

UG 4th Semester Examination-2025 (Under NCCF)

MINOR (MNC-4)

Discipline: ZOOLOGY

Course Code: BSCZOOMN401

Course Name: Ecology, Ethology and Evolution

Full Marks: 35

Time: 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Group — A

1. Answer any *five* questions: 5 x 1
- a) Name one biotic factor in a forest ecosystem.
 - b) What is jet lag?
 - c) Which part of the brain controls circadian rhythms?
 - d) What do you mean by Niche?
 - e) What is natality in population ecology?
 - f) Define carrying capacity.
 - g) Give an example of mimicry in animals.
 - h) Which hormone is associated with circadian rhythms?

Group — B

2. Answer any *five* questions: 5 x 2
- a) Differentiate between population and community.
 - b) What role do decomposers play in an ecosystem?
 - c) What is chronobiology?
 - d) Write a short note on instinct behaviour.
 - e) What is ecological succession? Give an example. (1+1)
 - f) What is the difference between exponential and logistic population growth?
 - g) Define r- and k-strategists with examples.
 - h) What do you understand by species richness and evenness?

Group — C

3. Answer any *two* questions: 2×5
- a) Write a short note on the parental care of fish.
 - b) Explain allopatric and sympatric speciation with examples.
 - c) Describe the different survivorship curves. What do they indicate about population dynamics? (4+1)
 - d) What are biodiversity hotspots? Mention their significance and the major threats to biodiversity. (2+3)

Group — D

4. Answer any *one* question: 1 x 10
- a) Discuss the features of Neo-Darwinism. Explain Bottleneck effect and Founder effect. (5+5)
 - b) Describe in detail the flow of energy in an ecosystem. Briefly state food chains, food webs, ecological pyramids, and productivity with suitable illustrations where applicable. [4+(1½ x 4)]

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