

2026

ZOOLOGY — HONOURS

Paper : DSCC-5

(Non-Chordate Structure and Function)

Full Marks : 75

The figures in the margin indicate full marks.

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

Section - A

1. Answer *any ten* questions :

2×10

- (a) What are ostia and osculum?
- (b) Where do you find choanocyte cell? What are its functions?
- (c) What do you mean by atoll?
- (d) What are tube feet? State their functions.
- (e) What are the respiratory organs found in *Pila* sp?
- (f) State the function of gastrozoid and dactylozoid.
- (g) Distinguish between connectives and commissures.
- (h) What is the location and function of malpighian tubules?
- (i) What is proboscis? State its function.
- (j) Differentiate between amphid and phasmid.
- (k) Differentiate between schizocoely and enterocoely.
- (l) In which animal tornaria larva is observed?
- (m) Distinguish between radial and bilateral symmetry.
- (n) Why is butterfly considered as an insect?
- (o) Mention the significance of stomochord.

Section - B

Answer *question no. 2* and *any four* questions from the rest.

2. Write short notes on (*any three*) :

5×3

- (a) Affinities of Onychophora
- (b) Leuconoid canal system

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- (c) Respiratory organs of *Macrobrachium* with diagram
- (d) Threats to coral reef existence
- (e) Theories on origin of coelom.
3. (a) What is metagenesis? Describe the life-cycle of *Obelia* with diagram. (1+4)+5
- (b) Describe different medusoid forms found in Siphonophora. $2\frac{1}{2}\times 4$
4. Mention with reasons why : $2\frac{1}{2}\times 4$
- (a) *Obelia* belongs to phylum Cnidaria
- (b) *Octopus* belongs to class Cephalopoda
- (c) *Asterias* belongs to class Asteroidea
- (d) *Hirudinaria* belongs to class Hirudinea.
5. Differentiate between : $2\frac{1}{2}\times 4$
- (a) Pterygota and Apterygota
- (b) Cilia and Flagella
- (c) Ophiuroidea and Echinoidea
- (d) Calcareous spicules and Silicious spicules.
6. (a) Discuss the recent theory on amoeboid locomotion with suitable diagram.
- (b) Discuss the theories on origin of metamerism in Annelida mentioning its evolutionary significance. (3+2)+(3+2)
7. State the systematic position (up to class) of the following : 2×5
- (a) *Chiton* sp.
- (b) *Apis* sp.
- (c) *Euplectella* sp.
- (d) *Hydra* sp.
- (e) *Antedon* sp.
8. Give a brief account of the nervous system of *Octopus* with suitable diagram. Mention salient features of Phylum Hemichordata. Mention the significance of torsion in gastropods. (3+2)+3+2
9. (a) Mention the affinities of Hemichordates with chordates.
- (b) Steps taken towards conservation of coral reefs.
- (c) Distinguish between Bipinnaria and Brachiolaria larvae. $3+4+3$
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