REV-01
BMLT/56/61

2025/12

SET A

BACHELOR OF MEDICAL LABORATORY TECHNOLOGY
FIRST SEMESTER
PHYSIOLOGY-I
BMLT – 102

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs. **Full Marks: 70**

Objective

Time: 30 min. **Marks: 20**

Choose the correct answer from the following: *1×20=20*

1. Blood group compatibility is important in:
   a. Digestion
   b. Blood transfusion
   c. Breathing
   d. Hormone secretion

2. Physiology is the study of:
   a. Structure of the body
   b. Function of the body
   c. Diseases of the body
   d. Chemicals in the body

3. Hemoglobin is responsible for:
   a. Clotting of blood
   b. Transport of oxygen and carbon dioxide
   c. Maintaining osmotic pressure
   d. Immunity

4. The enzyme present in saliva that begins starch digestion is:
   a. Pepsin
   b. Trypsin
   c. Amylase (Ptyalin)
   d. Lipase

5. The primary mineral component that provides hardness to bone is:
   a. Sodium chloride
   b. Calcium phosphate (ashydroxyapatite)
   c. Potassium carbonate
   d. Magnesium sulfate

6. The dome-shaped muscle responsible for respiration is:
   a. Intercostal muscle
   b. Diaphragm
   c. Abdominal muscle
   d. Serratus anterior

7. The acid secreted in the stomach to aid digestion is:
   a. Nitric acid
   b. Hydrochloric acid
   c. Acetic acid
   d. Sulfuric acid

8. Which part of the digestive system is responsible for maximum absorption of nutrients?
   a. Stomach
   b. Small intestine
   c. Large intestine
   d. Esophagus

9. The heart muscle is called:
   a. Skeletal muscle
   b. Smooth muscle
   c. Cardiac muscle
   d. Voluntary muscle

10. The natural pacemaker of the heart is:
   a. AV Node
   b. SA Node
   c. Purkinje fibers
   d. Bundle of His

11. Normal life span of red blood cells is:
   a. 60 days
   b. 90 days
   c. 120 days
   d. 150 days

12. The condition of low hemoglobin in blood is called:
   a. Leukemia
   b. Anemia
   c. Hemophilia
   d. Polycythemia

13. Which system is responsible for oxygen transport?
   a. Digestive system
   b. Respiratory system
   c. Circulatory system
   d. Nervous system

14. The main function of the digestive system is:
   a. Circulation of blood
   b. Hormone production
   c. Breakdown and absorption of food
   d. Oxygen exchange

15. The process by which a cell divides into two identical daughter cells is called:
   a. Meiosis
   b. Mitosis
   c. Cytokinesis
   d. Fertilization

16. Which vitamin is essential for calcium absorption and bone health?
   a. Vitamin A
   b. Vitamin B12
   c. Vitamin C
   d. Vitamin D

17. The smallest bone in the human body is:
   a. Stapes
   b. Ulna
   c. Fibula
   d. Radius

18. Which type of joint allows movement in one direction only?
   a. Ball and socket joint
   b. Hinge joint
   c. Pivot joint
   d. Gliding joint

19. The soft connective tissue found at the ends of bones to reduce friction is:
   a. Cartilage
   b. Ligament
   c. Tendon
   d. Muscle

20. ABO blood group system was discovered by:
   a. Landsteiner
   b. Watson
   c. Crick
   d. Fleming

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Descriptive

Time : 2 hrs. 30 mins. **Marks : 50**

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

1. Describe the history of ABO blood group system? Describe the process of blood clotting? **5+5=10**

2. Describe the composition, function of RBC, WBC, and Platelet & Plasma? **10**

3. Describe the structure and function of the conducting system of the heart. Explain the role of each part in maintaining the heartbeat? Explain the cardiac cycle in details? **10**

4. Classify the bone cell & define its various types with their examples? **10**

5. Describe the digestion of food in small intestine? **10**

6. What are the main organ system in the human body mention their general functions? **10**

7. Describe in details the movement of food in the alimentary tract? **10**

8. Draw and describe different types of tissues with their function? **10**

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