



HCW-003-038103

**B. Voc. (Medical Laboratory & Molecular
Diagnostic Technology) (Sem. I) Examination**

October/November - 2017

**MLMDT - 1.3 Basics of Biochemistry, Instruments &
Reagents**

Faculty Code : 003

Subject Code : 038103

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

Instructions : (1) All questions are compulsory.

(2) Figures on right indicate marks.

1 Answer the following Questions : **20**

- 1 Write any one example of aldo and keto sugar.
- 2 The general formula of monosaccharide is _____.
- 3 Carbohydrates are Polyhydroxy aldehydes and ketones.
True / False.
- 4 _____ bond is found in protein.
- 5 Give two examples of negatively charged amino acids.
- 6 Hemoglobin is an example of chromoprotein.
True/ False.
- 7 Write two examples of unsaturated fatty acids.
- 8 Write the short hand form of palmitic acid.
- 9 Chylomicron is an example of lipoprotein.
True/ False.
- 10 Give two examples of non-reducing sugar.

- 11 To grow bacteria at optimum temperature _____ instrument is used.
- 12 Define molarity.
- 13 Give example of steroid lipid.
- 14 Define pH.
- 15 State Chargaff's rule.
- 16 Bond between two adjacent nucleotides in DNA molecule is _____.
- 17 The most abundant form of RNA in cell is _____.
- 18 What are isoenzymes ?
- 19 Give two names of enzymes.
- 20 Write two equipments helpful in sterilization.

2 (A) Answer in brief : (Any 3) **3×2=6**

- 1 Write difference between homopolysaccharide and heteropolysaccharide.
- 2 What are Polar amino acids? Give examples.
- 3 Give two common names of saturated fatty acids.
- 4 Define enzyme. What do you mean by catalytic site of an enzyme?
- 5 How will you make one molar solution of any compound?
- 6 Write principle of colorimeter

(B) Answer in brief : (Any 3) **3×3=9**

- 1 State the functions of carbohydrates.
- 2 What is alpha helix structure of protein?
- 3 Write the comparison of different types of DNA.
- 4 What are allosteric enzymes?
- 5 Write a note on triglyceride.
- 6 Write difference between autoclave and hot air oven.

(C) Answer in detail : (Any 2) **2×5=10**

- 1 Describe Watson and Crick model of DNA.
- 2 Discuss transamination reactions.
- 3 Discuss classification and function of lipids.
- 4 Describe microscope.
- 5 Discuss enzyme classification.

3 (A) Answer in brief : (Any 3) **3×2=6**

- 1 Define reducing sugars with examples.
- 2 Draw the structures of two positively charged amino acids.
- 3 Enlist the different types of RNA.
- 4 Write the examples of glycolipids.
- 5 Explain Isoelectric pH and Zwitterion.
- 6 Enlist different types of microscopes.

(B) Answer in brief : (Any 3) **3×3=9**

- 1 Draw the structure of t-RNA
- 2 Write a brief note on ribozyme.
- 3 Define : Cofactor Coenzyme, prosthetic group.
- 4 What is the working principle of pH meter?
- 5 Write the importance of cholesterol molecule.
- 6 Write the functions of nucleic acids.

(C) Answer in detail : (Any 2) **2×5=10**

- 1 Write a note on enzyme inhibition.
- 2 Discuss properties of amino acids.
- 3 Write a note on flame photometer.
- 4 Discuss phospholipids
- 5 Briefly explain classification of carbohydrates with any example.