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SARDAR PATEL UNIVERSITY
M.Sc.Chemistry (II semester) External Examination
Monday, 29th October, 2018
10:00 am to 1:00 pm
PS02ECHE02-Introduction to Biochemistry

No. of Printed Pages : 2

SEAT No. _____

Total marks: 70

Note: Right hand figure indicate marks.

- Q.1** Select the correct answer from the choices given below for each of the following questions: **[08]**
- (i) The phospholipid that prevents the adherence of inner surface of lungs is
- (a) Cardiolipin (b) Dipalmitoyl lecithin
(c) Lysolecithin (d) Plasmalogens
- (ii) The protein part of enzyme is known as....
- (a) Coenzyme (b) Apoenzyme
(c) Holoenzyme (d) Isoenzyme
- (iii) Fat soluble vitamins includes
- (a) B,A,K,E (b) B,A,D,K
(c) A,D,E,K (d) C,B,K,E
- (iv) Which disease occurs by the deficiency of essential fatty acid?
- (a) Atherosclerosis (b) Cancer
(c) Aging (d) Psoriasis
- (v) The bond in protein structure that are not broken on denaturation is
- (a) Peptide bonds (b) Hydrogen bonds
(c) Ionic bonds (d) Disulfide bonds
- (vi) The phenomenon of disorganization of native protein structure is called
- (a) Coagulation (b) Denaturation
(c) Flocculation (d) All of the above
- (vii) Which of the following is known as a non-reducing sugar ?
- (a) Maltose (b) Lactose
(c) Sucrose (d) Glucose
- (viii) Which of the following RNA is also known as soluble RNA ?
- (a) Messenger RNA (b) Heterogeneous nuclear RNA
(c) Ribosomal RNA (d) Transfer RNA

- Q.2** Answer ANY SEVEN from the following: **[14]**
- (i) Justify: Vitamin D is a hormone.
- (ii) Explain the function of lipid.
- (iii) What do you mean by denaturation of protein? Write the agents of denaturation.
- (iv) Write a note on fibrous proteins.
- (v) Write a note on "Inversion of sucrose".
- (vi) Define the following with examples:
(i) Epimers (ii) Enantiomers
- (vii) Explain the ionization of water.
- (viii) What is induction and repression? Explain by suitable example of each.
- (ix) Write a note on "Denaturation of DNA strands".

①

(P.T.O)

- Q.3 (A) Describe the biochemical function of vitamin A in vision process. [06]
(B) Describe the structure and function of cholesterol. [06]
OR
(B) Write an account on properties of triacylglycerols. [06]
- Q.4 (A) Classify amino acids based on their structure. [06]
(B) Describe the Primary structure of Proteins [06]
OR
(B) Classify proteins based on their shape. [06]
- Q.5 (A) Define isomers and draw the possible isomers of glucose. [06]
(B) Define monosaccharides and explain its reactions. [06]
OR
(B) (a) Explain the solubility of polar solutes in a polar solvent(water). [06]
(b) Define the following terms:
(i) Osmosis (ii) Isotonic system (iii) Hypertonic system (iv) Hypotonic system
- Q.6 (A) Write an account on the various factor affecting enzyme activity. [06]
(B) Describe the mechanism of action of Hexokinase enzyme. [06]
OR
(B) What is RNA? Briefly explain the three types of RNA with their Function. [06]

