

M.Sc. ZOOLOGY
FIRST SEMESTER
ANIMAL PHYSIOLOGY & ENDOCRINOLOGY
MSZ-102

[USE OMR FOR OBJECTIVE PART]

2024/12

SET
A

Duration: 3 hrs.

Full Marks: 70

Time: 30 min.

Marks: 20

1X20=20

(Objective)

Choose the correct answer from the following:

1. Enzyme ptyalin is secreted by
 - a. Salivary gland
 - b. Gastric gland
 - c. Pancreas
 - d. Gall bladder
2. Which one of the following is a process of heat exchange?
 - a. Shivering
 - b. Ingestion of food
 - c. Sweating
 - d. Oxidative reaction
3. Which of the following hormones is called 'Emergency hormone' for control of thermal stress?
 - a. Glucocorticoid
 - b. Aldosterone
 - c. Epinephrine
 - d. Thyroxine
4. The process of improvement of ability of an animal to withstand thermal stress is called
 - a. Adaptation
 - b. Acclimatization
 - c. Aestivation
 - d. Vasodilation
5. Bipolar neurons are not found in
 - a. Retina
 - b. Internal ear
 - c. Olfactory area
 - d. Dorsal root ganglia
6. The process of absorption occurs in
 - a. Stomach
 - b. Small intestine
 - c. Large intestine
 - d. Appendix
7. In the blood, hemoglobin is carried by
 - a. Red blood cells
 - b. White blood cells
 - c. Blood platelets
 - d. Plasma
8. 9 α flurocortisol is a
 - a. Synthetic mineralocorticoid
 - b. Natural mineralocorticoid
 - c. Synthetic glucocorticoid
 - d. Natural glucocorticoid
9. Which hormone has vasoconstriction effect on blood capillary?
 - a. Vasopressin
 - b. Epinephrine
 - c. Nor epinephrine
 - d. All of the above

10. Which one is a part of meninges?
 - a. Gray matter
 - b. White matter
 - c. Dura mater
 - d. Dorsal fissure
11. Which hormone treatment is given to control the growth of endometrial lining caused by oestrogen therapy?
 - a. Progesterin
 - b. Oestradiol
 - c. GnRH agonist
 - d. None of these
12. The main function of delta cells of pancreas is
 - a. Production of insulin
 - b. Production of glucagon
 - c. Production of insulin and glucagon
 - d. Suppression of release of insulin and glucagon
13. Select the correct one as a part of hind brain.
 - a. Cerebellum
 - b. Pons
 - c. Medulla oblongata
 - d. All of these
14. Point of maximum contraction (PMC) is plotted in the curve to show
 - a. Muscle twitch
 - b. Summation
 - c. Tetanus
 - d. Muscle rigor
15. Which of the following statements is correct?
 - a. Serum contains blood and fibrinogen
 - b. Plasma is blood without lymphocytes
 - c. Blood comprises plasma, RBC, WBC and platelets
 - d. All of the above
16. What converts fibrinogen into fibrin monomer?
 - a. Thromboplastin
 - b. Platelets
 - c. Prothrombin
 - d. Thrombin
17. Kidney is innervated by
 - a. Sympathetic nerve only
 - b. Parasympathetic nerve only
 - c. Both sympathetic and parasympathetic nerves
 - d. None of these
18. Which of these is called the pacemaker of the heart?
 - a. AV node
 - b. SA node
 - c. AV bundle
 - d. Bundle of His
19. Which is the tube that carries urine from the kidney to the urinary bladder?
 - a. Sphincter
 - b. Urethra
 - c. Ureter
 - d. Aorta

20. What is the function of ADH hormone?
- a. Regulate Na ion content in urine
 - b. Regulate K ion content in urine
 - c. Prevents excessive electrolyte loss in the urine
 - d. Prevents excessive water loss in the urine
- --

(Descriptive)

Time : 2 hrs. 30 min.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. Describe with diagram the ultra-structure of a typical neuron.
Write how action potential is originated in a neuron. 6+4=10
2. Describe the role of pancreas and liver in digestion of food in small intestine. 5+5=10
3. Write short notes on any two 5+5=10
 - a. Hormone replacement therapy
 - b. Biosynthesis of oestrogen and its function
 - c. Hormones of adrenal medulla and their difference
4. Write the mechanism of heat production and heat exchange to fulfill the thermal balance in homoeothermic animals. 2+8=10
5. Define endocrine gland. Discuss the difference between autocrine, paracrine and endocrine glands. How many types of primary endocrine glands are found in our body? Write at least two functions of each of them. 1+3+2+4=10
6. Write briefly the microscopic structure of skeletal muscle fiber. Explain various phases of sliding filament mechanism that occur in such muscle. 5+5=10
7. Draw a labeled diagram of human heart and discuss its structural anatomy. 4+6=10
8. What is nephron? Explain the process of urine formation with necessary illustrations. 1+9=10

= = *** = =