

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

No. of Printed Pages : 2

[95/A-5]

SARDAR PATEL UNIVERSITY  
B.SC. 3rd Semester Examination 2020

Subject Code: US03CBCH21  
(Biochemistry of Biomolecules I)

Subject: Biochemistry

~~Thursday~~ 31<sup>st</sup> December, 2020

2:00 PM To 4:00 PM

Total Marks: 70

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

[10]

- 1) The branch points of amylopectin are connected by  
a)  $\alpha$ 1-4                                      b)  $\beta$ 1-4  
c)  $\alpha$ 1-6                                      d)  $\beta$ 1-6
- 2) The glycosidic linkage between glucose molecules in maltose is \_\_\_\_\_  
a)  $\alpha$ 1-4                                      b)  $\beta$ 1-4  
c)  $\alpha$ 1-6                                      d)  $\beta$ 1-6
- 3) Starch is polymer of \_\_\_\_\_  
a) Amino acids                                      b) Fatty acids  
c) Glucose                                      d) None
- 4) ATP is a \_\_\_\_\_  
a) Nucleoside                                      b) Nucleotide  
c) Vitamin                                      d) Protein
- 5) Purine base found in RNA is \_\_\_\_\_  
a) Cytosine                                      b) Thyamine  
c) Uracil                                      d) Guanine
- 6) The sugar molecule present in nucleotide is \_\_\_\_\_  
a) Triose                                      b) Tetrose  
c) Hexose                                      d) Pentose
- 7) The type of sugar in DNA is  
a) Triose                                      b) Tetrose  
c) Hexose                                      d) De-oxyribose
- 8) Which vitamin is required for vision in dim light?  
a) Vitamin A                                      b) Vitamin K  
c) Vitamin D                                      d) Vitamin E
- 9) \_\_\_\_\_ is constituent of heme.  
a) Zinc                                      b) Iron  
c) Copper                                      d) None
- 10) Milk and milk products are rich sources of \_\_\_\_\_  
a) Iron                                      b) Sodium  
c) Calcium                                      d) Vitamin C

[11]

[P.T.O]

**Q.2 (a) Fill in the blanks** [04]

- (1) Mutarotation is defined as the change in \_\_\_\_\_ rotation.
- (2) \_\_\_\_\_ is the universal energy currency of living systems.
- (3) Cobalamin is also known as vitamin \_\_\_\_\_
- (4) \_\_\_\_\_ is known as Factor IV in the blood coagulation.

**Q.2 (b) Write True and False** [04]

- (1) Cellulose can't be digested by termite.
- (2) Vitamin A is water soluble.
- (3) Our body needs very little carbohydrates to stay healthy and happy.
- (4) Pyrimidine has only a single ring.

**Q.3 Answer any TEN from the following:** [20]

- (1) Define homopolysaccharide with examples.
- (2) Define optical isomers-dextrorotatory and levorotatory.
- (3) Briefly explain polysaccharide may be either straight chain or branched.
- (4) Write few differences between amylose and amylopectin.
- (5) Differentiate nucleotide and nucleoside.
- (6) What are difference between DNA and RNA?
- (7) Define vitamins and write names of B-Complex vitamins.
- (8) Write plant food sources for vitamin A.
- (9) What are the two natural form of vitamin K? Write their food sources.
- (10) Briefly explain vitamins and minerals are non-calorigenic.
- (11) Write about food sources of phosphorus.
- (12) What are dietary sources of zinc?

**Q.4 Write Answer in detail (Any four)** [32]

- (1) Define carbohydrate and discuss about epimers.
- (2) Write detail about osazone formation.
- (3) Describe Watson-Crick model of DNA structure.
- (4) Write about various types of RNA.
- (5) Describe biochemical functions daily requirements and sources of vitamin D.
- (6) Describe functions daily requirements and food sources of vitamin C.
- (7) Write Biochemical functions of calcium and iron.
- (8) Discuss about functions dietary sources of iodine, sulphur and copper.

— x —

[2]