

**FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2024**

**(Regular/Improvement/Supplementary)**

**ZOOLOGY**

**GZOL5B08T: BIOCHEMISTRY AND MOLECULAR BIOLOGY**

**Time: 2 ½ Hours**

**Maximum Marks: 80**

**SECTION A: Answer the following questions. Each carries *two* marks.  
(Ceiling 25 marks)**

1. Define hydrogen bond.
2. What are isozymes? Give an example.
3. What is C-value paradox?
4. Comment on competitive inhibition? Give an example.
5. What are okazaki fragments?
6. What is semi conservative method of DNA replication?
7. What are aldoses and ketoses?
8. Differentiate between homo polysaccharides and hetero polysaccharides.
9. What are housekeeping genes?
10. Comment on wobble hypothesis.
11. What are nonsense codons?
12. Represent peptide bond.
13. Give the principle behind chromatography.
14. What is PAGE?
15. What is oxidative phosphorylation?

**SECTION B: Answer the following questions. Each carries *five* marks.  
(Ceiling 35 marks)**

16. Give the biological functions of carbohydrates.
17. Write an account on glycogenesis.
18. Enlist the process of conjugation in bacteria.
19. Explain the central dogma of molecular biology.
20. Describe the four levels of protein structure.
21. Give the properties of genetic code.
22. Explain post transcriptional modifications of hnRNA.
23. Give an account of RNA polymerases in prokaryotes and eukaryotes.

**SECTION C: Answer any *two* questions. Each question carries *ten* marks.**

24. Describe beta oxidation of fatty acids.
25. Explain tryptophan operon and its regulation.
26. Elaborate on the process of translation.
27. Discuss the chemistry and structure of purines and pyrimidines.

**(2 × 10 = 20 Marks)**