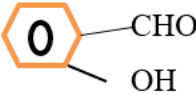




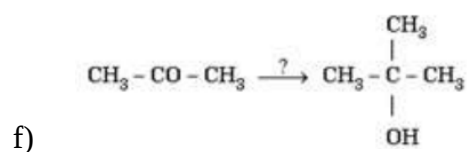
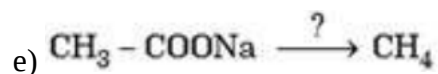
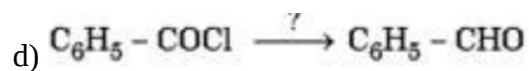
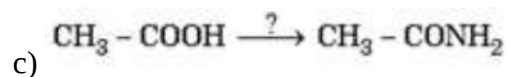
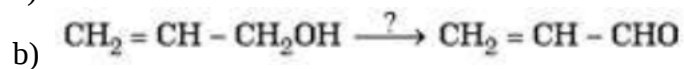
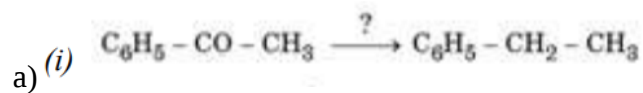
INDIAN SCHOOL NIZWA- WORKSHEET

	CHEMISTRY	
	CH: 12ALDEHYDES, KETONES &CARBOXYLIC ACIDS	
Name: _____	Date: _____	Class: XII Sec: ____

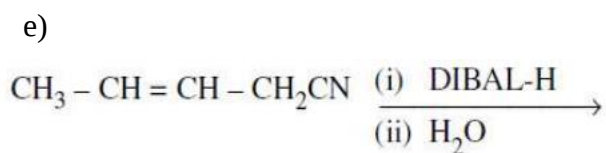
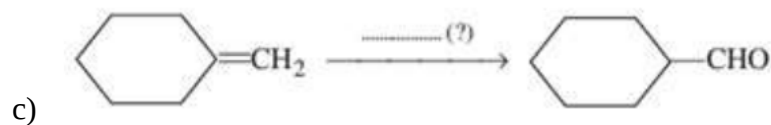
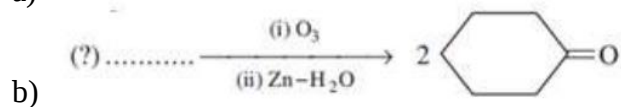
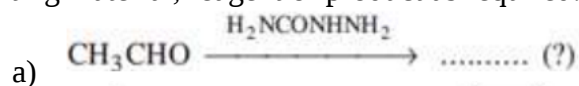
1.	<u>Answer the following</u> 1. Write IUPAC names. a. $\text{CH}_2 = \text{CH CO CH}_3$ b. $\text{CH}_3 \text{ CH}_2 \text{ CO-CH}_2\text{-CHO}$ c. $\text{CH}_3 - \text{CO CH}=\text{C} - (\text{CH}_3)_2$ d. 
2.	1. Write the structure of the following compounds. a. 3- oxo pentanal b. 6-Chloro-4- methyl hexanal c. 1- phenyl propanone. d. Hex-4-en -2 - one.
3.	2. Give chemical tests to distinguish between the following pairs of compounds a. Ethanal and propanone b. Propanoyl chloride and propanoic acid c. Benzaldehyde and ethanal. (acetaldehyde) d. Benzaldehyde and benzoic acid.
4.	3. Give reasons for the following. a. Monochloro ethanoic acid has a higher pKa value than di chloro ethanoic acid. b. Ethanoic acid is weaker than benzoic acid. c. Aldehydes are more reactive than ketones towards nucleophiles. Or Ethanal is more reactive than acetone towards nucleophilic addition reactions. Or CH_3CHO is more reactive than CH_3COCH_3 towards reaction with HCN. d. The aldehydes and ketones undergo a number of addition reactions. e. The boiling points of aldehydes and ketones are lower than corresponding acids.

	f. $(\text{CH}_3)_3\text{C-CHO}$ does not undergo aldol condensation. g. Carboxylic acids are higher boiling liquids than alcohols. h. Oxidation of aldehydes is easier than ketones. or Oxidation of $\text{CH}_3 - \text{CHO}$ is easier than $\text{CH}_3 - \text{COCH}_3$. i. Carboxylic acid does not give reactions of carbonyl group j. The α-hydrogen atoms of aldehydes and ketones are acidic in nature. k. Carboxyl group in benzoic acid is meta directing.
5.	An alkene with molecular formula C_5H_{10} on ozonolysis gives a mixture of two compounds, B and C. Compound B gives positive Fehling test and also reacts with iodine and NaOH solution. Compound C does not give Fehling solution test but forms iodoform. Identify the compounds A, B and C.
6.	a) An organic compound A having molecular formula $\text{C}_5\text{H}_{10}\text{O}$ gives negative Tollen's test, forms n-pentane on Clemmenson's reduction but doesn't give iodoform test. Identify A and give all the reactions involved. b) An organic compound X having molecular formula $\text{C}_3\text{H}_8\text{O}$ on treatment with Cu at 573K gives Y. Y doesn't react with Fehling's solution but gives a yellow precipitate of the compound Z with I_2 & NaOH. Deduce the structure X, Y and Z c) An organic compound (X) having molecular formula $\text{C}_5\text{H}_{10}\text{O}$ can show various properties depending on its structures. Draw each of the structures if it i) gives positive iodoform test. ii) shows Cannizzaro's reaction iii) reduce Tollen's reagent and has a chiral carbon atom.
7.	Complete the following sequence of reactions: $\text{CH}_3\text{COCH}_3 \xrightleftharpoons{\text{Ba(OH)}_2} \text{A} \xrightarrow[\text{- H}_2\text{O}]{\Delta} \text{B} \xrightarrow{\text{NaOH, I}_2} \text{C + D}$
8.	Arrange the following in the increasing order of their reactivity towards nucleophilic addition reaction: i) a) CH_3COCH_3, $\text{C}_6\text{H}_5\text{COCH}_3$, $\text{CH}_3 - \text{CHO}$. b) ethanol, Butanone, propanal, propanone. c) Acetaldehyde, Benzaldehyde, Acetophenone, Acetone. ii) CH_3CHO, $(\text{CH}_3)_3\text{C-COCH}_3$, CH_3COCH_3, CCl_3CHO (Towards CH_3MgBr)

9. Write the reagents used in the following reactions :



10. Complete the following reactions Complete the following reaction by giving the missing starting material, reagent or product as required:



11.	Convert i) a) propanone to 2methyl propan- 2-ol a) Ethanal to But-2-en-1-al b) Propanoic acid to 2-chloropropanoic acid c) CH_3CN to propanone. d) Benzoic acid to benzene e) Benzaldehyde to 1-Phenylethanol ii) How can you convert each of the following compounds to Benzoic acid ? (1) Acetophenone (2) Ethylbenzene (3) Bromobenzene (4) Phenyl ethene
-----	--