

Roll No.

(07/21-II)

13651

M. Sc. EXAMINATION

(For Batch 2017 & Onwards)

(Fourth Semester)

BOTANY

BOT-401

Plant Ecology : Principles and Concepts

Time : Three Hours

Maximum Marks : 70

Note : Attempt *Five* questions in all, selecting *one* question from each Unit. Q. No. 1 is compulsory.

1. Define/Explain the following :

- (a) Climax
- (b) Ecological niche
- (c) Food web
- (d) Ecotone
- (e) Microcosm.

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Unit I

2. Define Ecosystem. Describe the structure and functioning of any Indian forest ecosystem.
3. Write explanatory notes on the following :
 - (a) Speciation and its types
 - (b) Natural and artificial selection.

Unit II

4. Write concise notes on the following :
 - (a) Analytic and synthetic characters
 - (b) Primary Productivity : Global Patterns and controlling factors.
5. Describe any *two* of the following :
 - (a) Ecological energetics
 - (b) Energy budgets
 - (c) Edge effect.

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Unit III

6. Write explanatory notes on the following :
 - (a) Concept of limiting factors
 - (b) Shelford's law of tolerance
 - (c) Ecological indicators.
7. Briefly describe the following :
 - (a) What are Biogeochemical Cycles ? Describe the nitrogen cycle.
 - (b) Nutrient cycling in the tropics.

Unit IV

8. What is meant by ecological succession ? Describe its types and the process of succession on a newly formed pond.
9. Write explanatory notes on any *two* of the following :
 - (a) Types of Interactions in a population
 - (b) r and k selection
 - (c) Population regulation.

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