

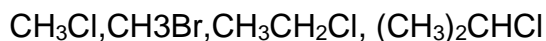
**Chemistry Revision Test**

**Time: 30 mins**

**Max Marks: 30**

Q1.

(a) Arrange the following halides in order of increasing  $S_N2$  reactivity



(b) What is the order of reactivity of different alkyl halides in nucleophilic substitution reaction?

(c) How you will convert 2-Bromopropane to 1-bromopropane?

(d) How you will convert aniline into chlorobenzene?

4 marks

Q2. A) Write the structures of main products:

(i).Chlorination of benzene in presence of UV light.

(ii).Propene is treated with HBr in presence of benzoyl peroxide.

B) Complete the following reactions:

(i).  $C_6H_5N_2Cl + KI \rightarrow$  ?

(ii)  $CH_2=CH_2 + Br_2 \xrightarrow{CCl_4}$  ?

4 marks

Q3.

Explain why:

(a).Dipole moment of chlorobenzene is lower than cyclohexyl chloride.

(b).Grignard reagent should be prepared under anhydrous conditions?

(c).Chloroform is stored in dark Brown bottles?

3 marks

B) What happens when?

(a).Ethyl chloride treated with alcoholic KOH

(b).Alcohol reacts with thionyl chloride?

. 3 marks

C) How you will convert:

- (a).Chlorobenzene into toluene
- (b).Chlorobenzene to phenol
- (c).Ethyl bromide to diethyl ether.

3 marks

Q4 Give reasons:

- (i).Boiling point of alkyl bromide is higher than alkyl chloride.
- (ii).Alkyl halides are better solvents than aryl halides.
- (iii).Haloalkanes are used as solvent in industry are chloro compounds rather than bromo compounds.

3 marks

Q5 Primary alkyl halide A  $C_4H_9Br$  reacted with alcoholic KOH give compound B. Compound B is reacted with HBr to give C which is an isomer of A. When A was reacted with Na metal it gives a compound (D)  $C_8H_{18}$  that was different than the compound when n-butyl bromide reacted with Na .Give the structural formulae for A and write the equations for all the reactions?

5 marks

Q6.Give reasons:

- (i).Benzyl chloride undergoes  $SN_1$  reactions faster than cyclohexyl methyl chloride.
- (ii).p-Dichlorobenzene has higher melting point than ortho-dichlorobenzene.
- (iii).Out of chlorobenzene and chloromethane, which is more reactive towards nucleophilic substitution reaction?
- (iv). Thionyl chloride is preferred for preparing alkyl chlorides from alcohols.
- (v). Iodide ion is a better nucleophile than bromide ion?

5 marks