

**2024/TDC (CBCS)/EVEN/SEM/
EESHCC-401T/146**

TDC (CBCS) Even Semester Exam., 2024

ECOLOGY AND ENVIRONMENTAL SCIENCE

(4th Semester)

Course No. : EESHCC-401T

(Systematics and Biogeography)

Full Marks : 50

Pass Marks : 20

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

UNIT—I

1. Answer any *two* of the following questions :

2×2=4

- (a) What do you mean by taxonomic identification?
- (b) Write a brief note on the role of anatomy in taxonomic identification.
- (c) What do you mean by taxonomic database?

(2)

2. Answer any *one* of the following questions : 6

- (a) What is systematics? State the role of herbarium and museum in taxonomic identification. 1+5=6
- (b) Write notes on the following : 3×2=6
- (i) Botanical garden
- (ii) Taxonomic keys

UNIT—II

3. Answer any *two* of the following questions : 2×2=4

- (a) What do you mean by Operational Taxonomic Unit (OTU)?
- (b) Write a brief note on DNA barcoding.
- (c) What is Cladogram?

4. Answer any *one* of the following questions : 6

- (a) Give an illustrated account on phylogenetic tree.
- (b) Write notes on the following : 3×2=6
- (i) Character weighting and coding
- (ii) Monophyly and polyphyly

(3)

UNIT—III

5. Answer any *two* of the following questions : 2×2=4

- (a) What is Gloger's rule?
- (b) What is genetic drift?
- (c) What do you mean by endemic species?

6. Answer any *one* of the following questions : 6

- (a) Give an account on various biogeographic rules.
- (b) Write notes on the following : 3×2=6
- (i) Natural selection
- (ii) Gene flow

UNIT—IV

7. Answer any *two* of the following questions : 2×2=4

- (a) What is extinction?
- (b) What do you mean by convergent evolution?
- (c) Write a brief note on ecological diversification.

(4)

8. Answer any *one* of the following questions : 6

(a) Write notes on the following : 3×2=6

(i) Adaptive radiation

(ii) Immigration

(b) Give an account on different types and processes of speciation.

UNIT—V

9. Answer any *two* of the following questions :

2×2=4

(a) Write a brief note on biosphere reserve.

(b) What is conservation biogeography?

(c) What do you mean by landscape conservation?

10. Answer any *one* of the following questions : 6

(a) Give an account on the application of biogeographical rules in design of protected areas and biosphere reserve.

(b) Write notes on the following : 3×2=6

(i) Uses of Remote Sensing

(ii) Geographic Information System

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