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63 (FY)SEM-3/MAJ/ZOOMAJ2024

2025

ZOOLOGY

Paper : ZOOMAJ2024

(Principles of Ecology and Animal Behaviour)

Full Marks : 50

Pass Marks : 20

Time : Two hours

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

1. Choose the correct answer : $1 \times 5 = 5$
- (a) Which of the following is not a feature of 'r' selected species?
- (i) Reproduce quickly
 - (ii) The low survival rate of progenies
 - (iii) Reproduce a large number of progenies
 - (iv) Paternal Care

(b) In a natural ecosystem, which pyramid can never be inverted?

- (i) Pyramid of number
- (ii) Pyramid of energy
- (iii) Pyramid of biomass
- (iv) All can be inverted

(c) In a food chain, secondary producers are—

- (i) Omnivores
- (ii) Herbivores
- (iii) Carnivores
- (iv) Decomposers

(d) Which of the following involves trial and error learning?

- (i) Habituation
- (ii) Classical conditioning
- (iii) Operant conditioning
- (iv) Sensitization

(e) Chemical signals between individuals of the same species are called—

- (i) Endogenous

(ii) Hormones

(iii) Enzymes

(iv) Pheromones

2. Answer the following questions : **(any five)**
2×5=10

(a) What do you understand by life table?

(b) Distinguish between detritus food chain and grazing food chain.

(c) Differentiate between primary succession and secondary succession.

(d) What is waggle dance?

(e) Write *two* characteristics of population.

(f) What do you mean by climax community?

(g) What do you mean by conditional reflex?

3. Answer the following questions : **(any five)**
5×5=25

(a) Explain J-shaped and S-shaped population growth curve with proper diagram.
2½+2½=5

- (b) State and explain the characteristics of a community.
- (c) What is an ecological pyramid? Mention its types.
- (d) Write a short note on the types of survivorship curves.
- (e) What are the causes of ecological succession? What is ecological efficiency? 4+1=5
- (f) Differentiate between hormonal and neural controlled behaviour.
- (g) Write briefly on homing behaviour.
- (h) Write a short note on imprinting. 5

4. Answer the following questions: **(any one)**
10×1=10

- (a) What are the types of learning? Explain the concept of conditional learning with the help of Skinner experiment. 2+8=10
- (b) What is autecology and synecology? Describe the different levels of ecological organisation. 2+8=10