

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 :

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| (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

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| (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 :

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| (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 <i>ex-situ</i> 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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