

2025

(CBCS)

(6th Semester)

ZOOLOGY

TWELFTH (B) PAPER

(**Animal Ecology and Wildlife**)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions(**SECTION : A—OBJECTIVE**)

(Marks : 10)

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. Which of the following subsequent pyramids can be always upright?

- (a) Pyramid of number ()
- (b) Pyramid of energy ()
- (c) Pyramid of biomass ()
- (d) Age structure ()

2. Organisms that eat other organisms, like herbivores and carnivores, are

- (a) consumers ()
- (b) producers ()
- (c) decomposers ()
- (d) predators ()

3. Which of the following comes under the abiotic component of the environment?
- Animal ()
 - Plant ()
 - Air ()
 - None of the above ()
4. The amount of carbon that is fixed in the biosphere through photosynthesis annually is
- 20×10^{20} kg ()
 - 1013 kg ()
 - 80×10^{35} kg ()
 - 4×10^{13} kg ()
5. Law of limiting factor is
- law of maximum ()
 - law of minimum ()
 - law of optimum ()
 - law of tolerance ()
6. Which of the following is the diversity index?
- Upright index ()
 - Inverted index ()
 - Bell-shaped index ()
 - Simpson's index ()
7. Which birthrate is used relative to a specific criterion such as age?
- Crude birthrate ()
 - Specific birthrate ()
 - Absolute natality ()
 - Realized natality ()
8. The formula for the Sorensen index is
- $SI = (2 \times EC) / (E1 + E2)$ ()
 - $SI = 2EC / (E1 - E2)$ ()
 - $SI = (2 \times EC) / (E1 - E2)$ ()
 - $SI = (2 + EC) / (E2 + E1)$ ()

9. Soil conservation is the process where

- (a) soil is aerated ()
- (b) sterile soil is converted into fertile soil ()
- (c) soil is protected against loss ()
- (d) soil erosion is allowed ()

10. Which day is celebrated as Wildlife Day?

- (a) March 3rd ()
- (b) March 5th ()
- (c) May 23rd ()
- (d) May 24th ()

(SECTION : B—SHORT ANSWERS)

(Marks : 15)

Write short notes on the following :

3×5=15

UNIT—I

1. Concept of ecology

OR

2. Food chain

UNIT—II

3. Phosphorus cycle

OR

4. Abiotic environment

UNIT—III

5. Biotic community concept

OR

6. Global warming

UNIT—IV

7. Species richness

OR

8. Natality

UNIT—V

9. Conservation of forest

OR

10. Wildlife management

(SECTION : C—DESCRIPTIVE)

(Marks : 50)

Answer the following :

10×5=50

UNIT—I

1. Write short notes on the following :

- (a) Ecological pyramids
- (b) Intraspecific interaction

OR

2. What is ecosystem? How does energy flow in the ecosystem?

UNIT—II

3. Describe the detailed steps involved in hydrological cycles.

OR

4. Write a detailed note on nitrogen cycle in the ecosystem.

UNIT—III

5. What is law of tolerance? Explain the Liebig-Blackman law of limiting factors.

OR

6. What is greenhouse effect, and how does it work? Write a detailed note on ecological succession.

UNIT—IV

7. Write short notes on the following :

- (a) Population density
- (b) Factors affecting species richness in a community

OR

8. Define mortality. Write a detailed note on the factors affecting species diversity.

UNIT—V

9. What are natural resources? Give an account of wildlife conservation.

OR

10. Define anthropogenic activity. What are the environmental consequences of anthropogenic activities?
