

CHOITHRAM SCHOOL MANIK BAGH INDORE**CLASS XII Session: 2017-18**

Subject: Chemistry
Allotment Date: 11/08/17

Assignment No: III
Submission Date: 18/08/17

S.No	QUESTION	MARKS	LEVEL
OBJECTIVE TYPE			
1.	Write the structure for 4-tert-butyl-3-iodoheptane.	1	Knowledge
2.	p-Dichlorobenzene has higher melting point and lower solubility than o- and m-isomers.	1	Understanding
3.	Allyl chloride is hydrolysed more readily than n-propyl chloride. Why?	1	hot
SHORT ANSWER TYPE I			
4.	How will you bring about the following conversions? i) Benzyl alcohol to 2-phenylethanoic acid ii) Ethanol to but-1-yne	2	knowledge
5.	Out of $C_6H_5CH_2Cl$ and $C_6H_5CHClC_6H_5$, which is more easily hydrolysed by aqueous KOH and why?	2	understanding
6.	Although chlorine is an electron withdrawing group, yet it is ortho, para-directing in aromatic substitution reactions. Explain why it is so?	2	logic
7.	A hydrocarbon of molecular mass 72 g/mol gives a single monochloro derivative and two dichloro derivative on photochlorination. Give the structures of the hydrocarbon.	2	Hot
SHORT ANSWER TYPE II			
8.	Explain why the dipole moment of chlorobenzene is lower than that of cyclohexyl chloride.	3	understanding
9.	Identify the compounds A,B,C,and D in the following sequence of reaction: $C_2H_5OH \xrightarrow{\text{Conc. } H_2SO_4} A \xrightarrow{HBr} B \xrightarrow{\text{aq. KOH}} C \xrightarrow{I_2/NaOH} D$ Also mention the mechanism for the conversion of C_2H_5OH to A at 443 K.	3	Multi conceptual
10.	DDT was the first chlorinated organic effective insecticide . The use of DDT increased enormously on a worldwide basis after world war II primarily because of its effectiveness against mosquito that spreads malaria. i) Write the structural formula of DDT? ii) How will you prepare DDT? Give a chemical equation iii) Do you think that DDT should be banned in India? Give reason.	3	Value based
LONG ANSWER TYPE			
11.	Give reason for the following : i) Haloalkanes react with KCN to form alkyl cyanides as main product while AgCN forms isocyanides as the major product. ii) Haloarenes are much less reactive than haloalkanes towards nucleophilic substitution reactions. iii) Reaction of alkyl chlorides with aqueous KOH leads to the formation of alcohols but in presence of alcoholic KOH, alkenes are the major products. iv) Chloroform is stored in closed dark coloured bottles completely filled so that air is kept out. v) Grignard's reagent should be prepared under anhydrous conditions.	5	Logic
12.	Primary alkyl halide C_4H_9Br (A) reacted with alcoholic KOH to give compound (B). Compound (B) is reacted with HBr to give (C) which is an isomer of (A). When (A) is reacted sodium metal it gives compound (D) C_8H_{18} that was different from the compound formed when n-butylbromide is reacted with sodium. Give the structural formula of (A) and write the equations for all the reactions.	5	Hot