REV-01
BMLT/73/36/41

2025/11

SET B

BACHELOR OF MEDICAL LABORATORY TECHNOLOGY
FIFTH SEMESTER
BIOCHEMISTRY-V
BMLT – 503

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs. **Full Marks: 70**

Objective

Time: 30 min. **Marks: 20**

Choose the correct answer from the following: ***1×20=20***

1. Renal tubular function can be assessed by :
   a. Urea clearance
   b. Plasma electrolytes
   c. Specific gravity of early morning sample of urine
   d. Plasma urea

2. Serum alkaline phosphatase is increased in :
   a. Hypothyroidism
   b. Carcinoma of prostate
   c. Bone diseases
   d. Myocardial infarction

3. Which of the following cannot pass through the normal glomerular membrane?
   a. Creatinine
   b. Albumin
   c. Myoglobin
   d. Uric Acid

4. The level of creatinine in urine is influenced by :
   a. Protein content of diet
   b. Rate of cellular turn over
   c. Muscle mass
   d. Patency of urinary tract

5. How many iso-enzyme forms are there for lactate dehydrogenase (LDH)?
   a. Two
   b. Three
   c. Four
   d. Five

6. Creatine kinase level in serum is increased in:
   a. Myocardial infarction
   b. Infective hepatitis
   c. Prostate cancer
   d. Intravascular hemolysis

7. Goiter is enlargement of:
   a. Adrenal gland
   b. Pituitary gland
   c. Thyroid gland
   d. Thymus gland

8. Grave's disease is associated with:
   a. Decreased thyroid hormones
   b. Normal thyroid function
   c. Increased thyroid hormones
   d. Parathyroid dysfunction

9. Which of the following is a screening test for thyroid function?
   a. TSH
   b. T4
   c. T3
   d. Thyroglobulin

10. A diabetic curve in GTT shows:
    a. Rapid fall in glucose
    b. High peak and delayed return to fasting level
    c. Show rise and slow fall
    d. Normal steady level

11. The main advantage of automation is:
    a. Increased human error
    b. High accuracy and speed
    c. Time-consuming process
    d. Reduced precision

12. Automation in biochemistry means:
    a. Manual testing
    b. Visual observation
    c. Use of machines for biochemical tests
    d. Use of paper tests

13. GTT is performed to diagnose
    a. Kidney disease
    b. Diabetes Mellitus
    c. Thyroid disorder
    d. All of these

14. The thyroid gland mainly produces:
    a. Insulin and glucagon
    b. Cortisol and aldosterone
    c. T3 and T4
    d. Estrogen and progesterone

15. The liver converts unconjugated bilirubin to conjugated bilirubin using:
    a. Glucuronic acid
    b. Lactic acid
    c. Sulfuric acid
    d. Hydrochloric acid

16. Bilirubin is formed from the breakdown of:
    a. Fatty acids
    b. Amino acids
    c. Hemoglobin
    d. Cholesterol

17. The Enzyme ALT is mainly found in:
    a. Brain
    b. Liver
    c. Heart
    d. Kidney

18. The yellow color of jaundice is due to accumulation of:
    a. Cholesterol
    b. Ammonia
    c. Bilirubin
    d. Urea

19. Which of the following is NOT a function of the liver?
    a. Detoxification
    b. Oxygen transport
    c. Bile secretion
    d. Glycogen transport

20. The main function of the liver is to:
    a. Filter urine
    b. Produce insulin
    c. Produce bile
    d. Store calcium

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(Descriptive)

Time : 2 hrs. 30 min. Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. **a.** Describe the metabolism of bilirubin in detail. 5+3+2 =10
   b. What is jaundice? Describe its types in detail.
   c. State the functions of liver.

2. **a.** Briefly explain the biosynthesis of thyroid hormones. 5+5=10
   b. Explain the biochemical functions of liver

3. **a.** Briefly describe Glucose Tolerance Test (GTT) in detail 5+2.5+ 2.5=10
   b. Define –i. Hypothyroidism
   ii. Hyperthyroidism

4. Define Automation. List down the advantages and disadvantages of an autoanalyzer and broadly classify the types of analyzer with suitable examples. 2+4+4 =10

5. Briefly describe each of the renal clearance tests. 5+5=10

6. Name the biomarkers that are used in the diagnosis of myocardial infarction. Explain the pattern of rise following anacute infarction. 2+8=10

7. Explain the different types of proteinuria. 10

8. **a.** What is the normal serum urea level? Enumerate the causes of increased and decreased blood urea levels. 1+2+2=5
   b. Briefly describe – i. Bence Jones Proteins 2.5+2.5
   ii. Amylase =5

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