

SC

Note: Answer to all questions (including multiple choice questions) should be written in the provided answer book only.

Number of Printed Pages = 2

SEAT No. _____

[21]

SARDAR PATEL UNIVERSITY
M.Sc (II Semester) Examination
Thursday, 19th April, 2018
10:00 am to 1:00 pm
M.Sc Chemistry
PS02ECHE02 – Introduction to Biochemistry

TOTAL MARKS: 70

Q.1 Tick mark / select the correct answer for the following. (Only correct option against given question number needs to be written in provided answer book) (08 Marks)

- 1) Deficiency of Thiamine leads to one of the following disease
 - a) Beri Beri
 - b) Scurvy
 - c) Ricket
 - d) Night blindness

- 2) All are non essential fatty acid except
 - a) Linolenic acid
 - b) Oleic acid
 - c) Stearic acid
 - d) Palmitic acid

- 3) _____ occurs when the inhibitory chemical, which does not resemble the substrate, binds to the enzyme other than at the active site.
 - a) Uncatalysed reaction
 - b) Non competitive inhibition
 - c) Competitive inhibition
 - d) All of the above

- 4) The formation of a peptide bond between two amino acids is an example of _____ reaction
 - a) Cleavage
 - b) Condensation
 - c) Reduction
 - d) Isomerization

- 5) Which of the following is a non reducing sugar:

a) Lactose	c) Glucose
b) Maltose	d) Sucrose

- 6) Which of the following nucleotide is not present in the structure of RNA?

a) Adenine	c) Guanine
b) Uracil	d) Thymine

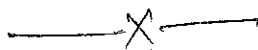
- 7) The functional unit of enzyme is known as:
 - a) Apoenzyme
 - b) Coenzyme
 - c) Holoenzyme
 - d) Isoenzyme

- 8) The phenomenon of disorganization of native protein structure is called _____
 - a) Coagulation
 - b) Flocculation
 - c) denaturation
 - d) Condensation

(1)

(P.T.O.)

- Q.2 Answer any seven from the following: 14
- a) Explain the term mutarotation citing α -D Glucose as an example
 - b) What are proteoglycans? List different types of linkages present in proteoglycans.
 - c) Enlist water soluble and lipid soluble vitamins. Explain why Vitamin E is a membrane bound antioxidant.
 - d) Explain 'hydrolysis' of proteins.
 - e) Define Enantiomer with suitable example
 - f) What is denaturation of proteins? List various agents that denature proteins.
 - g) Give the enzymatic reactions carried out by chymotrypsin.
 - h) What are inducers and repressors? Explain with suitable examples.
 - i) State Chargaff's rule of DNA structure
- Q.3 (A) Give an account of absorption, transport and storage of vitamin B12 6
- (B) Write a short note on phospholipids. 6
- OR
- (B) Describe the various structural lipids involved in plasma membrane of various living organisms. 6
- Q.4 (A) What are the four levels of protein structures? Describe the primary structure of protein in detail. 6
- (B) Classify amino acids on the basis of their structure. 6
- OR
- (B) Write a note on 6
- (1) Fibrous protein
 - (2) Globular protein
- Q.5 (A) What are isomers? Draw all possible isomers of Glucose. 6
- (B) Give an outline classification of carbohydrates. Explain the formation of Haworth projection of glucose with its importance. 6
- OR
- (B) Give a brief explanation on the ionization of water. 6
- Q.6 (A) What is enzyme inhibition? List the various types of enzyme inhibition and explain any one enzyme inhibition in detail. 6
- (B) Give a diagrammatic overview of Watson & Crick's double helical structure of DNA. 6
- OR
- (B) Explain enzyme specificity in detail. 6



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