

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

**SET  
B**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

Time: 30 mins.

( Objective )

Marks: 20

*Choose the correct answer from the following:*

*1 × 20 = 20*

- Ascent of high mountains may cause altitude sickness in men. What is the main cause of this?
  - Excess of CO<sub>2</sub> in blood
  - Decreased efficiency of haemoglobin
  - Decreased partial pressure of oxygen
  - Decreased proportion of oxygen in the air
- Mark the one, which is NOT the precursor of the hormone.
  - Amino acids
  - Cholesterol
  - Phospholipids
  - Proteins
- Serum is:
  - Blood minus fibrinogen
  - Lymph minus corpuscle
  - Lymph
  - Blood minus corpuscle and fibrinogen
- Arterial blood is present in:
  - Pulmonary arteries
  - Pulmonary veins
  - All the arteries
  - All the veins
- Carbonic anhydrase is found in:
  - Leukocyte
  - Lymphocyte
  - Blood plasma
  - Erythrocyte
- Which of the following is the structural unit of nervous system?
  - Alveoli
  - Nephron
  - Neuron
  - Leukocyte
- Inferior venacava is formed by uniting the veins of:
  - Legs
  - Trunk
  - a and b
  - Neck
- Is the location where the majority of nutrients are absorbed:
  - Jejunum
  - Large intestines
  - Bronchi
  - Trachea
- Which term describes the space between a neuron and its target cell?
  - Post synaptic membrane
  - Synaptic cleft
  - Denridic spine
  - Axon terminal
- How many major types of blood have scientists discovered?
  - One: Type "O"
  - Two: white cells and red cells
  - Three: white cells, red cells, and plasma
  - Four: Types A, B, AB, and O

11. What causes oxygen to move through the alveolar blood capillaries of the lungs?
  - a. Difference in the O<sub>2</sub> tension and partial pressure of these chambers
  - b. Partial pressure of CO<sub>2</sub>
  - c. Union of O<sub>2</sub> with haemoglobin
  - d. All of the above
12. Which of the following is NOT an endocrine gland?
  - a. Hypothalamus
  - b. Pituitary
  - c. Parathyroid
  - d. Pancreas
13. 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
14. Which one is not a WBC?
  - a. Lymphocyte
  - b. Thrombocyte
  - c. Monocyte
  - d. Basophil
15. Respiration in man is helped by:
  - a. Intercostal muscle
  - b. Pelvic girdle
  - c. Biceps muscle
  - d. None of these
16. 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
17. Excitation contraction coupling involves all the following except:
  - a. Release of Ca<sup>++</sup> 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
18. The blood vessels that supply blood to the walls of the heart are called:
  - a. Coronary arteries
  - b. Coronary veins
  - c. Duodenum
  - d. Ileum
19. In the body, both the blood sodium and potassium levels are regulated by:
  - a. Pheromones
  - b. Aldosterone
  - c. Cortisol
  - d. Androgens
20. 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

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**(Descriptive)**

Time : 2 hr. 30 mins.

Marks : 50

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

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|--|--------|
| 1. Describe the function of blood in detail.   | 10     |
| 2. Explain briefly the mechanism of muscle contraction in detail.  | 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:<br>a) Threshold stimulus<br>b) All and none rule   | 5+5=10 |
| 5. What are neurotransmitters? Explain in brief with examples.<br>Explain briefly the synaptic mode of transmission. | 5+5=10 |
| 6. Explain the mechanism of formation of urine in detail.  | 10     |
| 7. Explain the chloride shift in detail.   | 10     |
| 8. Write a brief note on the manifestation of hyper and hypo secretion of<br>(a) Thyroid (b) Adrenal gland.          | 5+5=10 |

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