



BRAINWARE UNIVERSITY

Term End Examination 2023-2024

Programme – B.Physiotherapy-2022/B.Physiotherapy-2023

Course Name – Human Physiology - I

Course Code - BPTC102

(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) Select the hormone that is responsible for regulating calcium levels in the blood.
 - a) Insulin
 - b) Thyroxine
 - c) Cortisol
 - d) Parathyroid hormone (PTH)
- (ii) Identify the primary function of the kidneys in the renal excretory system.
 - a) Regulation of body temperature
 - b) Filtration of blood and excretion of waste products
 - c) Production of digestive enzymes
 - d) Storage of urine in the bladder
- (iii) State the component of protein which contributes to maximum percentage to total plasma protein
 - a) Albumin
 - b) Globulin
 - c) Fibrinogen
 - d) Prothrombin
- (iv) State the most abundant blood cells in the human body
 - a) WBCs
 - b) RBCs
 - c) Platelets
 - d) Plasma cells
- (v) Identify the one which is not WBC.
 - a) granulocyte
 - b) monocyte
 - c) lymphocytes
 - d) none of these
- (vi) Identify the pigment in red blood cells that carries oxygen.
 - a) Erythropoietin
 - b) Haemoglobin
 - c) Melatonin
 - d) Urobilinogen
- (vii) Choose the one which is not a salivary gland
 - a) Parotid Gland
 - b) Maxillary Gland
 - c) Sublingual Gland
 - d) Sub Mandibular Gland
- (viii) Choose the tissue layer which is not a part of the alimentary canal
 - a) mucosa
 - b) secretin
 - c) muscularis
 - d) serosa

- (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) 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 |
- (xi) Name the enzyme responsible for breaking down carbohydrates in the mouth-
- | | |
|------------|------------|
| a) Lipase | b) Pepsin |
| c) Amylase | d) Trypsin |
- (xii) Predict the most important site of absorption of nutrients in the digestive system
- | | |
|--------------------|--------------------|
| a) Stomach | b) Esophagus |
| c) Small intestine | d) large intestine |
- (xiii) Indicate the purpose of mucus in the digestive system
- | | |
|-----------------------------------|----------------------------------|
| a) Breaking down fats | b) Absorbing nutrients |
| c) Protecting the stomach linings | d) Stimulating enzyme production |
- (xiv) Indicate the purpose of bile in the digestive process.
- | | |
|--|--|
| a) Breaking down fats into smaller molecules | b) Neutralizing stomach acid |
| c) Breaking down carbohydrates | d) Increasing nutrient absorption in the colon |
- (xv) Name the process called when oxygen and carbon dioxide are exchanged between the blood and body tissues at the cellular level.
- | | |
|-------------------------|--------------------------|
| a) External respiration | b) internal respiration |
| c) Cellular respiration | d) Pulmonary respiration |

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Discuss the role of platelets in the process of blood clotting (3)
3. State the major types of white blood cells and their respective functions (3)
4. Differentiate between arteries and veins in the cardiovascular system (3)
5. Compare and contrast hormonal and barrier methods of contraception (3)
6. Differentiate between Vital capacity and Timed vital capacity (3)

OR

Differentiate between Pump and Bucket handle movement of breathing (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Describe the mode of action of steroid hormones (5)
8. Illustrate the role of Hypothalamo hypophyseal target endocrine axis. (5)
9. Describe the mechanism of Active Transport through cell membrane. (5)
10. Summarize the menstrual cycle. (5)
11. Discuss the mechanism of blood coagulation (5)
12. Illustrate pulmonary function tests. (5)

OR

Explain cyanosis and dyspnea. (5)
