M.Sc. 1st Semester Examination, 2012

ZOOLOGY

PAPER – ZOO- 101

Full Marks : 40

Time : 2 hours

The figures in the right hand margin indicate marks

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

GROUP – A

(*Non-Chordates*)

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

(*a*) Syncitial Theory of Metazoan evolution.

(*b*) Keystone species

(*c*) Different phases in the life cycle of Foraminifera.

(*d*) Stomal modifications in free living Nematoda.

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

(*a*) Mention different superphyletic metazoa based on embryological development.

(*b*) Feeding structures of ectoprocta.

(*c*) Justify the monophyletic mode of evolution in Metazoa.

(*d*) Highlight significance and strategies for non-chordate's conservation.

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

(*a*) Mention the significance of larval study. Classify aquatic larval forms of metazoa based on resource utilisation. Briefly describe larval diversity in Protostome. 2 + 2 + 4

(*b*) Briefly highlight the significance of environmental stimuli on the reproductive cycle of rotifera. Explain 'Cyclomorphosis' in Rotifera. 5 + 3

GROUP – B

(*Chordate*)

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

(*a*) Give suitable one example of the following fin fish orders : Siluriformes, Pleuronectiformes, Lamniformes, Tetradontiformes.

(*b*) Chemical structure of MIT and DIT

(*c*) Marine fish does not drink water.

(*d*) Accessory respiratory structure of *Anabas* sp. or *Heteropneustes* sp.

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

(*a*) Iodine binding in protochordates.

(*b*) Mechanism of Osmoregulation in freshwater fishes.

(*c*) Different types of kidney found in chordates (use sketch).

(*d*) Process of regulation of salt-water balance in chordate.

6. Answer any *one* from the following : 8 × 1

(*a*) Mention the role of endostyle in urochordates. How and where they synthesize MIT and DIT.

(*b*) Describe briefly the "evolution of primates" with suitable illustration mentioning the age in million year.