

SEAT No. \_\_\_\_\_

[44]

**SARDAR PATEL UNIVERSITY**  
**B.SC. 3rd Semester Examination 2021**  
**Subject Code: US03CBCH21**  
**(Biochemistry of Biomolecules I)**  
**Subject: Biochemistry**  
**Monday, 13-6-2022**

13:00 PM To 2:00 PM

Total Marks: 70

Q1. Choose the correct option and write it in the answer sheet:

[10]

- 1) Carbohydrates possess hydrogen atoms and hydroxyl groups linked to the .....atoms.  
 a) Nitrogen                                      b) Carbon  
 c) Hydrogen                                      d) Phosphate.
- 2) One of the followings is homopolysaccharide.  
 a) Heparin                                      b) Inulin  
 c) Hyluronic acid                              d) Mucopolysaccharide.
- 3) Carbohydrates composed of 3-10 monosaccharide units are known as.....  
 a) Polysaccharide                              b) Monosaccharide  
 c) Disaccharide                              d) Oligo saccharide.
- 4) ATP is a \_\_\_\_\_  
 a) Nucleoside                                      b) Nucleotide  
 c) Carbohydrate                                      d) Phosphorous
- 5) .....stores genetic information that determines whether cell is a bone cell or brain cell  
 a) DNA    b) RNA  
 c) mRNA    d) tRNA
- 6) The combination of a base with a sugar results in the formation of a.....  
 a) Nucliacid                                      b) Nuclioside  
 c) Nucliotides                                      d) None
- 7) The type of sugar in RNA is  
 a) Pentose    b) Tetrose  
 c) Hexose    d) De-oxyribose
- 8) In maize .....occurs in the bound form and is not available for utilisation.  
 a) Vitamin A                                      b) Vitamin K  
 c) Vitamin D                                      d) Niacin
- 9) Vitamin C, also known as.....  
 a) Aspartic acid                                      b) Asparagine  
 c) Hippuric acid                                      d) Ascorbic acid
- 10) Iodine is required for the synthesis of.....  
 a) T3T4    b) TSH

(3)

[P.T.O.]

c) ACTH

d) MSH

**Q.2 (a) Fill in the blanks**

[04]

- (1) Glucose and Galactose are .....epimeric pair.
- (2) RNA is involved in the biosynthesis of.....
- (3) Synthesis of haemoglobin need ..... mineral
- (4) Riboflavin exists in two active coenzymes FMN and.....

**Q.2 (b) Write True and False**

[04]

- (1) Cellulose is plant storage oligosaccharide.
- (2) The structure of every protein is programmed by DNA.
- (3) All vitamins are water-soluble.
- (4) Uracil has only a single ring.

**Q.3 Answer any TEN from the following:**

[20]

- (1) Define oligosaccharide with examples.
- (2) Define epimer, anomer and isomer with examples..
- (3) Draw the structure of maltose.
- (4) Write few difference between glycogen and starch..
- (5) Differentiate nucleotide and nucleoside.
- (6) Write importance of mRNA.
- (7) Define vitamins and write importance of vitamin D.
- (8) Write food sources for vitamin C.and E .
- (9) What are the two natural form of vitamin K? Write their food sources.
- (10) Define mineral with examples.
- (11) Write about food sources of Sodium.
- (12) What are dietary sources of Chloride and Potassium?

**Q.4 Write Answer in detail (Any four)**

[32]

- (1) Write about classification of carbohydrates with examples..
- (2) Write notes on Sucrose and lactose with structure.
- (3) Describe Watson-Crick model of DNA structure.
- (4) Write importance of RNA and DNA.
- (5) Describe biochemical functions daily requirements and sources of vitamin A.
- (6) Describe functions, daily requirements of vitamin C.
- (7) Write Biochemical functions of calcium and iron.
- (8) Discuss about functions, dietary sources of iodine, magnesium and phosphorus.

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