POST-GRADUATE COURSE

Term End Examination — June, 2023/December, 2023
ZOOLOGY
Paper-2B : ETHOLOGY AND EVOLUTION

Time : 2 hours]   [Full Marks : 50

Weightage of Marks : 80%

Special credit will be given for precise and correct answer. Marks will be deducted for spelling mistakes, untidiness and illegible handwriting. The figures in the margin indicate full marks.

1. Answer *two* questions :   9 × 2 = 18

   a) Give an account of neuromodulators and leech feeding behaviour.

   b) Discuss evolution of group living or flocking in weaver birds.

   c) Give an account of Darwinism with particular reference to Neo-Darwinism.

   d) Discuss Parsimony methods in respect to phylogenetic inference.

2. Answer *three* questions :   6 × 3 = 18

   a) Explain how fishes use electricity.

   b) Write a note on language acquisition in Chimpanzees.

   c) Describe the courtship behaviour of (i) scorpions and (ii) spiders.

   3 + 3

   d) How many distinct models are there to elucidate the effects of population structures on the patterns and amount of genetic variations ? Discuss any one of such models in detail.   2 + 4

   e) State the ecological significance of molecular variations.

   f) Discuss how restriction enzyme sites can help in constructing molecular phylogeny.

3.   Answer *two* questions :   4 × 2 = 8

   a)   What are the disadvantages of visual signals ?

   b)   Write a note on predator satiation.

   c)   What is Muller's ratchet ?

   d)   State the existing contradictions between species and subspecies.

4.   Answer *two* questions :   3 × 2 = 6

   a)   Define Batesian and Mullerian mimicry with example.

   b)   What is Prisoner's Dilemma ?

   c)   Define homology and homoplasy.

   d)   What is inbreeding depression ?

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