

# **B.Sc. 3<sup>rd</sup> Semester (Hons.) Examination, 2020 (CBCS)**

## **Subject: Zoology**

### **Paper: CC - 5 (Chordates)**

**Full Marks: 40**

**Time: 2 Hrs**

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

**Answer any *eight* questions of the following:**

**$8 \times 5 = 40$**

1. Draw and describe the feeding mechanism of *Branchiostoma*.
2. Briefly discuss the hypothalamo-pituitary-gonadal (HPG) axis regulating fish migration.
3. Discuss the development of Swim-bladder in teleosts and the role of Retia-Mirabilis in gas secretion.
4. Observation 1: Tadpoles inhabiting water, deficient in iodine undergo retardation of metamorphosis.  
Observation 2: Tadpoles having peripheral resistance to thyroid hormone exhibit heterochrony.
  - Interpret these observations in relation to metamorphosis of frog.
5. Describe the different events of biting mechanism of any poisonous snake with diagrams.
6. In an accident Neuro-mandibularis, longus colli and few cervical vertebrae have damaged in a cobra. Explain what kind of problems will be encountered by the cobra during prey capture.
7. Briefly describe the affinities of Monotremata with Class - Reptilia and Class - Aves and comment on it.
8. Outline the mechanism of prey capture in an echolocating bat. How does an echolocating bat compensate Doppler shift?
9. State the adaptive radiations of Placental Mammals.
10. Case 1: Flightless birds are mainly restricted in southern continents.  
Case 2: Living dipnoans are now found in Australia, South America, and South Africa  
Case 3: Fossil of *Mesosaurus*, an aquatic reptile, present at the same strata of South America & South Africa.
  - Explain the cases considering continental drift theory.

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