**JUGULAR VENOUS PRESSURE(JVP)** **At the end of this practical 1st year MBBS students will be able to:** - Demonstrate the proper position of subject - Examine the three ascending and descending waves of raised JVP - Memorize the precautions while examining the subject	**PHYSIOLOGY**	120 minutes	Dr. M Ali	Practical	Physiology laboratory, First floor, Block-A

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	-List the clinical causes of raised JVP					
124.	**SDL**					
125.	**HISTOLOGY OF VEIN** **At the end of this practical 1st year MBBS students will be able to:** -Explain the structure of vein - Identify the slide of vein	**HISTOLOGY**	120 minutes	Dr. Aneela	Practical	Histology laboratory, First floor, Block-A
126.	**SDL**					
127.	**HEART MODEL** **At the end of this activity 1st year MBBS students will be able to:** - Identify the various features of heart	**ANATOMY**	60 minutes	Dr. Aneela	Activity	Lecture hall – 1, Ground floor, Block-A
128.	**SDL**					
129.	**CARDIAC POISONNING 2** **At the end of this lecture 1st year MBBS students will be able to:** - List the Treatment options for Chronic Nicotine Poisoning. - Identify Fatal Doses & Fatal Periods of them. - Describe Postmortem Appearances of Poisoning by them - Give medicolegal (ML) importance	**FORENSIC MEDICINE**	60 minutes	Dr. Jan e Alam	Lecture	Lecture hall – 1, Ground floor, Block-A

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130.	**RIGHTS OF PARENTS AND ELDERS** **At the end of this lecture 1st year MBBS students will be able to:** - Describe and explain the rights of parents and rights of elders.	**ISLAMIAT**	60 minutes	Miss. Uzma	Lecture	Lecture hall – 1, Ground floor, Block-A
131.	**SDL**					
132.	**CARDIOTHORACIC SURGERY** **At the end of this lecture 1st year MBBS students will be able to:** - Explain the aortic and pericardial anatomy - Describe the coronary vascular system and its implication in cardiac disease	**SURGERY**	60 minutes	Dr. Abdullah	Lecture	Lecture hall – 1, Ground floor, Block-A

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DAYS	8:30-9:30	9:30-10:30	10:30-11:00	11:00-12:00	12:00:-1:00	1:00-1:30	1:30-2:30	2:30-4:00
MONDAY 22-7-2024	**BLOOD MODULE EXAM**			**BLOOD MODULE EXAM**			**BLOOD MODULE EXAM**	
TUESDAY 23-7-2024	**ANATOMY** MEDIASTINUM.	**PEARLS**		**EMBRYO** DEVELOPMENT OF HEART I	**EMBRYO** DEVELOPMENT OF HEART I		**ANATOMY** **PERICARDIUM**.	**PATHO** **PERICARDIAL DISEASES** **DR NASEEMA IQBAL**
WEDNESDAY 24--7-2024	**ANATOMY** **HEART 1**	**ANATOMY** **HEART 2**		**SDL**	**RADIOLOGY**		**ANATOMY**VALVES AND OPENING OF THE HEART.	**ANATOMY** ARTERIAL SUPPLY OF HEART.
THURSDAY 25--7-2024	**EMBRYO** DEVELOPMENT OF ATERIAL SYSTEM	**B.SCIENCE Ms Azra**		**ANATOMY** GREAT VESSELS OF HEART. 1	**EMBRYO** DEVELOPMENT OF VENOUS SYSTEM		**ANATOMY** GREAT VESSELS OF HEART. 2	**PHYSIO** VENOUS SYSTEM-I Dr. Adnan
FRIDAY 26--7-2024	**PHYSIO** VENOUS SYSTEM-II Dr. M Ali	**HISTO** HEART & VESSELS		**PATHO** **VASCULITIS VARICOSE VEINS/THROMBOPHLEBITIS DR SIDRA IZHAR**	**ISLAMIAT MS UZMA**		**PHYSIO** HEART AS A PUMP Prof. Qamer	**PHYSIO** ACTION POTENTIALS OF CARDIAC MUSCLES Dr. Adnan

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WEEK 1

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DAYS	8:30-9:30	9:30-10:30	10:30-11:00	11:00-12:00	12:00-1:00	1:00-1:30	1:30-2:30	2:30-4:00
MONDAY 29-7-2023	**ANATOMY** CONDUCTING SYSTEM OF HEART **DR ANEELA**	**SURGERY** SURGICAL ANATOMY OF HEART DR DANISH		**EMBRYO** DEVELOPMENT OF CONDUCTING SYSTEM OF HEART. **DR TAYYABA**	**PHYSIO** RHYTHMIC EXCITATION OF THE HEART **DR M Ali**		**PHYSIO** REGULATION OF HEART PUMPING **DR Adnan**	**PHYSIO** NORMAL HEART RATE AND ARRHYTHMIAS **Dr M.Ali**
TUESDAY 30-7-2024	**EMBRYO** FETAL CIRCULATION **DR TAYYABA**	**PHYSIO** Coronary circulation **Dr Leeza Mangi**		**PEADS** CYANOTIC HEART DISEASE: 1	**PEADS** CYANOTIC HEART DISEASE: 2		**PATHO** VALVULAR HEART DISEASES DR SIDRA IZHAR	**PHYSIO** CARDIAC CYCLE – I DR M Ali
WEDNESDAY 31--7-2024	**PHYSIO** cardiac cycle II **DR Adnan**	**PHYSIO** cardiac cycle III **DR Adnan**		**MEDICINE** Valvar heart disease DR MASOODA	**PHYSIO** Electrocardiogram (ECG)-I **Dr M Ali**		**PHYSIO** vectorial analysis **DR Adnan**	**PHYSIO** ECG – II CALCULATION OF MEAN ELECTRICAL AXIS OF QRS. **PROF DR QAMER AZIZ**
THURSDAY 1--8-2024	**PHYSIO** ELECTROCARDIOGRAPHY **DR SALEEMULLAH ABRO**	**MEDICINE** ELECTROCARDIOGRAPHY DR MASOODA		**BIO** CARDIAC ENZYME **DR IFFAT**	**ISLAMIAT MS UZMA**		**BIO** Chemistry of cholesterol **DR IFFAT**	**PHYSIO** CARDIAC OUTPUT **DR Saba Leeza**

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FRIDAY **2--8-2024**	**BIO** Cholesterol metabolism I **DR IFFAT**	**PATHO** Myocardial Infarction DR SIDRA IZHAR		Physio: Properties of cardiac muscles Dr. M Ali		**MEDICINE** Ischemic heart diseases **DR MASOODA**	**PHYSIO** Factors regulating cardiac output (C.0) **DR Saba Leeza**

WEEK 2
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WEEK 3

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MONDAY **05.8.24**	**PATHO** Ischemic Heart Diseases DR ROZINA KHAN	**PEARLS** **DR SHAMS NADEM ALAM**		**PHYSIO** Heart sound **DR Saba Leeza**	**BIO** Cholesterol Metabolism II **DR IFFAT**		**SDL**	**PHYSIO: ECG** + Auscultation of heart sounds & Apex beat **BIO**: Detection of cholesterol **HISTO**: cardiac muscles
TUESDAY **6.8.24**	**PHYSIO** Circulatory System I **Dr. M Ali**	**BIO** Sodium & potassium metabolism **DR FARHAN**		**CBL**			**SDL**	**PHYSIO: ECG** + Auscultation of heart sounds & Apex beat **BIO**: Detection of cholesterol **HISTO**: cardiac muscles
WEDNESDAY **7.8.24**	**BIO** Lipoprotein Metabolism I **DR IFFAT**	**RESEARCH** **MS MARIA**		**BIO** Lipoprotein metabolism II **DR IFFAT**	**COMMUNITY MEDICINE** Preventive cardiology **DR NAZIA JAMEEL**		**SDL**	**PHYSIO: ECG** + Auscultation of heart sounds &Apex beat **BIO**: Detection of cholesterol **HISTO**: cardiac muscles
THURSDAY **8.8.24**	**BIO** Lipoprotein Metabolism III **DR IFFAT**	**PHARMA** Over view of Pharmacology of Hyperlipidemia **DR SEHRISH/DRHINA MASOOD**		**PATHO** Atherosclerosis **DR NASEEMA IQBAL**	**ISLAMIAT** **Ms.Uzma**		**PATHO** CARDIOMYOPATHY **DR ROZINA/DR SIDRA**	**PHYSIO** **Circulatory System II** **Dr. Adnan Ahmed**
FRIDAY **9.8.24**	**B.SCIENCES** **Ms AZRA**	**SURGERY** Surgical Anatomy of Heart **DR ABDULLAH**		**BIO** Introduction of Fluid &Electrolytes Balance **DR KEHKASHAN**	**PHYSIO** Blood Flow **DR M.ALI**		**CARDIOTHORACIC SURGERY** Surgical Anatomy of Heart & coronary Artery **DR ABDULLAH**	**PHYSIO** Pressure in circulatory system **DR Saba Leeza**

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MONDAY **12.8.24**	**BIO** Movement of water & Electrolytes between compartments **DR KEHKASHAN**	**PHYSIO** Resistance **DR M.ALI**		**PHYSIO** Resistance & Blood Flow **DR M Ali**			**SDL**	**PHYSIO:** Arterial pulse (Dr. Asma) **BIO:** Group B-SDL **HISTO**: Histology of Artery
TUESDAY **13.8.24**	**PHYSIO** Vascular compliance & conductance **DR M Ali**	**PHYSIO** Microcirculation **DR Adnan**		PEaRLS Dr. Saima Qamer	**GYNEA** Cardiovascular physiology of pregnancy		**SDL**	**PHYSIO:** Arterial pulse (Dr. Asma) **BIO**: Group A-SDL **HISTO**: Histology of Artery
WEDNESDAY **14.8.24**	**INDEPENDENCE DAY**			**INDEPENDENCE DAY**			**INDEPENDENCE DAY**	
THURSDAY **15.8.24**	**PHYSIO** Lymphatic System **PROF DR QAMER AZIZ**	**PHYSIO** Local Control of Blood Flow-I **DR M.ALI**		**Formative Assessment PHYSIOLOGY DR Saba Leeza**	**Forensic Medicine Cardiac poisoning Dr. Raafay**		SDL	**PHYSIO:** Arterial pulse (Dr. Asma) **BIO**: Group C-SDL **HISTO**: Histology of Artery
FRIDAY **16.8.24**	**PHYSIO** Local Control of Blood Flow-II **DR Adnan**	**PAEDSDRAREEBA**		**PHYSIO** Acute arterialBlood Pressureregulation **DRMALI**			**PHYSIO** Others regulatorsof Acute arterialBloodPressure Regulation **DRAdnan**	

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WEEK 5

DAYS	8:30-9:30	9:30-10:30	10:30-11:00	11:00-12:00	12:00- 1:00	1:00-1:30	1:30-2:00	2:00-4:00
ONDAY19.8.24	**PHYSIO** Intermediateregulators ofAcute bloodpressure **DRMALI**	**MEDICINE** Chronic CongestiveHeartFailure **DRMASOODA**	**TEA BREAK**	**PHARMA** Overview ofPharmacology ofHypertension **DR SEHRISH**	**COMMUNITY MEDICINE CardiovascularExercise DR AMMARAALTAF**	**Lunch & Prayer**	**SDL**	**PHYSIO: BLOOD PRESSURE RECORDING, JVP (DR. Saba Leeza BIO: Group B-SDL HISTO: Histology of Vein**
JESDAY20.8.24	**PHYSIO** Longtermcontrol of arterial bloodpressure **DR QAMERAZIZ**	**PHYSIO** Circulatory Shock I **DR M ALI**		**PAEDSDRAREEBA 11:00-12:00 PHYSIO** Circulatory Shock II **DR Adnan 12:00-1:00**			**SDL**	**PHYSIO: BLOOD PRESSURE RECORDING, JVP (DR. ASMA BIO: Group B-SDL HISTO: Histology of Vein**
WEDNESDAY 21.8.24	**MEDICINE Hypertension DRMASOODA**	**ANATOMY** Heart model **DR ANEELA**		**Physio Review Heart Dr. Adnan**			**SDL**	**PHYSIO: BLOOD PRESSURE RECORDING, JVP (DR. ASMA BIO: Group B-SDL HISTO: Histology of Vein**
URSDAY22.8.24	**Bio Review Dr. Iffat**	**Formative Assessment Anatomy Dr. Aneela**		**CBL**			**Physio Review Circulation Dr. M Ali**	

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FRIDAY 23.8.24	**FORENSICMEDICINE** CardiacPoisoningII **DRJANEALAM 8:30-9:30**	Islamyat 9:30-10:30		**Review Embryology & Histology Dr. Shahid Shaikh**	**Break**	**SDL**

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GIT MODULE
WEEK 1

DAYS	8:30-9:30	9:30 - 10:30	10:30- 11:00	11:00-12:00	12:00:- 1:00	1:00- 1:30	1:30-2:00	2:00-4:20
MONDAY26.8.24	**CVS Module exam**			**CVS Module exam**			**CVS Module exam**	
TUESDAY27.8.24								
WEDNESDAY 28.8.24								

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THURSDAY 29.8.24							
FRIDAY 30.8.24							

REFERENCE BOOKS AND OTHER READING RESOURCES:

GrossAnatomy	BDChaurasia's**HandbookofGENERAL ANATOMY** **NetterAtlasofHumanAnatomy**
Embryology	**Langman'sEmbryology**
Histology	**LaiqHussainHistology**
Physiology	**Guyton and Hall**. Textbook of Medical Physiology, 13th Edition. **Ganong's** Review of Medical Physiology, 24th Edition.
Pathology	Robin`sBasicPathology-10thEdition
Pharmacology	**Essential** **- Bertram G. Katzung.** Basic and Clinical Pharmacology, 14th Edition. 2017. **- Katzung and Trevor's pharmacology** Examination and Board Review 11th Edition 2015. **Recommended** **- Lippincott's illustrated review of Pharmacology**. 6th Edition. 2015.

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Islamiat	- Hameed ullah Muhammad, “Emergence of Islam” , IRI, Islamabad, “Muslim Conduct of State” and "Introduction to Islam". - Hussain Hamid Hassan, “An Introduction to the Study of Islamic Law” leaf Publication Islamabad, Pakistan. - Abdul Qayyum Natiq, "Sirat-E-Mustaqim. - Farkhanda Noor Muhammad, "Islamiat". - Dr. Muhammad Zia-ul-Haq, “Introduction to Al Sharia Al Islamia” Allama Iqbal Open University, Islamabad (2001).
Community Medicine	Ilyas M, Public Health and Community Medicine, 7th Edition, Karachi, Pakistan, Time Publisher, 2007. Maxcy-Rosenau-Last, public Health and Preventive Medicine, 13th Edition, USA, Prentice-Hall International Inc, 1992. K.Park, Preventive and Social Medicine, 20th Edition, Jabalpur (India), M/s Banarsidas Bhanot, Publisher, 2009.
Medicine	Davidson`s Principles and Practice of Medicine-22nd Edition
Clinical Examination	Talley and O'Connor's Clinical Examination-6th Edition
Surgery	Bailey And Love Short Practice Of Surgery, 27th Edition Last’s anatomy 12th edition Snell’s anatomy by regions 10thedition
Research	Introduction to Research in Health Sciences- Stephen Polgar, Shane A. Thomas. Biomedical Research Proposal Writing- Syed Sharaf Ali Shah, Zarfshan Tahir, Rozina Karmaliani.

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	Epidemiology - Leon Gordis; Fifth Edition.
PEARLs	https://www.mededportal.org/publication/10610/
PAEDS	Nelson Textbook of Pediatric 21st edition. Textbook of Paediatrics (PPA) Fifth edition. Basis of Pediatrics (Pervez Akbar Khan) 10th edition

ASSESSMENT METHODS:

THEORY:

❖ **EssayQuestions- Short Essay Questions (SEQs)** are used to assess objectives covered in each module.

- 6 SEQs are given (no choice).

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- Time duration 90 minutes.
- Students write the answer in the provided answer sheet.

❖ **ONE Best Choice Multiple Choice Questions (MCQs)** are used to assess objectives covered in each module.

- A BCQ has a statement or clinical scenario followed by four options (likely answer).
- Students after reading the statement/scenario select ONE, the most appropriate response from the given list of options.
- Correct answer carries one mark, and incorrect 'zero mark'. There is no negative marking.
- Students mark their responses on specified computer-based/OMR sheet designed for BMC, BMU.

❖**OSPE/OSCE: Objective Structured Practical/Clinical Examination:**

- Each student will be assessed on the same content and have same time to complete the task.
- Comprise of 05 stations.
- Each station may assess a variety of clinical tasks; these tasks may include history taking, physical examination, skills and application of skills and knowledge.
- Stations are observed, unobserved, interactive and rest stations.
- Observed and interactive stations will be assessed by internal or external examiners.
- Unobserved will be static stations in which there may be an X-ray, Labs reports, pictures, clinical scenarios with related questions for students to answer.
- Rest station is a station where there is no task given and in this time student can organize his/her thoughts.

INTERNAL EVALUATION:

- Students will be assessed to determine achievement of module objectives through the following: o **Module Examination:** will be scheduled on completion of each module. The method of examination comprises theory exam which includes BCQs and OSPE (Objective Structured Practical Examination).

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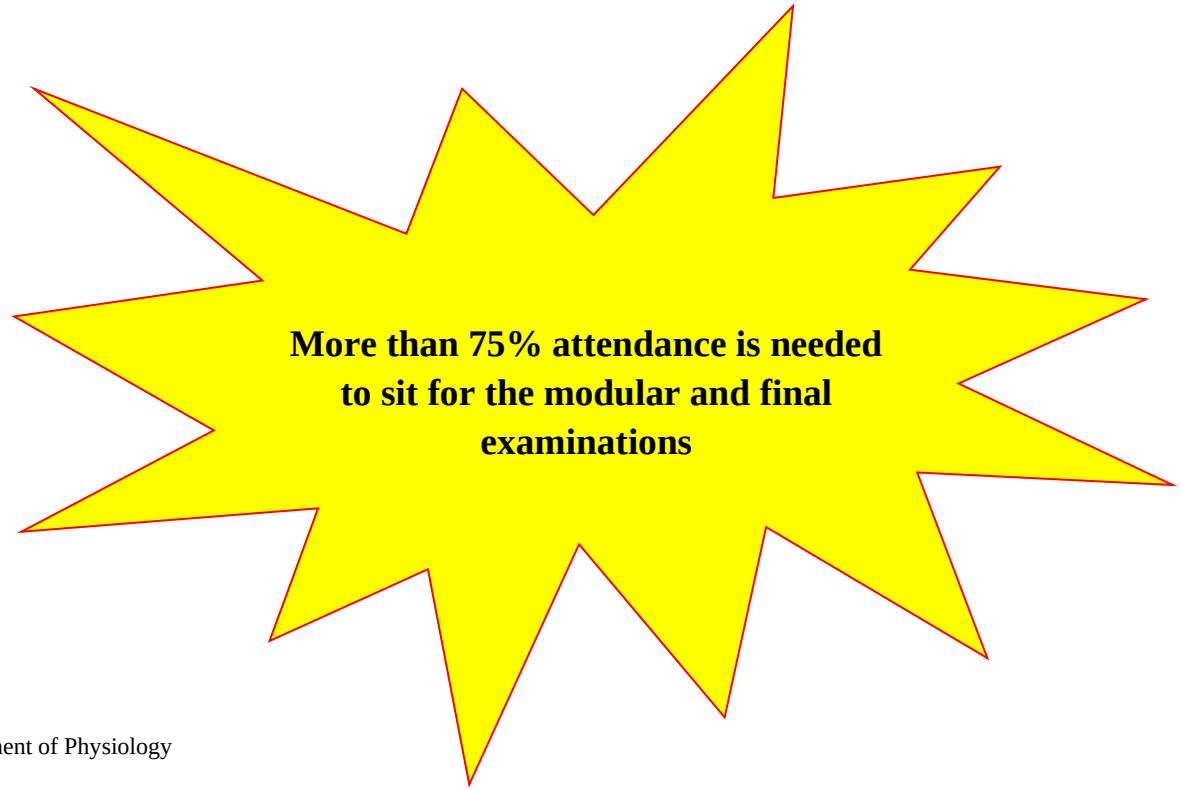
- **Graded Assessment of students by Individual Department**: Quiz, viva, practical, assignment, small group activities such as CBL, online assessment, ward activities, examination, and Practical journals.
- Marks of both modular examination and graded assessment will constitute 20% weightage which will be added to Annual Examination.

FORMATIVE ASSESSMENT:

- Individual department may hold quiz or short answer questions to help students assess their own learning.
- The marks obtained are not included in the internal evaluation.



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