

- (d) Describe the structure and functions of accessory respiratory organs in fishes.
- (e) Explain the derivatives of skin in different group of chordates with suitable diagram.
4. (a) Give an account of the integument in vertebrates with suitable diagram and explain its function.  $8+2=10$

**Or**

- (b) Write a comparative account of the alimentary canal of a birds and a mammal and state how these are adapted to their respective feeding habits.  $5+5=10$
5. (a) Give a comparative account of brain and cranial nerves in mammals. 10

**Or**

- (b) Describe briefly the comparative account of different types of lungs in vertebrates.
6. (a) Define aortic arches. Discuss the modification of aortic arches in different groups of vertebrates.  $2+8=10$
- Or**
- (b) Describe a comparative account of the structure of kidney in the vertebrates with neat labelled diagram. 10

Total number of printed pages-4

3 (Sem-4/CBCS) ZOO HC 1

2023

**ZOOLOGY**

(Honours Core)

Paper : ZOO-HC-4016

**( Comparative Anatomy of Vertebrates )**

Full Marks : 60

Time : Three hours

**The figures in the margin indicate full marks for the questions.**

1. Choose the correct answer :  $1 \times 7 = 7$
- (a) Ampullae of Lorenzini are found in-
- (i) the tadpoles of frog
- (ii) the warts in the skin of toad
- (iii) the internal ear of fish
- (iv) under the skin of sharks



- (b) Sweat glands are found in-
- (i) whales and sea cows
  - (ii) only in whales
  - (iii) only in sea cows
  - (iv) None of the above
- (c) Furcula is a part of
- (i) pectoral girdle of Varanus
  - (ii) pectoral girdle of fowl
  - (iii) scapula of rabbit
  - (iv) None of the above

- (d) Fangs of a poisonous snake are placed on the
- (i) Maxillae
  - (ii) Premaxillae
  - (iii) Vomers
  - (iv) Dentaries

- (e) A "chewing stomach" (gizzard) is not found in
- (i) Hen
  - (ii) Vulture
  - (iii) Parrot
  - (iv) Sparrow

- (f) Hypophysis develops from
- (i) Rathke's pocket
  - (ii) Vermiform appendix
  - (iii) Parotid glands
  - (iv) Endostyle
- (g) Uropygial glands are found
- (i) in all birds
  - (ii) in all aquatic animals
  - (iii) only in aquatic birds
  - (iv) only in pigeons

2. Answer the following questions :  $2 \times 4 = 8$

- (a) Write a brief note on scent glands.
- (b) What are the different types of feathers found in birds ?
- (c) What is Foramen magnum? Mention its function.  $1+1=2$
- (d) What are neuromast organs? How do they function ?  $1+1=2$

3. Answer the following questions : **(any three)**  
 $5 \times 3 = 15$

- (a) What are receptors? Write a brief note on different types of receptors.  $1+4=5$
- (b) Describe the different types of skeleton in vertebrates.
- (c) Give an account of the dentition in mammals.