

2 0 1 8
(CBCS)
(5th Semester)

ZOOLOGY

SIXTH PAPER

(**Physiology**)

Full Marks : 75

Time : 3 hours

(**PART : A—OBJECTIVE**)

(*Marks : 25*)

The figures in the margin indicate full marks for the questions

SECTION—A

(*Marks : 10*)

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

1×10=10

1. The secretions of stomach cells for digestion are

- (a) chief cell mucus, parietal cell HCl, mucus cell
bicarbonate ()
- (b) chief cell pepsinogen, parietal cell HCl, mucus cell
mucus ()
- (c) chief cell HCl, parietal cell pepsinogen, mucus cell
mucus ()
- (d) chief cell HCl, parietal cell pepsinogen, pancreatic cell
amylase ()

- 2.** The volume of air breathed in and out during normal breathing is called
 (a) vital capacity () (b) lung capacity ()
 (c) inspiratory reserve volume () (d) tidal volume ()
- 3.** The heart sound 'lup and dupp' is produced by the
 (a) opening of AV valves and semilunar valves respectively ()
 (b) opening of AV valves and closing of semilunar valves respectively ()
 (c) closing of AV valves and opening of semilunar valves respectively ()
 (d) closing of AV valves and semilunar valves respectively ()
- 4.** The blood vessels which carry only oxygenated blood are
 (a) pulmonary veins () (b) pulmonary arteries ()
 (c) aortas () (d) capillaries ()
- 5.** Excitation of stretch receptors occurs when about ____ of urine accumulate in urinary bladder.
 (a) 250 ml () (b) 350 ml ()
 (c) 400 ml () (d) 300 ml ()
- 6.** Marine reptiles and marine birds are unable to produce urine, they are endowed with cranial organs specialized for the secretion of salts in a strong hyperosmotic fluid. These organs are called
 (a) rectal glands () (b) osmoregulatory glands ()
 (c) salt glands () (d) extrarenal glands ()
- 7.** Skeletal muscle is covered by connective tissue coverings from entire muscle, bundle of muscle fibres and individual muscle fibre in which of the following orders?
 (a) Epimysium, endomysium, perimysium ()
 (b) Endomysium, epimysium, perimysium ()
 (c) Epimysium, perimysium, endomysium ()
 (d) Epimysium, mesomysium, endomysium ()

8. The entire array of thick and thin filaments between two Z lines is called a
(a) sarcolemma () (b) sarcomere ()
(c) sarcoplasm () (d) sarcomembrane ()
9. Propagation of nerve impulse is faster in saltatory conduction than continuous conduction, because action potential jumps from node to node due to
(a) presence of myelin sheath ()
(b) absence of myelin sheath ()
(c) presence of long axon ()
(d) presence of large axon ()
10. The ion movement across membrane during action potential occurs by
(a) spike potential () (b) simple diffusion ()
(c) active transport () (d) facilitated diffusion ()

SECTION—B

(Marks : 15)

Write short notes on the following :

3×5=15

1. Types of respiration

OR

Intracellular and extracellular respirations

2. Pacemaker

OR

Open and closed circulations

3. Types of nitrogenous wastes

OR

Functions of kidney

4. Isotonic and isometric contractions

OR

Ultrastructure of smooth muscle

5. Resting and action potentials

OR

Synaptic transmissions

(PART : B—DESCRIPTIVE)

(Marks : 50)

The figures in the margin indicate full marks for the questions

1. Describe in detail the mechanism and absorption of carbohydrates. 10

OR

What do you mean by respiration? Explain the mechanism of gill respiration. 3+7=10

2. Write an account on the sequence of events during blood coagulation. 10

OR

Write an account on the structure and function of haemoglobin. 5+5=10

3. Illustrate the structure of kidney. Write an account of physiology of urine formation. 2+8=10

OR

Define osmoregulation. Write the mechanism of osmoregulation in terrestrial vertebrates. 2+8=10

4. What are the different types of muscles? Write an account on muscle proteins. 2+8=10

OR

What do you mean by muscle fatigue and tetanic contraction? Describe the mechanism of muscle contraction. 2+8=10

5. Describe an ultrastructure of a typical neuron. 10

OR

What are excitatory and inhibitory neurotransmitters? Write an account on major neurotransmitters. 2+8=10

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