



## BRAINWARE UNIVERSITY

Term End Examination 2024-2025

Programme – B.Optomtry-2022/B.Optomtry-2023/B.Optomtry-2024

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) Choose the normal pH of blood out of following options?

- |        |         |
|--------|---------|
| a) 2.2 | b) 5.2  |
| c) 7.4 | d) 10.4 |

(ii) Fill in the blank by choosing the correct option. Peripheral nervous system of human is reported to have \_\_\_\_\_ pairs of spinal nerves.

- |       |       |
|-------|-------|
| a) 21 | b) 11 |
| c) 31 | d) 12 |

(iii) Name the gland that produces insulin and glucagon hormones:

- |             |              |
|-------------|--------------|
| a) Thyroid  | b) Pituitary |
| c) Pancreas | d) Pineal    |

(iv) Indicate the sheet of muscle that separates the chest cavity from the abdominal cavity and aids in breathing.

- |               |             |
|---------------|-------------|
| a) Diaphragm. | b) Larynx.  |
| c) Bronchi.   | d) Pharynx. |

(v) Choose the hormone that is produced by the ovaries and is responsible for the development of female secondary sexual characteristics.

- |                 |                 |
|-----------------|-----------------|
| a) Testosterone | b) Progesterone |
| c) Estrogen     | d) Androgens    |

(vi) Name the hormone that is released during childbirth and helps with uterine contractions and milk ejection during breastfeeding.

- |                |              |
|----------------|--------------|
| a) Oxytocin    | b) Thyroxine |
| c) Aldosterone | d) Prolactin |

(vii) Name the part of the female reproductive system is responsible for producing eggs (ova).

- |                    |            |
|--------------------|------------|
| a) Uterus          | b) Cervix  |
| c) Fallopian tubes | d) Ovaries |

- (viii) Name the process in which the fertilized egg attaches to the uterine lining.
- a) implantation
  - b) Ovulation
  - c) Fertilization
  - d) Menstruation
- (ix) Identify the correct function of the esophagus in the digestive process.
- a) Absorption of nutrients
  - b) Breaking down food with enzymes
  - c) Mixing food with stomach acid
  - d) Transporting food from the mouth to the stomach
- (x) Predict the type of tissue that provides support and structure to the body.
- a) Epithelial tissue
  - b) Connective tissue
  - c) Muscle tissue
  - d) Nervous tissue
- (xi) Choose the name of the movement of molecules against their concentration gradient with the expenditure of energy -
- a) Osmosis
  - b) Passive transport
  - c) Diffusion
  - d) Active transport
- (xii) Identify the layer of the GI tract is responsible for mechanical digestion and movement of food.
- a) Mucosa
  - b) Submucosa
  - c) Muscularis externa
  - d) Serosa
- (xiii) Identify the hormone responsible for regulating the body's response to stress -
- a) Insulin
  - b) Glucagon
  - c) Cortisol
  - d) Parathyroid hormone (PTH)
- (xiv) 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
- (xv) Select the correct location of Meissner's plexus -
- a) Submucosa layer of the GIT.
  - b) Muscularis externa layer of the GIT.
  - c) Mucosa layer of the GIT.
  - d) Serosa layer of the GIT.

#### Group-B

(Short Answer Type Questions)

3 x 5=15

2. Define anemia. (3)
3. Describe the function of Plasma membrane. (3)
4. Discuss the functions of Liver. (3)
5. Describe positive and negative feedback regulations. (3)
6. Distinguish Asthma and COPD. (3)

OR

Differentiate between Type I and II Diabetes Mellitus (3)

#### Group-C

(Long Answer Type Questions)

5 x 6=30

7. Explain the process of CO<sub>2</sub> transport from tissue to lung. (5)
8. Describe the functions of the skin. (5)
9. Describe the Graves disease. (5)
10. Compile the short term regulation mechanisms of BP. (5)
11. Describe the spermatogenesis process. (5)
12. Draw and label the cross sectional view of heart. (5)

OR

Summarize the steps of erythropoiesis process. (5)