



# CBSE NCERT Based Chapter wise Questions (2025-2026)

Class-XII

Subject: Chemistry

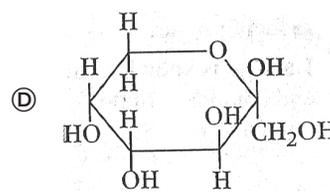
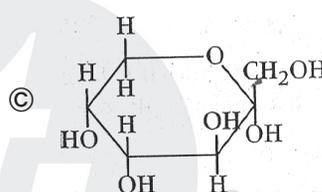
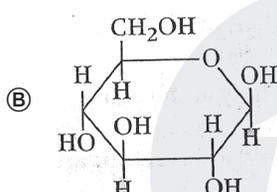
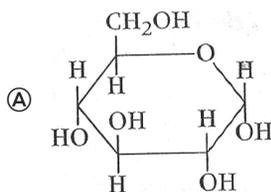
Chapter Name : *Biomolecules* (Chapter : 10)

Total : 7 Marks (expected) [MCQ(1)-1 Mark, Assertion-Reason(1)-1 Mark or VSA(1)-1 Mark, SA(2)-1, LAQ(3)-1]

**Level - 1**

## MCQ Type Questions: (1 mark)

- In the ring structures of glucose, the anomeric carbon is  
(A) C-2                      (B) C-3                      (C) C-4                      (D) C-1
- On hydrolysis, which of the following carbohydrates gives only glucose?  
(A) Maltose                      (B) Sucrose                      (C) Lactose                      (D) Galactose
- Hydrolysis of sucrose is called  
(A) inversion                      (B) hydration                      (C) esterification                      (D) saponification
- Which of the following statements is not true about glucose?  
(A) It is an aldohexose                      (B) On heating with HI it forms n-hexane  
(C) It is present in pyranose form                      (D) It gives 2, 4-DNP test
- Which of the following structures represent  $\alpha$ -D-glucose?



[Hints: Q 1 to 5, CBSE 2023]

## Assertion-Reason based questions (1 mark)

Read the two statements carefully and select the correct option given below.

- A:** Both (A) and (R) are correct and (R) is the correct explanation of (A).  
**B:** Both (A) and (R) are correct but (R) is not the correct explanation of (A).  
**C:** (A) is correct and (R) is incorrect.  
**D:** (A) is incorrect and (R) is correct.
6. **Assertion (A):** Fructose is a reducing sugar.  
**Reason (R):** Fructose does not reduce Fehling solution and Tollen's reagent.

- (A) A                      (B) B                      (C) C                      (D) D

[Hints: CBSE 2024]

## Very Short Answer Type Questions (1 mark)

- Which of the two components of starch is water soluble? [All India 2020, 2014]
- What is the basic structural difference between glucose and fructose? [All India 2020, 2014]
- Write the products obtained after hydrolysis of lactose. [Delhi 2019]  
**Or,** What are the products of hydrolysis of lactose?
- Write the product obtained when D-glucose reacts with  $\text{H}_2\text{N}-\text{OH}$ . [All India 2015]

### Short Answer Type Questions (2 marks)

11. Classify the following sugars into monosaccharides and disaccharides.  
Galactose, Glucose, Lactose and Maltose
12. Give the reaction of glucose with hydrogen cyanide. Presence of which group is confirmed by this reaction?
13. (i) How are carbohydrates stored in animal's body? Mention any one organ where they are present.  
(ii) What is the basic structural difference between starch and cellulose?  
[Hints: Q11 to 13, CBSE 2023]

### Long Answer Type Questions (3 marks)

14. When sucrose is hydrolysed the optical rotation values are measured using a polarimeter and are given in the following table

Time (hours)	Specific rotation
0	+66.5°
$\infty$	-39.9°

- (i) Account for the two specific rotation values.
- (ii) What is the specific name given to sucrose based on the above observation?
- (iii) One of the products formed during the hydrolysis of sucrose is a glucose, that reacts with hydroxylamine to give compound A. Identify compound A. [All India 2020]
15. Write the structure of product when D-glucose reacts with the following. (Any three)  
(i) HI    (ii) Conc.  $\text{HNO}_3$     (iii)  $\text{Br}_2$  water    (iv) HCN  
[Hints: CBSE 2023]

## ANSWER

1. (D)    2. (A)    3. (A)    4. (D)    5. (A)