

## ZOOLOGY Paper-III

### Biodiversity & Ecology-I (ZOO-201)

**Time Allowed : 3 Hours]**

**[Maximum Marks : 36**

**Note :** In all five questions are to be attempted. Question No.1 is compulsory.  
Attempt any one question from each Unit.

1. Write briefly :

- (i) Statocyst
- (ii) Salivary apparatus in Cockroach
- (iii) Economic importance of *Odontotermes*
- (iv) Classification of King crab
- (v) Food chain
- (vi) Limiting factor
- (vii) Soil erosion
- (viii) Pyramid of numbers.

**8 × 1 = 8**

2. (a) Give an account of the structure of the compound eye of Cockroach and explain how image is formed? 4  
 (b) Write a note on social organization of honeybees! 3
3. Give classification upto orders and write brief ecological note on the following :  
 (a) *Apis* (b) *Gryllus* 3+2+2  
 (c) *Cimex* (bed bug)

### UNIT—II

4. (a) Give an account of respiratory system of Prawn. 5  
 (b) Draw different stages in life cycle of *Anopheles*. 2
5. Give the classification upto orders level and write brief ecological notes and economic importance of the following :  
 (a) *Peripatus* (b) Hermit crab (c) *Scolopendra*. 3,2,2

### UNIT-III

6. (a) What is ecosystem energetics? Describe the energy flow in typical ecosystem. 4  
 (b) What is food web? Explain with suitable example. 3
7. (a) What is the influence of temperature on morphology, physiology and distribution of animals? 4  
 (b) Write a short note on terrestrial ecosystem. 3

### UNIT-IV

8. Discuss in detail the characteristics of population and what are the different ways to regulate it? 7
9. (a) Give morphological, physiological and behavioural adaptation of animals living in amphibious conditions. 4  
 (b) Briefly explain the carbon cycle. 3