Total No. of Printed Pages—4

1 SEM TDC ZOOH (CBCS) C 2

2021

(Held in January/February, 2022)

ZOOLOGY

(Core)

Paper : C–2

(Principle of Ecology)

Full Marks : 53

Pass Marks : 21

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Select the correct answer from the following : 1×5=5

(a) Which in the following is a proper food chain shown a producer, a herbivore and a carnivore?

(i) Grass—Insect—Elephant

(ii) Plants—Rabbit—Tiger

(iii) Fish—Insect—Whale

(iv) Tiger—Rabbit—Owl

(b) In which year, the concept of an ecosystem was first formally proposed by the English botanist Arthur Tansley?

(i) 1932

(ii) 1935

(iii) 1938

(iv) 1972

(c) Denitrifying bacteria change

(i) nitrite to nitrate

(ii) nitrate to nitrogen molecule

(iii) nitrate to nitrite

(iv) nitrogen to nitrate

(d) Biosphere refers to

(i) plants of the world

(ii) area occupied by living beings

(iii) special plants

(iv) plants of particular area

(e) The study of interrelationship between a species and its environment is called

(i) forest ecology

(ii) autecology

(iii) synecology

(iv) niche

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

(i) Survivorship curves

(ii) *r* and *K* strategies

(iii) Lotka-Volterra equation for competition and predation

(b) Write brief notes on any *two* of the following : 3×2=6

(i) Ecological pyramids

(ii) Ecological succession with hydrosere

(iii) Nitrogen cycle

3. Write a note on the importance of wildlife conservation. 5

Or

Explain any five abiotic factors of ecosystem.

4. Define ecosystem. Write about the different types of ecosystem and in detail about forest ecosystem. 1+2+4=7

Or

What is food chain? Describe Y-shaped food chain. 2+5=7

5. Answer the following questions :

(a) Define population growth. Describe the exponential and logistic growth curve, its equations and patterns. 2+10=12

(b) What is Gauss' principle in ecology? Describe it with laboratory and field examples. 2+4+4=10

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