QP CODE : …… **Reg.No……**

First Professional B.H.M.S Regular Examination, Model Question Paper

HUMAN PHYSIOLOGY & BIOCHEMISTRY(Hom UG-PB) - PAPER I

(2022 Scheme)

Time 3 hours **Total Marks :100**

Answer all questions to the point, neatly and legibly.
Do not leave any blank pages between answers.
Indicate the question number correctly for the answer ,in the margin space.
Answer all parts of a single question together.
Leave sufficient space between answers.
Draw diagrams wherever necessary.

1.MULTIPLE CHOICE QUESTION (10 X 1 = 10)
The answers to MCQ (Q.NO.1 to 10) shall be written continuously on the first two writing sheets (ie Page No.3& 4)only

i.Programed death of the cell under genetic control
a.Necrosis b.atrophy c.apoptosis d.adaptation

ii. The process by which the substances are expelled from the cell is
a.Endocytosis b.Exocytosis c.Transcytosis d.Pinocytosis

iii. The minimum time required for a stimulus with double the rheobasic strength (voltage) to excite the tissue is
a.Chronaxie b.Latent period c.Utilization time d.Refractory period

iv. Physiological dead space is
a. 150 ml b. 200 ml c. 250 ml d. 100 ml

v. In cardiac cycle, opening of mitral valve occurs at the
a. End of isovolumetric contraction
b. Beginning of isovolumetric relaxation
c. End of isovolumetric relaxation
d. Beginning of isovolumetric contraction

vi. Net filtration pressure of glomerulus increases by
a. Increase in hydrostatic pressure of glomerular capillary
b. Increase in oncotic pressure of glomerular capillary
c. Increase in hydrostatic pressure of Bowman's space
d. All of the above

vii. Usually a decrease in the amount of oxygen in the blood will result in ___ of the skin
a. Cyanosis
b. Jaundice
c. Paleness
d. Flushing

viii. The hormone erythropoietin stimulates red blood cell production in the red bone marrow. Where in the body is erythropoietin produced?
a. Spleen
b. Kidney
c. Liver
d. Thyroid

ix. Weakest force is
a. Vander wall
b. Covalent bond
c. Ionic bond
d. Hydrogen bonding

x. Depolarization is when _____ ions flow inside the neuron's membrane.
a) Potassium
b) Sodium
c) Chloride
d) Magnesium

Short Answer Questions (5 X 8= 40)

2. Discuss the clinical importance of murmurs

3. Discuss the mechanism of haemostasis

4. Explain the lung volumes and lung capacities

5.Classify the types of nephron

6. Discuss the causes and grades of nerve injury

7. Explain the homeostasis with regards to the positive feedback mechanism

8. Explain the Donan equilibrium

9. Describe the glands of the skin

Long Answer Question (5 X 10= 40)

10. Describe the formation of platelets. Discuss the functions of platelets. Add a note on purpura (3+4+3)

11. A 12 years old girl child complains of lethargy and fatigability for the last three months.

Physical examination revealed pallor. Routine blood investigation showed Hb -8 gm%

and peripheral smear revealed microcytic hypochromic RBCs.

Answer the following: (1+1+3+5)

- **Identify the clinical condition and what is the cause**
- **Define anemia.**
- **Classify anemia based on etiology.**
- **Enumerate stages of erythropoiesis and discuss the factors regulating them**

12. Explain the carbondioxide transport in the blood

13. Describe the micturition reflex

14. Discuss the events of cardiac cycle with pressure and volume changes