

M.Sc 1st Semester Examination, 2010

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

Illustrate the answers wherever necessary

Write the answers to questions of each Group in separate books

GROUP—A

(Non-Chordates)

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

(a) Differentiate between enterocoely and schizocoely.

(b) Write two anatomical peculiarities of Bryozoa.

(c) State the role of foraminifera in environmental monitoring.

(d) Write a note on the contribution of non-Chordates towards human benefit.

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

(a) Enlist major threats to invertebrate survival.

(b) Briefly discuss about interphyletic relationship among lophophorates.

(c) Explain the concept of cyclomorphosis citing evidences from Rotifera.

(d) Write in brief about invertebrate conservation status evaluation.

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

(a) Define Larva. Enlist different types of larvae found in aquatic environment ? Briefly discuss the diversity of larva in protostomes. 1 + 3 + 4

- (b) Mention the anatomical excellence of feeding structures in free living nematodes. Briefly discuss the feeding mechanism of nematodes highlighting 'Benel-Clarke model'.

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GROUP – B

(*Chordates*)

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

- (a) Place the following Finfish genus in suitable orders :

Clarias sp., *Squalus* sp., *Liza* sp.,
Syngnathous sp.

- (b) Chemical name of MIT, DIT, T₃ and T₄.
- (c) Does marine fish drink water ? Explain.
- (d) Respiratory structure in Chordates :

Fish, Amphibia, Reptilia, Aves and
Mammalia.

2. Answer any *two* questions : 4 x 2

(a) Structural modification in Chiropterans for echolocation. Describe briefly with suitable illustration.

(b) Evolution of *Homo sapiens sapiens* – a sketch with geographical era.

(c) How air-breathing fishes (*Clarias* sp. and *Heteropneustes* sp.) respire with atmospheric oxygen?

(d) Iodine cycle in protochordates (Urochordata/ Cephalochordata). Draw a sketch.

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

(a) What is endostyle? Describe the fine structure of an endostyle. 2 + 6

(b) What are different types of kidneys found in Chordates? Describe in brief on the fine structure of Mammalian kidney tubules. 2 + 6