TEST-B

SOLVED

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

SECTION-A

Tick the correct option:

1. Which of the following pair consists of only disaccharides? **[1]**

   (i) Amylum and Cellulose (ii) Maltose and Lactose

   (iii) Sucrose and Glycogen (iv) Galactose and Glucose

2. Which of the following vitamin synthesised by the intestinal organisms? **[1]**

   (i) Vitamin-A (ii) Vitamin-C (iii) Vitamin-D (iv) Vitamin-K

3. The correct statement about protein is **[1]**

   (i) At isoelectric point, the amino acids have least solubility in water

   (ii) All amino acids are optically active

   (iii) In proteins, the α-helix always has a half handed arrangement

   (iv) There exist a hydrogen bonding between the amino acids to form a primary structure.

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: In DNA two strands are antiparallel and complementary. **[1]**

   Reason: There exists a specific base pairing i.e., A pair up with T and G pair up with C.

5. Assertion: Adrenal cortical hormones are peptide hormones. **[1]**

   Reason: Mineralo certicoids regulate NaCl content of blood and cause excretion of potassium in urine.

One word /One Sentence type Questions.

6. What are the products formed when lactose is being hydrolysed? **[1]**

7. Explain why vitamin C cannot be stored in the body. **[1]**

SECTION-B

8. Draw the two anomers of glucose. **[2]**

   Which anomer on polymerisation gives starch?

9. Account for the following: **[2]**
   (i) On electrolysis in acidic solution, α-amino acids migrate towards cathode while in alkaline medium, they migrate towards anode.
   (ii) Amino acids have high melting points and are water soluble.

10. What are essential and non-essential amino acids? Give two examples of each. **[2]**

11. What happens when D-glucose is treated with **[3]**
   (i) HI
   (ii) Conc. HNO_3
   (iii) Tollen's reagent?

12. (i) Name the two pyrimidine bases present in DNA. Which one of these is not present in RNA? **[3]**
   (ii) What type of linkage holds together the monomers in DNA?
   (iii) What is the structural difference between a nucleoside and nucleotide?

13. Explain what do you understand by the following terms: **[3]**
   (i) Native state of protein
   (ii) Denaturation of protein
   (iii) Invert sugar

14. (i) What are the common types of secondary structures of proteins? **[3]**
   (ii) Illustrate the formation of peptide bond and then explain why the free rotation about the peptide bond is restricted?

15. (i) What are vitamins? **[1×5]**
   (ii) Give two examples of water soluble and two examples of fat soluble vitamins.
   (iii) Name the deficiency disease associated with the following vitamin D, K, C, B_{12}.

