

November 2025
M.Sc.
First Semester
CORE – 03
ZOOLOGY
Course Code: MZOC 1.31
(Biosystematics & Evolutionary Biology)

Total Mark: 70

Pass Mark: 28

Time: 3 hours

Answer five questions, taking one from each unit.

UNIT-I

1. Discuss karyotype testing, linkage analysis and recombination frequency analysis used in cytotaxonomy. 14
2. Write a note on each of the following: 7×2=14
 - (a) DNA sequencing
 - (b) Chromosome banding pattern

UNIT-II

3. Discuss the principle of typification and principle of coordination with suitable examples. 7+7=14
4. Describe the Shannon-Wiener index and association index. Add a note on the importance of these indices. 10+4=14

UNIT-III

5. Explain the different eras, periods, and epochs in evolutionary time scale. 14
6. Write a note on each of the following: 7×2=14
 - (a) Neutral evolution
 - (b) Molecular clocks

UNIT-IV

7. Elaborate on the principles of Lamarckism and Darwinism with suitable examples. 14

8. Give an account of the origins of unicellular and multicellular organisms. 7+7=14

UNIT-V

9. Describe the different types of isolating mechanisms with examples. 14
10. Write a note on each of the following: 7×2=14
- (a) Sexual selection
 - (b) Adaptive radiation
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