

**2024/TDC (CBCS)/EVEN/SEM/
EESSEC-601T/155**

TDC (CBCS) Even Semester Exam., 2024

ECOLOGY AND ENVIRONMENTAL SCIENCE

(6th Semester)

Course No. : EESSEC-601T

(Ecosystem Analysis and Biodiversity)

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 three of the following questions :

1×3=3

- (a) What is biome?
- (b) Give an example of grassland ecosystem.
- (c) Name two producers in a pond ecosystem.
- (d) Who coined the term 'ecosystem'?

(2)

2. Answer any *one* of the following questions : 2
- (a) What do you mean by agro-ecosystem?
- (b) Name two plants and animal species of grassland biome.
3. Answer any *one* of the following questions : 5
- (a) Write the major characteristics of mangrove ecosystem. Mention its importance. $3+2=5$
- (b) Write short notes on the following : $2\frac{1}{2}+2\frac{1}{2}=5$
- (i) Tundra biome
- (ii) Desert biome

UNIT—II

4. Answer any *three* of the following questions : $1 \times 3 = 3$
- (a) What is food web?
- (b) Define biogeochemical cycle.
- (c) Name the main source of phosphorous cycle.
- (d) Name two methods of measuring productivity.

(3)

5. Answer any *one* of the following questions : 2
- (a) What do you mean by food chain? Mention its types with example.
- (b) Differentiate between primary and secondary productivity.
6. Answer any *one* of the following questions : 5
- (a) Illustrate the different types of ecological pyramids with suitable example.
- (b) Illustrate the nitrogen cycle with a diagram.

UNIT—III

7. Answer any *three* of the following questions : $1 \times 3 = 3$
- (a) Define physiognomy.
- (b) What are the factors that determine a community?
- (c) Which ecosystem has maximum stratification?
- (d) Define point method of studying communities.

(4)

8. Answer any *one* of the following questions : 2
- (a) Differentiate between horizontal and vertical stratifications. Give example.
 - (b) What is cover and basal area?
9. Answer any *one* of the following questions : 5
- (a) Discuss the transect method and its different types of studying community ecology.
 - (b) Discuss the qualitative and quantitative characters of a community.

UNIT—IV

10. Answer any *three* of the following questions : 1×3=3
- (a) Define climax community.
 - (b) What is hydrosere?
 - (c) Give an example of primary succession.
 - (d) What is secondary succession?
11. Answer any *one* of the following questions : 2
- (a) What are the different stages of succession in xerosere?
 - (b) What do you mean by microbial succession?

(5)

12. Answer any *one* of the following questions : 5
- (a) Explain with diagram, the different stages of succession in hydrosere.
 - (b) What is ecological succession? Illustrate the different types of ecological succession with diagram. 1+4=5

UNIT—V

13. Answer any *three* of the following questions : 1×3=3
- (a) What is *in-situ* conservation? Give example.
 - (b) Define tissue culture.
 - (c) Name two diversity hotspots of India.
 - (d) Name two biosphere reserves of North-East India.
14. Answer any *one* of the following questions : 2
- (a) Differentiate between biosphere reserve and wildlife sanctuaries.
 - (b) What does IUCN stand for? List the different categories of Red Data Book. 1+1=2

15. Answer any one of the following questions : 5

(a) Write a note on India as a mega biodiversity nation.

(b) Write short notes on the following :

$$2\frac{1}{2} + 2\frac{1}{2} = 5$$

(i) Agroforestry

(ii) Seed bank

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