

[This question paper contains 4 printed pages.]

Sr. No. of Question Paper : 6812

D

Your Roll No.....

Unique Paper Code : 217379

Name of the Course : B.Sc. Life Science

Name of the Paper : Biology of Animals : Form, Structure and Function ALS-II

Semester : III

Time : 3 Hours

Maximum Marks : 75

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Answer Section A and Section B on separate answer-books.

SECTION A

*Attempt three questions in all including
Question No. 1 which is compulsory.
Draw well-labelled diagrams wherever required.*

1. (a) Differentiate between the following (Any three) :

- (i) Horns and antlers
- (ii) Enterocoelom and Schizocoelom
- (iii) Cilia and flagella
- (iv) Stenohaline and euryhaline (6)

- (b) Define the following :

- (i) Metagenesis
- (ii) Conjugation
- (iii) Radial symmetry (3)

P.T.O.

- (c) Give the functions of the following :
- (i) Stastocyst
 - (ii) Madreporite
 - (iii) Metanephridium (3)
- (d) Indicate whether the following statements are true or false :
- (i) The shortening of caudal vertebrae and formation of pygostyle has assisted the birds to maintain stability in air.
 - (ii) Solenocytes are the respiratory organs of Polychaetes.
 - (iii) The larvae of Echinoderms are bilaterally symmetrical.
 - (iv) All vertebrates possess a ventral tubular nerve cord. (2)
2. Describe the structure of compound eye in Arthropoda and explain its adaptation for vision in bright and dim light. (12)
3. (a) Explain osmoregulation in fresh water fishes. (6)
- (b) Describe polymorphism in Cnidarians with one example and suitable diagrams. (6)
4. Write short notes on any **three** of the following :
- (i) Parasitic adaptations in pseudocoelomates
 - (ii) Integument in mammals
 - (iii) Shell in Mollusca
 - (iv) Terrestrial adaptation in Reptiles
 - (v) Canal system in *Sycon* (4,4,4)

SECTION B

*Attempt three questions in all including
Question No. 1 which is compulsory.
Draw well-labelled diagrams wherever required.*

1. (a) Define the following :
 - (i) Action Potential
 - (ii) Pseudostratified epithelium
 - (iii) Chyme (3)
- (b) Expand the following :
 - (i) ADH
 - (ii) CCK
 - (iii) HCG
 - (iv) EPSP (4)
- (c) Give the source and one function of each of the following :
 - (i) Oxytocin
 - (ii) Secretin
 - (iii) Insulin (6)
2. (a) Give a detailed account of the process of digestion and absorption of proteins in human body.
- (b) What are regulatory proteins ? Discuss their role in the process of muscular contraction. (7,5)
3. (a) Explain the oxygen-haemoglobin dissociation curve. Discuss various factors that affect the haemoglobin affinity for oxygen.

(b) Briefly describe the structure of juxtaglomerular apparatus. (9,3)

4. Write short notes in any three of the following :

(i) Cardiac cycle

(ii) Ovulation

(iii) Thyroid gland

(iv) Blood clotting (4,4,4)