REV-01
BMLT/73/36/41

2025/11

SET A

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

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

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

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

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

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

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

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

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

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

11. 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

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

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

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

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

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

17. 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

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

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

20. 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

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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
   ii. Amylase **2.5+2.5 =5**

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