

Daily Tutorial Sheet-2

Level-1

$$\textbf{17.(C)} \quad \text{CH}_{3}\text{CH}_{2}\text{OH} \xrightarrow{\text{P}/\text{I}_{2}} \text{CH}_{3}\text{CH}_{2}\text{I} \xrightarrow{\text{Mg}} \text{CH}_{3}\text{CH}_{2}\text{MgI} \xrightarrow{\text{HCHO}} \text{CH}_{3}\text{CH}_{2}\text{CH}_{2}\text{OH} \\ \text{n - Propyl alcohol}} \xrightarrow{\text{P}/\text{P}_{2}\text{CH}_{3}\text{CH}_{2}\text{CH}_{2}\text{CH}_{2}\text{OH}} \xrightarrow{\text{HCHO}} \text{CH}_{3}\text{CH}_{2}\text{CH}_{2}\text{OH}$$

18.(A) Ph - CH₂CH - CHMe₂
$$\xrightarrow{H^+}$$
 Ph - CH₂CH - CHMe₂ $\xrightarrow{1, 2-H^- \text{ shift}}$ Ph - CHCH₂ - CHMe₂ OH

Ph

CHMe₂ + Ph

CHMe₂ - H

CHMe₃ CHMe₄ C = C

CHMe₅ CHMe₆ CHMe₆ CHMe₇ CHMe₇

- **19.(A)** $C_2H_5OH \xrightarrow{PCC} CH_3CHO \xrightarrow{NaOH} CHI_3 + HCOONa$
- 20.(D) Phenol gives violet coloration with FeCl3, whereas benzoic acid does not react.
- **21.(B)** $C_2H_5OH \xrightarrow{(O)} CH_3CHO \xrightarrow{(O)} CH_3COOH$
- **22.(B)** $CH_3OH \xrightarrow{(O)} HCOOH \xrightarrow{NH_3} HCOONH_4 \xrightarrow{\Delta} HCONH_2$; Since heating is not done, answer is $HCOONH_4$
- **23.(B)** Only C_2H_5OH will not react as others are quite strong acids. Conjugate base formed in other cases is stabilised by -I effect and resonance

24.(A)
$$H_3C - CH - CH_3 \xrightarrow{\text{NaBr}} H_3C - CH_3 \text{ [3° alcohol will form alkene]}$$

$$\downarrow \\ OH$$

$$\downarrow \\ Br$$

25.(D) C_2H_5OH is most acidic among given compounds.

26.(B)
$$CH_3 - CH_3 \xrightarrow{(O)} CH_3 \vdots CH_3 \xrightarrow{(O)} CH_3 COOH$$

$$CH_3 - CH_3 \xrightarrow{(O)} CH_3 COOH$$

$$CH_3 - CH_3 \xrightarrow{(O)} CH_3 COOH$$

(O) $\equiv K_2Cr_2O_7/H^+/\Delta \equiv Drastic oxidation$

27.(A)
$$X : C_2H_4 \xrightarrow{HCl} CH_3CH_2Cl \xrightarrow{ZnCl_2} CH_3CH_2OH (Y)$$

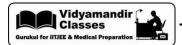
$$Al_2O_3$$

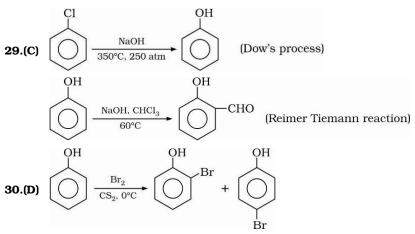
$$350^{\circ}C$$

- \rightarrow If T = 200°C, ether is obtained.
- ▶ 3° alcohol give alkene at 150°C and ethers are not formed at all.

28.(A)
$$C_7H_8O: C_6H_5 \xrightarrow{OH} \xrightarrow{FeCl_3} \text{violet colouration}$$

$$\xrightarrow{\text{methyl phenol. (o, p, m)}} \text{ } C_6H_5OCH_3 \xrightarrow{FeCl_3} \text{ no reaction}$$





- For the formation of mono-bromophenol the reaction is carried out in solvents of low polarity at low temperature. Hence X is Br_2 in CS_2 at $0^{\circ}C$.
- ightharpoonup If Br₂/H₂O is used, it forms 2, 4, 6-Tribromophenol (a white ppt.)