



**NOIDA PUBLIC SCHOOL**  
**A-78, Sector-23, Noida**  
**Affiliation No 2130200**  
**Session: 2023-24**



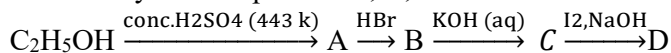
## **CHEMISTRY ASSIGNMENT**

### **CH - BIOMOLECULES**

1. Differentiate between DNA and RNA.
2. Differentiate between fibrous proteins and globular proteins.
3. (a) Write chemical reaction to show that open structure of D-Glucose contains straight chain.  
(b) Why is sugar called invert sugar? Why is it called so?
4. Explain the amphoteric behaviour of aminoacids.
5. Why water soluble vitamins must be supplied regularly in the diet? Give one example of it.
6. Glucose is an aldose sugar but it does not react with sodium hydrogen sulphite. Give a reasons.
7. Except for vitamin B<sub>12</sub>, all other vitamins of a group B, should be supplied regularly in the diet. Why?
8. Explain why glucose pentaacetate does not react with hydroxylamine?
9. Give the sources of vitamin A and E, name the deficiency diseases resulting from lack of vitamin A and E in the diet.
10. What happens when D-Glucose reacts with conc. HNO<sub>3</sub>.
11. (a) Name the branched chain component of starch.  
(b) Ribose in RNA and deoxyribose in DNA differ in the structure around which carbon atom?  
(c) How many peptide linkages are present in a tripeptide?
12. Differentiate between  $\alpha$  -Helix and  $\beta$  -pleated sheet structure of protein.
13. What are the products of hydrolysis of sucrose?

## CH – ORGANIC CHEMISTRY

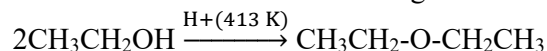
1. Identify the compounds A, B, C and D.



2. How are the following conversions carried out?

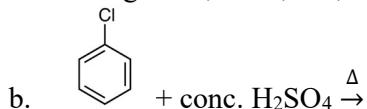
(i) Propene to Propan-2-ol                      (ii) Ethyl chloride to Ethanal

3. Write the mechanism of the following reaction:

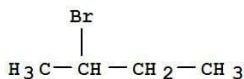


4. Answer the following:

a. Arrange R-F, R-Br, R-I, R-Cl in increasing order of boiling point.



c. Which alkyl halide would you expect to react more rapidly by S<sub>N</sub>2 mechanism?



CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>CH<sub>2</sub>Br or

5. Why is chloroform stored in dark colored bottles?

6. During the β-elimination reaction of 2-bromopentane in an alcoholic solution of KOH results Pent-2-ene as the major product and pent-1-ene as the minor product. State the rule to explain the reaction.

7. How do you convert:

- Chlorobenzene to biphenyl
- Propene to 1-iodopropane
- 2-bromobutane to but-2-ene

8. Write the product(s) formed when:

(i) 2-Bromopropane undergoes dehydrohalogenation reaction.

(ii) Chlorobenzene undergoes nitration reaction.

(iii) Methylbromide is treated with KCN.