2017

M.Sc. Part–I Examination

ZOOLOGY

PAPER—I (Group—A)

Full Marks : 50

Time : 2 Hours

The figures in the margin indicate full marks.

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

Illustrate the answers wherever necessary.

Group—A

Answer any *four* questions taking *two* from each unit.

Unit—I

(*Non-Chordates*)

1. Mention the characters which have appeared in course of metazoan evolution. Explain the merits and demerits of syncitial mode of metazoan origin. $5+7\frac{1}{2}$

2. Enlist several superphylatic groups in the animal kingdom. With a labelled diagram highlight stomal modification and also the pumping cycle in the digestive system of free living nematodes. $4\frac{1}{2}+4+4$

3. Give an idea on the importance and threats to invertebrate biodiversity. Comment on the ncesssity and mode of conservation of the invertebrates. $4\frac{1}{2}+4+4$

4. Write short notes on (any *three*) : $4\frac{1}{2}+4+4$

   (a) List the features of the lophophorates that give them the status of the transitional group.

   (b) Cyclomorphosis in Rotifera

   (c) Rank the following phyla as per the number of species in discending order

   (i) Echinodermata (ii) Nematoda

   (iii) Annelida (iv) Arthropoda

   (v) Mothusca

   (d) Hydrostatic skeleton

   (e) How do lophophores capture food particles and help in gas exchange.

Unit—II

(*Chordates*)

5. (a) Give suitable example of the fishes belonging to the following fish orders : $6+6\frac{1}{2}$

   (i) Lamniformes ;

   (ii) Beloniformes ;

   (iii) Anguiliformes ;

   (iv) Cypriniformes ;

   (v) Characiformers ;

   (vi) Ophicephaliformes.

   (b) Write the salient features of the following orders :

   (i) Syngnathiformes ;

   (ii) Perciformes.

6. (a) Illustrate the anatomy of urinogenital system in amphibia. $5\frac{1}{2}$

   (b) Describe at least four important accessary organs of teleosts with suitable diagram. 7

7. (a) Describe briefly the structural modification in chiropterans for echolocation with suitable illustrations. 4

   (b) What is the embryonic origin of dermis? What is stratum compactum? 4

   (c) Give an account of the structure of hair as seen in L.S. $4\frac{1}{2}$

8. Write notes on any *three* of the following : $4+4+4\frac{1}{2}$

   (a) Migration of fish

   (b) Structure of mammalian lung

(c) Distribution of Primates in India.

(d) Structure and functions of sweat gland.

(e) Horn of artiodactyles.
