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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

Contd.

- (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 magnun? 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.

(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.

(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.  $5+5=10$

(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.

(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