

SV-455**M.Sc. 1st Semester (NEW/ATKT) Microbiology
Examination December, 2017****MICROBIAL BIOCHEMISTRY**

Paper - MB - 102

*Time Allowed : Three Hours]**[Maximum Marks : 85***Note :** Attempt all questions**Section - 'A'
(Objective type questions)**

15 x 1 = 15

Q.1. Choose the correct answer :

- i) Which of the following is Ketotetrose
- (a) Glyceraldehyde
 - (b) Dihydroxyacetone
 - (c) Erythrose
 - (d) All of the above
- ii) Galactose and Glucose are:
- (a) Isomer
 - (b) Epimer
 - (c) Anomers
 - (d) Ketose-Aldose isomer

- iii) On hydrolysis of starch, disaccharide produce is called.
- (a) Maltose
 - (b) Sucrose
 - (c) Lactose
 - (d) Trehalose
- iv) Natural lipids are readily soluble in
- (a) Oil
 - (b) Mercury
 - (c) Water
 - (d) None of the above
- v) Which of the following is unsaturated fatty acid?
- (a) Linoleic acid
 - (b) oleic acid
 - (c) Palmitoleic acid
 - (d) All of these
- vi) Which is a phospholipid
- (a) Lecithin
 - (b) Cholesterol
 - (c) Sterol
 - (d) Steroids
- vii) What type of bond link individual amino acids together:
- (a) Hydrogen bond
 - (b) Disulphide bond
 - (c) Peptide bond
 - (d) Ionic bond
- viii) First amino acids in a polypeptide chain is:
- (a) Valine
 - (b) Serine
 - (c) Alanine
 - (d) Methionine

- ix) Myoglobin is a protein with:
- Primary structure
 - Secondary structure
 - Tertiary structure
 - Quaternary structure
- x) Enzymes are :
- Protein
 - Carbohydrate
 - Nucleic acid
 - Molecules
- xi) The molecule which acts directly on enzyme to lower catalytic rate is:
- Repressor
 - Regulator
 - Modulator
 - Inhibitor
- xii) A competitive inhibitor of an enzyme is usually;
- Highly reactive
 - Structurally similar to the substrate
 - Metal ion
 - Water insoluble
- xiii) Which of the following is correctly matched:
- Vitamin E - Tocopherol
 - Vitamin D - Riboflavin
 - Vitamin B - Calciferol
 - Vitamin A - Thiamine

- xiv) To which family do folic acid, pantothenic acid belong:
- Vitamin A
 - Vitamin K
 - Vitamin C
 - Vitamin B Complex
- xv) Vitamin e prevent :
- Scurvy
 - Rickets
 - Pellagra
 - Antibody synthesis

Section - B**(Short answer Type Questions)**

5 x 5 = 25

- Q.2. Write short notes on monosaccharides.

OR

Write reactions of Aldehyde and Ketone group.

- Q.3. Write a note on Saponification.

OR

Describe function and property of phospholipid.

- Q.4. Describe chemical reaction of amino acids.

OR

Write short notes on Amino acid sequence in protein.

- Q.5. Write short notes on competitive inhibition.

OR

Write a note on Allosterism.

Q.6 Give the brief account on Biotin.

OR

Write short notes on Cyanocobalamin.

SECTION - C

(Long Answer Type Questions)

5 × 9 = 45

Q.7 Describe structure of sugar with example.

OR

Describe structure, occurrence and biological importance of structural polysaccharide with examples.

Q.8 Describe classification and physico-chemical property of fatty acid.

OR

Write classification, composition and importance of lipoproteins.

Q.9 Describe classification of amino acid with biochemical structure.

OR

Write primary, secondary, tertiary and quaternary structure of Haemoglobin and myoglobin.

Q.10 Explain in detail about enzyme inhibition.

OR

Describe various factor affecting enzyme activity.

Q.11 Write short notes on Folic acid and Ascorbic acid.

OR

Discuss structure, properties and deficiency diseases caused by pantothenic acid.

