

**M.Sc. 1st Semester Examination, 2015**

**ZOOLOGY**

**PAPER – ZOO-101**

*Full Marks : 40*

*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*

*Illustrate the answers wherever necessary*

**Write the answers to questions of each Group in separate books**

**GROUP – A**

*( Non-Chordates )*

*[ Marks : 20 ]*

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

**(a) Mention the characters which have evolved in course of metazoan evolution.**

*( Turn Over )*

( 2 )

- (b) State the functions of corona.
- (c) Differentiate enterocoelic coelom formation from schizocoelic one.
- (d) Mention the facts that support the colonial theory for origin of animals.
2. Answer any *two* questions of the following :  $4 \times 2$
- (a) Types of aquatic metazoan larvae based on resource utilization.
- (b) Briefly explain with figures the pumping cycle in free living nematodes.
- (c) Discuss on the mode of cyclomorphosis in rotifera.
- (d) State the roles of free living nematodes in ecosystem.
3. Answer *one* question of the following :  $8 \times 1$
- (a) Enlist different lophophorate phyla. Discuss on the organs associated with feeding of ectoprocta. Briefly explain the filter feeding mechanism in ectoprocta.  $2 + 3 + 3$

( 3 )

- (b) With labelled diagrams, describe the differences between Trochophore and Dipluerula larvae. Discuss on the diversity of larvae in protostomia. Add a note on the significance of larval study.  $3 + 3 + 2$

GROUP – B

( *Chordates* )

[ *Marks : 20* ]

4. Write any *two* of the following :  $2 \times 2$
- (a) Distinguished characters of clupeiformes and Lamniformes.
  - (b) Examples of perciformes and Mugiliformes.
  - (c) Respiratory structure in Vertebrates.
  - (d) Define echolocation.
5. Write any *two* of the following :  $4 \times 2$
- (a) Different types of kidneys found in chordates.

( 4 )

(b) Morpho-adaptation for echolocation in megachiropterans.

(c) Osmoregulation in freshwater fish.

(d) Iodine cycle in protochordates.

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

(a) Fine structure of endostyle in *Amphioxus* with a suitable sketch and labelling.

(b) (i) Describe the relationship of endostyle and thyroid gland stating the evolutionary significance.

(ii) Accessory respiratory organs in fishes with a sketch and name of the structure.

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