





# **CARDIOVASCULAR & RESPIRATORY SYSTEM**

## **Study Guide**

**First Year MBBS**

**ISLAM MEDICAL COLLEGE**

**Sialkot – Pakistan**

**Table of Contents**

Table of Contents.....	ii
Module Lead Details.....	4
Module Overview .....	5
Module Learning Outcomes .....	7
Module Schedule .....	8
Module Contents.....	8
Weekly Timetables .....	<b>Error! Bookmark not defined.</b>
Assessment Tools .....	221
Recommended Sources .....	233-25
Module Coordinators .....	266
Important Note .....	267
Disclaimer .....	277

**MODULE-03**

**CARDIOVASCULAR &  
RESPIRATORY  
SYSTEM-GUIDE**

**MODULE LEAD DETAILS**

**Dr. Nayab Khalid Assistant**

**Professor, Physiology**

**[@gmail.com](#)**

**Assistant Professor Office, Physiology Department, Academic Block 1**

**Office timing: 08:00 am -3:30pm**

## **MODULE OVERVIEW**

The Cardiovascular system comprises the study of the heart & circulatory system. The initial learning activities will help in understanding the normal structure & development of the organs of the system. Understanding of anatomical details of each component of Cardiovascular

System (CVS) will be accompanied by study of normal physiological mechanisms. This will help in better understanding the possible pathological conditions of the system, including some of the most prevalent conditions in society like ischemic heart disease, hypertension, shock, heart block, heart failure. This will be followed by discussion on some important group of drugs used for treatment and/or prevention of these conditions (administration route, mechanism of action and side effects). The impact of cardiovascular diseases on society and the effect of ageing on cardiovascular system will be discussed.

The diseases related to the respiratory system are on the rise not only in developing countries but also in developed countries. The infant mortality rate in Pakistan is highest in Southeast Asia and one of the important reasons is common respiratory infections in children. With the world suffering from COVID-19 not only physically but also mentally, it is very important for medical students to study in detail the structures, functions, prevention, epidemiology, genetic basis of diseases and their management. The respiratory system is responsible for bringing oxygen into the body and removing carbon dioxide. It is made up of several organs and structures, including the nose, pharynx, larynx,

### **CVS THEMES**

- Heart
- Circulation

### **RESPIRATORY SYSTEM THEMES**

- Rib cage
- Thoracic vertebrae
- Upper respiratory system

- Lower Respiratory system

### **CVS CLINICAL RELEVANCE**

- Cardiac Failure
- Arrhythmias
- Atherosclerosis and Ischemic heart diseases
- Hypertension
- Shock
- Congenital Heart diseases

### **RESPIRATORY SYSTEM CLINICAL RELEVANCE**

- Acute Respiratory Distress Syndrome
- Bronchial Asthma
- Tuberculosis
- Pneumonia

## **MODULE LEARNING OUTCOMES**

### **CVS**

1. Describe the normal structure of heart including development, topographical anatomy, neurovascular supply, and histology.
2.  Review the arrangement of circulatory system (arteries, veins, lymphatics).
3.  Define the congenital anomalies of cardiovascular system with reference to normal development and early circulation.
4.  Define functions of cardiac muscle along with its properties
5.  Interpret pressure changes during cardiac cycle along with regulation of cardiac pumping.
6.  Interpret normal & abnormal Electrocardiogram (ECG), ST-T changes, and its abnormalities.
7.  Identify the risk factors and role of lipids in coronary blockage and atherosclerosis (hyperlipidemia/ dyslipidemia).
8.  Define cardiac output and its modulating/controlling factors.
9.  Differentiate left and right sided heart failure and correlate it with the importance of pressure differences.
10.  Enumerate different types of arrhythmias and describe the electrical events that produce them.
11. Discuss the psychosocial impact of cardiovascular diseases in society.

## **RESPIRATORY**

1. Apply basic sciences` knowledge to understand the causes of common respiratory problems.
2. Explain the pathogenesis of respiratory diseases.
3. Enlist the main investigations relevant to respiratory disorders.
4. Recognize risk factors and preventive measures of main respiratory diseases.

## **MODULE SCHEDULE**

## **MODULE CONTENTS**

### **SPECIFIC LEARNING OBJECTIVE RELATED TO DEPARTMENTS:**

#### (a) **ANATOMY:** **(Gross Anatomy)**

- *Define mediastinum giving its boundaries and compartments. List the contents of its various compartments.*
- *Human*
- *Anatomy Mediastinum*
- *Describe the formation, tributaries, and termination of superior vena cava*
- *Describe the formation, branches, and relations of ascending aorta, aortic arch and descending thoracic aorta.*
- *Discuss the distribution of ascending aorta, aortic arch and descending thoracic aorta in reference to their branches*
- *Describe formation, course and tributaries of azygous, hemizygous and accessory hemizygous veins.*
- *Describe the course, relations, and distribution of*

- *vagus and thoracic splanchnic nerves in relation to nerve supply of heart.*
- Describe Pericardium and its parts with emphasis on their nerve supply.
- Describe the pericardial cavity mentioning transverse and oblique sinuses. Discuss their clinical significance
- Describe the anatomical correlates of various pericardial conditions like pericardial rub, pericardial pain, pericarditis, pericardial effusion, and cardiac tamponade.
- Describe the anatomical basis for Paracentesis /pericardiocentesis.
- Describe the external features of heart.
- List various chambers of heart mentioning their salient features and openings.
- Describe the arterial supply of heart: coronary arteries and their distribution with special emphasis on collaterals established during ischemia.
- Describe the sites of anastomosis between right and left coronary arteries with the participating vessels.
- Discuss the anatomical correlates of cardiac arterial supply
- Describe the anatomical correlates of electrocardiography, cardiac referred pain. Describe the anatomical basis for angioplasty, and coronary grafts.
- Describe the features of angina pectoris and myocardial infarction and correlate them anatomically
- Describe the venous drainage of heart.
- Describe the alternative venous routes to the heart
- Identify the vessels supplying the heart with their origins/terminations.
- Describe the formation, relations, and distribution of cardiac plexus.
- Describe components and significance of fibrous skeleton of heart
- Describe the cardiac valves
- Explain the anatomical basis for valvular heart diseases
- Perform surface marking of various anatomical landmarks of heart and great vessels
- Perform percussion and auscultation of heart
- Identify the salient features of heart and great vessels

- on Computed tomography/ Magnetic Resonance

### **Anatomy (HISTOLOGY)**

- Describe microscopic structure of Heart wall
- (Endocardium, Myocardium, Epicardium)
- Describe histology of Cardiac skeleton, SA (sinoatrial) node, AV (atrioventricular) node, Purkinje fibers.
- Describe the microscopic and ultramicroscopic structure of cardiac muscle emphasizing on Tubules, sarcoplasmic reticulum and intercalated discs.
- Identify, draw and label histological structure of cardiac muscle
- Describe general histological organization of blood vessels: Tunica intima, media and adventitia.
- Identify, draw and label histological sections of elastic artery, muscular artery, arterioles, vein, capillaries and sinusoids
- Describe histological features of arteries: Muscular arteries, elastic arteries, Arterioles
- Describe histological features of veins and exchange vessels: large veins, medium sized veins, venules,
- Compare and contrast the light microscopic structure of arteries and veins
- Describe the histopathological basis of thrombus and embolus formation.
- Explain the histological basis of arteriosclerosis and atherosclerosis.
- Describe role of arterioles in hypertension
- Describe histological features of Lymph vascular system (Lymph capillaries, Lymph vessels & Lymphatic duct)

### **Anatomy (Embryology)**

- Describe the development of pericardial cavity
- Define parts of primitive

- heart tube and give its folding
- Describe the development of various chambers of heart with emphasis on their partitioning
- Identify various parts of developing heart tube and structures derived from them during embryonic and fetal life (Models and specimens)
- Describe the embryological basis of dextrocardia and ectopia cordis
- Describe the partitioning of primordial heart: atrioventricular canal and atrium
- Describe the development of sinus venosus
- List clinically significant types of atrial septal defects along with their embryological basis and features.
- Describe probe patent foramen ovale
- Describe the partitioning of truncus arteriosus and bulbus cordis
- Describe the formation of ventricles and interventricular septum
- Describe the clinical features and embryological basis of ventricular septal defects
- Describe the development of cardiac valves and conducting system.
- Describe the development of lymphatic system
- Describe the embryological correlates and clinical
  - presentation of developmental defects of heart
- Tetralogy of Fallot, Patent ductus arteriosus, Unequal division of arterial trunks, Transposition of great
  - vessels and Valvular stenosis, Coarctation of aorta
- Describe the formation and fate of pharyngeal arch arteries
- Describe the anomalies of great arteries emerging from heart: Coarctation of aorta, anomalous arteries
- Describe the development of embryonic veins associated with developing heart: Vitelline veins, Umbilical Veins and Common cardinal vein and their fate
- Describe the formation of superior & inferior vena cava and portal vein with their congenital anomalies
- With the help of diagrams illustrate the development of superior vena cava, inferior vena cava and portal vein
- List the derivatives of fetal vessels and structures: Umbilical vein, ductus venosus, umbilical artery, foramen ovale, ductus arteriosus

- Describe Fetal and neonatal circulation mentioning
- transitional neonatal circulation with its clinical
  - implication
- List clinically significant types of atrial septal defects along with their embryological basis and features.
- Describe patent foramen ovale.
- Heart defects

## • **Physiology:**

- *Explain the physiological anatomy of cardiac muscle.*
- *Explain the functional importance of intercalated discs.*
- *Discuss the properties of cardiac muscles.*
- *Describe and draw the phases of action potential of ventricle.*
- *Describe and draw the phases of action potential of SA node along with explanation of the mechanism of self excitation/ Auto rhythmicity of SA node.*
- *Define and give the duration of the Absolute and relative refractory period in cardiac muscle.*
- *Describe the mechanism of excitation-contraction coupling and relaxation in cardiac muscle.*
- *Draw & explain pressure & volume changes of left ventricle during cardiac cycle.*
- *Explain & draw relationship of ECG*
- *Explain & draw the relationship of heart sounds with cardiac cycle.*
- *Enlist, draw, and explain the physiological basis of atrial pressure waves in relation to cardiac cycle.*
- *Define & give the normal values of the cardiac output, stroke volume, end diastolic volume & end systolic volume*
- *Describe the Frank starling mechanism.*

- *Regulation of heart pumping*
- *Describe the autonomic regulation of heart pumping.*
- *Describe the effect of potassium, calcium ions & temperature on heart function.*
- *Define chronotropic effect- positive and negative.*
- *Define the inotropic effect: positive and negative.*
- *Define dromotropic effect: positive and negative*
- *Describe the location of adrenergic & cholinergic receptors in heart.*
- *Name the receptors present in coronary arterioles.*
- *Explain sympathetic & parasympathetic effects on heart rate & conduction velocity*
- *Draw and explain the conducting system of heart*
- *Describe the physiological basis and significance of AV nodal delay.*
- *Explain the ectopic pacemaker*
- *Enlist, draw, and explain the physiological basis & give durations of waves, intervals, and segments of normal ECG.*
- *Describe the standard limb leads, Augmented limb leads & precordial leads.*
- *Define Einthoven's Triangle & Einthoven's law.*
- *Explain the physiological basis of upright T wave in normal ECG.*
- *Describe the location and significance of J point in ECG.*
- *Explain the physiological basis of current of injury.*
- *Enlist the ECG changes in angina pectoris.*
- *Enlist the ECG changes in myocardial infarction.*
- *Plot the mean cardiac axis.*
- *Enlist the physiological & pathological causes of right*

- *axis deviation of heart.*
- *Enlist the physiological & pathological causes of left axis deviation of heart*
- *Describe the abnormalities of T wave and their causes*
- *Describe the effect of hypokalemia and hyperkalemia on ECG*
- *Describe the effect of hypocalcemia and hypercalcemia on ECG.*
- *Define tachycardia and enlist its causes.*
- *Effect of electrolyte on ECG*
- *Define bradycardia and enlist its causes.*
- *Classify arrhythmias*
- *Explain the physiological basis of sinus arrhythmia.*
- *Explain the physiological basis of reflex bradycardia in Athletes.*
- *Explain the carotid sinus syndrome.*
- *Enlist the causes of atrioventricular block.*
- *Explain the types of atrioventricular blocks.*
- *Explain the ECG changes in 1st, 2nd & 3rd degree heart block.*
- *Explain the cause, physiological basis & ECG changes in Stokes Adam syndrome/ventricular escape.*
- *Enlist the causes of premature contractions.*
- *Explain the causes and ECG changes of premature atrial contractions.*
- *Explain the physiological basis of pulses deficit.*
- *Explain the causes and ECG changes in Premature Ventricular Contraction (PVC)*
- *Enlist the causes and ECG findings in Long QT syndrome.*
- *Explain the causes, physiological basis, features, ECG changes & management of premature heartbeat.*

- *Explain the causes, physiological basis, features, ECG changes & management of atrial fibrillation.*
- *Explain the causes, physiological basis, features & ECG changes of ventricular fibrillation.*
- *Explain the physiological basis, features & ECG changes of atrial flutter.*

#### *Physiology*

- *Compare Flutter and Fibrillations Physiology*
- *Explain the functional parts of circulation (arteries, arterioles, capillaries, veins, venules). Physiology Organization of Circulation*
- *Explain the pressures in systemic & pulmonary circulation.*
- *Blood flow Explain the types of Blood flow and significance of*
- *Describe local control of blood flow according to tissue needs.*
- *Discuss humoral control of local blood flow.*
- *Explain long term control of local blood flow.*
- *Describe vascular control by ions and other chemical factors.*
- *Name the organs in which auto regulation of blood flow occurs during changes in arterial pressure (metabolic & myogenic mechanisms).*
- *Explain the role of autonomic nervous system for regulating the circulation.*
- *Explain the vasomotor center.*
- *Explain the control of vasomotor center by higher*
- *nervous centers.*
- *Explain emotional fainting/vasovagal syncope.*
  - *Identify vessels constituting micro-capillaries.*
  - *Enumerate hydrostatic and osmotic factors that underlie Starling's hypothesis for capillary function.*
  - *Explain the role of nervous system in rapid control of arterial blood pressure.*
  - *Explain the regulation of arterial blood pressure during exercise.*

- Enlist different mechanisms for short term regulation of arterial blood pressure.
- Explain the role of baroreceptors in regulation of arterial blood pressure.
- Explain the role of chemoreceptors in regulation of arterial blood pressure.
- Make a flow chart to discuss the role of Atrial volume reflexes/ Bainbridge reflex in control of blood pressure.
- Make a flow chart to show the reflex responses to increased blood volume which increase blood pressure and atrial stretch.
- Describe the role of CNS ischemic response in regulation of the blood pressure.
- Explain the Cushing reflex
- Explain the role of abdominal compression reflex to increase the arterial blood pressure.
- Make a flow chart to discuss the role of renin angiotensin system for long term control of blood pressure.
- Make a flow chart to show the regulation of blood pressure in response to increase in ECF (Extra Cellular Fluid) volume.
- Make a flow chart to show the regulation of blood pressure in response to increase in salt intake.
- Define cardiac output, cardiac index & venous return with their normal values. Integrate with
- Discuss the factors regulating cardiac output
- Discuss factors regulating venous return Physiology
- Explain the regulation of skeletal muscle blood flow at rest & during exercise.

- Explain the physiological anatomy of coronary circulation.
- Explain the regulation of coronary blood flow.
- Explain the physiological basis of angina, myocardial & subendocardial infarction
- Define & enlist different types of shock.
- Explain the causes, features, and pathophysiology of hypovolemic/hemorrhagic shock.
- Explain the causes, features, and pathophysiology of septic shock.
- Explain the causes, features, and pathophysiology of neurogenic shock
- Explain the causes, features, and pathophysiology of anaphylactic shock.
- Discuss the treatment of different types of shock. Integrate with
- Explain the different stages of shock.
- Explain the mechanisms that maintain the cardiac output & arterial blood pressure in non-progressive shock.
- Enlist different types of positive feedback mechanisms that can lead to the progression of shock.
- Enlist the different types of heart sounds and explain the physiological basis of each.
  
- Enlist the causes of 3rd and 4th heart sounds.
- Explain the causes & physiological basis of murmurs caused by valvular lesions.
- Enumerate abnormal heart sounds and describe the physiological basis of each.
- **BIOCHEMISTRY:**

- Classify lipids Biochemistry Classification of lipids
- Discuss the biomedical functions & properties of lipids Biochemistry
- Classify fatty acids. Discuss the role of trans saturated, saturated, poly- and mono-unsaturated fatty acids in diet on lipid profile.
- Discuss lipid peroxidation and its significance Biochemistry
- Explain the biochemical and therapeutic roles of eicosanoids (prostaglandins, leukotrienes, thromboxane, and prostacyclin)
- Discuss Lipoprotein metabolism Biochemistry Lipoprotein metabolism
- Discuss role of oxidized LDL in atherosclerosis Biochemistry
- Discuss the signs and symptoms of hyperlipidemia
- Discuss the sources, biomedical importance, active states, deficiency and excess of fat-soluble vitamins:
- Discuss the sources, biomedical importance, active states, deficiency and excess of water-soluble vitamins:
- Discuss the sources, biomedical importance, active states, deficiency and excess of minerals and trace elements especially zinc, Mg, Na, K, I, Ca, P, Se, S, Cu

## **PHARMACOLOGY AND PATHOPHYSIOLOGY:**

- Define Inflammation
- Enumerate cardinal signs of inflammation
- Enlist types of Inflammation
- Enumerate causes & outcomes of inflammation
- Differentiate cells of acute & chronic inflammation
- Describe general concept of vascular & cellular events of inflammation
- Enumerate chemical mediators of inflammation along with their principal functions
- Classify types of thrombosis, embolism, and infarction
- Discuss the pathophysiology of thrombosis, embolism, and infarction
- Identify the types and causes of hypertension
- Discuss the clinical consequences of hypertension and atherosclerosis
- Discuss the pathophysiology of shock Shock
- Classify the types of heart failure
- Identify the causes leading to heart failure

- Identify the types of ischemic heart disease Ischemic
- Discuss the pathophysiology of different types of
- ischemic heart disease
- Explain the pathological causes of high & low cardiac
- output.
- Discuss briefly the therapeutic effect of various
- antihypertensive drugs.
- Discuss briefly the therapeutic effect of various
- antianginal drugs ugs
- Discuss briefly the therapeutic effect of various
- antiarrhythmic drugs
- Discuss briefly the therapeutic effect of drugs used in
- cardiac failure.

## **COMMUNITY MEDICINE:**

- Describe the various strategies and models to prevent
- diseases.
- Describe primordial prevention and its application to
- preventing CVS diseases.
- Depict the concept of primary prevention in context to
- CVS and able to apply on CVS diseases.
- Discuss the basic concept of health promotion and its
- application to CVS.
- Discuss various methods of behavioural change
- interventions at community level.
- To apply secondary and tertiary preventions on CVS
- diseases (coronary heart disease, ischemic heart
- disease, hypertension)
- Describe the concept of cardiovascular diseases as
- non-communicable diseases
- Identify the risk factors in the community for CVS
- diseases.
- Learn and apply interventions to prevent the risk
- factors in community.

## **BEHAVIORAL SCIENCE:**

- Identify and deal with the various psychosocial aspects of Cardiovascular conditions (such as hypertension)
- Coronary artery disease, Heart failure, Arrhythmias, and other cardiovascular conditions) on Individual Family and Society.

- Psychological basis of emotional fainting & its impact
- **MEDICINE:**
- 

### **SURGERY:**

- Demonstrate palpation of breast and its significance in breast infection and carcinoma.
- Describe the anatomical basis of frozen shoulder and its management.
- Name the anatomical basis of Carpal tunnel syndrome and its management

### **ORTHOPEDICS:**

- Name the fractures of upper and lower limb □ Describe the anatomical basis of these fractures
- Identify and demonstrate the fractures on X ray.

### **RADIOLOGY:**

- Name the X rays
- Identify and demonstrate the anatomical features of upper and lower limb on X Ray

### **CLINICAL SKILLS:**

- Demonstrate movements at different joint of the body ○ Shoulder joint ○ Elbow joint ○ Wrist joint ○ Hip joint ○ Knee joint ○ Ankle joint

# WEEKLY TIMETABLES

MSK Module Schedule (1 <sup>st</sup> Year MBBS)										
WEEK- 01/08										
Day/Date	8:00 - 08:50	08:50 - 9:40	9:40 - 10:30	10:30 - 11:20	11:20 - 12:10		12:10-1:00	1:00-1:30	1:30-2:10	2:10 - 3:00
Monday 14/7/25	Quran	Remedial Block-1 9:00-12:00					Osteology Anat	Lunch/ prayer Break	Biochem LGIS	Anat SGD
Tuesday 15/7/25	Practical (Anat, Bio, Physio)		Embryo GIS	Physio LGIS	SGD ( Physio/Bio)		Osteology Anat		CFRC Med	Anat SGD
Wednesday 16/7/25	Practical (Anat, Bio, Physio)		Anat LGIS	Biochem LGIS	Physiology LGIS		Osteology Anat		Aging Med/Bio	Anat SGD
Thursday 17/7/25	Practical (Anat, Bio, Physio)		AnatLGIS	Physio LGIS	11:20- 12:10  Biochem LGIS		Osteology Anat		Community Med LGIS	Anat SGD
Friday 18/7/25	8:00-8:50  Community Med		8:50-9:40  DSL	9:40-10:30  Anat LGIS	10:30- 11:20  BS LGIS	11:20- 12:10  Physio LGIS	12:10-1:00  Osteology Anat		DSL	Pathology LGIS

WEEK- 02/08										
Day/Date	8:00 - 08:50	08:50 - 9:40	9:40 - 11:20		11:20 - 12:10		12:10-1:00	1:00-1:30	1:30-2:10	2:10 - 3:00
Monday 21/7/25	PERL LGIS	Histo LGIS	Weekly Assessment		SGD ( Physio/Bio)		Osteology Anat	Lunch/ prayer Break	Biochem LGIS	Anat SGD
Tuesday 22/7/25	Practical (Anat, Bio, Physio)		Embryo GIS	Physio LGIS	SGD ( Physio/Bio)		Osteology Anat		CFRC Med	Anat SGD
Wednesday 23/7/25	Practical (Anat, Bio, Physio)		Anat LGIS	Biochem LGIS	Physiology LGIS		Osteology Anat		Aging Med/Bio	Anat SGD
Thursday 24/7/25	Practical (Anat, Bio, Physio)		Anat LGIS	Physio LGIS	11:20- 12:10  Biochem LGIS		Osteology Anat		Community Med LGIS	Anat SGD

Friday 25/7/27	8:00-8:50	8:50-9:40	9:40-10:30	10:30-11:20	11:20-12:10	12:10-1:00	DSL	Pathology LGIS
	Community Med	DSL	Anat LGIS	BS LGIS	Physio LGIS	Osteology Anat		

**WEEK- 03/08**

Day/Date	8:00 - 8:50	8:50 - 9:40	9:40 - 11:20	11:20 - 12:10	12:10-1:00	1:00-1:30	1:30-2:10	2:10 - 3:00	
Monday 28/7/25	PERL LGIS	Histo LGIS	Weekly Assessment	SGD ( Physio/Bio)	Osteology Anat	Lunch/ prayer Break	Biochem LGIS	Anat SGD	
Tuesday 29/7/25	Practical (Anat, Bio, Physio)		Embryo LGIS	Physio LGIS	SGD ( Physio/Bio)		Osteology Anat	CFRC	Anat SGD
Wednesday 30/7/25	Practical (Anat, Bio, Physio)		Anat LGIS	Biochem LGIS	Physiology LGIS		Osteology Anat	Aging Med/Bio	Anat SGD
Thursday 31/7/25	Practical (Anat, Bio, Physio)		Anat LGIS	Physio LGIS	11:20- 12:10 Biochem LGIS		Osteology Anat	Community Medicine LGIS	Anat SGD
Friday 1/8/25	8:00-8:50	8:50-9:40	9:40-10:30	10:30-11:20	11:20-12:10		12:10-1:10	DSL	Pathology LGIS
	Community Med	DSL	Anat LGIS	BS LGIS	Physio LGIS		Osteology Anat		

**WEEK- 04/08**

Day/Date	8:00 - 8:50	8:50 - 9:40	9:40 - 11:20	11:20 - 12:10	12:10-1:00	1:00-1:30	1:30-2:10	2:10 - 3:00	
Monday 4/8/25	PERL LGIS	Histo LGIS	Weekly Assessment	SGD ( Physio/Bio)	Osteology Anat	Lunch/ prayer Break	Biochem	Anat SGD	
Tuesday 5/8/25	Practical (Anat, Bio, Physio)		Embryo LGIS	Physio LGIS	SGD ( Physio/Bio)		Osteology Anat	CFRC	Anat SGD
Wednesday 6/8/25	Practical (Anat, Bio, Physio)		Anat LGIS	Biochem LGIS	Physiology LGIS		Osteology Anat	DSL	Anat SGD
Thursday	Practical (Anat, Bio, Physio)		Anat LGIS		11:20- 12:10				

7/8/25			Physio LGIS	Community Med LGIS	Osteology Anat		Aging Med/Bio	Anat SGD
Friday 8/8/25	8:00-8:50	8:50-9:40	9:40-10:30	10:30-11:20	11:20-12:10	12:10-1:00	DSL	Pathology LGIS
	Community Med	Biochem LGIS	Anat LGIS	Pharma LGIS	Physio LGIS	Osteology Anat		

**WEEK- 05/08**

Day/Date	8:00 - 8:50	8:50 – 9:40	9:40 - 11:20	11:20 - 12:10	12:10-1:00	1:00-1:30	1:30-2:00	2:00 - 3:00	
Monday 11/8/25	PERL LGIS	Histo LGIS	Weekly Assessment		SGD ( Physio/Bio)	Lunch/ prayer Break	Biochem LGIS	Anat SGD	
Tuesday 12/8/25	Practical (Anat, Bio, Physio)		Embryo LGIS	Physio LGIS	SGD ( Physio/Bio)		Osteology Anat	CFRC	Anat SGD
Wednesday 13/8/25	Practical (Anat, Bio, Physio)		Anat LGIS	Biochem LGIS	Physiology LGIS		Osteology Anat	DSL	Anat SGD
Thursday 14/8/25									
Friday 15/8/25	8:00-8:50	8:50-9:40	9:40-10:30	10:30-11:20	11:20-12:10		12:10-1:10	DSL	Pathology LGIS
	Community Med	Biochem LGIS	Anat LGIS	Pharma LGIS	Physio LGIS	Osteology Anat			

**WEEK- 06/08**

Day/Date	8:00 - 8:50	8:50 - 9:40	9:40 - 11:20	11:20 - 12:10	12:10-1:00	1:00-1:30	1:30-2:00	2:00 - 3:00	
Monday 18/8/25	PERL LGIS	Anat LGIS	Weekly Assessment		SGD ( Physio/Bio)	Lunch/ prayer Break	Biochem LGIS	Anat SGD	
Tuesday 19/8/25	Practical (Anat, Bio, Physio)		Embryo/Peds LGIS	Physio LGIS	SGD ( Physio/Bio)		Osteology Anat	CFRC	Anat SGD
Wednesday 20/8/25	Practical (Anat, Bio, Physio)		Anat LGIS	Biochem LGIS	Physiology LGIS		Osteology Anat	DSL	Anat SGD
Thursday 21/8/25	Practical (Anat, Bio, Physio)		Anat LGIS	Physio LGIS	11:20-12:10 Community Med LGIS		Osteology Anat	DSL	Anat SGD

	8:00-8:50	8:50-9:40	9:40-10:30	10:30-11:20	11:20-12:10	12:10-1:00		1:30-2:10	2:10 - 3:00
Friday 22/8/25	Community Med	Biochem LGIS	Anat LGIS	Pharma LGIS	Physio LGIS	Osteology Anat		DSL	Pathology LGIS

### WEEK- 07/08

Day/Date	8:00 - 8:50	8:50-9:40	9:40 - 11:20		11:20 - 12:10		12:10-1:00	1:00-1:30	1:30-2:10	2:10 - 3:00
Monday 25/8/25	PERL LGIS	Anat LGIS	Weekly Assessment		SGD ( Physio/Bio)		Osteology Anat	Lunch/ prayer Break	Biochem LGIS	Anat SGD
Tuesday 26/8/25	Practical (Anat, Bio, Physio)		LGIS	LGIS	SGD ( Physio/Bio)		Osteology Anat		CFRC	Anat SGD
Wednesday 27/8/25	Practical (Anat, Bio, Physio)		Anat LGIS	Biochem LGIS	LGIS		Osteology Anat		DSL	Anat SGD
Thursday 28/8/25	Practical (Anat, Bio, Physio)		LGIS	LGIS	11:20 - 12:10 Community Med LGIS	Osteology Anat	DSL		Anat SGD	
Friday 29/8/25	8:00-8:50 Community Med	8:50-9:40 Biochem LGIS	9:40-10:30 Anat LGIS	10:30-11:20 Pharma LGIS	11:20-12:10 LGIS	12:10-1:00 Osteology Anat	1:30-2:10 DSL		2:10 - 3:00 Pathology LGIS	

### WEEK- 08/08

Day/Date	8:00 - 8:50	8:50-9:40	9:40 - 11:20		11:20 - 12:10		12:10-1:00	1:00-1:30	1:30-2:10	2:10 - 3:00
Monday 1/9/25	DSL	Anat LGIS	Weekly Assessment		SGD ( Physio/Bio)		Osteology Anat	Lunch/ prayer Break	Biochem LGIS	Anat SGD
Tuesday 2/9/25	Practical (Anat, Bio, Physio)		LGIS	LGIS	SGD ( Physio/Bio)		Osteology Anat		DSL	Anat SGD

Wednesday 3/9/25	Practical (Anat, Bio, Physio)	Anat LGIS	Biochem LGIS	LGIS		Osteology Anat
Thursday 4/9/25	Practical (Anat, Bio, Physio)	LGIS	LGIS	11:20 -12:10 LGIS		Osteology Anat
Friday 5/9/25	8:00-8:50	8:50-9:40	9:40-10:30	10:30- 11:20	11:20- 12:10	12:10-1:00
	LGIS	Biochem LGIS	Anat LGIS	LGIS	LGIS	Osteology Anat

DSL	Anat SGD
DSL	Anat SGD
1:30-2:10	2:10 - 3:00
DSL	DSL

# ASSESSMENT TOOLS

Students will be assessed by the following methods

## **1. Weekly Assessments**

Weekly assessments will be conducted on Monday.

## **2. Assignments/ PBLs:**

Assignments /PBLs will be given monthly.

## **3. Block exam:**

At the end of block an exam will be conducted comprising of theory (MCQs & SEQs) and practical/ OSPE content.

## **4. Departmental quizzes, presentations & group projects:**

Above mentioned can be the assessment tools for different departments on their will.

## UHS BLOCK EXAM MARKS DISTRIBUTIONS:

YEAR-1						
Subject	Theory		Practical			Total
<b>Block 2</b>  Modules (Musculoskeletal & Locomotion-I)	Part I MCQs (90)	90 Marks	Practical /Clinical Examination	11 OSPE	Marks	<b>350</b>
	Part II SEQs (10)	50 Marks		02 OSCE	88	
	Internal Assessment 10%	35 Marks	03 OSVE	10	42	
	Total	<b>175</b>	Total	<b>175</b>		

### MBBS 1<sup>st</sup> Professional

#### Block-2

Theme	Subject	Written Exam			Oral/Practical/Clinical Exam			
		MCQ (1 mark)	SEQ (5 mark each)	Marks	OSPE (8 marks each observed)	OSCE (5 marks each observed)	OSVE (14 marks each observed)	Marks
Normal Structure	Anatomy applied/clinical	35	04	55	05	-	01	54
Normal Function	Physiology applied/clinical	17	02	27	02	-	01	30
	Biochemistry applied/clinical	13	02	23	02	-	01	30
Disease Burden & Prevention	Community Medicine & Public Health	06	-	06	-	-	-	-
	Behavioral Sciences	04	-	04	-	-	-	-
Pathophysiology & pharmacotherapeutics	Pathology	10	01	15	01	-	-	08
	Pharmacology	05	01	10	01	-	-	08
CFRC	CF-I	-	-	-	-	01	-	05
PERLs	PERLs-I	-	-	-	-	01	-	05
<b>Total</b>		90	10x5=50	140	11 stations x 08 = 88	02 stations x 05 = 10	03 stations x 14=42	140

# RECOMMENDED SOURCES

## Anatomy

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

## Biochemistry

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

## Pathology

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

## General Medicine

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

## Pharmacology And Therapeutics

- Katzung and Trevor's Pharmacology: Examination and Board Review- 15th Edition
- Basic and Clinical Pharmacology by Bertram G Katzung (case scenarios only) - 16th Edition-
- Current Medical Diagnosis and Treatment- reference book –Edition-2024
- Basic and Clinical Pharmacology by Bertram G Katzung (case scenarios only) - 15th Edition □ Basic and Clinical Pharmacology by Katzung, McGraw-Hill. 16th Edition.

- Pharmacology by Champe and Harvey, Lippincott Williams & Wilkins 8th Edition.
- Katzung Basic and Clinical pharmacology, Lippincot Illustated reviews. □ Clinical Pathology Interpretations by A. H. Nagi

### **Behavioural Sciences**

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

### **Community medicine**

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

### **Surgery**

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

### **Patient Safety**

- Patient Safety Currciulum Guide: Multi Professional Guide

### **Microbiology**

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

### **Pediatrics Medicine**

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

### **Gynecology**

- Gynecology by Ten Teachers

### **Infection Control**

- National Guidelines Infection Prevention and control, National Institute of Health Pakistan Biosafety
- Biosafety in Microbiological and Biomedical Laboratories, 6th Edition (CDC, USA)

- WHO Laboratory Biosafety Manual, Fourth Edition, And Associated Monographs
- WHO safe management of wastes from healthcare facilities chapter 7 -8 page 77-99, 105-125)

### **Family medicine**

- Oxford Handbook of General Practice, 5th Edition

### **Orthopedics**

- Apley and Solomon's System of Orthopaedics and Trauma by Ashley Blom (Editor) Rheumatology
- Davidson's Principles and Practice of Medicine
- Clinical Medicine by Parveen J Kumar & Michael Clark
- Hutchison's Clinical Methods by Michael Swash

### **Radiology**

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

### **Forensic Medicine**

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

### **Forensic Pathology**

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

### **Toxicology**

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

### **Forensic Sciences**

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

### **Biomedical ethics**

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

## **Evidence Based Medicine**

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

## **Pediatrics**

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

## **Islamiyat**

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

# **MODULE COORDINATORS**

## **PHYSIOLOGY**

### **Dr. Maham Tahir**

Assistant Professor of Physiology

Office: AP Office Physiology, Academic block 1, Ground Floor

Office Hours: Monday to Friday from 0800 Hours till 1530 Hours

## **BIOCHEMISTRY**

### **Dr. Adnan Riaz**

Associate Professor of Biochemistry

Office: HOD Office Biochemistry Academic block 1, First Floor

Office Hours: Monday to Friday from 0800 Hours till 1530 Hours

## **PATHOLOGY**

### **Dr. Ali Faizan**

Lecturer Pathology

Office: Pathology, Academic block 2, Ground Floor

Office Hours: Monday to Friday from 0800 Hours till 1530 Hours

## **COMMUNITY MEDICINE**

### **Dr. Amina**

Lecturer Community Medicine

Office: Community Medicine, Academic block 2, First Floor  
Office Hours: Monday to Friday from 0800 Hours till 1500 Hours

## **BEHAVIOUR SCIENCES**

### **Dr. Fatima Mudassir**

Lecturer Behavioural Sciences

Office Hours: Monday to Friday from 0830 Hours till 1500 Hours

## **PHARMACOLOGY**

### **Dr. Maira**

Lecturer Pharmacology

Office: Pharmacology, Academic block 2, Ground Floor

Office Hours: Monday to Friday from 0800 Hours till 1530 Hours

## **IMPORTANT NOTE**

**To be able to sit in Annual Exam**

**85 % attendance and at least 50 % in internal  
assessment is mandatory**

## **DISCLAIMER**

This module guide may be subject to changes, and students should stay updated through official communication channel