

**B.Sc. BIOTECHNOLOGY  
SECOND SEMESTER  
MAMMALIAN PHYSIOLOGY  
BBT – 201**

( Use Separate Answer Scripts for Objective & Descriptive )

Duration : 3 hrs.

Full Marks : 70

**[ PART-A: Objective ]**

Time : 20 min.

Marks : 20

***Choose the correct answer from the following:***

***1X20=20***

1. Where does the digestive process begin?
  - a. Stomach
  - b. Esophagus
  - c. Mouth
  - d. Pharynx
2. In muscle contraction, this ion is essential
  - a. Cl
  - b. Ca
  - c. K
  - d. Na
3. Which of the following is true for aerobic respiration in humans?
  - a. Glucose + water = carbon dioxide + water
  - b. Glucose + oxygen = Carbon dioxide + water
  - c. Glucose = Carbon dioxide + water
  - d. None of the mentioned
4. Where in the cell most of the aerobic respiration takes place?
  - a. Mitochondria
  - b. Nucleus
  - c. Ribosome
  - d. Cytoplasm
5. In humans, \_\_\_\_\_ is the difference between systolic and diastolic pressure.
  - a. 40 mm Hg
  - b. 20 mm Hg
  - c. 0 mm Hg
  - d. None of the above
6. Serum is
  - a. Blood minus fibrinogen
  - b. Lymph minus corpuscle
  - c. Lymph
  - d. Blood minus corpuscle and fibrinogen
7. Which one is not a WBC
  - a. Lymphocyte
  - b. Thrombocyte
  - c. Monocyte
  - d. Basophil
8. Arterial blood is present in
  - a. Pulmonary arteries
  - b. Pulmonary veins
  - c. All the arteries
  - d. All the veins
9. Respiration in man is helped by
  - a. Intercostal muscle
  - b. Pelvic girdle
  - c. Biceps muscle
  - d. None of these

10. Carbonic anhydrase is found in
- a. Leukocyte
  - b. Lymphocyte
  - c. Blood plasma
  - d. Erythrocyte
11. Name the hormone which takes part in the release of FSH and LH from the anterior pituitary.
- a. Growth hormone
  - b. GnRH
  - c. Somatostatin
  - d. TRH
12. Which of the following is the structural unit of nervous system
- a. Alveoli
  - b. Nephron
  - c. Neuron
  - d. Leukocyte
13. Excitation contraction coupling involves all the following except:
- a. Release of  $Ca^{++}$  from troponin.
  - b. Formation of cross bridges between actin and myosin
  - c. Spread of depolarization along the transverse tubules.
  - d. Hydrolysis of ATP to ADP.
14. Inferior venacava is formed by uniting the veins of
- a. legs
  - b. trunk
  - c. a and b
  - d. neck
15. The blood vessels that supply blood to the walls of the heart are called
- a. Coronary arteries
  - b. Coronary veins
  - c. Duodenum
  - d. Ileum
16. Is the location where the majority of nutrients are absorbed.
- a. Jejunum
  - b. Large intestines
  - c. Bronchi
  - d. Trachea
17. In the body, both the blood sodium and potassium levels are regulated by
- a. Pheromones
  - b. Aldosterone
  - c. Cortisol
  - d. Androgens
18. Which term describes the space between a neuron and its target cell?
- a. Post synaptic membrane
  - b. Synaptic cleft
  - c. Denridic spine
  - d. Axon terminal
19. The endocrine gland which contributes to setting the body's biological clock is
- a. Pituitary gland
  - b. Thymus gland
  - c. Pineal gland
  - d. Thyroid gland
20. How many major types of blood have scientists discovered?
- a. One: Type "O"
  - b. Two: white cells and red cells
  - c. Three: white cells, red cells, and plasma
  - d. Four: Types A, B, AB, and O



**( PART-B : Descriptive )**

Time : 2 hrs. 40 min.

Marks : 50

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

1. Explain the intrinsic and extrinsic pathway of coagulation of blood? 5+5=10
2. Explain briefly the mechanism of digestion of Carbohydrates and Proteins? 5+5=10
3. Explain the anatomy of human heart? Write the process of circulation of blood in heart? 4+6=10
4. Write a short note on (a) Threshold stimulus (b) All and none rule? 5+5=10
5. What are neurotransmitter explain in brief with examples? Explain briefly the synaptic mode of transmission? 5+5=10
6. Explain in detail the Ornithine cycle? 10
7. Explain the intrinsic and extrinsic pathway of blood clotting? 5+5=10
8. Write a brief note on the manifestation of hyper and hypo secretion of
  - a. Thyroid
  - b. Adrenal gland?5+5=10

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