ZOO/V/CC/11

Student's Copy

2024

(CBCS)

(5th Semester)

ZOOLOGY

SIXTH PAPER

(Animal Physiology)

Full Marks: 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(SECTION : A-OBJECTIVE)

(Marks: 10)

Tick	(\checkmark) the correct answer in the brackets provided :	1×10=10
1.	The role of villi and microvilli in the small intestine is to (a) secrete digestive enzymes (b) create an acidic environment (c) increase the surface area for absorbing nutrients (d) transport nutrients to the liver (e) (f) (f) (f) (f) (f) (f) (f) (f) (f) (f	
2.	The exchange of oxygen and carbon dioxide in the lungs actually place in the (a) alveoli () (b) bronchi () (c) bronchioles () (d) diaphragm ()	takes
3.	The plasma of a person with type A blood has (a) anti-B antibodies () (b) neither anti-A nor anti-B antibodies () (c) both anti-A and anti-B antibodies () (d) anti-A antibodies ()	

4.	An enzyme which is responsible for breaking down of carbohydrates in the
	(a) protease () (b) amylase ()
	(c) lipase () (d) pepsin ()
F	The long tubular structure that transports urine from the kidneys to the
5.	urinary bladder is
	(a) urethra () (b) nephron ()
	(c) prostate gland () (d) ureter ()
6.	The process of maintenance of constant osmotic pressure in fluids of organism called osmoregulation, is helpful to
	(a) retain excess water (
	(b) retain excess salts ()
	(c) control over the concentration of water and sait in the body ()
-	(a) maintenance of the properties of cen memorane ()
7.	(a) ATP ()
	(a) All $($ $)$
	(c) creatine phosphate ()
	(d) carbon dioxide ()
8	. The length of remains same while the muscle contracts.
	(a) sarcomere () (b) I-Band ()
	(c) A-Band () (d) H-Zone ()
9	. Nodes of Ranvier are present
	(a) in the vesicles ()
	(b) in the cell body ()
	(c) on a dendrite $($ $)$
10	What part of a neuron is responsible for receiving information?
1	(a) Axon ()
	(b) Terminal fibre ()
	(c) Dendrite ()
	(d) Myelin sheath ()

T

(SECTION : B-SHORT ANSWERS)

(Marks: 15)

Write short notes on the following :

UNIT-I

1. Intracellular digestion

OR

2. Cutaneous respiration

UNIT-II

Pacemaker

OR

4. Difference between neurogenic and myogenic heart

Unit—III

Micturition

OR

6. Functions of kidney

UNIT-IV

7. Muscle fatigue

OR

8. Isotonic contraction

UNIT-V

3

9. Synapse

OR

10. Axon hillock

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3×5=15

Contd.

(SECTION : C-DESCRIPTIVE)

(Marks : 50)

Answer the following :

10×5=50

10

10

10

UNIT-I

 What do you mean by respiration? Describe the mechanism of gill respiration.
 2+8=10

OR

2. Describe in detail the mechanism of digestion of protein.

UNIT-II

3. Illustrate the structure and functions of haemoglobin.

OR

4. What role does fibrin play in stabilizing a blood clot? Give an account of intrinsic and extrinsic factors involved in the mechanism of blood coagulation. 2+8=10

Unit—III

- 5. Describe the process of urine formation in mammals.
 - OR
- 6. Discuss the different types of nitrogenous wastes giving suitable examples. 10

Unit—IV

 Explain the sliding filament theory and cross-bridge formation during muscle contraction.
 10

OR

 B. Discuss the important structural and functional differences between skeletal, smooth and cardiac muscles in vertebrates.
 10

UNIT-V

 What are neurotransmitters? Write some brief notes on the major types of neurotransmitters. 2+8=10

OR

 Compare the conduction of nerve impulse in a myelinated nerve fibre and non-myelinated nerve fibre.

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(SECTION : A-OBJECTIVE)

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Tick (\checkmark) the correct answer in the brackets provided :

1. The role of villi and microvilli in the small intestine is to

- (a) secrete digestive enzymes ()
- (b) create an acidic environment ()

(c) increase the surface area for absorbing nutrients ()

- (d) transport nutrients to the liver ()
- 2. The exchange of oxygen and carbon dioxide in the lungs actually takes place in the
 - (a) alveoli () (b) bronchi ()
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- 3. The plasma of a person with type A blood has
 - (a) anti-B antibodies ()
 - (b) neither anti-A nor anti-B antibodies ()
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 - (d) anti-A antibodies ()

)

1×10=10

4.	An enzyme which is responsible for breaking down of carbohydrates in $_{the}$ mouth is
	(a) protease () (b) amylase ()
	(c) lipase () (d) pepsin ()
5.	The long tubular structure that transports urine from the kidneys to the urinary bladder is (a) urethra (b) nephron (c)
	(c) prostate gland () (d) unstant ()
6.	The process of maintenance of constant osmotic pressure in fluids of organism called osmoregulation, is helpful to (a) retain excess water ()
7.	 (b) retain excess salts () (c) control over the concentration of water and salt in the body () (d) maintenance of the properties of cell membrane () Muscle fatigue is due to the accumulation of (a) ATP () (b) lactic acid () (c) creatine phosphate () (d) carbon dioxide ()
8.	The length of remains same while the muscle contracts. (a) sarcomere () (b) I-Band () (c) A-Band () (d) H-Zone ()
9.	Nodes of Ranvier are present
	 (a) in the vesicles () (b) in the cell body () (c) on a dendrite () (d) on an axon ()
10.	What part of a neuron is responsible for receiving information?
	 (a) Axon () (b) Terminal fibre () (c) Dendrite () (d) Myelin sheath ()

-

(SECTION : B-SHORT ANSWERS)

(Marks: 15)

ite short notes on the following :

3×5=15

UNIT-I

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OR

2. Cutaneous respiration

Unit—II

3. Pacemaker

OR down

4. Difference between neurogenic and myogenic heart

Unit—III

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Micturition

OR

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UNIT-IV

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* * *

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10×5=50

10

10

10