## CHAPTER - 22 AMINES

- Among isomeric amines the order of B.P is 1<sup>0</sup> > 2<sup>0</sup> > 3<sup>0</sup>
- 2. 2  $CH_2NO_2$  Fe+HCI reduction A  $CH_2NH_2$   $CH_3-CI$   $CH_2-CH_3-CI$   $CH_2-CH_3-CI$   $CH_3-CI$   $CH_3-CI$  C
- 3. 3 Gabriel synthesis is used to prepare 1° aliphatic amines only

- 5. 2 A = Ethanol, B = Ethyl chloride, C = Ethanamine
- 6. 2  $A = RCH_2NH_2$ ,  $B = R C CH_3$ ,  $C = R-NHCH_3$ , D = ROH
- 7. 2 Gabriel synthesis cannot be used to prepare aryl amines
- 8. 1 1° amines give isocyanide test
- 9. 1 It is a 2° amine containing ethyl group
- 10. 3 'A' is a 1° aliphatic amine'C' is isopropylisocyanide

## 11. 3 Acetylation reduces electron density in the ring

12. 3 A = aniline, B = Sulphanilic acid 
$$\begin{array}{c} NH_2 \\ \hline \\ SO_3H \end{array}$$

- 13. 3 X = Benzenediazonium chloride; A = H<sub>2</sub>O, warm
- 14. 3 Coupling occurs at the ortho position of hydroxyl group in p-cresol
- 15. 3 'b', 'c' and 'g' can be prepared by Gabriel synthesis
- 4 moles of NaOH and 1 mole of Br<sub>2</sub> will be consumed per mole of amide in Hoffmann bromamide reaction
- 17. 3 1° amides (1, 4 and 7) undergo Hoffmann bromamide reaction

- E.W.G increases and E.D.G decreases the reactivity of benzene diazonium cation in coupling reaction.
- 20. C 2° amines react with nitrous acid to form yellow -oily N nitrosoamine product
- 21. B Aryl halides are less reactive than alkyl halides towards nucleophilic substitution reactions

22. D 
$$C_2H_5 - NC \xrightarrow{H_3O^{\oplus}} C_2H_5 - \stackrel{\oplus}{N}H_3 + HCOOH$$

23. D Carbylamine reaction. Products are isocyanide, potassium chloride and water.

24. D 
$$\stackrel{\bigcirc}{\underset{H}{\longrightarrow}}$$
  $\stackrel{\stackrel{}{\longrightarrow}}{\underset{H}{\longrightarrow}}$   $\stackrel{\stackrel{\bigcirc}{\longrightarrow}}{\underset{H}{\longrightarrow}}$   $\stackrel{\bigcirc}{\underset{H}{\longrightarrow}}$ 

## Brilliant STUDY CENTRE

25. CD 
$$CH_3$$
— $CH_2$ — $I$   $Alc.KOH$   $CH_2$ = $CH_2$   $Br_2$   $CCl_4$ 

$$\begin{array}{c|cccc}
CH_2 & KCN & CH_2 & CH_2 \\
CH_2 & Excess & | & | & | \\
CN & CN & Br & Br
\end{array}$$

$$\begin{array}{c|cccc}
LiAlH_4 & CH_2 & CH_2 \\
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27. B
$$\begin{array}{c|c}
NO_2 & NO_2 \\
\hline
Br_2 & Fe
\end{array}$$

$$CH_3 & Br \\
CH_3 & CH_3$$

$$CH_3 & Br \\
CH_3 & CH_3$$

$$CH_3 & Daniel & CH_3 \\
\hline
Br & NaNO_2, HCl \\
O to 5°C
\end{array}$$

$$CH_3 & Br \\
R_3PO_2 \\
H_2O$$

$$(P)$$

29. A, C 
$$R = C = NH_2$$
  $\xrightarrow{BY_2}$   $\left[R - N = C = O\right] \xrightarrow{OH} R - NH_2 + CO_3^{2O}$ 

30. BCD

L'Alty; Na(Hg)/C2H5OH and H2/Pd can reduce nitriles to corresponding 1° amine.

31. ABCD

All the given reactions can produce benzylamine.

## Brilliant STUDY CENTRE

33. 5 
$$O \xrightarrow{CN} \xrightarrow{H_3 \circ} O \xrightarrow{COOH} \xrightarrow{NaHCO_3} CO_2 \uparrow O \downarrow COOH} O \xrightarrow{H_3 \circ} O \xrightarrow{COOH} O \xrightarrow{NaHCO_3} CO_2 \uparrow O \downarrow COOH} O \xrightarrow{COOH} O \xrightarrow{NaHCO_3} O \xrightarrow{CO} O \uparrow O \downarrow COOH} O \xrightarrow{A} O \downarrow COOH} O \xrightarrow{A} O \downarrow COOH} O \xrightarrow{COOH} O \downarrow COOH} O \xrightarrow{COOH} O \downarrow COOH} O \downarrow$$

34. 3 Presence of electron donaling groups enhance the reactivity of anithme.

Here, compounds 1, 2 and 5 are more reactive than anitime.