

**P.G. 1st Semester - 2017****ZOOLOGY****(Chordates: Structures and Function)****Paper : MZOOCCT-102****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.

1. Answer eight questions from the following:

1×8=8

- a) State the monophyletic characters of chordates.
- b) What is a scizocoelic coelom?
- c) What is euautostyly?
- d) State the functional significance of notochord in Ascidian larva.
- e) What is ductus venosus?
- f) What is ligament of Batallus?
- g) What is somatosensory system?
- h) What is RAM ventilation?

- i) What is Fossa ovalis?
- j) What is countercurrent flow?
- k) What is secondary gill lamella?
- l) Enumerate the function of Jacobson's Organ.

2. Answer six questions from the following:

2×6=12

- a) What are the major types of jaw kinesis in reptiles?
- b) What is encapsulated receptors? Give example of two such receptors.
- c) Differentiate paleopulmonic and neopulmonic lung.
- d) Distinguish kidney structure of a marine and a freshwater teleost.
- e) Comment on four stroke buccal pump mechanism.
- f) Enumerate the relevance of Fick's law in piscine respiration.
- g) Mention the categories of locomotion displayed by living primates.
- h) State the primary role of telencephalon in information processing.
- i) What is Golgi tendon organ? State its function.

[Turn over]

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3. Answer four questions from the following:

5×4=20

- a) Discuss the evolutionary significance of notochord. Briefly discuss the fate of notochord in higher vertebrates. 2+3
- b) State the evidences to suggest that jaw arose from one of the anterior pair of gill arches? What is the serial theory of jaw evolution? 3+2
- c) Describe the structure of Ampulla of Lorenzini and state its function. 4+1
- d) Discuss the proposed mechanisms for sensory perception in brain. Why it is suggested that limbic system arose early in vertebrate evolution? 4+1
- e) Describe the structure of secondary gill lamella of a teleostean fish with suitable diagram. 3+2
- f) Briefly discuss how and why foramen of ovale becomes closed during birth of a placental mammal. 5
- g) Explain two main factors influencing the mode of arboreal adaptations. 5