

# BHARATIYA VIDYA BHAVAN'S V M PUBLIC SCHOOL, VADODARA

## QUESTION BANK L-14 Biomolecules

### 1-Mark Questions

- Q.1. What is a glycosidic linkage?  
Q.2. Name two components of starch.  
Q.3. What are the products of hydrolysis of sucrose?  
Q.4. What are monosaccharide?  
Q.5. What is meant by reducing sugars?  
Q.6. What is meant by invert sugars?  
Q.7. Why are carbohydrate generally optically active?  
Q.8. What are the two functions of carbohydrates in plants?  
Q.9. What are the products of hydrolysis of lactose?  
Q.10. Write a reaction which shows that all the carbon atoms in glucose are linked in a straight chain.

### 2-Marks Questions

- Q.1. Explain what is meant by?  
(i) Pyranose structure of glucose?  
(ii) Glycosidic linkage?  
Q.2. Write the reactions and facts about glucose which cannot be explained by its open chain structure.  
Q.3. What is essentially the difference between the alpha-form of glucose and beta-form of glucose? Explain.

### 3-Marks Questions

- Q.1. Enumerate the reaction of D-glucose which cannot be explained by the open chain structure.  
Q.2. What is essentially the difference between alpha-glucose and beta-glucose? What is meant by pyranose structure of glucose?  
Q.3. What is glycogen? How it is different from starch? How is starch structurally different from cellulose?  
Q.4. How can reducing and non-reducing sugars can be distinguished? Mention the structural feature characterising reducing sugars. Q.5. What happens when D-glucose is treated with the following reagents?  
(i) HI  
(ii) Br<sub>2</sub>  
(iii) HNO<sub>3</sub>  
Q.6. An optically active amino acid (A) can exist in three forms depending on the pH of the medium. The molecular formula of (A) is C<sub>3</sub>H<sub>7</sub>NO<sub>2</sub>.

i) Write the structure of compound (A) in aqueous medium. What are such ions called?    ii) In which medium will the cationic form of compound (A) exist?    iii) In alkaline medium, towards which electrode will the compound (A) migrate in electric field?