



BRAINWARE UNIVERSITY

Term End Examination 2023-2024

Programme – B.Sc.(MLT)-2023

Course Name – Human Physiology

Course Code - BMLTC102

(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) Identify the blood component that is responsible for transporting antibodies and other immune system molecules.
 - a) RBC
 - b) Leucocytes
 - c) Platelets
 - d) Plasma
- (ii) Recognize the cell organelle responsible for protein synthesis in the cell.
 - a) Golgi apparatus
 - b) Nucleus
 - c) Endoplasmic reticulum
 - d) Lysosome
- (iii) Name the organelles responsible for detoxifying harmful substances in the cell.
 - a) Lysosome
 - b) Mitochondria
 - c) Peroxisome
 - d) Nucleus
- (iv) 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
- (v) Choose the correct options regarding the name of small finger-like projections lining the small intestine -
 - a) Villi
 - b) Microvilli
 - c) Cilia
 - d) Alveoli
- (vi) Name the process in which the fertilized egg attaches to the uterine lining.
 - a) Implantation
 - b) Ovulation
 - c) Fertilization
 - d) Menstruation
- (vii) Select from the following the smallest blood vessels in the body, where exchange of nutrients and gases occurs, are called:
 - a) Arteries
 - b) Veins
 - c) Capillaries
 - d) Venules

- (viii) State during platelet plug formation _____ and _____ are released, causing more platelets to stick to the platelet plug.
- a) Prostacyclin; nitric oxide b) Heparin; plasmin
 c) ADP; thromboxane d) GTP ; nitric oxide
- (ix) State which leucocytes release heparin and histamine in blood?
- a) Neutrophil b) Basophil
 c) Eosinophil d) Monocytes
- (x) Choose which is called secondary pacemaker of Heart?
- a) SA node b) AV node
 c) Purkinje fiber d) Bundle of His
- (xi) State which of the following is NOT the function of the respiratory system?
- a) Regulate blood pH b) Helps in gaseous exchange
 c) Protection against blood loss d) Contains receptors for the sense of smell
- (xii) Identify the mismatch pair:
- a) Henle's loop – concentration of urine b) DCT – Absorption of glucose
 c) PCT – Absorption of sodium and potassium ions d) Bowman's capsule – Glomerular filtration
- (xiii) Name the mechanism of hormone transport which is not carried in the bloodstream.
- a) Bound to carrier proteins b) Free and dissolved in plasma
 c) Exocytosis from glandular cells d) Attached to neurotransmitters
- (xiv) Choose the male reproductive hormone
- a) Estradiol b) Testosterone
 c) Inhibin d) None of the these
- (xv) Identify the condition characterized by a deficiency of platelets in the blood.
- a) Polycythemia b) Leucocytosis
 c) Anemia d) thrombocytopenia

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Define Myxedema (3)
3. Define Plasmodesmata and its function (3)
4. Write a note on Diabetes mellitus. (3)
5. Discuss the role of platelets in the process of blood clotting (3)
6. Differentiate between arteries and veins in the cardiovascular system (3)

OR

Compare and contrast hormonal and barrier methods of contraception (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Write a brief note about Lung surfactant with its clinical implications (5)
8. Draw and label the cross sectional view of heart (5)
9. Enumerate the composition of Blood (5)
10. Describe the oogenesis process (5)
11. Explain the role of hormone as a signal transducer (5)
12. Describe the mechanism of urine formation. (5)

OR

Explain the feedback mechanisms involved in the regulation of thyroid hormone secretion (5)
