

**M. Sc. DEGREE END SEMESTER EXAMINATION - JULY 2021****SEMESTER 2 : ZOOLOGY****COURSE : 16P2ZOOT08 : BIOCHEMISTRY***(For Regular - 2020 Admission & Supplementary - 2019/2018/2017/2016 Admissions)*

Time : Three Hours

Max. Marks: 75

**PART A****Answer any 8 (2 marks each)**

1. Mention the natural source of dextran. What are its uses?
2. Distinguish between the pK value and iso-electric point of amino acids.
3. List the biochemical functions of Bile acids.
4. Distinguish between C and Z DNA.
5. What are DNA polymerases?
6. What are the goals of EE?
7. Indicate how pentose phosphate pathway is regulated within cells.
8. Briefly explain the structure of glycogen.
9. Name the two ketogenic amino acids. What does the term 'Ketogenic' refer to?
10. Mention the significance of Ketone bodies.
11. Enumerate the functions of phosphorus.
12. Discuss the role of Xanthine in purine metabolism.

**(2 x 8 = 16)****PART B****Answer any 7 (5 marks each)**

13. Explain the importance of Glycoproteins and Mucoproteins in animal body.
14. Comment on molecular chaperons. Describe the function of any three.
15. Write a note on biologically important steroids.
16. Write an account on the classification and nomenclature of fatty acids.
17. Explain the structural organization of tRNA molecule.
18. What are Isozymes? Elaborate it with an example
19. Outline the steps involved in Glucuronic acid metabolism.
20. Describe the metabolic pathways involving Tyrosine. Point out the significance of catecholamines.
21. Briefly explain the steps involved in Omega oxidation.
22. How are free radicals generated within cells? Add a note on lipid peroxidation.

**(5 x 7 = 35)****PART C****Answer any 2 (12 marks each)**

23. What do you mean by the primary and secondary structures of a protein? Discuss the role of amino acid side groups in determining the secondary structure of a protein.
24. Reflect how enzyme activity is regulated in cells.
25. Describe HMP (pentose phosphate) pathway. Mention the tissues where this pathway is active.
26. Describe the de-novo synthetic pathway of fatty acids. What is the role of citrate shuttle?

**(12 x 2 = 24)**