

**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. ATTEMPT ALL THE QUESTIONS.
2. DRAW DIAGRAMS WHEREVER NECESSARY.
3. FIGURES IN RIGHT INDICATES FULL MARKS

Q - 1 Multiple Choice Questions.**(10)**

- (1) Microfilaments are made-up of
 [A] Calmodulin [B] Myosin
 [C] Actin [D] Titin
- (2) Peroxisomes of cells have one of the following as their function
 [A] Digestion of engulf bacteria with the help of lysosomes [B] Breakdown of long chain fatty acid & detoxification
 [C] Steroid synthesis [D] Transport of proteins
- (3) Water moves from the capillary into the interstitial space mainly by
 [A] Osmosis [B] Active transport
 [C] Filtration [D] Solvent drag
- (4) Plasma protein that exerts maximum colloidal osmotic pressure
 [A] Albumin [B] Fibrinogen
 [C] Angiotensinogen [D] Prothrombin
- (5) One of the white blood cells known as macrophage.
 [A] Neutrophil [B] Basophil
 [C] Monocyte [D] Lymphocyte
- (6) Natural pacemaker of the heart;
 [A] SA node [B] AV node
 [C] Atria [D] Ventricle
- (7) O₂ diffuse from the alveoli into the pulmonary capillaries by
 [A] Active transport [B] Filtration
 [C] Secondary active transport [D] Simple diffusion
- (8) The Renin is secreted by
 [A] Renal tubular epithelial cells [B] Renin interstitial cells
 [C] JG cells [D] Mesangial cells
- (9) This epidermis layer also known as "Horny layers"
 [A] Stratum corneum [B] Stratum lucidum
 [C] Stratum granulosum [D] Stratum germinatum
- (10) Relaxing proteins of the muscle are,
 [A] Troponin & tropomyosin [B] Myosin
 [C] Actin [D] Dystrophin

Q - 2 Write Short Answers.

(40)

- (1) Gap junction & their function
- (2) Diffusion
- (3) Anemia
- (4) Heart sound
- (5) Respiratory membrane
- (6) Nephron
- (7) Glands of skin
- (8) Sarco-tubular system

Q - 3 Write Long Answers.

(50)

1. Define coagulation. Which are the pathways through prothrombin activator formed? Describe extrinsic pathway in detail.
 2. Define immunity. Types of immunity. Describe in detail humeral immunity.
 3. Describe blood pressure. Types of blood pressure. Describe in detail long term regulation of the blood pressure.
 4. Describe transport of O_2 from lungs to tissue.
 5. Define counter current mechanism. Describe in detail counter current multiplier.
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