MBBS FIRST PROFESSIONAL (Part-I)

Physiology (SEQs and MCQs)

Table of Specifications

Topic / Chapter wise Distribution of MCQs and SEQs

Topic / Chapter	No of MCQs	No of SEQs
Basic and Cell physiology	03	01
Blood	08	02
Nerve and Muscle	08	02
Gastro intestinal tract	05	01
Cardiovascular system	13	02
Respiratory system	08	01
Total	**45**	**09**

Basic and Cell Physiology

1. Homeostasis and control systems in the body. Cell membrane and transport through cell membrane. 01
2. Cell organelles and their functions, genes. 02

Blood

1. Composition and general functions of blood, plasma proteins. 01
2. Red blood cell functions, erythropoiesis. 01
3. Haemoglobin, structure, functions, synthesis, types. 01
4. Fate of red blood cells, jaundice, red cell indices, iron absorption, storage and metabolism, anemias. 01
5. White blood cells, types, production and functions, immunity. 02
6. Platelets, blood clotting, bleeding disorders, anticoagulants. 01
7. Blood groups, blood transfusion and its complications, reticulo endothelial system. 01

Nerve and Muscle

1. Structure and functions of a neuron, properties of nerve fibers, resting membrane potential 01
2. Action potential and its conduction, compound action potential, nerve degeneration & regeneration. 02
3. Skeletal muscle - structure. 01
4. Mechanism of contraction. 01
5. Differences between skeletal, cardiac and smooth muscles. 01
6. Neuromuscular transmission, myasthenia gravis. 01
7. Motor unit, types of muscle contractions, rigor mortis, tetanus, treppe phenomenon. 01

Gastrointestinal Tract

1. Functions, motility and secretions of the stomach, small intestine and large intestine, enteric nervous system. 01
2. Hormones of GIT. 01
3. Mastication, swallowing, vomiting, defecation and their control pathways, dysphagia. 02
4. Liver and gall bladder functions. 01

Cardiovascular System

1. Cardiac muscle – properties, contraction mechanism, metabolism. 01
2. Cardiac cycle – pressure & volume changes 01
3. Pace maker potential and spread of cardiac impulse, nervous control of the heart . 01
4. Heart sounds, murmurs 01
5. ECG - Normal 01
6. Vector analysis (Normal and Abnormal) 01
7. Arrhythmias. 01
8. Cardiac output & its regulation 01
9. Functional types of blood vessels, hemodynamics, local control of blood flow, peripheral resistance & its regulation.
10. Blood pressure and its regulation. 01
11. Arterial pulse, venous return, types of flow meters. 01
12. Cerebral, coronary, pulmonary & splanchnic circulations, cutaneous circulation triple response. 01
13. Fetal circulation and cardiovascular changes at birth, shock and its types, cardiovascular changes during exercise. 02

Respiratory System

1. Mechanics of breathing, respiratory & non – respiratory functions of the lungs. 01
2. Surfactant , compliance, dead space. 01
3. Lung volumes & capacities. 01
4. Diffusion of gases across the respiratory membrane, ventilation perfusion ratio, protective reflexes. 01
5. Transport of oxygen, transport of carbon dioxide, respiratory exchange ratio. 01
6. Nervous and chemical regulation of respiration, abnormal types of breathing. 01
7. Hypoxia and its types, cyanosis. 01
8. High altitude physiology, deep sea diving, respiratory changes during exercise. 01

MBBS FIRST PROFESSIONAL (Part-I)

Physiology (Format of Practical and Viva Voca Examination)

Internal Assessment	10
Viva Voca	50
Practical	40

1) Practical: 40 Marks

Each student will perform 1 practical (15+15) = 30 Marks
OSPE There will be 10 OSPE stations - 10

	Internal Examiner	External Examiner
Procedure Writing	4 marks	4 marks
Practical Performance	4 marks	4 marks
Short Viva on Practical	5 marks	5 marks
Practical Manual / Notebook	2 marks	2 marks
	15	15

The practical will be selected from the syllabus of Part-I

2) Structured Viva Voce: 50 Marks

Suggested Topics for first examiner 25 marks

1. General Principles, Cell Physiology
2. Nerve and Muscle Physiology
3. Respiration

Suggested Topics for second examiner 25 marks

1. Cardiovascular System
2. Blood, Immunity and allergy
3. GIT, Liver and Gall Bladder.