SET A

B.Sc. ZOOLOGY
FOURTH SEMESTER
PHYSIOLOGY: LIFE SUSTAINING SYSTEM
BSZ-402

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs. Full Marks: 70

(Objective)

Time: 30 mins. Marks: 20

Choose the correct answer from the following: ***1×20=20***

1. Which of the following is not a plasma protein?
   a. Fibrinogen b. Albumin
   c. Prothrombin d. None of the above

2. Which of the following is most abundant WBC found in our body?
   a. Neutrophil b. Basophil
   c. Monophil d. Eosinophil

3. In the clotting mechanism pathway, thrombin activates factors.....
   a. XI VIII V b. XI IX X
   c. VIII X V d. IX X XI

4. Which of the following ions cause the pre-synaptic vesicles to fuse with the pre-synaptic membrane and release a neurotransmitter into the synaptic area?
   a. Calcium b. Potassium
   c. Magnesium d. Silicon

5. The first heart sound is caused due to the closure of:
   a. Semilunar valve b. AV node
   c. Aurio-ventricular node d. SA node

6. The spread of the impulse from the SA node to the atria is represented by which of ECG?
   a. P wave b. QRS wave
   c. T wave d. ST interval

7. Which blood vessel supplies blood to the heart?
   a. Pulmonary vein b. Pulmonary artery
   c. Aorta d. Coronary artery

8. The volume of blood each ventricle pumps out during a cardiac cycle is about.....
   a. 70 ml b. 5000 ml
   c. 7 L d. 1200 ml

9. A membrane potential is the difference in electrical charge between:
   a. Potassium and sodium ions b. The inside and outside of the cell
   c. Phosphoric acid and glycolipid layers d. Resting and action potentials

10. What effect does myelination have on axons?
    a. It protects them from damage
    b. It slows the propagation of signals along them
    c. It prevents cross talk between adjacent axons
    d. It allows them to conduct signals significantly faster

11. Aquatic reptiles are:
    a. Ureotelic
    b. Ureotelic over land
    c. Ammonotelic
    d. Uricotelic

12. In mammalian kidney, Bowman's capsule or Malphigian tubules occur in:
    a. Cortex
    b. Medulla
    c. Pelvis
    d. All of these

13. The hormone that promotes reabsorption of water from glomerular filtrate is:
    a. Oxytocin
    b. Vasopressin
    c. Calcitonin
    d. Relaxin

14. ADH influences water permeability in the:
    a. PCT
    b. DCT
    c. Collecting duct
    d. Both a and b

15. Maximum amount of carbon dioxide transportation occurs as:
    a. Dissolved in plasma
    b. Carbaminohaemoglobin complex
    c. Bicarbonate
    d. None of these

16. Switch off centre for breathing lies in:
    a. Medulla oblongata
    b. Hypothalamus
    c. Carotid bodies
    d. Pons varoli

17. Which of the following is called inspiratory muscles in mammals?
    a. Radial muscle of diaphragm
    b. External intercostal muscle
    c. Internal intercostals muscle
    d. Pleural Muscle

18. The enormously long tusk of elephant are:
    a. Upper incisor
    b. Upper canine
    c. Lower incisor
    d. Lower canine

19. Which gastric cell secretes pepsinogen?
    a. Goblet
    b. Parietal
    c. Oxyntic
    d. Chief cells

20. Fat soluble vitamins are:
    a. C & D
    b. B & D
    c. A, B & D
    d. A, D, E & K

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Descriptive

Time : 2 hr. 30 mins. **Marks : 50**

[Answer question no.1 & any four (4) from the rest]

1.	Why human heart is called myogenic? Explain the cardiac cycle of human heart with labeled diagram.	2+8=10
2.	Explain the transmission of nerve impulse in a non myelinated nerve fibre with diagram. What happens in a chemical synapse?	6+4=10
3.	Explain the structure and function of blood. What is erythroblastosis foetalis?	7+3=10
4.	Write short notes on: a) WBC and its types b) Electrocardiogram	5+5=10
5.	Explain the mechanism of digestion and absorption of Protein from food with illustrative diagrams.	7+3=10
6.	Write a note on the mechanism of breathing. Write the various modes of transportation of carbon dioxide in the blood.	3+7=10
7.	Explain with proper illustration the mechanism of urine formation in mammal.	10
8.	Write short notes on: *(any two)* a) Chloride Shift b) Vasopressin (ADH) c) Bile Juice	5+5=10

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