

2019

ZOOLOGY — HONOURS

First Paper

(Unit : I)

Full Marks : 50

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words  
as far as practicable.*

1. Answer *any five* questions :

2×5

- (a) Define coelom and mention its types.
- (b) Distinguish between bilateral and radial symmetry with examples.
- (c) What is torsion? Name one animal where we can find torsion.
- (d) What are the important respiratory pigments in arthropods?
- (e) What is retrogressive metamorphosis and where can we find it?
- (f) Define pedomorphosis. Give example.
- (g) State two points of difference between lizard and snake.
- (h) State two mammalian features of Monotremata.

**Group – A**

Answer *any two* questions.

2. (a) What is metamerism? Give example.

(b) Discuss the role and evolutionary significance of metamerism in annelids.

(c) Distinguish between :

(i) Nematocyst and Tentaculocyst.

(ii) Choanocyte and Pinacocyte.

2+4+(2×2)

3. (a) "The classification of Phylum Porifera is based on spicules." Justify.

(b) Give an idea about the different polymorphic forms of Siphonophora.

(c) Write the 'Sol-gel' theory of amoeboid locomotion.

3+3+4

**Please Turn Over**

4. (a) Name different types of gills found in prawn.  
 (b) Describe the role of tube feet and madreporite in water vascular system of *Asterias* sp.  
 (c) Illustrate various types of coral reefs with examples. 2+4+4
5. (a) Draw and describe the ultrastructure of flagellum.  
 (b) Discuss the adaptive features of *Ascaris* sp. due to parasitic mode of life. 6+4

### Group – B

Answer *any two* questions.

6. (a) Give an account of biting mechanism of poisonous snakes.  
 (b) Distinguish between ratites and carinates.  
 (c) Write the evolutionary significance of aortic arches in tetrapods. 4+3+3
7. (a) Describe the ultrastructure of accessory respiratory organs in *Anabas* sp. and *Clarius* sp. with suitable diagrams.  
 (b) What is the difference between physostomous and physoclistous swim bladder?  
 (c) Give an example of each type of fish where pharyngeal chamber and opercular chamber is modified for air breathing. (2½+2½)+3+2
8. (a) What are filoplumes? State its significance.  
 (b) Draw and describe the structure of a typical flight feather of birds.  
 (c) In what respect the structure of the ruminant stomach of a camel differs from that of a cow? (2+2)+4+2
9. Write short notes on (*any four*) : 2½×4
- (a) Chondrichthyes and Osteichthyes  
 (b) Solenoglyphous and Opisthoglyphous fangs  
 (c) Foramen of Panizzae  
 (d) Structure of hair  
 (e) Artiodactyla and Perissodactyla  
 (f) Axolotl larva and its significance.
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