BIOMOLECULES

CHAPTER-14

TEST-A

SOLVED

Time:1 hr. **Max. Marks: 30**

SECTION-A

Tick the correct option:

1. Which of the following pair consists of reducing sugars? **[1]**

   (i) Glycogen and Glucose (ii) Fructose and Glucose

   (iii) Sucrose and Fructose (iv) Sucrose and Maltose

2. The only structure of protein which remains intact during denaturation of protein is **[1]**

   (i) Primary structure (ii) Secondary structure

   (iii) Tertiary structure (iv) Quaternary structure

3. Which of the following vitamin act as an antioxidant? **[1]**

   (i) Vitamin-K (ii) Vitamin-B_{12} (iii) Vitamin-C (iv) Vitamin-E

Assertion-Reason type Questions:

(i) If assertion and reason both are correct and reason is the correct explanation of assertion.

(ii) If assertion and reason both are correct and reason is not the correct explanation of assertion.

(iii) If assertion is correct and reason is wrong.

(iv) If assertion is wrong and reason is correct.

4. Assertion: Insulin is a peptide hormone. **[1]**

   Reason: Insulin influence carbohydrate metabolism in the body.

5. Assertion: In DNA, there exists a hydrogen bonding between the monomeric units. (called nucleotides). **[1]**

   Reason: Nucleotide is made up of nucleoside and the phosphoric acid.

One word /One Sentence type Questions.

6. What type of bonding helps in stabilizing the α-helix structure of protein? **[1]**

7. Name the vitamin which is produced on the skin on exposure to light. **[1]**

SECTION-B

8. Enumerate: **[2]**

   (i) two reaction of D-glucose which cannot be explained with open chain structure.

   (ii) the reaction of D-glucose with bromine water.

9. (i) Name the vitamin responsible for coagulation of blood. **[2]**

   (ii) Which vitamin is known as ascorbic acid? What deficiency disease is associated with this vitamin?

10. Give reason: **[2]**

   (i) two strands of DNA are not identical but are complementary.

   (ii) DNA replication is semi conservative.

11. (i) How do you explain the presence of six carbon atoms in a straight chain in glucose molecule? **[3]**

   (iii) Draw the structure of the Zwitterion of the simplest amino acid containing chiral carbon atom.

   (iii) Give one example of male sex hormone and one example of female sex hormone.

12. (i) What products would be formed when a nucleotide form DNA containing thymine is hydrolysed?

   (ii) Sucrose on hydrolysis form glucose and fructose. Name the enzyme which helps in performing this reaction.

   (iii) Where does the water in the egg go after boiling the egg? **[3]**

13. Explain the following terms: **[3]**

   (i) Isoelectric point

   (ii) Glycosidic linkage

   (iii) β-pleated sheet like structure of protein.

14. Name the sources of the vitamin A, B_6 and B_{12} and the diseases caused by their deficiency in the body. **[3]**

15. (i) Distinguish between fibrous and globular proteins. **[2+1+1+1]**

   (ii) Which anomer of glucose on polymerization gives cellulose?

   (iii) Name the water soluble component of starch.

   (iv) Draw the structure of the dipeptide of alanine.

