

**B.Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2024****SEMESTER 5 : ZOOLOGY****COURSE : 19U5CRZOO08 : BIOCHEMISTRY, HUMAN PHYSIOLOGY AND ENDOCRINOLOGY***(For Regular 2022 Admission and Supplementary 2021/2020/2019 Admissions)*

Time : Three Hours

Max. Marks: 60

**PART A****Answer All (1 mark each)**

1. Name the process of ATP synthesis by direct transfer of phosphate from a substrate to ADP.
2. What is diarrhoea?
3. List out the different phases of a single muscle twitch.
4. Name the nitrogenous wastes present in plasma.
5. What is asthma?
6. Specify the tonicity of urine in the different locations of the nephron.
7. Which vitamin is involved in calcium homeostasis.
8. What is perikaryon?

**(1 x 8 = 8)****PART B****Answer any 6 (2 marks each)**

9. Comment on the types of Jaundice.
10. Comment on the significance of glycosidic linkage.
11. Define coenzyme with example.
12. Enlist the cell types in the pancreatic islets.
13. Brief on the major types of nutrition.
14. Illustrate the sequence of event occurred during the release of neurotransmitters.
15. How the neuron is classified based on the number of axons?
16. What is the T-state and R-state of hemoglobin?

**(2 x 6 = 12)****PART C****Answer any 4 (4 marks each)**

17. Illustrate with examples the classification of carbohydrates.
18. Discuss the physiology of muscle contraction. Comment on the relevance of neuromuscular junction in muscle contraction.
19. With the help of a flow chart comment on ornithine cycle.
20. What do you mean by nutrition? What are the major types of food?
21. Comment on the classification of enzymes based on the chemical reactions catalysed.
22. Categorize the hormones based on their chemical nature. Present the mechanism of action of different hormones using diagrams.

**(4 x 4 = 16)****PART D****Answer any 2 (12 marks each)**

23. Explain the mechanism of blood clotting. Mention the significance of blood clotting.

24. Explain the molecular basis of the mechanism of muscle contraction.
25. What is synaptic transmission? Explain the mechanism of propagation of action potential with the help of diagrams.
26. Elaborate the process of  $\beta$ - oxidation.

**(12 x 2 = 24)**