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SEAT No._____

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SARDAR PATEL UNIVERSITY

B.Sc. Semester-III

External Examination November 2022

Biochemistry of Biomolecules-1

CODE: - US03CBCH21

Date: 15/11/2022, Tuesday **Time: 10:00 am to 1:00 pm** **Maximum Marks: 70**

Instructions:

1. **Attempt the question in separate answer books.**
2. **Figure to the right indicate marks.**
3. **Make suitable assumptions wherever necessary and state them.**

Q-1 **Do as directed. (M.C.Q)** **[10]**

(1) One of the following is non-reducing sugar

a) Glucose b) Fructose c) Sucrose d) Galactose

(2) Galactose is aldohexose and Ribose is _____

a) Aldotriose b) Ketotriose c) Ketopentose d) Aldopentose.

(3) Which of the following is disaccharide?

a) Raffinose b) Inulin c) Trehalose d) Cellulose

(4) _____ is monomer unit of protein

a)Fatty Acid b) Monosaccharide c) Amino acid d) None of the above

(5) Which of the following is hydroxyl group containing amino acid?

a) Proline b) Tyrosine c) Glycine d) Cysteine

(6) Which amino acid is optically inactive?

a) Proline b) Histidine c) alanine d) Glycine

(7) Pyrimidine base found in DNA is _____

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

(8) ATP is a _____

a) Nucleoside b) Nucleotide c) Vitamin d) Nucleic acid

(9) The milk is a good source of

a) Calcium b) Iron c) Zinc d) Iodine

(10) _____ is due to the deficiency of Iodine

a) Alzheimer b) Diabetes c) Goiter d) Anemia

Q2 **Write answer in brief { Attempt any 10}** **[20]**

(1) Define reducing sugar with example
(2) Draw the structure of alpha and beta D-Glucose
(3) Draw the cyclic structure of Maltose.
(4) Draw the structure of Glycine and Alanine
(5) Define Zwitter Ion and Iso-electric point.
(6) Draw the structure of acidic amino acids.
(7) Write any three differences between DNA and RNA.
(8) Draw the structure of Cytosine and Guanine.
(9) What is the difference between nucleoside and nucleotide?
(10) Define mineral
(11) Write dietary sources of sodium and chloride
(12) Write the significance of potassium.

Q3 **Answer the followings:** **[10]**

(A) Write about Functions of carbohydrates.
(B) Write short notes on starch.

Or

(A) Give an account on Sucrose.
(B) Write classification of polysaccharides with example.

Q4 **Answer the followings:** **[10]**

(A) Write notes on ionization of amino acids.
(B) Give nutritional classification of amino acids.

OR

(A) Draw the structures of aromatic amino acids.
(B) Write chemical properties of amino acids based on – COOH group.

Q5 **Answer the followings:** **[10]**

(A) Give an account on double helical structure of DNA.
(B) Draw the structure of dADP, GTP, CTP, UTP, GDP.

OR

(A) Give various types of RNA and discuss the structure of m-RNA.
(B) Compare and contrast about forms of DNA

Q.6 **Answer the followings:** **[10]**

(A) Write biochemical function of calcium.
(B) Write biochemical functions of Iron.

OR

(A) Write importance and dietary sources of phosphorus.
(B) Write functions and dietary sources of manganese.

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