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SEAT No. _____

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SARDAR PATEL UNIVERSITY
M.Sc. (II-SEMESTER) Examination (CBCS)
Monday, 29th October, 2018
M.Sc. CHEMISTRY

PS02ECHE22: INTRODUCTION TO BIOCHEMISTRY

TIME: 10:00 AM – 01:00 PM

TOTAL MARK: 70

Q.1 Choose the correct answer of the following question in your answer sheet. [08]

1. Scurvy is due to deficiency of
 - a. Vitamin A
 - b. Vitamin C
 - c. Vitamin B
 - d. Vitamin D
2. The degree of unsaturation of lipid can be measured as
 - a. Saponification number
 - b. Polenske number
 - c. Iodine number
 - d. Reichert Meissil Number
3. The simplest hydrophilic moiety present in membrane lipid is
 - a. Glucose
 - b. Phosphate
 - c. Hydroxyl group
 - d. amino group
4. Which disease is occurs due to deficiency of essential fatty acid?
 - a. Atherosclerosis
 - b. Aging
 - c. Cancer
 - d. Phrynoderma
5. Which one of the following statements is true with reference to enzymes?
 - a. Apoenzyme = Holoenzyme + Coenzyme
 - b. Holoenzyme = Apoenzyme + Coenzyme
 - c. Coenzyme = Apoenzyme + Holoenzyme
 - d. Holoenzyme = Coenzyme – Apoenzyme
6. Which of the following is reducing sugar?
 - a. Glucose
 - b. Erythulose
 - c. Dihydroxyacetone
 - d. None of theses
7. Sulphur containing amino acids are
 - a. Cysteine and Methionine
 - b. Cysteine and threonine
 - c. Methionine and threonine
 - d. Cysteine and serine
8. Which of the following RNA is also known as soluble RNA?
 - a. Messenger RNA
 - b. Ribosomal RNA
 - c. Heterogeneous nuclear RNA
 - d. Transfer RNA

Q.2 Answer any SEVEN of following question briefly. [14]

1. List lipid soluble vitamins. Justify: Vitamin D is a hormone.
2. Define fatty acid. Discuss the any two chemical and physical properties of naturally occurring fatty acid.
3. Write on Fischer projection of optically active amino acid.
4. What do you mean by denaturation of protein? Write the agents of denaturation.
5. Write down the biological importance of waxes.
6. What is catalytic activity and specific activity of enzyme?
7. Give a brief note on : Denaturation of DNA strands
8. List various disaccharides. Why sucrose is known as invert sugar?
9. Define K_w . Explain the ionization of water.

(1)

[P.T.O.]

- Q.3** a. Explain the structure, chemical properties and function of Triglycerol (TG) 6
b. Give an account on : Source and biological function of Vitamin A 6

OR

- b. Discuss the structural properties of various lipids present in plasma membrane. 6

- Q.4** a. Explain the common structural features of amino acid. Give the classification of amino acid based on its structure. 6
b. How peptide bond is form? Describe the salient features of primary structure of Protein. 6

OR

- b. Give an account on : Methods for Peptide sequencing 6

- Q.5** a. What is isomers and draw the possible isomers of various monosaccharides. 6
b. Define Buffer. Explain the significance of various buffers in biological system. 6

OR

- b. What is osmosis? Explain the solubility of polar solutes in a polar solvent like water. 6

- Q.6** a. Write down Chargaff's Rule of DNA Composition. Explain the structural characteristics of DNA in detail 6
b. List various classes of enzymes. Explain the various factors affecting enzyme activity. 6

OR

- b. What is RNA? Briefly explain the three types of RNA with their function. 6

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