



2007

ZOOLOGY

PAPER—I (Group—A)

Full Marks : 50

Time : 2 hours

Answer any **four** questions taking
two from each Unit

The figures in the right-hand margin indicate marks

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

Illustrate the answers wherever necessary

**Write the answers ~~Questions~~ of each Unit
in separate books**

UNIT—I

(Non-Chordata)

1. Name and describe the structures associated with the food capturing devices in Bryozoa. Describe the feeding mechanism in Bryozoa highlighting related hypotheses.

5 + 7 $\frac{1}{2}$

(Turn Over)

2. What is mastax ? Mention different types of mastax in rotifers. Discuss how different factors that govern the life cycle strategies of rotifer, $2 + 6 + 4\frac{1}{2}$
3. Distinguish between Protostomes and Denterostomes. Mention different superphyletic groups of metazoa based on their embryogeny. Discuss any two important theories put forward to explain the origin of metazoa. $3 + 4\frac{1}{2} + 5$
4. Write short notes (any *three*): $4 + 4 + 4\frac{1}{2}$
- (i) Coelom and its modifications in non-chordates
 - (ii) Characteristics of Protostomea
 - (iii) Cyclomorphosis
 - (iv) Ecological role of free living nematodes
 - (v) Conservation strategies for non-chordates.

UNIT—II

(*Chordates*)

5. (a) What is endostyle ?
- (b) Describe the fine structure of an endostyle with suitable illustration found in cephalochordata.

(c) Endostyle is the primitive structure of thyroid gland. Justify.

$$2 + 7 + 3\frac{1}{2}$$

6. (a) What is echolocation?

(b) Describe briefly the internal ear of mammals.

(c) What are the morphological adaptations found in Megachiropterans for echolocation.

$$2\frac{1}{2} + 5 + 5$$

7. (a) Discuss in brief on the different types of kidneys with suitable diagram found in vertebrates.

(b) Illustrate the ultra structure of nephron.

(c) Urinary system is associated with the genital system in vertebrates. State the evolutionary significance.

$$6 + 4 + 2\frac{1}{2}$$

8. Write short notes on (any three):

$$4\frac{1}{2} + 4 + 4$$

(i) Mammalian jaw suspension

(ii) Phylogeny of *Homo sapiens*

(iii) Vomeronasal organ

(iv) Advantages of migration

(v) Role of iodine containing hormones in metamorphosis.