

Roll No.

Total Pages : 3

325207

May 2026

B.SC. LIFE SCIENCES II SEMESTER

Botany II Plant Ecology & Taxonomy (BLS-201)

Time : 3 Hours]

[Maximum Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any **four** questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*
4. *Support your answers with relevant diagrams.*

PART-A

1. (a) What are keystone and umbrella species? (1.5)
- (b) Differentiate between k and r selected species. (1.5)
- (c) Define survivorship curves. (1.5)
- (d) What are keys? How are they used in taxonomy? (1.5)
- (e) What is typification? Give its importance. (1.5)
- (f) Differentiate between artificial, natural and phylogenetic classification. (1.5)

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- (g) What is eutrophication? How is BOD related to it? (1.5)
- (h) Define binomial system. What is its significance in taxonomy? (1.5)
- (i) Define the following:
Ecotone, Species richness, Niche. (1.5)
- (j) Differentiate between Liebig and Shelford's laws. (1.5)

PART-B

2. (a) What is succession? Explain the difference between primary and secondary succession using relevant examples. (10)
- (b) Write a short note on APG-III system of plant classification. (5)
3. (a) Describe the nitrogen cycle. (5)
- (b) What are species interactions? How do they influence population size? (10)
4. What is an ecosystem? Identify its components and describe the different types of ecosystems. (15)
5. (a) What is an herbarium? Describe the functions of herbarium. Mention 2 herbaria present in India and abroad. (5)
- (b) Describe the Bentham and Hooker classification system giving its merits and demerits. (10)

6. (a) Describe numerical taxonomy. How is it performed? What is the significance of OTU in this type of taxonomy? (10)
- (b) Write a brief note on the species concept. (5)
7. What is the purpose of ICN? Discuss its rules and principles. (15)