

April 2025
B.A./B.Sc.
Sixth Semester
CORE – 14
ZOOLOGY
Course Code: ZOC 6.21
(Evolutionary Biology)

Total Mark: 70
Time: 3 hours

Pass Mark: 28

Answer five questions, taking one from each unit.

UNIT-I

1. Give a detailed account on the theory of Darwinism with suitable examples. 14
2. Write a note each on the following: 7×2=14
 - (a) Evidences of evolution
 - (b) Sources of variations

UNIT-II

3. What is natural selection? Explain the different components of natural selection or levels of natural selection. Add a note on the concept of fitness. 2+6+6=14
4. Write a note each on the following: 7×2=14
 - (a) Genetic load
 - (b) Genetic drift

UNIT-III

5. Define species concept. Give an account on its different types. 2+12=14
6. Write an account on the modes of speciation with example. Add a note on the founder effect. 10+4=14

UNIT-IV

7. Discuss the unique hominin characteristics contrasted with the primate characteristics. 14
8. Write a note each on the following: 7×2=14
- (a) Origin and evolution of man
 - (b) Molecular analysis of human origin

UNIT-V

9. Define sequences alignment. Distinguish between global and local alignment with examples. Explain any three methods of pairwise sequence alignment. 2+6+6=14
10. Construct a phylogenetic tree using the following sequences and interpret in step-wise manner. 14
- (a) ATCGTGGTACTG
 - (b) CCGGAGAACTAG
 - (c) AACGTGCTACTG
 - (d) ATGGTGAAAGTG
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