

[This question paper contains 4 printed pages.]

Your Roll No.

5149

B

B.Sc. Programme/II

**BIO-201 : Biology of Animals : Form, Structure
and Function**

(Admissions of 2007 and before)

Time : 3 Hours

Maximum Marks : 75

(Write your Roll No. on the top immediately on receipt of this question paper.)

Section A (38 Marks)

Answer Three questions including Q. No. 1
which is compulsory.

1. (A) Classify the following upto class for non-chordates
and upto order for chordates : 4

(i) *Periplaneta americana*

(ii) *Aphrodite*

(iii) *Scoliodon*

(iv) Bat.

- (B) Choose the correct answer : 4

(1) Mode of respiration in Mollusca is :

(i) cutaneous

(ii) branchial

(iii) pulmonary

(iv) All of the above

[P. T. O.]

(2) Coelom in Annelids is :

- (i) pseudocoelom
- (ii) schizocoelom
- (iii) enterocoelom

(3) Corals are formed by :

- (i) Molluscs
- (ii) Echinoderms
- (iii) Cnidarians
- (iv) Poriferans

(4) The unpaired air sac in birds is :

- (i) Interclavicular air sac
- (ii) Anterior thoracic air sac
- (iii) Cervical air sac
- (iv) None of the above.

(C) Differentiate between any *three* of the following : 6

- (1) Pseudocoelomate animals and Eucoelomate animals
- (2) Protonephridia and Metanephridia
- (3) Asconoid type of canal system and Syconoid type of canal system
- (4) Radiata and Bilateria.

2. With the help of a suitable diagram explain the water vascular system and its functions in starfish. 12
3. (a) Give a detailed illustrated account of conjugation in *Paramecium* and discuss its significance.
(b) Explain the concept of polymorphism with respect to Cnidarians. 8,4
4. (a) Explain in details the flight adaptations in birds.
(b) What is the importance of integument in mammals ? 8,4
5. Write short notes on any *three* of the following : 4,4,4
 - (a) Parasitic adaptations in Platyhelminthes
 - (b) Swim bladder
 - (c) Working of a compound eye of Arthropods
 - (d) Respiration in amphibians
 - (e) Metamerism.

Section B (37 Marks)

(PHYSIOLOGY)

Attempt *Three* questions in all, including Q. No. 1 which is compulsory.

1. (A) Distinguish between the following : 6
 - (i) Homeostasis and Haemostasis
 - (ii) Synapse and neuromuscular junction
 - (iii) S-A node and A-V node
 - (iv) Haemoglobin and Myoglobin.

- (B) Expand the following abbreviations : 4
- (i) GABA
 - (ii) ACh
 - (iii) BMR
 - (iv) TSH.
- (C) Where are the following structures located ? 3
- (i) Sertoli cells
 - (ii) Corpus Luteum
 - (iii) Node of Ranvier.
2. (a) Describe the mechanism of transport of carbon-dioxide by the blood.
- (b) Explain the oxygen dissociation curve and the various factors which influence it. 6,6
3. (a) Name the hormones secreted from the pituitary gland. Give one function of each one of them.
- (b) Discuss the role of Liver and Pancreas in digestion. 7,5
4. Give a detailed illustrated account of urine formation. 12
5. Write short notes on any *two* of the following : 6,6
- (i) Oogenesis
 - (ii) Conduction of heart beat
 - (iii) Sliding filament theory
 - (iv) Synaptic transmission.