



School of Biological Sciences
Doon University
Dehradun, Uttarakhand
Question Paper: End-Semester Examination
Session: Jan 2023 – Jun 2023

B.Sc. Biological Sciences (Second Semester)

Course: Ecology

Course Code: BSC153

Total Marks: 50

Maximum Time: 2:00 Hrs

PART I Give answers to any six questions:

(Marks: $2 \times 6 = 12$)

1. Define Density-dependent and Density-independent limiting factors with examples.
2. What are Gross primary productivity (GPP) and Net primary productivity (NPP) of an ecosystem?
3. What is Ecological pyramid? What are the different types of ecological pyramids?
4. What are unitary and modular populations? Give examples.
5. What is vital index of a population? Write the formula.
6. What are Exponential and Logistic growth of population?
7. Define ecological succession. What are the types of ecological succession?

PART II Give answers to any five questions:

(Marks: $4 \times 5 = 20$)

8. What is limiting factor? Describe Liebig's law of the minimum with example.
9. Differentiate between r and K selected species with example.
10. Describe Sulphur cycle in an ecosystem.
11. What is Population dispersion? Explain its various types with example.
12. What is Age pyramid? Explain the different types of age pyramid with diagram.
13. Explain Lotka-Volterra equation for competition and predation.

PART III Give answers to any three questions:

(Marks: $6 \times 3 = 18$)

14. Elaborate food chain and food web in an ecosystem with diagram.
15. Explain the role of Resource partitioning in an ecosystem with example.
16. What is Survivorship curve? Explain the types of Survivorship curve with example.
17. Explain the types of Aquatic ecosystems. What are the threats to aquatic ecosystem?

