

QP Code: 22/PT/14/IIB

POST-GRADUATE COURSE

Term End Examination — June, 2022/December, 2022

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) Discuss the influence of hormones on reproductive behavioural sequence in Ring doves. 1 + 5 + 3
 - b) Define migration. Describe the patterns of fish migration. Add a note on the factors regulating fish migration. 5 + 4
 - c) Discuss the neutral theory of molecular evolution. How this hypothesis is changed the Darwinial evolution concept ? 1 + 8
 - d) What is mosaic evolution ? Enumerate 'punctuated equilibrium' concept introduced by Eldredge and Gould. 6 × 3 = 18
2. Answer *three* questions : 6 × 3 = 18
 - a) Define aggression. Describe different forms of aggressive behaviour. 1 + 5
 - b) Write a note on chemical communication. 2 + 4
 - c) Define dispersals. State the causes of dispersal. 4 + 2
 - d) What is meiotic drive ? State its significance. 4 + 2

- e) Discuss phylogenetic species concept.
- f) What is phylogeny ? Describe a rooted phylogenetic tree. $2 + 4$
3. Answer *two* questions : $4 \times 2 = 8$
- a) What is a false dichotomy ?
- b) Why is eusociality so prevalent in the hymenoptera ?
- c) Compare between neutral evolution and adaptive evolution.
- d) What is Continental-Island model ?
4. Answer *two* questions : $3 \times 2 = 6$
- a) Write a note on territoriality.
- b) Describe the categories to be followed for navigation.
- c) State the evolutionary significance of sub-species.
- d) Define molecular clock and biological clock. $1\frac{1}{2} + 1\frac{1}{2}$
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