Date Planned : __ / __ / __	Daily Tutorial Sheet-2	Expected Duration : 45 Min
Actual Date of Attempt : __ / __ / __	JEE Advanced (Archive)	Exact Duration :_____

16. Outline the reaction sequence for the conversion of "acetylene to acetone". **(1985)**

17. The compound that will not give iodoform on treatment with alkali and iodine is : **(1985)**

(A) acetone **(B)** ethanol **(C)** diethyl ketone **(D)** isopropyl alcohol

18. A white precipitate was formed slowly when silver nitrate was added to a compound (A) with molecular formula $C_6H_{13}Cl$. Compound (A) on treatment with hot alcoholic potassium hydroxide gave a mixture of two isomeric alkenes (B) and (C), having formula C_6H_{12}. The mixture of (B) and (C), on ozonolysis, furnished four compounds: **(1986)**

(i) CH_3CHO **(ii)** C_2H_5CHO **(iii)** CH_3COOCH_3 **(iv)** $H_3C-\underset{\displaystyle CH_3}{\underset{|}{C}}H-CHO$

19. Identify compounds A and B which will combine in presence of alkali and heated to produce cinnamaldehyde. **(1986)**

20. How may the following transformation be carried out (in not more than six steps) "benzaldehyde to cyanobenzene"? **(1986)**

21. Give reason in one or two sentences for the following: **(1986)**
"Hydrazones of aldehydes and ketones are not prepared in highly acidic medium".

22. Which of the following compounds is oxidised to prepare methylethylketone ? **(1987)**

(A) 2-propanol **(B)** 1-butanol **(C)** 2-butanol **(D)** t-butyl alcohol

23. Answer the followings with suitable equations wherever necessary. **(1987)**

(i) Suggest a reagent to distinguish acetaldehyde from acetone.

(ii) What happens when excess chlorine is passed through boiling toluene in the presence of sunlight?

24. An unknown compound of carbon, hydrogen and oxygen contains 69.77% carbon and 11.63% hydrogen and has a molecular weight of 86. It does not reduce Fehling solution, but forms a bisulphite addition compound and gives a positive iodoform test. What are the possible structures for the unknown compound? **(1987)**

25. The reaction of methyl magnesium iodide with acetone followed by hydrolysis gives secondary butanol. (T/F) **(1987)**

26. Polarisation of electrons in acrolein may be written as **(1988)**

(A) $\overset{\delta-}{C}H_2=\overset{\delta+}{C}H-CH=O$ **(B)** $\overset{\delta-}{C}H_2=CH-CH=\overset{\delta+}{O}$

(C) $\overset{\delta+}{C}H_2=\overset{\delta-}{C}H-CH=O$ **(D)** $\overset{\delta+}{C}H_2=CH-CH=\overset{\delta-}{O}$

27. A ketone A, which undergoes haloform reaction, gives compound B on reduction. B on heating with sulphuric acid gives compound C, which forms mono-ozonide D. D on hydrolysis in the presence of zinc dust gives only acetaldehyde. Identify A, B and C. Write down the reactions involved. **(1989)**

28. Which of the following is an example of aldol condensation ? **(1989)**

(A) $2CH_3CHO \xrightarrow{\text{dil. NaOH}} CH_3CH(OH)CH_2CHO$

(B) $2CH_3COCH_3 \xrightarrow{\text{dil. NaOH}} H_3C-\underset{\displaystyle CH_3}{\overset{\displaystyle OH}{\underset{|}{\overset{|}{C}}}}-CH_2COCH_3$

(C) $2HCHO \xrightarrow{\text{dil. NaOH}} CH_3OH + HCOONa$

(D) $C_6H_5CHO + HCHO \xrightarrow{\text{dil. NaOH}} C_6H_5CH_2OH + HCOONa$

29. Fehling's solution A consists of an aqueous solution of copper sulphate, while Fehling's solution B consists of an alkaline solution _____. **(1990)**

30. The enolic form of acetone contains **(1990)**

(A) 9 sigma bonds, 1 pi-bond and 2 lone pair

(B) 8 sigma bonds, 2 pi-bonds and 2 lone pair

(C) 10 sigma bonds, 1 pi-bond and 1 lone pair

(D) 9 sigma bonds, 2 pi-bonds and 1 lone pair