3 (Sem–1/CBCS) ZOO HC 2

2021

(Held in 2022)

ZOOLOGY

(Honours)

Paper : ZOO–HC–1026

(Principles of Ecology)

Full Marks : 60

Time : Three hours

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

1. Choose the correct answer : 1×7=7

(a) _____ is a series of changes that occur in a community over time after disturbances.

(i) Community succession

(ii) Ecological succession

(iii) Population succession

(iv) Tertiary succession

(b) As per the competitive exclusion principle, no two species can occupy the same

(i) range

(ii) territory

(iii) niche

(iv) habitat

(c) Resource partitioning is best described by which of the following statements ?

(i) Slight variation in niche allows closely related species to co-exist.

(ii) Two species can co-evolve and occupy the same niche.

(iii) Species diversity is maintained by switching between prey species.

(iv) All of the above

(d) An animal with bright colouration is most likely a

(i) predator

(ii) poisonous

(iii) competitor

(iv) prey

(e) _____ is when two or more species live in close association.

(i) Predation

(ii) Competition

(iii) Symbiosis

(iv) All of the above

(f) Science that deals with the relationships between living organisms with their physical environment and with each other is called

(i) biology

(ii) environmental science

(iii) ecology

(iv) All of the above

(g) The term 'ecosystem' was proposed by

(i) A. G. Tansley

(ii) E. P. Odum

(iii) Karl Mobius

(iv) G. F. Gause

2. Write short notes on the following : ***(any four)*** 2×4=8

(a) Ecological succession

(b) Food web

(c) Ecotone

(d) Carrying capacity

(e) Shelford's law of tolerance

(f) Ecological pyramid

3. Answer the following : ***(any three)*** 5×3=15

(a) Lotka-Volterra equation

(b) r-and K-selection

(c) Types of food chains

(d) Human modified ecosystem

(e) Wildlife conservation : *Ex-situ*

4. Elaborate on the laws of limiting factors with appropriate examples. 10

Or

Distinguish between unitary and modular populations. Elaborate with *one* example each on life tables and fecundity tables.

5+(2½+2½)=10

5. Discuss the concept of population regulation with special reference to density-dependent factors. 10

Or

What do you understand by vertical stratification ? Explain with examples the concepts of species richness, dominance, diversity and abundance. 2+(2+2+2+2)=10

6. Write short notes on : 5+5=10

(a) Nitrogen cycle

(b) Ecological pyramids

Or

Discuss the theories pertaining to climax community. Add a note on exponential growth of a population. 6+4=10
