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3 (Sem-4/CBCS) ZOO HC 1

2025

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. Fill in the blanks : 1×7=7
 - (a) Cartilage is a _____ tissue.
 - (b) Solenocytes are also known as _____.
 - (c) Pain receptors are also called as _____.
 - (d) Cartilaginous fishes have _____ scales.
 - (e) The number of optic lobes in mammalian brain is _____.

(f) Swim bladder in fishes serves as _____.

(g) Cochlea is present in the _____ ear.

2. Write short notes on the following :

2×4=8

(a) Accessory respiratory organs in fishes

(b) Uropygial gland of birds

(c) Hypothalamus

(d) Neuromast organ

3. Answer the following questions : **(any three)**

5×3=15

(a) Discuss the different types of jaw suspension found in fishes.

(b) Write about the functions of liver.

(c) Briefly explain the basic structure of a vertebrate kidney.

(d) What are electroreceptor ? Write about different electroreceptors found among animals.

2+3=5

(e) Briefly explain the functions of sympathetic and parasympathetic nervous systems.

4. Answer the following questions : **(any three)**

10×3=30

(a) Give a comparative account on the integument of reptiles, birds and mammals with suitable diagrams.

(b) What are air sacs ? What are the types of air sacs ? Write a note on structure and functions of air sacs. 2+2+6=10

(c) Describe the comparative study of aortic arches in birds and mammals with suitable diagrams.

(d) Give an account on succession of kidney in different groups of vertebrates.

(e) Give a comparative account of the brain in vertebrates.

(f) Give a brief account of visual receptors in man with suitable diagrams.