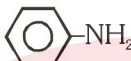


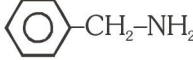
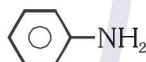
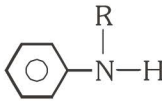
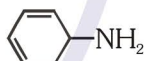


- Among the following which one is not formed in Hoffmann degradation  
 (1)  $\text{RNCO}$  (2)  $\text{R}-\ddot{\text{N}}\text{H}_2$   
 (3)  $\text{RCO}\ddot{\text{N}}\text{HBr}$  (4)  $\text{RNC}$
- $\text{CH}_3\text{CH}_2\text{CONH}_2 \xrightarrow[\text{Br}_2]{\text{NaOH}} \text{A}$ ,  
 Aqueous solution of A  
 (1) Turns blue litmus to red  
 (2) Turns red litmus to blue  
 (3) Does not affect the litmus  
 (4) Decolourise the litmus
- Ethanamine can be obtained if the following compound is heated with  $[\text{KOH} + \text{Br}_2]$   
 (1) Ethanamide (2) Methanamide  
 (3) Propionamide (4) All the above
- $\text{CH}_3\text{CONH}_2 \xrightarrow[\text{I}]{\text{P}_2\text{O}_5} \text{A} \xrightarrow[\text{II}]{\text{Na/EtOH}} \text{B}$   
 Reaction II is called  
 (1) Clemensen  
 (2) Stephen  
 (3) Mendius  
 (4) Bauevaut-blank reduction
- Tertiary amine is obtained in the reaction :-  
 (1) Aniline  $\xrightarrow{\text{CH}_3\text{I}} \xrightarrow{\text{CH}_3\text{I}}$   
 (2) Aniline  $\xrightarrow{\text{CH}_3\text{I}}$   
 (3) Nitrobenzene  $\xrightarrow{\text{Sn/HCl}}$   
 (4) None of the above
- $\text{C}_2\text{H}_5\text{NH}_2$  cannot be prepared by the reduction of  
 (1)  $\text{C}_2\text{H}_5\text{NO}_2$  (2)  $\text{CH}_3\text{CH}=\text{NOH}$   
 (3)  $\text{C}_2\text{H}_5\text{NC}$  (4)  $\text{CH}_3\text{CN}$
- Gabriel reaction for the synthesis of amines, involves the use of  
 (1)  $1^\circ$  amide (2)  $2^\circ$  amide  
 (3) Imides (4) Aliphatic amide
- Gabriel phthalimide reaction is used in the synthesis of  
 (1) Primary aromatic amines  
 (2) Secondary amines  
 (3) Primary aliphatic amines  
 (4) Tertiary amines
- The reaction :  $[\text{C}_2\text{H}_5\text{Br} + \text{NH}_3]$  is in fact an example of  
 (1) Ammonolysis only  
 (2) Nucleophilic substitution only  
 (3) Ammonolysis as well as nucleophilic substitution  
 (4) None
- Melting points are normally the highest for  
 (1) Tertiary amides (2) Secondary amides  
 (3) Primary amides (4) Amines
- Solubility of ethylamine in water is due to  
 (1) Low molecular weight  
 (2) Ethyl group is present in ethyl alcohol  
 (3) Formation of H-bonding with water  
 (4) Being a derivative of ammonia
- Which of the following compound liberates  $\text{CO}_2$  when treated with  $\text{NaHCO}_3$   
 (1)  $\text{CH}_3\text{COCH}_2\text{NH}_2$  (2)  $\text{CH}_3\text{NH}_2$   
 (3)  $(\text{CH}_3)_4\text{NOH}^\oplus$  (4)  $\text{CH}_3\text{NH}_3\text{Cl}^\ominus$
- The product obtained by the alkaline hydrolysis of  $\text{C}_2\text{H}_5-\text{N}=\text{C}=\text{O}$  when treated with t-butyl magnesiumbromide, the compound obtained will be  
 (1) t-butylamine (2) n-butylamine  
 (3) Isobutane (4) n-butane
- $\text{C}_2\text{H}_5\text{NH}_2 \xrightarrow{\begin{matrix} \text{HNO}_2 \rightarrow \text{a} \\ \text{C}_6\text{H}_5\text{CHO} \rightarrow \text{b} \\ \text{NOCl} \rightarrow \text{c} \\ \text{C}_6\text{H}_5\text{SO}_2\text{Cl} \rightarrow \text{d} \end{matrix}}$   
 Which product is a Schiff's base :-  
 (1) a (2) b (3) c (4) d
- Acidic nature of amino group is shown by the reaction :-  
 (1)  $\text{R}-\text{NH}_2 + \text{NOCl} \rightarrow \text{RCl} + \text{N}_2 + \text{H}_2\text{O}$   
 (2)  $2\text{RNH}_2 + 2\text{Na} \rightarrow 2\text{RNH.Na} + \text{H}_2$   
 (3)  $\text{R.CH}_2\text{NH}_2 + \text{HNO}_2 \rightarrow \text{R.CH}_2\text{OH} + \text{N}_2 + \text{H}_2\text{O}$   
 (4)  $\text{R.NH}_2 + \text{HCl} \rightarrow \text{RNH}_3^\oplus \text{Cl}^\ominus$
- The reagent used in the conversion of  $\text{C}_2\text{H}_5\text{NH}_2$  to  $\text{C}_2\text{H}_5\text{Cl}$  would be  
 (1)  $\text{SO}_2\text{Cl}_2$  (2)  $\text{SOCl}_2$   
 (3)  $\text{NOCl}$  (4) All

# NITROGEN CONTAINING COMPOUNDS

17. Hydrogen attached to nitrogen is released in the reaction  
 (1)  $\text{RCONH}_2 + \text{NaNH}_2$   
 (2)  $\text{RNH}_2 + \text{Na}$   
 (3) Both the above  
 (4) None of the above
18. If primary amines are treated with ketones the product is  
 (1) Urea (2) Guanidine  
 (3) Amide (4) Schiff's base
19. Reactants of reaction – I are  
 $\text{CH}_3\text{CONH}_2, \text{KOH}, \text{Br}_2$   
 Reactants of reaction–II are  
 $\text{CH}_3\text{NH}_2, \text{CHCl}_3, \text{KOH}$   
 The intermediate species of reaction–I and reaction–II are respectively  
 (1) Carbonium ion, carbene  
 (2) Nitrene, carbene  
 (3) Carbene, nitrene  
 (4) Carbocation, carbanion
20. This compound does not respond to carbylamine reaction :-  
 (1)  $\text{CH}_3-\underset{\text{CH}_3}{\text{CH}}-\text{NH}_2$  (2)  $\text{C}_2\text{H}_5-\text{NH}-\text{C}_2\text{H}_5$   
 (3)  $\text{CH}_3-\underset{\text{CH}_3}{\overset{\text{CH}_3}{\text{C}}}-\text{NH}_2$  (4)  $\text{CH}_3-\underset{\text{NH}_2}{\text{CH}}-\text{CH}_2-\text{CH}_3$
21. Blue litmus can be turned to red by the compound  
 (1) ROH (2)  $\text{RNH}_2$   
 (3)  $\text{RNH}_3^+\text{OH}^-$  (4)  $\text{RNH}_3^+\text{Cl}^-$
22. Which one of the following amine compound gives alcohol with  $\text{HNO}_2$  :-  
 (1) N,N-Dimethylaniline (2) Benzylamine  
 (3) N-methylaniline (4) Aniline
23.  $\text{C}_6\text{H}_5\text{NH}_2 \xrightarrow{\text{Br}_2/\text{CCl}_4} ?$  The product is :-  
 (1) Only o- bromoaniline  
 (2) 2, 4, 6-tribromoaniline  
 (3) o-and p-bromoaniline  
 (4) Only p-bromoaniline
24. Reaction  $\text{C}_6\text{H}_5\text{NH}_2 + \text{HAuCl}_4 \longrightarrow$   
 $[\text{C}_6\text{H}_5\text{NH}_3^+]\text{AuCl}_4^-$  shows ... behaviour of aniline :-  
 (1) Acidic (2) Neutral  
 (3) Basic (4) Amphoteric
25. Aniline on treatment with bromine water yields white precipitate of :-  
 (1) o-Bromoaniline  
 (2) p-Bromoniline  
 (3) 2, 4, 6-Tribromoaniline  
 (4) m-Bromoaniline
26. Which compound does not show diazo coupling reaction :-  
 (1)   
 (2)   
 (3)   
 (4) 
27. Which of the following amines give N-nitroso derivative with  $\text{NaNO}_2$  and HCl :-  
 (1)  $\text{C}_2\text{H}_5\text{NH}_2$  (2)   
 (3)   
 (4) 
28. Which of the following does not reduce Tollen's reagent :-  
 (1)  $\text{CH}_3\text{CHO}$  (2) HCOOH  
 (3)  $\text{C}_6\text{H}_5\text{NHOH}$  (4)  $\text{C}_6\text{H}_5\text{NH}_2$
29. Aniline can be obtained by :-  
 (1) Benzoyl chloride and ammonia  
 (2) Reduction of benzamide  
 (3) Phenol and ammonia in presence of  $\text{ZnCl}_2$   
 (4) Benzoic anhydride and ammonia
30. Aniline on direct nitration produces :-  
 (1) o-Nitroaniline  
 (2) m-Nitroaniline  
 (3) p-Nitroaniline  
 (4) All

# NITROGEN CONTAINING COMPOUNDS

31. Nitration of acetanilide followed by hydrolysis gives  
 (1) o-Nitroaniline only  
 (2) p-Nitroaniline only  
 (3) o- & p-Nitroaniline  
 (4) o-Nitroanilinium ion

32.  $C_6H_5NH_2 \xrightarrow[0-5^\circ C]{NaNO_2/HCl} A$ , Which is the incorrect structure of the product 'A' :-

- (1)  $[C_6H_5-N=N]Cl$  (2)  $[C_6H_5N_2]Cl$   
 (3)  $[C_6H_5-N\equiv N]Cl$  (4)  $[C_6H_5-N\equiv N]Cl$

33. Chloroform and ethanolic KOH is used as a reagent in the following reaction :-

- (a) Hoffmann carbylamine reaction  
 (b) Hoffmann degradation reaction  
 (c) Reimer-Tiemann reaction  
 (d) Hoffmann mustard oil reaction

Code is :-

- (1) Only for a (2) Only for a and b  
 (3) Only for b and d (4) Only for a and c

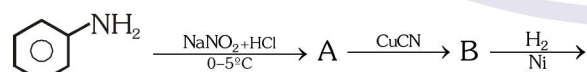
34. Acetanilide when treated with bromine in acetic acid mainly gives :-

- (1) o-Bromoacetanilide  
 (2) N-Bromoacetanilide  
 (3) p-Bromoacetanilide  
 (4) m-Bromoacetanilide

35. Aromatic nitriles (ArCN) are not prepared by reaction

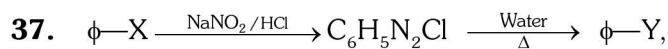
- (1)  $ArX + KCN$  (2)  $ArN_2^+ + CuCN$   
 (3)  $ArCONH_2 + P_2O_5$  (4)  $ArCONH_2 + SOCl_2$

36. Aniline in a set of reactions yielded end product D



The structure of the product D would be

- (1)  $C_6H_5CH_2OH$  (2)  $C_6H_5CH_2NH_2$   
 (3)  $C_6H_5NHOH$  (4)  $C_6H_5NHCH_2CH_3$



In the above sequence X and Y are :-

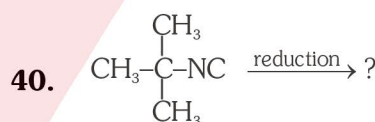
- (1) o-, p- and m-directing  
 (2) o-, p- and o-, p-directing  
 (3) m and m directing  
 (4) m and o, p directing

38. Which of the following compound gives an explosive on decarboxylation :-

- (1) 2,4,6-Trinitrobenzoicacid  
 (2) 2,4-Dinitrobenzoicacid  
 (3) o-Aminobenzoicacid  
 (4) o-Hydroxybenzoicacid

39. The gas leaked from a storage tank of the Union Carbide plant in Bhopal gas tragedy was:-

- (1) Methylisocyanate  
 (2) Methylamine  
 (3) Ammonia  
 (4) Phosgene



- (1)  $\begin{array}{c} CH_3 \\ | \\ CH_3-C-NH_2 \\ | \\ CH_3 \end{array}$  (2)  $\begin{array}{c} CH_3 \\ | \\ CH_3-C-NH-CH_3 \\ | \\ CH_3 \end{array}$

- (3)  $\begin{array}{c} CH_3 \\ | \\ CH_3-C-NH-CH_2CH_3 \\ | \\ CH_3 \end{array}$  (4) None

41. Reaction of RCN with sodium and alcohol leads to the formation of :-

- (1)  $RCONH_2$  (2)  $RCOO^-NH_4^+$   
 (3)  $RCH_2NH_2$  (4)  $R(CH_2)_3NH_2$

42.  $C_6H_5NO_2 \xrightarrow{SnCl_2/HCl} A \xrightarrow[0^\circ C]{NaNO_2/HCl} B$ ; In the above sequence Benzene from B, is suitably obtained by using :-

- (1) Ethanol (2)  $H_3PO_2$   
 (3) Both the above (4) Methanol

