



## 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)

$$3 \times 5 = 15$$

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)

**OR**

**Differentiate between Vital capacity and Timed vital capacity** (3)

### Group-C

(Long Answer Type Questions)

$$5 \times 6 = 30$$

7. Describe the different types of cellular transport mechanism (5)
8. Explain the process of O<sub>2</sub> 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)

**OR**

Compile the short term regulation mechanisms of BP. (5)

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