

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.

ZOOLOGY Paper-II

Biodiversity & Ecology-II (ZOO-202)

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) Osphradium
- (b) Monopectinate gill
- (c) Systematic position of *Antedon*
- (d) Tiedemann's bodies
- (e) Hydrarch
- (f) Fossil Fuel
- (g) Altruism
- (h) Buffer Zone.

1x8

Unit-I

2. Describe the alimentary canal of *Pila*. Also discuss the process of ingestion and digestion. 7
3. Classify up to order and give a brief ecological note and economic importance of :
 - (a) *Chiton* 3
 - (b) *Sepia* 2
 - (c) *Dentalium*. 2

Unit-II

4. Give an account of the Haemal or Circulatory system of Starfish. 7
5. (a) Discuss the external characters of *Balanoglossus*. 4
- (b) Comment upon the affinities of Hemichordata. 3

Unit-III

6. Explain with examples :
 - (a) Commensalism. 3
 - (b) Parasitism. 4
7. Write notes on :
 - (a) Xerarch succession. 3
 - (b) Climax state. 2
 - (c) Dominant species. 2

Unit-IV

8. What is Water pollution ? Discuss in detail its causes, impact and control. 7
9. Discuss the following :
 - (a) Soil Resources and its Conservation. 5
 - (b) Biosphere reserve. 2