

( 4 )

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

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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

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(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

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(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 : 2×4=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 :

5×3=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