



BRAINWARE UNIVERSITY

Term End Examination 2023

Programme – B.Sc.(MLT)-2019/B.Sc.(MLT)-2020/B.Sc.(MLT)-2021

Course Name – Clinical Biochemistry

Course Code - BMLT302

(Semester III)

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) Antibody binds specifically with Antigen site called

- | | |
|-------------|------------|
| a) Paratope | b) Epitope |
| c) Epimer | d) Anomer |

(ii) What is a major advantage of ELISA in comparison to other biological quantification techniques

- | | |
|---|---------------------|
| a) Low specificity | b) Easily available |
| c) Detection of a molecule at a low concentration | d) Cheap |

(iii) SDS-PAGE works based on the principle of:

- | | |
|-----------------------------|---------------------|
| a) Electrophoretic mobility | b) Mass of proteins |
| c) Specific Gravity | d) None of these |

(iv) The ratio of acute to chronic toxic response refers

- | | |
|----------------------|------------------|
| a) Therapeutic index | b) Chronic index |
| c) Chronocity index | d) All of these |

(v) Highest source of cholesterol is

- | | |
|--------------|-------------|
| a) Vanaspati | b) Butter |
| c) Margarine | d) Egg yolk |

(vi) Highest amount of PUFA is present in

- | | |
|------------------|------------------|
| a) Safflower oil | b) Sunflower oil |
| c) Corn oil | d) Soyabean oil |

(vii) The concentration of total protein in human plasma is-identify correct option

- | | |
|------------------|------------------|
| a) 8.5-10.0g/dl | b) 6.0-8.0g/dl |
| c) 8.5-10.0mg/dl | d) 6.0-8.0 mg/dl |

(viii) The compound used for Chelation Therapy

- | | |
|------------|-----------------|
| a) Heparin | b) Tetracycline |
|------------|-----------------|

- c) EDTA
 (ix) Which zinc salt destroy smell or odour
 a) Zinc hydrate
 c) Zinc Gluconate
 (x) Metal fume fever caused by
 a) Lead oxide
 c) Zinc Phosphate
 (xi) The cation that plays a major role in determining the osmotic pressure of the plasma is
 a) Potassium
 c) Phosphate
 (xii) Calcium balance is influenced by
 a) ADH & Parathyroid hormone levels
 c) Parathyroid hormones & vitamin d levels
 (xiii) Which centrifuge machine is used mostly at Laboratory ?
 a) Micro centrifuge
 c) Electric-operated centrifuge
 (xiv) _____ is a pressure chamber used to carry out processes at high temperature and pressure
 a) Magnetic stirrer
 c) Incubator
 (xv) Which anticoagulant tubes should used for blood glucose test-identify
 a) Violet EDTA tube
 c) Grey Sodium fluoride tube
- d) All of these
 b) Zinc Sulphate
 d) Zinc Pyrophosphate
 b) Zinc oxide
 d) Zinc stearate
 b) Sodium
 d) Chloride
 b) ADH & Aldosterone levels
 d) Aldosterone & Parathyroid hormone levels
 b) Battery-operated centrifuge
 d) All of these
 b) Autoclave
 d) Hot Air Oven
 b) Red Clot tube
 d) Royal Blue Di-sodium EDTA tube

Group-B

(Short Answer Type Questions)

3 x 5=15

2. Detect any toxic substance in a Hair sample (3)
 3. Discuss the clinical significance of Alpha-antitrypsin (3)
 4. Illustrate the process of formation of bilirubin with flow-chart (3)
 5. Calculate the total lipid of the patient along with IDL and VLDL results. TG- 300mg/dl Total cholesterol- 2170mg/dl (3)
 6. Write down the clinical significance of chylomicrons (3)
- OR**
- Write down the clinical significance of blood glucose (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Describe the process of sandwich ELISA with popper flow chart (5)
 8. Discuss the process of indirect ELISA with popper flow chart (5)
 9. Compare the both results and critically explain the clinical significance and write down proper comment based on the both result. Condition1: VLDL cholesterol 100mg/dl and LDL 220mg/dl Condition 2: IDL 100mg/dl (normal range, IDL- 20 mg/dl) and LDL 350mg/dl. Define the correlation with them. (5)
 10. Explain application of the radio isotope (5)
 11. Estimation of plasma protein is an important test in liver function test- Explain (5)
 12. Indirect ELISA is the appropriate for dengue test - Justify with proper explanation (5)
- OR**
- Sandwich ELISA is mostly accepted for HIV test - Justify with major features (5)