

**2022**  
**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 concept of limiting factors using appropriate examples. 14
2. Describe the properties and ecological importance of the following:
  - (a) Soil 7×2=14
  - (b) Fire

**UNIT-II**

3. Describe the phenomenon of resource competition with a focus on invasive plants in relation to native plant species. 14
4. Write short notes on the following: 7+7=14
  - (a) Life history strategies
  - (b) Life-table analysis

**UNIT-III**

5. Describe the structure and attributes of a plant community. 14
6. Write a detailed note on life forms and the biological spectrum. 14

#### UNIT-IV

7. Write notes on the following: 7×2=14  
(a) Primary productivity of terrestrial ecosystem  
(b) Ecological efficiency
8. What is biogeochemical cycle? Describe nitrogen cycle. 2+12=14

#### UNIT-V

9. Describe the various views on the climax concept. How does succession take place in an area that has never hosted a plant community? 6+8=14
10. Write short notes on the following: 7×2=14  
(a) Ecosystem resilience  
(b) Models of ecological succession
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