

First Semester M.Sc. Degree Examination (CSS) - Zoology
ZY1CT03 Course III- Biochemistry

Time: 3Hours

Total Weight :30

Section I – Short answer type questions

weight- 1

Answer any 10 out of 12

1. Define mutarotation of monosaccharides.
2. What is trehalose?
3. Distinguish between α helix and β helix in the secondary structure of proteins.
4. Mention various types of phosphoglycerides.
5. Describe the different steps of substrate phosphorylation in glycolysis.
6. What is Ramachandran map? Comment on its significance.
7. Comment on the antiparallelity of two polynucleotide chains of the DNA molecule.
8. What is meant by Zymogen activation?
9. Distinguish between Saponification number and Iodine number.
10. Comment on Ribozymes.
11. Which are the major biologically significant compounds produced by Phenylalanine.
12. Briefly discuss free radical scavenger systems.

Section II- Short essay type questions

Weight -2

Answer any 5 out of 8

13. Explain the two chemical bonds responsible for maintaining the linear form of a protein molecule.
14. Describe the structure of cholesterol and discuss the significance of HDL cholesterol and LDL cholesterol.
15. Comment on the structural similarity of glycogen and amylopectin.

16. Omega oxidation is a minor pathway taking place in microsomes. How to distinguish it from Alpha oxidation

17. Give an account on the characteristics of different forms of DNA.

18. In an enzyme reaction the substrate concentration (in moles/L) at half maximal velocity is the K_m value. Substantiate this statement.

19. Discuss the significance of Sodium, Potassium and Chloride in the functioning of human body.

20. Explain the effect of prostaglandins on various tissues with suitable examples.

Section III- Long essay type questions

Weight-5

Answer any 2 out of 3

21. Degradation of Carbon skeletons of amino acids play a vital role in the biochemical events in our body. Illustrate with examples.

22. Describe how covalent modification is a type of activation of enzymes.

23. *De Novo* synthesis of palmitate is operating in the cytoplasm and is not a reversal of β oxidation. Discuss.