

Roll No.

Total Pages : 3

MDE/M-24

4690

**POPULATION AND COMMUNITY
ECOLOGY**

Paper–M–Z–201

Time Allowed : 3 Hours]

[Maximum Marks : 80

Note : Attempt **five** questions in all, selecting **one** question from each Unit. Question No. **1** is compulsory. All questions carry equal marks.

Compulsory Question

1. Write short notes on the following : $8 \times 2 = 16$

- (a) Law of Tolerance. (b) Biotic Potential.
- (c) Trophic level. (d) Ecotone with example.
- (e) Altruism. (f) Climax Community.
- (g) Ecosystem Dynamics. (h) Mutualism.

UNIT–I

- 2. (a) Give a detailed account on positive and negative interactions in biotic community and their role in an ecosystem. 8
- (b) Explain the different types of Ecological Pyramids with suitable examples. 8

3. Describe the following in detail:

- (a) Energy Flow models of ecosystem. 8
- (b) Productivity of terrestrial ecosystem. 8

UNIT–II

- 4. (a) Describe Ecological disturbance. How does it affect the aquatic ecosystem? 8
- (b) What is Population Ecology? Explain the different methods of population density measurements. 8
- 5. (a) Explain the different survivorship curves and their significance in population ecology. 10
- (b) Describe population distribution? How does it differ from population dispersion? 6

UNIT–III

- 6. Give a comprehensive note on density dependant and density independent factors in population regulation. 16
- 7. (a) Explain the Life history strategies- r and k selection with examples. 10
- (b) Define Niche and explain Gause's theory of Niche. 6

UNIT-IV

8. (a) Give the theory of predator- prey oscillations and role of predation in nature. 10
- (b) Explain any two biodiversity indices with examples. 6
9. Give a comprehensive note on Ecological Impact Assessment. 16