Total number of printed pages–4

63 (FY)SEM–3/MAJ/ZOOMAJ2024

2024

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 : 1×5=5

   (a) The transition zone between two biome is known as

   (i) ecocline

   (ii) niche

   (iii) ecotone

   (iv) ecotype

Contd.

(b) _____ is considered as the founder of modern ethology.

(i) Konrad Lokenz

(ii) Ivan Pavlov

(iii) Karl von Frisch

(iv) Alexander von Humboldt

(c) Animals that can tolerate very large variations in salinity are called

(i) Stenohaline

(ii) Stenothermal

(iii) Euryhaline

(iv) Eurythermal

(d) In aquatic habitat, organisms living in the bottom sediments are known as ____ fauna.

(i) benthos

(ii) nekton

(iii) zooplankton

(iv) phytoplankton

(e) The most important property of an organised society is

(i) aggregation

(ii) association

(iii) division of labour

(iv) niche sharing

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

(a) Distinguish between autecology and synecology.

(b) Write on Leibig's law of minimum.

(c) What is stimulus filtering ?

(d) Write in short about detritous food chain.

(e) Define pheromone with example.

(f) Distinguish between natality and mortality.

(g) What is 'circadian rhythm' ? Explain with example.

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

(a) Distinguish between *r*-selected and *K*-selected species with example.

(b) Write in brief about the role of density-dependent factors in regulating population.

(c) Write a note on different types of ecological pyramids with example.

(d) Explain dance language of honeybee and its significance. 4+1=5

(e) What is reflex action? Discuss conditional reflex with a suitable example. 4+1=5

(f) Define homing behaviour. Write the roles of homing behaviour to instinct migration in fishes. 1+4=5

(g) Explain *J*-shaped and *S*-shaped population growth curve with proper diagram. 4+1=5

(h) What is meant by ecological efficiency? Describe Lindeman's law of trophic efficiency. 1+4=5

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

(a) Explain energy flow in an ecosystem with reference to the law of thermodynamics and *Y*-shaped energy flow model. 7+3=10

(b) What is population dispersal? Write in brief about different means of dispersal. Narrate the effect of dispersal on population. 2+5+3=10