Date Planned : __ / __ / __	Daily Tutorial Sheet-1	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	JEE Advanced (Archive)	Exact Duration :_____

1. Write the structural formula of main organic product formed when ethyl acetate is treated with double the molar quantity of methyl magnesium bromide and the reaction mixture is poured into water. **(1981)**

2. Write the chemical equation to show what happens when, "Ethyl acetate is treated with sodium ethoxide in ethanol and the reaction mixture is acidified." **(1981)**

3. An alkene A on ozonolysis yields acetone and an aldehyde. The aldehyde is easily oxidised to an acid B. When B is treated with bromine in presence of phosphorus yields a compound C which on hydrolysis gives a hydroxy acid D. This acid can also be obtained from acetone by the reaction with hydrogen cyanide followed by hydrolysis. Identify the compounds A, B, C and D. **(1982)**

4. State with balanced equation, what happens when "Acetic anhydride reacts with phenol in presence of a base." **(1982)**

5. Acetamide is treated separately with the following reagents. Which one of these would give methyl amine?

(A) PCl_5 **(B)** $NaOH + Br_2$ **(1983)**

(C) $HOCH_2CH_2OH$ **(D)** Hot conc. H_2SO_4

6. Hydrolysis of an ester in the presence of a dilute acid is known as saponification. **(1983)**

7. Formic acid when heated with conc. H_2SO_4 produces _____. **(1983)**

8. Give reasons for the following in one or two sentences. **(1983)**
"Acetic acid can be halogenated in the presence of P and Cl_2, but formic acid cannot be halogenated in the same way". Why?

9. Write down the reactions involved in the preparation of the following using the reagents indicated against in parenthesis. Propionic anhydride from propionaldehyde [$AgNO_3$, NH_4OH, P_2O_5] **(1984)**

10. Give reasons in one or two sentences for the following : "Formic acid is a stronger acid than acetic acid." **(1985)**

11. A liquid X, having a molecular formula $C_6H_{12}O_2$ is hydrolyzed with water in the presence of an acid to give a carboxylic acid Y and an alcohol Z. Oxidation of Z with chromic acid gives Y. What are the structures of X, Y and Z ? **(1986)**

12. Complete the following with appropriate structures : **(1986)**

$(CH_3CO)_2O \xrightarrow{C_2H_5OH} CH_3COOH + ?$

13. Arrange the following in order of their increasing ease of hydrolysis : **(1986)**
$CH_3COOC_2H_5$, CH_3COCl, $(CH_3CO)_2O$, CH_3CONH_2

14. Write balanced equations for the following reaction : **(1987)**
"Acetamide is reacted with bromine in the presence of potassium hydroxide."

15. Give reason for : **(1988)**
"Carbon-oxygen bond lengths in formic acid are 1.23Å and 1.36Å and both the carbon-oxygen bonds in sodium formate have the same value, i.e. 1.27Å"