

10 APR 2026

SEAT NO.

25676

**FIRST PROFESSIONAL B.H.M.S. EXAMINATION  
HUMAN PHYSIOLOGY AND BIOCHEMISTRY PAPER - I  
SUBJECT CODE: HOM UG-PB**

**TIME: 3 HOURS**

**TOTAL MARKS: 100**

**Instructions: [1] Draw Diagrams Wherever Necessary. [2] Figures to The Right Indicate Full Mark.  
[3] All Questions Are Compulsory**

**Q – 1 Multiple Choice Questions.**

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- 1) A major role for mitochondria is to.....
  - a) transcribe the information in the DNA
  - b) Produce ATP
  - c) Synthesise Proteins from Amino acids
  - d) Use enzymes to lyse molecules
- 2) Which of the following is not found in the plasma membrane?
  - a) Proteins
  - b) Cholesterol
  - c) Endoplasmic Reticulum
  - d) Phospholipids
- 3) Choose the correct statement about Hydrogen bonds. They....
  - a) Are stronger than Covalent bonds
  - b) Act between the H in one -OH or -NH Group, and the O or N in another.
  - c) Operate within molecules.
  - d) Act between the H in one -OH or -NH Group, and the H in another.
- 4) What is the movement of water molecules across a plasma membrane from the side where the solution concentration is more dilute to the side where the solution is more concentrated called?
  - a) Osmosis
  - b) Reverse Osmosis
  - c) Diffusion
  - d) Hydration
- 5) Which individuals can receive any type of blood and are considered universal recipients?
  - a) A+
  - b) O-
  - c) AB+
  - d) B-
- 6) By what name is the heart muscle known?
  - a) Epicardium
  - b) Myocardium
  - c) Pericardium
  - d) Endocardium
- 7) Gas exchanges takes place in the .....
  - a) Larynx
  - b) Bronchioles
  - c) Alveoli
  - d) Pleura
- 8) What structure does the blood from the afferent arterioles enter?
  - a) The peritubular Capillary
  - b) The Vasa Recta
  - c) The Glomerulus
  - d) Bowman's Capsule
- 9) What is the Protein that fills the outermost dead cells of the epidermis?
  - a) Granstein
  - b) Dermin
  - c) Malanin
  - d) Keratin
- 10) Which of the following is the smallest structure within a muscle fiber?
  - a) Myosin
  - b) Myofilaments
  - c) Myofibril
  - d) Sarcomere

**Q – 2 Short Answer Questions**

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- 1) Endoplasmic Reticulum
- 2) Diffusion
- 3) Anemia
- 4) ECG Leads
- 5) Respiratory Membrane
- 6) Factor affecting GFR
- 7) Sweat Glands
- 8) Sarcomere

**Q – 3 Long Answer Questions**

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- 1) Define Erythropoiesis. Steps of Erythropoiesis. Describe stages of Erythropoiesis in detail.
  - 2) Define Immunity. Types of Immunity. Describe in detail Cell mediated Immunity.
  - 3) Define Cardiac Cycle. Describe Various events of cardiac cycle with Pressure and Volume changes.
  - 4) Describe in detail CO<sub>2</sub> transportation in human body.
  - 5) Define Micturition. Describe in detail Micturition reflex.
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