

**Bago University**  
**Department of Zoology**  
**Second Semester Examination, September 2019**

**Second Year (B.Sc)**  
**(Zoology Specialization)**  
**Answer ALL questions**

**Zool: 2115**  
**Protochordates and Cyclostomes**  
**Time Allowed: (3) Hours**

**I. State TRUE or FALSE to the following statements.**

**(10 marks)**

1. Protochordates are formal category of animals.
2. Tunicates are found in all seas from near shoreline to great depths.
3. The common name, *amphioxus*, meaning "opposite points" was coined.
4. Cephalochordates have internal fertilization.
5. In *amphioxus*, the preoral pit, like the adult wheel organ, contributes to particle capture.
6. Most ascidians occur in shallow water.
7. In ascidian, the digestive tract is a U- shaped loop.
8. The blood circuit is not clearly established for any ascidian.
9. The primitive cyclostomes derive their name from their circular mouth.
10. In lamprey, the scales are absent.

**II. Complete the following statements with appropriate words.**

**(10 marks)**

1. Hagfish have soft, scales skin, commercially called ----- skin.
2. In tetrapod vertebrates, the ----- pouches give rise to several different structures.
3. In *amphioxus*, the body is divided into head, trunk, and -----.
4. In ascidians, the body is always covered with -----.
5. In *amphioxus*, the developing gill slits become ----- distributed along the pharynx.
6. Ascidians, often called -----.
7. Tunicates are common ----- animals that little resemble other chordates.
8. In ascidians, the wall of the pharynx are perforated by small, ciliated gill -----.
9. Solitary ascidians are -----.
10. The cyclostomata are living -----.

**III. Answer All questions**

**(10 marks)**

1. Describe about the class of hagfish and lampreys.
2. State the four Chordate hallmarks.
3. Write the systematic position of *amphioxus*.
4. State the kinds of hemocytes in the blood of Tunicates.
5. Describe about sensory organs of ascidians.

**IV. Answer All questions**

**(20 marks)**

1. Describe the locomotion of *amphioxus*.
2. Write short notes on body wall of a Tunicates.
3. Describe about usefulness of ascidians to human.
4. Write an account on Class - Cyclostomata.

**V. Answer ANY THREE questions**

**(30 marks)**

1. Describe the difference between Protochordates and higher chordates with examples.
2. State the general characteristics of phylum Chordata.
3. Explain the musculature and notochord of *amphioxus*.
4. State as far as you can on the pharynx and atrium of Tunicata.
5. Enumerate the general characteristic of *Petromyzon*.
6. Explain about the respiratory system of lamprey.

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