

[This question paper contains 2 printed pages.]

Sr. No. of Question Paper : 1672

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Roll No.....

Unique Paper Code : 216403

Name of the Course : B.Sc. (Hons.) Botany

Name of the Paper : Plant Ecology and Phytogeography (BTHT-406)

Semester : IV

Duration : 3 Hours

Maximum Marks : 75

**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt **five** questions in all.
3. Question No. 1 is compulsory.
4. Attempt any **four** questions from the rest.
5. All parts of a question must be answered together.

1. (a) Define the following terms : (6×1.5=9)

- (i) Thermocline
- (ii) Allelopathy
- (iii) Biological spectrum
- (iv) Weathering
- (v) Edge effect
- (vi) Hotspots

(b) Write technical term for each of the following : (6×1=6)

- (i) Interconnected feeding relationships of organisms in an ecosystem
- (ii) A recently evolved species restricted to a particular geographic region
- (iii) Plants adapted to growing in salt-rich soils
- (iv) A rooted, woody climbing plant

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- (v) Proportion of various sized particles in a soil sample
- (vi) Tendency of a biological system to resist change and to maintain itself in a state of stable equilibrium

2. Differentiate between **(any five)** (5×3=15)
- (a) Commensalism and amensalism
  - (b) Grazing food chain and detritus food chain
  - (c) Troposphere and stratosphere
  - (d) Crown fires and ground fires
  - (e) Primary productivity and secondary productivity
  - (f) Alluvial soil and eolian soil
3. Write short notes on **any three** : (5×3=15)
- (a) Desert biome
  - (b) Age pyramids
  - (c) Soil profile
  - (d) Law of tolerance
4. (a) What are ecological pyramids ? Discuss their types and significance. (8)
- (b) Describe the process of succession in a xeric environment. (7)
5. (a) Explain the influence of wind on plant growth and survival. (8)
- (b) What are biogeochemical cycles ? Mention their types and explain the role of forests and oceans in cycling of carbon. (7)
6. (a) Describe the different forms of water present in soil. (5)
- (b) What is ecological niche ? Briefly discuss its various types. (5)
- (c) How is the Y-shaped model of energy flow in an ecosystem more realistic than the single channel flow model ? (5)