



# Brain International School

Vikas Puri, New Delhi

## ASSIGNMENT NO 1

**SUBJECT: CHEMISTRY**

**CLASS-XII**

**APRIL, 2025**

Chapter 6-Haloalkanes and Haloarenes

Q1. Write IUPAC name of following compounds (a) Chloroform (b) DDT ( $\text{Cl}_3\text{CCH}(\text{pClC}_6\text{H}_4)_2$ )

Q2. Arrange the following according to decreasing dipole moment.

p-dichlorobenzene, m-dichlorobenzene and o-dichlorobenzene

Q3. Give one example of each (a) Markovnikov's addition (b) Anti-Markovnikov's addition

Q4. Write the products of following:

(a) Methylcyclopentene reacts with HBr

(b) Cyclopentene reacts with chlorine in presence of UV rays/ sunlight and heat.

Q5. Give reason for the following:

(a) Dipole moment of chlorobenzene is less than chloroethane.

(b) Benzene shows mainly electrophilic substitution.

Q6. Convert the following:

(a) Aniline into chlorobenzene

(b) Aniline into cyanobenzene

Q7. Find the final products:

(a) Propene reacts with HBr in presence of peroxide then with  $\text{AgNO}_2$

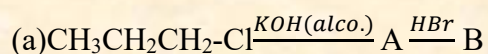
(b) Propene reacts with HBr in presence of peroxide then with KCN

Q8. Give the reason for the following:

(a) Grignard reagents are prepared in moisture free environment.

(b) Haloalkanes and haloarenes are not dissolved in water.

Q9. Give products of following reactions:



(b) 2-Bromopropane reacts with alco.KOH then with HBr in presence of benzoyl peroxide.

Q10. (a) What is function of dry ether in preparation of Grignard reagent.

(b) Haloalkanes and haloarenes are insoluble in water. Why?

Q11. Write short note on following name reactions:

(a) Finkelstein reaction

(b) Swartz reaction

Q12. Explain with example  $\text{S}_{\text{N}}1$  and  $\text{S}_{\text{N}}2$  reactions.

Q13. Define the following:

(a) retention (b) inversion

Q14. Give reason for the following:

(a) Haloarenes do not show nucleophilic substitution reaction.

(b) In the solution of alcohol NaOH shows elimination reaction.

Q15. Convert the following:

(a) 2-Chloropropane into 1-iodopropane.

Q16. Define the following terms:

(a) Enantiomers (b) Chiral carbon

Q17. Give reason for the following:

(a) Chloroform is stored in dark bottles.

(b) R-X on reacting with KCN forms cyanides

Q18. Give chemical distinguish test between following pair of compounds:

(a) Chloroethane and chloroethene

(b) Chlorobenzene and chlorocyclohexane

Q19. Convert the following:

(a) Propene into 1-nitropropane

(b) Propene into propyne

Q20. An organic compound 'A' is primary haloalkane having formula  $\text{C}_4\text{H}_9\text{Br}$ . It on reacting with alcoholic KOH forms alkene 'B' which on reacting with HBr forms 'C' which is isomer of 'A'. 'A' on reacting with Na in presence of dry ether forms n-hexane. Find molecular structures of A, B, C and D also write involved chemical reactions.