



## BRAINWARE UNIVERSITY

Term End Examination 2023-2024

Programme – B.Optomety-2023

Course Name – General Human Physiology

Course Code - BOPTOC102

( Semester I )

Full Marks : 60

Time : 2:30 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 15=15

1. Choose the correct alternative from the following :

- (i) A microscopic gap between a pair of adjacent neurons over which nerve impulses pass when going from one neuron to the next is defined as:
  - a) Neurotransmitter
  - b) Axon
  - c) Both 1 or 4
  - d) Synapse
- (ii) In our body involuntary actions are controlled by \_\_\_\_\_. Select the correct option.
  - a) Medulla in Forebrain
  - b) Medulla in Hindbrain
  - c) Medulla in Midbrain
  - d) Medulla in Spinal Cord
- (iii) Choose which is called secondary pacemaker of Heart?
  - a) SA node
  - b) AV node
  - c) Purkinje fiber
  - d) Bundle of His
- (iv) Identify the Process by Which White Blood Cells Engulf and Destroy Bacteria:
  - a) Hemostasis
  - b) Erythropoiesis
  - c) Phagocytosis
  - d) Hemolysis
- (v) This part of the human brain is also described as the emotional brain
  - a) Epithalamus
  - b) Limbic system
  - c) Broca's area
  - d) Corpus callosum
- (vi) Name the structure formed when a sperm cell successfully fuses with an egg cell.
  - a) Zygote
  - b) blastocyst
  - c) embryo
  - d) Fetus
- (vii) Write the name of the semi-liquid mass of partially digested food in the stomach.
  - a) Bolus
  - b) Chyme
  - c) Mucus
  - d) None of these
- (viii) Predict the part of the digestive system is primarily responsible for water and electrolyte absorption.
  - a) Large Intestine
  - b) Esophagus
  - c) Stomach
  - d) Pancreas

- (ix) State Oxygen is carried by \_\_\_\_\_.
- |                 |               |
|-----------------|---------------|
| a) Platelets    | b) Leucocytes |
| c) Erythrocytes | d) Monocytes  |
- (x) Select the hormone that plays a major role in labour contractions
- |             |              |
|-------------|--------------|
| a) Oxytocin | b) Adrenalin |
| c) Melanin  | d) Melatonin |
- (xi) Select the hormones involved in the body's sleep-wake cycle and circadian rhythm.
- |              |               |
|--------------|---------------|
| a) Melatonin | b) Serotonin  |
| c) Dopamine  | d) Endorphins |
- (xii) The outer covering of lung is named as:
- |            |            |
|------------|------------|
| a) Bronchi | b) Alveoli |
| c) Glottis | d) Pleura  |
- (xiii) Name the gland known as the "master gland" because it regulates the function of other endocrine glands.
- |                  |                    |
|------------------|--------------------|
| a) Thyroid gland | b) Adrenal gland   |
| c) Pancreas      | d) Pituitary gland |
- (xiv) Recall the correct statement about function of platelets:
- |                       |                            |
|-----------------------|----------------------------|
| a) Carries Oxygen     | b) Helps in Blood Clotting |
| c) Produce antibodies | d) Carries Nutrients       |
- (xv) Name the part of the renal tubule is responsible for fine-tuning the concentration of urine by reabsorbing water and ions.
- |                   |                    |
|-------------------|--------------------|
| a) PCT            | b) DCT             |
| c) Loop of Henlee | d) collecting duct |

**Group-B**

(Short Answer Type Questions)

3 x 5=15

- |   |     |
|---|-----|
| 2. Explain : hypothalamus acts as a thermostat for body temperature regulation. | (3) |
| 3. Explain Phagocytosis and Pinocytosis   | (3) |
| 4. State the principle behind the ABO blood typing system                       | (3) |
| 5. Explain the term ovulation   | (3) |
| 6. Differentiate between Type I and II Diabetes Mellitus                        | (3) |
| <b>OR</b>   |     |
| Differentiate between Vital capacity and Timed vital capacity                   | (3) |

**Group-C**

(Long Answer Type Questions)

5 x 6=30

- |  |     |
|--|-----|
| 7. Describe the different types of cellular transport mechanism                  | (5) |
| 8. Explain the process of O2 transport in the bloodstream                        | (5) |
| 9. Explain the mechanism of micturition .  | (5) |
| 10. Summarise the mechanical event of cardiac cycle with proper diagram          | (5) |
| 11. Discuss the mechanism of blood coagulation                                   | (5) |
| 12. Propose the mechanism of role of Insulin and glucagon in glucose homeostasis | (5) |
| <b>OR</b>  |     |
| Compile the short term regulation mechanisms of BP.                              | (5) |

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