

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

(ii)

- (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 C₆H₁₃Cl. 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:
 - CH₃CHO (i)

C₂H₅CHO

- (iii)
- $\mathrm{CH_{3}COOCH_{3}}$ (iv) $\mathrm{H_{3}C-CH-CHO}$ $\mathrm{CH_{3}}$
- 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: "Hydrazones of aldehydes and ketones are not prepared in highly acidic medium".

Which of the following compounds is oxidised to prepare methylethylketone?

(1987)

(A) 2-propanol

22.

- **(B)** 1-butanol
- (C) 2-butanol
- (D) t-butyl alcohol
- **23**. Answer the followings with suitable equations wherever necessary.

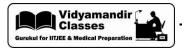
(1987)

(1986)

- (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)
- (B) $\begin{array}{c} \delta-\\ C\ H_2 = CH CH = O \end{array}$ (D) $\begin{array}{c} \delta-\\ C\ H_2 = CH CH = O \end{array}$
- $\begin{array}{l} \delta-\\ C\ H_2 = C\ H CH = O \\ \delta+\\ C\ H_2 = C\ H CH = O \end{array}$ (C)
- A ketone A, which undergoes haloform reaction, gives compound B on reduction. B on heating with **27**. 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)
$$2CH_{3}COCH_{3} \xrightarrow{\quad dil. \ NaOH \quad } H_{3}C - C - CH_{2}COCH_{3} \\ \downarrow \\ CH_{3}$$

- (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