

2022

ZOOLOGY — HONOURS

Paper : CC-3

(Non-Chordates - II)

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.**Question no. 1 is compulsory and answer any four questions from the rest.*

1. Answer **any five** questions : 2×5
- (a) Distinguish between schizocoelomates and enterocoelomates.
 - (b) Distinguish between trachea and tracheoles.
 - (c) What is resilin?
 - (d) Comment on functional significance of tracheal tenidium.
 - (e) Give the scientific name of silver fish and cuttle fish.
 - (f) What is stomochord?
 - (g) Differentiate between malpighian tubules and malpighian corpuscles.
 - (h) Write the characteristics of eusocial insects.
 - (i) What role do the corpora cardiaca play in insect metamorphosis?
2. (a) Mention typical features of the Phylum Onychophora. 4+4+2
- (b) Why are onychophorans considered as a connecting link between annelids and arthropods?
- (c) What is strobilisation?
3. (a) Which arthropods possess only simple and only compound eyes? Mention their respective classes. (2+2)+(4+2)
- (b) Describe the structure of gill in prawn with labelled diagram. Briefly describe the process of respiration in prawn.
4. Justify the statements with proper reasons : 2×5
- (a) Spider belongs to class Arachnida.
 - (b) *Pila* sp. is a gastropod.
 - (c) Pseudocoelom is not a coelom.
 - (d) Termite is a social insect.
 - (e) Radula in mollusc.

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5. (a) Comment on the functions of tube feet and madreporite.
(b) Describe the structure of septal nephridia with suitable diagram.
(c) Mention the systematic position of *Limulus* sp., *Aphrodite* sp. and *Sepia* sp. (1½+1½)+4+3
6. (a) Comment on different types of torsion exhibited by molluscs.
(b) 'Tornaria larva exhibits clandestine evolution.' — Justify it. 6+4
7. (a) State the significance of Echinoderm larva.
(b) Differentiate between radial canal and ring canal.
(c) What is polian vesicle? Mention its function. 4+2+(2+2)
8. (a) Describe the feeding mechanism in *Pila* sp.
(b) Discuss briefly the mosaic image formation in cockroach eye.
(c) What role does juvenile hormone play in insect metamorphosis? 4+4+2