



## BRAINWARE UNIVERSITY

**Term End Examination 2024-2025**  
**Programme – B.Sc.(FND)-Hons-2024**  
**Course Name – Human Physiology I**  
**Course Code - BFD17101 (T)**  
**( Semester I )**

Library  
Brainware University  
398, Ramkrishnapur Road, Barasat  
Kolkata, West Bengal-700125

**Full Marks : 40**

**Time : 2:0 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

### Group-A

(Multiple Choice Type Question)

1 x 10=10

1. Choose the correct alternative from the following :

- (i) Name the individual who did coined the term 'cell' ?
  - a) Robert Hooke
  - b) Tatum
  - c) Schwann
  - d) De Bary
- (ii) Which of the following is a feature found in both prokaryotic and eukaryotic cells?
  - a) Nucleus
  - b) Mitochondria
  - c) Cell wall
  - d) Endoplasmic reticulum
- (iii) What is the primary function of blood in the human body?
  - a) Transportation of nutrients
  - b) Production of antibodies
  - c) Digestion of food
  - d) Breathing
- (iv) What is the normal pH range of human blood?
  - a) pH1- pH3
  - b) pH4-pH 6
  - c) pH 7.35- pH 7.45
  - d) pH 8- pH 10
- (v) What is the primary function of the heart?
  - a) Pumping blood
  - b) Digesting food
  - c) Filtering toxins
  - d) Storing nutrients
- (vi) Which of the following is a characteristic of cardiac muscle?
  - a) Voluntary control
  - b) Multinucleated cells
  - c) Striated appearance
  - d) Found in skeletal muscles
- (vii) What is the primary function of the lungs in the respiratory system?
  - a) To filter blood
  - b) To exchange oxygen and carbon dioxide
  - c) To produce red blood cells
  - d) To regulate body temperature
- (viii) Which of the following represents the maximum volume of air a person can exhale after taking a deep breath?
  - a) Tidal volume
  - b) Inspiratory reserve volume
  - c) Expiratory reserve volume
  - d) Residual volume

(ix) What is the primary function of the renal system?

- |                                 |                       |
|---------------------------------|-----------------------|
| a) Digestion                    | b) Respiration        |
| c) Filtration and waste removal | d) Muscle contraction |

(x) What is the main function of the nephron?

- |                                    |                                      |
|------------------------------------|--------------------------------------|
| a) Maintaining bone density        | b) Producing red blood cells         |
| c) Regulating blood glucose levels | d) Filtering blood and forming urine |

#### Group-B

(Short Answer Type Questions)

3 x 5=15

2. Define Bone.

(3)

3. Discuss the "properties of blood".

(3)

4. Explain the major components of an ECG (Electrocardiogram), and what does it reveal about heart activity? (3)

5. Write how sweat glands help regulate core body temperature, and why is sweating important (3)

6. Illustrate the role of diaphragm in the "mechanics of breathing" during inhalation. (3)

OR

Compare and contrast the transportation of oxygen and carbon dioxide in the bloodstream. (3)

#### Group-C

(Long Answer Type Questions)

5 x 3=15

7.

(5)

Differentiate Eukaryotic and Prokaryotic Cell

8. Explain the compositions of blood (5)

9. Analyze the differences in the oxygen-carrying capacity of hemoglobin in the "arterial blood" compared to "venous blood". (5)

OR

Compare and contrast the "neural" and "chemical" control mechanisms involved in regulating breathing. (5)

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