

May 2025
M.Sc.
Fourth Semester
CORE – 12
BOTANY
Course Code: MBOC 4.21
(Ecology & Ecosystem Analysis)

Total Mark: 70

Pass Mark: 28

Time: 3 hours

Answer five questions, taking one from each unit.

UNIT-I

1. Explain the different states of water and its impact on vegetation. Discuss the water budget equation and its application. 9+5=14
2. Explain the distribution of vegetation relative to temperature variation. Discuss the impact of variation in temperature on global biodiversity. 9+5=14

UNIT-II

3. What do you understand by population interaction? Illustrate your answer by discussing on resource competition. 4+10=14
4. Explain the concept of life strategies. Discuss the types of survivorship curves citing appropriate examples. 5+9=14

UNIT-III

5. Explain the holistic concept of dominant species. Describe keystone species illustrated with appropriate examples. 9+5=14
6. Discuss the levels and components of diversity. Give an overview of diversity indices. 9+5=14

UNIT-IV

7. Explain the methods to measure primary productivity of terrestrial ecosystem. Discuss the factors affecting productivity of terrestrial ecosystem. 7+7=14

8. Give an account of carbon cycle. Briefly discuss the significance of carbon cycle. 10+4=14

UNIT-V

9. Discuss plant community succession using popular ecological models. Explain the concept of a climax community. 9+5=14
10. Enumerate and define the successional seres in plant community development. Discuss the dynamics of bioenergetics and structure during ecosystem development. 5+9=14
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