

**FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2025****(Regular/Improvement/Supplementary)****ZOOLOGY****GZOL5B09T: METHODOLOGY IN SCIENCE, BIOSTATISTICS AND****BIOINFORMATICS****Time: 2 ½ Hours****Maximum Marks: 80****SECTION A: Answer the following questions. Each carries *two* marks.****(Ceiling 25 marks)**

1. Comment on Empiricism.
2. Define plagiarism.
3. What do you mean by open access?
4. Mention the role of CPCSEA.
5. Comment on Chi-Square test.
6. Distinguish between standard deviation and standard error.
7. Name any four nucleic acid sequence data base.
8. What is Gen Bank?
9. Write short note on DDBJ.
10. Define Transcriptomics.
11. Write an account on Time of Flight (TOF).
12. Comment on Molecular docking.
13. Name major steps for designing a scientific experiment.
14. What is serendipity?
15. Write a short note on BLOSUM.

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

16. Describe Science and its major features.
17. Justify the interdisciplinary approach of science.
18. Explain the ethical guidelines for using animals in research.
19. Discuss the concept of 3R's in animal experimental ethics.
20. Give an account of merits and limitations of sampling methods.
21. Describe Census methods and comment on its advantages.
22. Write an account on database search engines.
23. Discuss the applications of proteomics.

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

24. Discuss the Wild life protection Act 1972, its objectives, features and penalties.
25. Describe the various methods of scientific inquiry.
26. Explain Metagenomics and its applications.
27. Give an account on algorithm of FASTA.

**(2 × 10 = 20 Marks)**