D1AZL2501 **(1 Page)** **Name.....**
Reg.No.....

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2025
(Regular/Improvement/Supplementary)
ZOOLOGY
FZOL1C01- BIOCHEMISTRY

Time: 3 Hours **Maximum Weightage: 30**

Part A: Answer any *four* questions. Each carries *two* weightage.

1. Comment on β-pleated sheet structure of proteins.
2. Write the structure of chondroitin sulphate.
3. Briefly write the role of PFK as pacemaker of glycolysis.
4. Mention the characteristic features of A-DNA.
5. What is high sensitive C-reactive protein?
6. Distinguish between transamination and deamination reactions in biological system.
7. Comment on the fate of pyruvic acid.

(4 × 2 = 8 weightage)

Part B: Answer any *four* questions. Each carries *three* weightage.

8. Mention the role of ATP as the free energy carrier in biological system.
9. Evaluate the role of vitamins as co-enzymes.
10. Distinguish Fischer's template theory and Koshland's induced-fit hypothesis.
11. Comment on the significance of K_m and V_{max} values in Michaelis-Menten equation.
12. Explain the mechanism of regulation of Glycogen synthesis.
13. Mention the structure and biological roles of lactose.
14. Analyse the action of amylase enzyme on starch.

(4 × 3 = 12 weightage)

Part C: Answer any *two* questions. Each carries *five* weightage.

15. Describe the biological roles of lipids with suitable examples. Add a note on the Genevan system of nomenclature of fatty acids.
16. Explain the structural and functional isomerism of monosaccharides with suitable examples.
17. Describe the HMP pathway and discuss its significance.
18. Describe the mechanism of biosynthesis of purines. Add a note on its significance.

(2 × 5 = 10 weightage)