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BRAINWARE UNIVERSITY

Term End Examination 2025-2026

Programme – B.Sc.(MLT)-2022/B.Sc.(MLT)-2023/B.Sc.(MLT)-2024

Course Name – Clinical Biochemistry

Course Code - BMLTC302

(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) A patient's sodium level is measured as 150 mmol/L in a blood sample. Criticize the result.
- a) It is within the normal range; no action is needed. b) It is higher than the normal range; further evaluation and correction are required.
- c) It is below the normal range; increase sodium intake. d) It is higher than the normal range; increase sodium intake.
- (ii) Cite the principle of centrifugation.
- a) Size reduction principle b) Filtration principle
- c) Evaporation principle d) Sedimentation principle
- (iii) Beer's law states that the intensity of light decreases with respect to _____.
- a) Concentration b) Distance
- c) Composition d) Volume
- (iv) Discuss about the primary function of the washing step in an ELISA procedure.
- a) To mix reagents b) To remove unbound substances
- c) To amplify the signal d) To conjugate antibodies
- (v) Discuss the primary disadvantage of RIA as compared to ELISA
- a) Higher cost b) Radioactive waste disposal
- c) Slower results d) Limited specificity
- (vi) Cite the name of enzyme which is commonly used in ELISA for signal detection.
- a) Lipase b) Amylase
- c) Urease d) Horse Radish peroxidase
- (vii) In the experiment, product formation (monitored as color intensity) is _____ the concentration of the antigen (BSA) solution in the sample.
- a) directly proportional to b) inversely proportional to
- c) independent of d) None of the these

12. Case: A 52-year-old male with a 20-year history of heavy alcohol consumption presents with (5)
fatigue, weight loss, and mild jaundice. From these results find the possible diagnosis. Total
bilirubin 3.5 mg/dL Direct bilirubin 1.8 mg/dL Indirect bilirubin 1.7 mg/dL ALP 160 U/L AST
180 U/L ALT 90 U/L GGT 350 U/L Albumin 2.8 g/dL Prothrombin time (PT) 18 sec

OR

A patient's lipid profile shows: Total Cholesterol = 260 mg/dL HDL-C = 45 mg/dL Triglycerides = (5)
140 mg/dL Using Friedewald's Formula, calculate the LDL-C. Also write the clinical significance
of LDL.

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