

POST-GRADUATE DEGREE PROGRAMME

Term End Examination — December, 2024

ZOOLOGY

**Paper-1A : STRUCTURAL ORGANIZATION OF CHORDATES
AND NON-CHORDATES**

Time : 2 hours]

[Full Marks : 50

Weightage of Marks : 80%

Special credit will be given for accuracy and relevance in the answer. Marks will be deducted for incorrect spelling, untidy work and illegible handwriting. The weightage for each question has been indicated in the margin.

1. Answer *two* questions : 9 × 2 = 18
 - a) Describe affinities of *Balanoglossus* and discuss validity of including *Balanoglossus* among the protochordates. 5 + 4
 - b) Classify class Aves upto subclasses with characters and examples. 9
 - c) Define heart. Draw, label and describe the development of heart in a vertebrate. 2 + 7
 - d) Draw a labelled diagram of a flagella. Discuss the flageller movement in *paramoecium* with proper diagram. 4 + 5
2. Answer *three* questions : 6 × 3 = 18
 - a) Give an account of different types of secretory apparatus in Annelida with suitable diagram.
 - b) Write a short note on torsion in Gastropoda with suitable diagram.
 - c) Write short notes on : 3 × 2
 - (i) Bipinnaria larva
 - (ii) Rhabditiform larva.
 - d) Discuss the phenomenon of retrogressive metamorphosis in an ascidian tadpole.
 - e) "The study of functional morphology provides data bases to evolutionary biology and systematics" — Explain.

- f) Mention *two* characters of each of the following mammalian groups with examples : 3 × 2
- i) Prototheria
 - ii) Eutheria
 - iii) Monotremata
3. Answer *two* questions : 4 × 2 = 8
- a) Write short ones on : 2 × 2
- (i) Tornaria larva
 - (ii) Down feather
- b) Distinguish between merocrine, holocrine and apocrine glands with examples.
- c) Draw, label and describe different types of blood corpuscles.
- d) Distinguish between sympathetic and parasympathetic nervous system.
4. Answer *two* questions : 3 × 2 = 6
- a) Define excretion. Distinguish between excretion and osmoregulation. 1 + 2
- b) Write a short note on lophophorate phyla.
- c) How does amphibian heart differ from the hearts of cartilaginous and bony fishes ?
- d) Discuss the process of gas exchange in fish with proper diagram.
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