

U.G. 4th Semester Examination - 2022

ENVIRONMENTAL SCIENCE

[HONOURS]

Course Code : ENVS-H-CC-L-8

(Systematics and Biogeography)

Full Marks : 40

Time : $2\frac{1}{2}$ Hours

The figures in the right-hand margin indicate marks.

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

1. Answer any **five** from the following: $2 \times 5 = 10$

- a) Define palynology.
- b) What is Beta diversity?
- c) What is phenogram?
- d) Define coevolution.
- e) Define cytology.
- f) What is taxonomic database?
- g) How is variation related to adaptation?
- h) Define genetic drift.

2. Answer any **two** from the following: $5 \times 2 = 10$

- a) Explain briefly the concept of species.
- b) Give an account of Allen's biogeographical rule.
- c) Write a short note on natural selection.
- d) Briefly describe the operational taxonomic units.

3. Answer any **two** from the following: $10 \times 2 = 20$

- a) Explain briefly the taxonomical hierarchy. Narrate the drawbacks of kingdom system of classification introduced by Linnaeus. What is phylum? $4+4+2$
- b) Briefly describe the role of continental drift in present biogeographical pattern development. What is cosmopolitan species? $7+3$
- c) Explain the scope and significance of biosystematics in experimental taxonomy. What is taxonomic literature? $(4+4)+2$
- d) What is speciation? Explain briefly the process of speciation. What are the barriers of dispersal for species? $2+5+3$