

3 (Sem-1/CBCS) ZOO HC 2

2019

ZOOLOGY

(Honours)

Paper : ZOO-HC-1026

(Principles of Ecology)

(Theory)

Full Marks : 60

Time : 3 hours

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

1. Choose the correct answer : 1×7=7

(a) Which is the first process in ecological succession?

(i) Nudation **(ii) Migration**

(iii) Ecesis **(iv) Aggregation**

(b) Which is not the characteristic of a population?

(i) Natality **(ii) Mortality**

(iii) Stratification **(iv) Sex ratio**

(2)

- (c) The ratio between energy flow at different points in a food chain is
- (i) ecological capacity
 - (ii) ecological efficiency
 - (iii) ecological potential
 - (iv) ecological assimilation
- (d) Which of the following is a 'k'-selected species?
- (i) Fungus
 - (ii) Human
 - (iii) Grass
 - (iv) Beetle
- (e) The structural and functional unit of ecology is
- (i) biome
 - (ii) ecosystem
 - (iii) biosphere
 - (iv) All of the above
- (f) In addition to their role in ecosystem, the value of wildlife is also found in
- (i) education
 - (ii) recreation
 - (iii) aesthetics
 - (iv) All of the above

(3)

- (g) The ecological study of individual organism or species is called
- (i) autecology
 - (ii) community ecology
 - (iii) synecology
 - (iv) population ecology

2. Write short notes on the following : $2 \times 4 = 8$

- (a) Laws of limiting factors
- (b) Gause's competitive exclusion principle
- (c) Density-dependent population regulation
- (d) Detritus food chain

3. Write on/Answer any *three* of the following : $5 \times 3 = 15$

- (a) The strategies associated with 'r'- and 'k'-selected species
- (b) The role of ecology in wildlife conservation
- (c) Compare and contrast between exponential and logistic growth.
- (d) Concepts and utilities of life tables in population ecology
- (e) Lotka-Volterra equation for competition and predation

4. Elaborate on the different group attributes of a population. 10

Or

Discuss the theories pertaining to climax community. 10

5. Elaborate with an example, the concept of ecological succession. 10

Or

Describe the process of nitrogen cycle. 10

6. What is a food chain? What are its basic types and forms? Highlight one example explaining the mode of energy flow in an ecosystem. 2+5+3=10

Or

Write short notes on the following : 5+5=10

(a) Survivorship curves

(b) Age and sex ratio
