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**BRAINWARE UNIVERSITY**

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Term End Examination 2025-2026**Programme – B.Sc.(CCT)-2022/B.Sc.(OTT)-2022/B.Sc.(OTT)-2023/B.Sc.
(CCT)-2023/B.Sc.(CCT)-2024/B.Sc.(OTT)-2024/B.Sc.(CCT)-2025/B.Sc.(OTT)-2025****Course Name – Human Physiology****Course Code - BCCTC102/BOTTC102****(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 type of glial cell responsible for producing the myelin sheath in the CNS:

- | | |
|---------------------|---------------|
| a) Schwann cells | b) Microglia |
| c) Oligodendrocytes | d) Astrocytes |

(ii) Select the glial cell found in the peripheral nervous system that aids in the regeneration of nerve fibers:

- | | |
|------------------|--------------------|
| a) Astrocytes | b) Satellite cells |
| c) Schwann cells | d) Microglia |

(iii) Select from the following that, Goiter is a disease due to..

- | | |
|-----------------------|----------------------|
| a) Hyperthyroidism | b) Iodine deficiency |
| c) Insulin deficiency | d) Hb deficiency |

(iv) Identify from the following that, appearance of Plasma is

- | | |
|--------------------|--------------------|
| a) Red in color | b) Yellow in color |
| c) Like leucocytes | d) Like leucocytes |

(v) Select the right option: bleeding time is increased by:

- | | |
|-----------------------------------------|----------------------------------------|
| a) decreased levels of clotting factors | b) increased level of clotting factors |
| c) increased number of platelets | d) decreased number of RBCs |

(vi) Give example of a blood cell which is involved in our immunity:

- | | |
|-------------------|------------|
| a) Hepatocytes | b) WBCs |
| c) Purkinje cells | d) G cells |

(vii) Differentiate lymph from blood

- | | |
|-----------------------------------|----------------------------------------------------------------------|
| a) Lymph has more RBCs than blood | b) Lymph contains no RBC, but blood has RBCs |
| c) Lymph has less RBCs than blood | d) There is no water in lymph, but blood has watery portion (plasma) |

(viii) Write the type of process which is involved in alveolar gaseous exchange.

- a) simple diffusion
c) active transport
- b) osmosis
d) passive transport
- (ix) Predict the name of the instrument you must use to hear the heart sound of a patient.
a) Acousticmeter
c) Barometer
- b) Sphygmomanometer
d) Stethoscope
- (x) Write the source of the electrical activity of the heart.
a) endocardium
c) epicardium
- b) pericardium
d) myocardium
- (xi) Choose the hormone secreted by the kidneys that stimulates red blood cell production.
a) Thrombopoietin
c) Erythropoietin
- b) Vitamin D
d) Renin
- (xii) Choose the right option: This hormone is not secreted by pituitary-
a) Estrogen
c) Adrenocorticotrophic hormone
- b) Follicular stimulating hormone
d) Vasopressin
- (xiii) Tell Permeability of which of the following increases during depolarization?
a) Na+
c) Mg+
- b) K+
d) Ag+
- (xiv) Identify which of the following cells produces HCl.
a) Beta cells
c) Chief cells
- b) Oxyntic cells
d) Alpha cells
- (xv) Define lipolysis?
a) Hydrolysis of triacylglycerol
c) Breakdown of ketone bodies
- b) Formation of lipids
d) Formation of ketone bodies

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Discuss briefly about ion channels. (3)
3. Describe the functions of the large intestine in the digestive process and the absorption of water and electrolytes. (3)
4. Illustrate the primary components of the respiratory system that are responsible for gas exchange. (3)
5. Explain the process of spermatogenesis in the male reproductive system. (3)
6. Deduce the major salivary glands & the ducts connected to it. (3)

OR

- Evaluate the functions of bile. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Describe synaptic transmission with a proper diagram. (5)
8. Explain the process of external and internal respiration, detailing how oxygen and carbon dioxide are exchanged between the respiratory system and the bloodstream. (5)
9. Discuss about the process of blood coagulation. (5)
10. Describe the functions of Cerebral cortex (5)
11. Illustrate the process of phagocytosis With suitable diagram. (5)
12. Evaluate the factors that affects glomerular filtration rate. (5)

OR

- Distinguish between the role of insulin and glucagon in the regulation of glucose homeostasis. (5)
