

**2023**  
**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. Discuss the postulates of Darwinism with suitable examples. 14
2. Write a note on the following: 7×2=14
  - (a) Morphological/anatomical evidence of evolution
  - (b) Sources of variations

**UNIT-II**

3. Give an overview of natural selection and explain types of selection. 7+7=14
4. Write a note on the following: 7×2=14
  - (a) Genetic load
  - (b) Genetic drift

**UNIT-III**

5. Discuss inter-population variations. Add a note on species concept. 8+6=14
6. Explain the modes of speciation with suitable examples. 14

**UNIT-IV**

7. Write notes on the following: 7×2=14
  - (a) Unique hominin characteristics

(b) Molecular analysis of human origin

8. Discuss evolution of man with emphasis on genus *Homo*. 14

### UNIT-V

9. Give a detailed account on phylogenetic trees. Construct a phylogenetic tree using genetic characters as given below. 8+6=14

Species	DNA sequence
X	ATG
Y	ACG
Z	CAG

10. Write a note on the following: 7×2=14
- (a) Rooted phylogenetic tree
  - (b) Multiple sequence alignment
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