

[This question paper contains 4 printed pages.]

1303

Your Roll No.

B.Sc. (Hons.)/III

A

BOTANY – Paper VIII

(Plant Ecology and Environmental Management)

(Admissions of 2004 and onwards)

Time : 3 Hours

Maximum Marks : 38

*(Write your Roll No. on the top immediately
on receipt of this question paper.)*

*Answer Five questions in all, including
Q. No. 1 which is compulsory.
Attempt all parts of a question together.*

1. (a) Define any two of the following :

(i) Keystone species

(ii) Homeostasis

(iii) Natality

(iv) Vegetation

(1×2=2)

(b) Expand (any two)

(i) IPCC

(ii) MAB

(iii) EPA

(iv) IVI

(1×2=2)

P.T.O.

(c) Give **one** word of the following :

- (i) Establishment of plants in a new place.
- (ii) Instrument used to measure relative humidity of a particular place.
- (iii) Chemical inhibition of one organism by another.
- (iv) Transition zone between two different ecological communities. (2)

2. Differentiate between any **four** of the following :

- (i) Heliophytes and Sciophytes
- (ii) Ground and Surface fires
- (iii) *Exsitu* and *In situ* Conservation strategies
- (iv) Gaseous and Sedimentary Cycles
- (v) Renewable and Non-renewable sources of energy
- (vi) Primary and Secondary Succession (4×2=8)

3. Write short notes on any **four** of the following :

- (i) Ecological adaptations of hydrophytes
- (ii) Noise Pollution
- (iii) Bioindicators

(iv) Two methods to measure primary productivity

(v) Age Pyramids

(vi) Tropical biomes (4×2=8)

4. (a) Describe the qualitative analytical characters of plant communities. (5)

(b) Discuss the process of succession in a desert ecosystem. (3)

5. (a) Discuss the flow of energy in an autotroph based ecosystem. Depict it with an illustrated diagram. (5)

(b) Discuss the role of any organization in environmental management. (3)

6. (a) What is soil profile? Briefly discuss the factors that affect soil formation. (5)

(b) Discuss briefly the methods employed in Conservation of soil. (3)

7. Write short notes on any **four** :

(i) Polyclimax theory

(ii) Biosphere

(iii) Photochemical smog

(iv) Afforestation

(v) Thermal stratification (4×2=8)

8. (a) (i) Define Climate Change. In what ways it will affect the vegetation cover of any ecosystem? (2½)

(ii) Discuss in detail the methods and processes involved in Environmental Impact Assessment (EIA). (2½)

(b) Give two examples each of the following:

(i) Plants growing in saline environment

(ii) Parasitic plants

(iii) Insectivorous plants (1×3=3)