

## CORE-V (Diversity and Distribution of Chordates)

**Answer the following questions [1 marks ]**

**1. Which of the following structures is present in all the chordates?**

- a) Cranium
- b) Notochord
- c) Spinal cord
- d) Vertebral column

**2. Which of the following is a characteristic chordate character?**

- a) Autotomy
- b) Myotomy
- c) Pharyngotomy
- d) Dermatotomy

**3. The three germ layers , namely ectoderm, endoderm and mesoderm are found in**

- a) All the chordates only
- b) All the chordates except the protochordates
- c) All the chordates and higher invertebrates
- d) Higher chordates and higher invertebrates

**4. Bilateral symmetry is seen in the body organisation of**

- a) Only chordates
- b) Vertebrates only
- c) Vertebrates, annelids, arthropods, and cnidarians
- d) annelids, arthropods and vertebrates.

**5. Paired segmental nerves have dorsal and ventral roots in**

- a) Annelids
- b) Arthropods
- c) Vertebrates
- d) All of these

**6. Which of the following organisms neither have notochord nor vertebral column in the adult stage?**

- a) Cephalochordates
- b) Herdmania
- c) Petromyzon
- d) Bdellostoma

**7. The term “head” in vertebrate morphology includes**

- a) brain and its protective coverings
- b) brain, its protective coverings and also major sense organs
- c) brain ,skull, sense organs and also jaws
- d) brain, skull, sense organs, jaws and also pharyngeal skeleton

**8. In which of the following the heart is not ventral in position?**

- a) Fish
- b) Frog
- c) Lamprey
- d) Crabs

**9. Centrum, pre and post -zygapophysis, transverse process are parts of**

- a) skull of frog
- b) Vertebrae of frog
- c) Sternum of frog
- d) Pectoral girdle of frog

**10. Schizocoelic phyla are**

- a) Protozoa, Porifera, Cnidarians, and Platyhelminthes
- b) Platyhelminthes, Aschelminthes and Annelida
- c) Annelida, Artropoda, and Mollusca
- d) Arthropoda, Mollusc and Echinodermata

**11. Which of the following is a vertebrate organism?**

- a) Cuttle fish
- b) Cray fish
- c) Globe fish
- d) Devil fish

**12. In which of the following animals notochord does not persist throughout life?**

- a) Amphioxus
- b) Tunicates
- c) Petromyzon
- d) Myxine

**13. Pharyngeal gill slits**

- a) are unique chordate characteristic
- b) are found in fishes, crabs, snails, aquatic insects

- c) are found in higher invertebrates and vertebrates
- d) are not found in protochordates, but are present in vertebrates, at least during the embryonic life.

**14. Hepatic portal system is present in all**

- a) amniotes only
- b) anamniotes only
- c) Amniotes and anamniotes only
- d) amphibians and mammals

**15. In which of the animals the heart does not have the left and right auricles?**

- a) Cartilaginous and bony fishes
- b) Frogs and toads
- c) Lizards and snakes
- d) Crocodiles and alligators

**Answers:**

1-b	2-c	3-c	4-d	5-c
6-b	7-c	8-d	9-b	10-c
11-c	12-b	13-a	14-c	15-a

**Answer the following questions in 2-3 sentences [1.5 marks]**

1. what is the difference between Hemichordata, Cephalochordata and Urochordata?
2. what are the similarities between Hemichordata, Cephalochordata and Urochordata?
3. What are the different types of Protochordates?
4. Write about the larval form of Hemichordata.
5. What is retrogressive metamorphosis?
6. What are the adaptation in skeletal system of birds for flight?
7. Why do birds migrate?
8. State about latitudinal migration in birds.
9. Give some morphological adaptations in birds for flight.
10. What are zoogeographical realms?
11. What is the benefit of parental care in amphibians?
12. What is parental care in a frog?
13. What is the reason for fish migration?

14. What is diadromous migration in fishes?
15. What muscles are involved in the biting mechanism of snakes?

**Answer the following questions in 75-100 words [2 marks]**

1. Give the general characters of Hemichordates.
2. Give the general characters of Urochordata.
3. Give the general characters of Cephalochordata.
4. Differentiate between Osteichthyes and Chondrichthyes.
5. What is the evolutionary significance of Dipnoi.
6. Give some characteristic features of Aves.
7. How is Archaeopteryx a connecting link between reptiles and aves?
8. What is the theory of plate tectonics?
9. What is continental drift theory?
10. What are the theories pertaining to distribution of animals.
11. What are the affinities of Prototheria?
12. Give the general characters of Agnatha.
13. Name the different components of the poison apparatus of a snake.

**Answer the following questions in 500 words [6 marks]**

1. State about larval forms in Protochordates.
2. Describe about retrogressive metamorphosis in Urochordates.
3. Give an account on the Dipleurula concept and the Echinoderm theory of origin of chordates.
4. Give the general characters and outline of classification in chordates.
5. State about general characteristics and classification of cyclostomes.
6. Give an account on migration in fishes.
7. Give a detailed account on parental care in fishes.
8. Give the accessory respiratory organs in Pisces.
9. Write about origin of tetrapoda.
10. Give the general characters and classification up to order in Amphibians.
11. Describe parental care in Amphibia.
12. Give the general characters and classification up to order in reptiles.
13. What are the affinities of Sphenodon?
14. State about the poison apparatus and biting mechanism in snakes.
15. Classify Aves up to order.
16. Give different flight adaptations in birds.
17. State about migration in birds.
18. Give the general characters and classification up to order in mammals.
19. State about adaptive radiation with reference to locomotory appendages.
20. State about distribution of vertebrates in different realms.