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(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. Liver, the largest gland is associated with several functions, which one of the following is stated incorrectly?

- (a) Metabolism of carbohydrates ()
- (b) Digestion of fats ()
- (c) Formation of bile ()
- (d) Secretion of hormone called gastrin ()

2. The site of respiration inside the lungs is

- (a) alveoli ()
- (b) diaphragm ()
- (c) bronchi ()
- (d) bronchiole ()

- 3.** Oxygen and hemoglobin bind in a reversible manner to form
- (a) carboxyhemoglobin ()
 - (b) oxyhemoglobin ()
 - (c) deoxyhemoglobin ()
 - (d) hemoglobin ()
- 4.** The vitamin essential for blood clotting is
- (a) vitamin A ()
 - (b) vitamin B ()
 - (c) vitamin K ()
 - (d) vitamin C ()
- 5.** The main function of Henle's loop is
- (a) passage of urine ()
 - (b) filtration of blood ()
 - (c) formation of urine ()
 - (d) conservation of urine ()
- 6.** Uricotelism is found in
- (a) birds and reptiles ()
 - (b) amphibians and insects ()
 - (c) mammals and birds ()
 - (d) fishes and amphibians ()
- 7.** The contractile protein of skeletal muscle involving ATPase activity is
- (a) actin ()
 - (b) myosin ()
 - (c) troponin ()
 - (d) tropomyosin ()
- 8.** Muscle fatigue sets in due to unavailability of
- (a) calcium ()
 - (b) ATP ()
 - (c) actin binding site ()
 - (d) troponin ()

9. Name the basic structural and functional unit of the nervous system.
- (a) Neuroglia ()
 - (b) Glial cells ()
 - (c) Neurons ()
 - (d) Perikaryon ()
10. During saltatory conduction, a nerve impulse jumps from one _____ to another.
- (a) axon ()
 - (b) synapse ()
 - (c) Nissl body ()
 - (d) node of Ranvier ()

SECTION—B

(Marks : 15)

Write short notes on the following :

3×5=15

1. Intracellular digestion

OR

Cutaneous respiration

2. Closed circulation

OR

Myogenic heart and neurogenic heart

3. Ammonotelic animals

OR

Functions of kidney

4. Types of muscle

OR

Muscle fatigue

5. Neurotransmitters

OR

Resting potential

(PART : B—DESCRIPTIVE)

(Marks : 50)

The questions are of equal value

1. Describe in detail the mechanism of digestion of proteins.

OR

What is respiration? Describe the mechanism of lung respiration.

2. Write a detailed account of ABO blood grouping system.

OR

What is cardiac cycle? Explain the process of cardiac cycle with suitable diagram.

3. What is micturition? Write an account of nervous control of micturition.

OR

What is osmoregulation? Describe in detail the mechanism of osmoregulation in marine animals.

4. Describe the ultra-structure of a skeletal muscle with a neat labelled diagram.

OR

Discuss in detail the process of muscle contraction in a skeletal muscle.

5. What is a synapse? Explain the mechanism of synaptic transmission.

OR

What is a neuron? Explain the propagation of nerve impulse in a non-myelinated nerve fiber.

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