

## ZOOLOGY Paper-I

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

**Time Allowed : 3 Hours**

**Max. Marks : 36**

- Note:**
1. Question No. 1 is compulsory.
  2. In all, five questions are to be attempted including the compulsory question.
  3. Select any one question from each unit.

1. Explain the following :

- (a) Malpighian tubules.
- (b) Rostrum.
- (c) Ecdyson.
- (d) Tentorium.
- (e) Hyperparasitism.
- (f) Ecological density.
- (g) Bioluminescence.
- (h) Eurythermal.

1 × 8

### Unit – I

2. Describe the structure and working of the eye of the cockroach.
3. Give an account of the social life of honey bee.

### Unit – II

4. (a) Give an account of cephalothoracic appendages of prawn.  
(b) Describe life cycle of Anopheles.
5. Classify up to order and give a brief ecological note and economic importance of:
  - (a) *Eupagurus* (Hermit crab).
  - (b) *Palamnaeus* (Scorpion).
  - (c) *Limulus* (King crab).

### Unit – III

6. Discuss the influence of light on the animals in their environment.
7. (a) Explain the concept of flow of energy in an ecosystem.  
(b) Define niche.

### Unit – IV

8. Discuss the different characteristics of population in detail and also mention different ways to regulate it.
9. Describe briefly :
  - (a) Mimicry
  - (b) Carbon cycle.