

**2011**

**M.Sc.**

**1st Semester Examination**

**ZOOLOGY**

**PAPER—ZOO-101**

*Full Marks : 40*

*Time : 2 Hours*

*The figures in the right-hand margin indicate full marks.*

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

*Illustrate the answers wherever necessary.*

**Write the answers to questions of each Group in separate booklets.**

**Group—A**

**(Non-Chordates)**

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

- (a) Differentiate protostomia from deuterostomia.
- (b) Mention the characters which appeared in course of metazoan evolution.

*(Turn Over)*

- (c) Highlight morphological excellence of foraminifera.
- (d) Add a note on the ecological role of free living nematodes.

2. Answer any *two* of the following : 4×2

- (a) Briefly discuss on flagship species and umbrella species with examples.
- (b) Write role of foraminifera towards the monitoring of ecosystem.
- (c) Write the structure and function of mastax in Rotifera.
- (d) Discuss on the evolution of coelom in different nonchordates.

3. Answer any *one* of the following : 8×1

- (a) Briefly discuss on the theory put forward by Haeckel on metazoan evolution. How does it differ from that one proposed by Hadzi.

6+2

- (b) Briefly discuss on the hypotheses on the feeding mechanism of ectoprocta. Add a note on the role of environmental stimuli on the reproduction of Rotifera.

5+3

**Group—B**  
**( Chordate)**

4. Answer any two questions : 2×2
- (i) Place the following finfish genus in suitable orders :  
*Ctenopharyngodon* sp.,  
*Anguilliformes* sp.,  
*Scoleoden* sp.,  
*Pleuronectes* sp.
  - (ii) Chemical name of Thyroxine.
  - (iii) Freshwater fish drink water — Explain.
  - (iv) Respiratory structure of *Clarias* sp. Axolotl larva, *Protoperca*, Bat.
5. Answer any two of the following : 4×2
- (i) Fine structure of nephron with suitable sketch.
  - (ii) Mechanism of osmoregulation in marine teleost.
  - (iii) Genital system associated with urinary system in vertebrate — state its evolutionary significance.
  - (iv) Synthesis and release of thyroxine hormone — Give a schematic representation.

6. Answer any one from the following :

8×1

- (i) Mention the role of endostyle in protochordates. Describe the important zones present in cephalochordate endostyle 4
- (ii) Describe briefly the morphological adaptation and mechanism of echolocation in Megachiropterans.
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