

2022

BOTANY — HONOURS

Paper : CC-8

(Plant Geography, Ecology and Evolution)

Full Marks : 50

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

1. Answer **any five** questions :
 - (a) What is meant by the carrying capacity of a population? 2
 - (b) Who coined the term 'Biodiversity Hotspot' and when? 2
 - (c) What are epibiotics? Give an example. 1+1
 - (d) Distinguish between macroclimate and microclimate. 2
 - (e) What is climax community? 2
 - (f) What is rhizofiltration? 2
 - (g) Distinguish between sympatric and allopatric speciation. 2
 - (h) What is phylogenetic tree? 2

 2. Answer **any two** of the following in brief : 5×2
 - (a) Write a note on the dominant flora of Western Himalaya.
 - (b) State the criteria for hotspot selection. Name the hotspots spread over Indian subcontinent.
 - (c) Discuss the role of isolation in organic evolution.

 3. Answer **any three** of the following :
 - (a) Write a note on community characteristics. Define ecological succession. Distinguish between primary and secondary succession citing examples. 5+1+4
 - (b) Briefly explain each one of the following :
ecad, ecotype, ecocline, ecotone and niche. 2+2+2+2+2
 - (c) Write a note on *ex-situ* conservation of plants. Enumerate the role of seed bank and cryopreservation in biodiversity conservation. 4+3+3
 - (d) Give an account of Darwin's theory of 'Natural Selection'. Discuss Darwinism in the light of recent studies. 5+5
 - (e) Explain the principles underlying adaptive radiation with suitable examples. Distinguish between phyletic and punctuated equilibrium. 6+4
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