

Exam. Code : 103206

Subject Code : 1421

B.A./B.Sc. 6th Semester

BOTANY

Paper-VI(A) (Ecology)

Time Allowed—3 Hours] [Maximum Marks—35

Note :—No reference materials are allowed inside the examination hall. A candidate who is suspected of cheating is examinations in liable to disciplinary action against him/her. Please raise your hand if you wish to communicate with an invigilator.

SECTION—A

Note :— All parts are compulsory. Each part of the question carries 1 mark (7 marks).

1. Define the following :

- (a) Xerophytes
- (b) Anatomy
- (c) Hydrophytes
- (d) Photosynthesis
- (e) Population ecology
- (f) Biogeography
- (g) Succession

SECTION-B

Note :— Attempt any 4 questions out of the given questions.

Each question carries 7 marks.

2. Population size of a species is dynamic. Comment on that providing a diagrammatic representation of ways that can change the number of individuals in a population.
3. Decomposers play an important role in the nutrient cycling and returning the small molecules back to soil, water or air. Describe the following stages of nitrogen cycle in terrestrial ecosystem :

(a) Ammonification (b) Nitrification (c) Denitrification.

4. What is a food chain and a food web ? Provide an example of the same in grassland ecosystem and discuss the various trophic levels.
5. Name ten recognizable biogeographical zones of India and provide a brief description of each.
6. Ecological succession is gradual process influenced by various factors. What are the different types of succession that can be observed in a terrestrial ecosystem ? Name the factors that can instigate the changes in vegetation structure.
7. What are the various possible inter-specific interactions that link the species of a community together ?

8. Population ecology is the study of how populations — of plants, animals, and other organisms — change over time and space and interact with their environment. Explain the exponential growth and logistic growth models of population.
9. Discuss morphological, anatomical and physiological responses of plants (Hydrophytes and Xerophytes) to water, temperature and light.