

**BACHELOR OF MEDICAL LABORATORY TECHNOLOGY  
SECOND SEMESTER  
BIOCHEMISTRY II  
BMLT – 203**

**SET  
B**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

Time: 30 min.

( Objective )

Marks: 20

*Choose the correct answer from the following:*

**1×20=20**

1. Scientist Arnold J. Beckman and his colleagues at the National Technologies Laboratory (NTL) invented the Beckman DU spectrophotometer in
  - a. 1940
  - b. 1941
  - c. 1950
  - d. 1952
2. A device that allows water flow toward the vapor generator tank to be controlled mechanically or electromechanically.
  - a. control valve
  - b. filter
  - c. condenser
  - d. water level gauge
3. Which can only produce 1 gallon of water at once
  - a. Manual distiller system
  - b. Automated distiller system
  - c. Both a and b
  - d. None of the above
4. Enzymes involved in oxidation-reduction reactions.
  - a. Oxidoreductases
  - b. Lyases
  - c. Hydrolases
  - d. Isomerases
5. In a healthy individual, the urine output is about
  - a. 1-2 l/day.
  - b. 3-4 l/day.
  - c. 2-3 l/day.
  - d. 4-5 l/day.
6. The number of moles (or millimoles) per liter of solution.
  - a. Osmolarity
  - b. Osmolality
  - c. Osmosis
  - d. All of the above
7. The inhibitor binds non-covalently with enzyme and the enzyme inhibition can be reversed if the inhibitor is removed
  - a. Reversible inhibition.
  - b. Irreversible inhibition.
  - c. Allosteric inhibition.
  - d. Competitive inhibition.
8. At this stage the metal ions that were in the solvent are reduced to metal atoms.
  - a. Desolvation
  - b. Vapourisation
  - c. Atomisation
  - d. Excitation

9. Samples to be studied in the ultraviolet (or) visible region are usually glasses (or) solutions and are put in cells known as
- Cuvettes
  - Glass tube
  - Test tube
  - All of the above
10. What facilitates the regulation of the quantity of water in the vapor generator
- control valve
  - filter
  - condenser
  - water level gauge
11. RNA
- brings about protein synthesis in the cell.
  - genetic material of certain viruses.
  - the primer essential for starting replication of DNA.
  - All of the above
12. The process in which the separated complementary DNA strands can form a double helix
- Renaturation
  - Denaturation
  - Configuration
  - genetic information.
13. In DNA which pyrimidine is present
- Thymine and Cytosine
  - Cytosine and Uracil
  - Adenine and Cytosine
  - Guanine and Cytosine
14. Enzyme inhibitor is defined as a substance which binds with the enzyme and brings about
- decrease in catalytic activity of the enzyme.
  - increase in catalytic activity of the enzyme.
  - Competitive inhibition.
  - Non-competitive inhibition.
15. Example of purines
- adenine and guanine
  - thymine and cytosine
  - adenine and thymine
  - cytosine and guanine
16. According to this law the amount of light absorbed is proportional to the solute concentration present in solution.
- Beer's law
  - Lambert's law
  - Chargaff's rule
  - None
17. .... are portable, inexpensive pH meters the size of a pocketbook.
- Pen tester
  - Handheld meters
  - Benchtop pH meters
  - None
18. According to Chargaff's rule which complementary base pairing proves to be true
- $A=T \& G=C$
  - $A=U \& G=C$
  - $A=G \& C=U$
  - $C=T \& A=U$

19. The term nucleoside refers to
- a. Base + phosphate
  - b. Nucleoside + sugar
  - c. Phosphate + sugar
  - d. Nitrogenous bases + sugar
20. The functional unit of the enzyme is known as
- a. holoenzyme
  - b. coenzyme
  - c. apoenzyme
  - d. multienzyme

-- -- -- --

**( Descriptive )**

Time : 2 hrs. 30 min.

Marks : 50

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

1. Describe about the water distillation apparatus. 10
  
2. Define Nucleic acids. Write its functions. Who discovered Watson and crick model. Write the salient features. 2+8=10
  
3. Write a note on Spectrophotometer. 1+4+5  
=10
  
4. Define enzymes with its classification with suitable examples. Write the mechanisms of action of enzyme catalysis. 1+4+2+3  
=10
  
5. Discuss the important clinical importance and applications of enzymes. Define active site. Write its salient features. 2+8=10
  
6. Explain about water balance. 10
  
7. Explain about electrolyte balance. 5+5=10
  
8. Give the principle of ph meter. Explain its working, applications, advantages and disadvantages. 8+2=10

= = \*\*\* = =