

M.Sc. 1st Semester Examination, 2023

ZOOLOGY

PAPER – ZOO-101

Full Marks : 50

Time : 2 hours

Answer all questions

The figures in the right hand margin indicate marks

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

PAPER – ZOO-101.1

(Non-Chordates Biology)

[Marks : 20]

1. Answer any *two* of the following : 2 × 2

(a) What is Blind Sac ? Give example.

- (b) Write any two characteristics features of foraminifera with its function.
- (c) Write any four Coelomate non-chordate larva with their respective phylum.
- (d) Briefly mention the role of nematodes in ecosystem.

2. Answer any *two* questions : 4 × 2

- (a) What do you mean by lophophore and Lophophorate phyla ? Write some salient features of phylum Ectoprocta. 2 + 2
- (b) Write some characteristic features of Rotifera. Explain cyclomorphosis and state its importance. 2 + 2
- (c) Write about the threats and importance of invertebrates conservation. 2 + 2
- (d) Discuss on phylogenetic relationship among Protozoa, Parazoa, Mesozoa and Metazoa.

3. Answer any *one* question :

8 × 1

(a) Write short note on :

(i) Radial Symmetry and Bilateral symmetry with example

(ii) True segmentation and pseudo-segmentation with example

(iii) Scizocoelus and Enterocoelus with example

(iv) Spiral cleavage and Radial cleavage with example.

(b) "All animals are metazoans,—Justify your answer with example. 'Ciliate or flagellate which one is more primitive in respect to metazoan evolution? Write your answer with the help of theories and example.

PAPER – ZOO-101.2

(*Chordate Biology*)

[**Marks : 20**]

4. Answer any *two* questions from the following : 2×2
- (a) What is chloride cell ? Mention its function.
 - (b) Enlist the different integumentary glands in mammals with their function.
 - (c) Write down two salient features of Hemichordates and Cephalochordates.
 - (d) Write down the function of swim bladder in fish.
5. Answer any *two* questions : 4×2
- (a) Explain the iodine cycle in protochordate endostyle with a suitable diagram.

- (b) Describe the morphological modification and mechanism of Bat for "Echolocation".
- (c) Write a note on mesonephros and metanephros kidney.
- (d) Discuss the counter current mechanism in gill for fish respiration.

6. Answer any *one* question : 8 × 1

- (a) Explain the timeline of human evolution with salient features of different hominid groups. 8
- (b) What do you mean by osmoregulator and osmoconformer ? Discuss the osmoregulation process in anadromous and catadromous fishes. 3 + 5

[Internal Assessment – 10 Marks]
