

**2025**

**( FYUGP )**

**( 5th Semester )**

**BOTANY**

**( MAJOR )**

Paper Code : BCC-09

**( Plant Ecology and Phytogeography )**

*Full Marks : 75*

*Pass Marks : 40%*

*Time : 3 hours*

*The figures in the margin indicate full marks  
for the questions*

1. (a) Describe ecosystem homeostasis and factors maintaining it. Explain the process of soil formation and its ecological importance. 5+10=15

*Or*

- (b) Elaborate on the different states of water in the environment. Describe the hydrological cycle with a neat diagram. 7½+7½=15

( 2 )

2. (a) Write notes on any *two* of the following :

$7\frac{1}{2} \times 2 = 15$

- (i) Trophic organization
- (ii) Ecological significance of parasitism
- (iii) Habitat and niche

Or

- (b) Explain ecological speciation and its role in population evolution. 15

3. (a) Define energy flow. Describe the production and productivity in ecosystem.  $3 + 12 = 15$

Or

- (b) Explain biogeochemical cycling of nitrogen and phosphorus. 15

4. (a) Explain the major terrestrial biomes with examples from tropical, temperate and tundra regions. 15

Or

- (b) Explain the principles of phytogeography with examples. Discuss the importance of endemism on plant distribution.  $7\frac{1}{2} + 7\frac{1}{2} = 15$



( 3 )

5. (a) Write notes on any *two* of the following :

7½×2=15

- (i) Water table
- (ii) Ecological efficiency
- (iii) Natality and mortality

Or

(b) Explain the concept of ecological amplitude. Describe the types of plant communities with examples. 5+10=15

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