

Reg. No .....

Name .....

23P2047

**M. Sc. DEGREE END SEMESTER EXAMINATION : MARCH 2023**

**SEMESTER 2 : ZOOLOGY**

**COURSE : 21P2ZOOT08 : BIOCHEMISTRY**

*(For Regular - 2022 Admission and Supplementary - 2021 Admission)*

Duration : Three Hours

Max. Weights: 30

**PART A**

**Answer any 8 questions**

**Weight: 1**

1. Explain how lipoproteins are formed in the body. (E, CO 6)
  2. Evaluate how enzyme activity is regulated by proteolytic cleavage. (E, CO 4)
  3. What are reducing sugars? Give two examples. (R, CO 1)
  4. What is the role of Phosphoprotein Phosphatase-1 in the regulation of Glycogenolysis? (U, CO 2)
  5. Explain any four colour reactions of amino acids. (U, CO 1)
  6. Distinguish between the pK value and iso-electric point of amino acids. (An, CO 1)
  7. Which of the amino acids are both ketogenic and glucogenic? (R, CO 2)
  8. Compare and contrast different DNA binding proteins. (A, CO 4)
  9. Give an account of Antioxidants. In what way it is significant to body cells? (R, CO 2)
  10. Comment on the role of GABA. (A, CO 6)
- (1 x 8 = 8)**

**PART B**

**Answer any 6 questions**

**Weights: 2**

11. Discuss the different types of compound lipids. Indicate their importance. (An, CO 2)
  12. Briefly explain the steps involved in Omega oxidation. (Cr, CO 6)
  13. Discuss the structure and biological importance of any three disaccharides. (E, CO 1)
  14. Distinguish between Glycogen metabolism in liver and muscle? (An, CO 1)
  15. Explain the enzymatic reactions of Glycogenesis. (U, CO 1)
  16. Explain the primary structure of proteins with reference to insulin. (U, CO 1)
  17. List out the biological roles of nucleotides and nucleic acids. (E)
  18. Prepare an explanatory note on ribozymes. (An, CO 4)
- (2 x 6 = 12)**

**PART C**

**Answer any 2 questions**

**Weights: 5**

19. Give a description of the chemical nature and functional importance of Vitamin D, Bile acids, Ergosterol, and Terpenes. (A, CO 6)
  20. Discuss the structure and biological significance of Hyaluronic acid, Heparin, Chondroitin sulphate, Keratan sulphate and Dermatan sulphate (E, CO 1)
  21. Elaborate on protein folding and quaternary structure. (E, CO 1)
  22. Elaborate the the double helix model of DNA. Add an explanatory note on DNA regulatory proteins (An, CO 4)
- (5 x 2 = 10)**

OBE: Questions to Course Outcome Mapping

CO	Course Outcome Description	CL	Questions	Total Wt.
CO 1	Examine the structure and classification of different biomolecules – protein, lipid, carbohydrate and nucleic acid.	U	3, 5, 6, 13, 14, 15, 16, 20, 21	21
CO 2	Discuss the metabolic pathways of different biomolecules	U	4, 7, 9, 11	5
CO 4	Outline the different enzymes and its kinetics	U	2, 8, 18, 22	9
CO 6	Elaborate the synthesis and derivatives of biomolecules	U	1, 10, 12, 19	9

Cognitive Level (CL): Cr - CREATE; E - EVALUATE; An - ANALYZE; A - APPLY; U - UNDERSTAND; R - REMEMBER;