

POST-GRADUATE DEGREE PROGRAMME

Term End Examination — December, 2024

ZOOLOGY

Paper-2B : ETHOLOGY AND EVOLUTION

Time : 2 hours]

[Full Marks : 50

Weightage of Marks : 80%

Special credit will be given for accuracy and relevance in the answer. Marks will be deducted for incorrect spelling, untidy work and illegible handwriting. The weightage for each question has been indicated in the margin.

1. Answer *two* questions : 9 × 2 = 18
 - a) Discuss the influence of hormones on reproductive behavioural sequences in Ring dove.
 - b) Describe the organs associated with biological rhythms and characteristics of biological rhythms.
 - c) Discuss the neutral hypothesis in emergence of Non-Darwinism. Explain the theory of Neo-Darwinism. 4 + 5
 - d) Describe with the help of a flowchart the relationship between allopatric and sympatric speciation.

2. Answer *three* questions : 6 × 3 = 18
 - a) Write a note on stimulus filtering in the little skate.
 - b) Enumerate the factors associated with habitat selection.
 - c) Discuss evolution of schooling in fishes.
 - d) Write a note on meiotic drive.
 - e) Discuss the Continent-Island model in the light of genetic structure of population.
 - f) Discuss the evolution of vertebrate novelties.

3. Answer *two* questions : 4 × 2 = 8
- a) Write a note on chemical communication.
 - b) Explain reciprocal altruism with an example.
 - c) State the problems with phylogenetic species concept.
 - d) Explain the process of habituation and involvement of nervous system in *Aplysia* sp.
4. Answer *two* questions : 3 × 2 = 6
- a) State Hamilton's Rule.
 - b) What do you mean by the terminology "touch" in ethology ?
 - c) What is phylogeny ?
 - d) Define gene pool and allele frequency.
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