

Mode of Examination: Online

Unique Paper Code	: 32231602
Name of the Paper	: Evolutionary biology
Name of the Course	: B.Sc. (H) Zoology (CBCS)
Semester	: VI
Duration	: 2 Hours
Maximum Marks	: 75

Instruction for Students

Write your Roll No., Name of the paper, Course, Semester, and Date of examination on the first page of answer sheet.

Attempt **ANY FOUR** questions. All questions carry equal marks.

1. How do fossil records present strong evidences for the theory of evolution? Give an account of various methods used for dating fossil records.

18.75

2. What are the different conditions that lead to sympatric and allopatric speciation? Discuss sympatric speciation with the example of Cichlid fishes of lake Victoria.

18.75

3. Justify the statement with suitable examples that heritable variations are the source of evolution. Briefly comment upon on continuous and discontinuous variations.

18.75

4. What are the essential prerequisites for natural selection to operate? Explain how natural selection brings about the evolution of drug resistance in microbes.

18.75

5. What is a phylogenetic tree? Enumerate various methods used to construct a phylogenetic tree. Add a note on significance of using 16S rRNA sequences in phylogenetic taxonomy.

18.75

6. Discuss various models for monophyletic and polyphyletic origin of *Homo sapiens* with the help of supporting evidences.

18.75