

2024

(CBCS)

(2nd Semester)

ZOOLOGY

SECOND PAPER

(Chordate Biology and Anatomy)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(SECTION : A—OBJECTIVE)

(Marks : 10)

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. Which of the following statements about chordates is wrong?

- (a) They are bilaterally symmetric. ()
- (b) They are metamerically segmented. ()
- (c) They lack pharyngeal gill slits. ()
- (d) They have closed circulatory system. ()

2. A series of blocks of skeletal muscles in protochordates and chordates is called

- (a) myosin ()
- (b) myomere ()
- (c) actin ()
- (d) actinomyosin ()

3. Functionally, ampullae of Lorenzini are

- (a) photoreceptors ()
- (b) mechanoreceptors ()
- (c) olfactory receptors ()
- (d) electroreceptors ()

4. Neoteny is found in

- (a) hemichordates ()
- (b) axolotls ()
- (c) lancelets ()
- (d) tunicates ()

5. Barbs and barbules are related to

(a) feathers of birds ()

(b) scales of fish ()

(c) skin of amphibians ()

(d) hairs of mammals ()

6. The venom of cobras called cobratoxin is a type of

(a) cytotoxin ()

(b) haemotoxin ()

(c) neurotoxin ()

(d) cardiotoxin ()

7. A digestive enzyme, pepsin, is released by

(a) gastric chief cells of the stomach ()

(b) islets of Langerhans of the pancreas ()

(c) hepatocytes of the liver ()

(d) columnar cells of the gallbladder ()

8. The most sensitive mechanoreceptor in humans are

- (a) optic nerves ()
- (b) epiglottis of the mouth ()
- (c) taste receptors ()
- (d) hair cells of the inner ear ()

9. The elasticity of lung is due to the protein called

- (a) myosin ()
- (b) trypsin ()
- (c) elastin ()
- (d) amylase ()

10. The most abundant protein that forms connective tissues in animals is

- (a) collagen ()
- (b) melanin ()
- (c) pectin ()
- (d) keratin ()

(SECTION : B—SHORT ANSWERS)

(Marks : 15)

Write notes on the following in 5 to 8 sentences each :

3×5=15

UNIT—I

1. Heart of *Herdmania*

OR

2. Salient features of Protochordata

UNIT—II

3. Types of scales in fishes

OR

4. Paedogenesis in amphibians

UNIT—III

5. Poison apparatus of snakes

OR

6. Principle of flight in birds

UNIT—IV

7. Olfactory receptors

OR

8. Medulla oblongata

UNIT—V

9. Bone cells

OR

10. Four-chambered heart

(SECTION : C—DESCRIPTIVE)

(Marks : 50)

Answer the following questions :

10×5=50

UNIT—I

1. Describe the affinities of *Hemichordata* and *Cephalochordata*.

OR

2. Describe the post-embryonic development in *Branchiostoma*.

UNIT—II

3. Write an essay on locomotion and migration in fish.

OR

4. Illustrate the respiratory system of frog.

UNIT—III

5. Discuss the types and effects of snake venoms.

OR

6. Describe the structure and types of feathers in *Columba livia*.

UNIT—IV

7. Describe the structure and derivatives of integument in vertebrates.

OR

8. Explain the structure of eye of a rabbit.

UNIT—V

9. Write an account on the dentition in mammals.

OR

10. Describe the structure and types of gills in vertebrates.

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