

D1AZL2301

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Name.....

Reg.No.....

**FIRST SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2023**  
**(Regular/Improvement/Supplementary)**

**ZOOLOGY**  
**FZOL1C01-BIOCHEMISTRY**

**Time: 3 Hours**

**Maximum Weightage: 30**

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

1. Write the significance of  $K_m$  and  $V_{max}$  values.
2. Comment on the significance of  $pK$  value and isoelectric point.
3. Elaborate on Lineweaver-Burk equation.
4. Write a short note on the formation of triglycerides.
5. Explain briefly the structure and role of prostaglandins.
6. Distinguish between epimer and anomer of glucose.
7. Mention the role of PFK as pacemaker in glycolysis.

**(4 × 2 = 8 weightage)**

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

8. Describe the regulation of glycogen synthesis and breakdown.
9. Explain the Genevan system of fatty acid nomenclature.
10. Distinguish  $\alpha$ -helix from  $\beta$ -pleated sheet.
11. Give a note on the role of ATP as a free energy carrier in biological systems.
12. Discuss the structural organization of t-RNA.
13. Describe the beta oxidation of fatty acids.
14. Explain the biosynthesis of tryptophan.

**(4 × 3 = 12 weightage)**

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

15. Describe the structure and biological roles of heteroglycans.
16. Explain the IUB system of enzyme classification and the mechanism of enzyme action.
17. Give a detailed account on the biosynthesis of purines.
18. Discuss the steps involved in electron transport system and oxidative phosphorylation.

**(2 × 5 = 10 weightage)**