

**B. Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2025****SEMESTER 5 : ZOOLOGY****COURSE : 19U5CRZOO07 : EVOLUTION, ZOOGEOGRAPHY AND ETHOLOGY***(For Regular 2023 Admission and Supplementary 2022/ 2021/ 2020 / 2019 Admissions)*

Time : Three Hours

Max. Marks: 60

**PART A****Answer All (1 mark each)**

1. What is progressive mutation?
2. What is Mendelian population?
3. What is evo-devo?
4. Comment on any 2 reasons for animal distribution.
5. Which system for geological time scale is the most widely accepted?
6. Differentiate between UR and CR in Pavlov's experiment.
7. What is macroevolution?
8. Name the major contributors of Plate Tectonics Theory.

**(1 x 8 = 8)****PART B****Answer any 6 (2 marks each)**

9. Comment on different types of adaptive radiation?
10. What is eusociality?
11. Comment on the climatologic and geographic features of Ethiopian Realm.
12. Describe the reasons for the wide separation of animals.
13. Assess the concept 'inheritance of acquired characters'?
14. What do you mean by Von Baer's rule?
15. What do you mean by carbon dating?
16. Explain the concept of the balance model of population structure.

**(2 x 6 = 12)****PART C****Answer any 4 (4 marks each)**

17. Find out the similarity and dissimilarity between bipolar and isolated distribution.
18. In a population of black-tailed deer (*Odocoileus hemionus*), the frequency of the recessive allele for albinism (a) is 0.09. Albinism in black-tailed deer is a rare genetic condition. Assume that the population is in Hardy-Weinberg equilibrium.
  1. Calculate the frequency of the dominant allele (A) in the population.
  2. Determine the percentage of deer in the population that are homozygous dominant (AA).
  3. Calculate the percentage of deer that are carriers (heterozygous) for the albinism allele (Aa).
  4. Find the percentage of deer that are homozygous recessive (aa).

19. Comment on the invertebrate fauna of Western Ghats.
20. Give a brief account of the history of ethology.
21. Elaborate on Miller- Urey experiment?
22. What is Neo Lamarckism? Explain with contributions from its proposers.

**(4 x 4 = 16)**

**PART D**

**Answer any 2 (12 marks each)**

23. Give an account of different types of learning.
24. Formulate a set of criteria for distinguishing between microevolutionary and macroevolutionary changes in a given group of organisms, and justify your choices.
25. What is geological time scale? Explain with the most accepted model.
26. Give a detailed account of Nearctic and Neotropical Realms.

**(12 x 2 = 24)**