

2017

ZOOLOGY

[Honours]

PAPER – III

Full Marks : 90

Time : 4 hours

*The figures in the right hand margin indicate marks
Candidates are required to give their answers in their
own words as far as practicable*

Illustrate the answers wherever necessary

[NEW SYLLABUS]

GROUP—A

Answer any two questions of the following : 15 × 2

1. How does competition influence niche overlap ?
Define niche and niche shift. What are the
factors which determine the carrying capacity
of a population ? What are the types of
survivorship curves ? 3 + 2 + 2 + 4 + 4

(Turn Over)

2. (a) Illustrate population growth forms. What is age pyramid? State its importance in population ecology.
- (b) Energy flow is unidirectional – Explain. (6 + 2 + 2) + 5
3. (a) Explain fixed action pattern with example.
- (b) Discuss innate and learned behaviour with example.
- (c) Name different kinds of auditory signals found in animals.
- (d) What is bioluminescence? 5 + 4 + 4 + 2
4. (a) Differentiate between acute and chronic toxicity.
- (b) Discuss the effects of air pollutants on terrestrial animals.
- (c) What do you mean by host-parasite interaction?
- (d) Draw and label the infective stage of *Entamoeba histolytica*. 4 + 5 + 3 + 3

5. (a) Outline the technique of ELISA. What is meant by monoclonal antibody?
(b) Define hapten and adjuvant with examples.
(c) State the role of cytokinins. (4 + 2) + 4 + 5

GROUP-B

Answer any *five* questions : 8 × 5

6. Describe the biology of a stored grain pest. Add a note on the biological control measure of pest. 5 + 3
7. Explain circadian rhythm and luner periodicity. 4 + 4
8. Illustrate antigen-antibody interaction. 8
9. What are parasites and vectors ? Draw a labelled diagram of a typical immunoglobulin. 3 + 5
10. What are keystone species ? Why biodiversity is rich in tropics ? 3 + 5

(4)

11. What is biotic potential? What is population dispersion? Explain. 3 + 5
12. Differentiate allopatric and sympatric species with examples. What is LD_{50} how it differs from EC_{50} ? 5 + 3
13. What is IPM and describe life cycle of Apion? 2 + 6
14. What are the common bacterial diseases of poultry and add a note on the preventive strategies? 3 + 5

GROUP-C

Answer any *five* questions : 4 × 5

15. Enlist main fowl breeds of India.
16. What is altruistic behaviour? Cite example.
17. Write about J and S shaped curves.

18. Write a note on epidemiology, pathogenesis of *Wuchereria bancrofti*.
 19. Differentiate autogenic and allogenic succession.
 20. What is Zone of equivalence ? Add a short account on Immunodiffusion.
 21. Write a note on ornamental fishery.
 22. What are the criteria of selection of aquarium fishes ?
 23. Explain the Law of Tolerance with example.
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