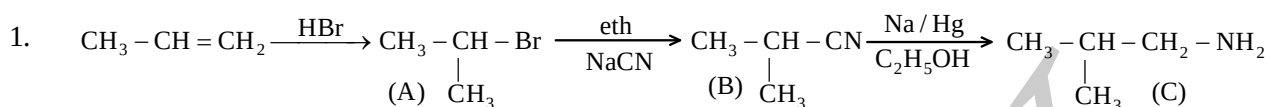
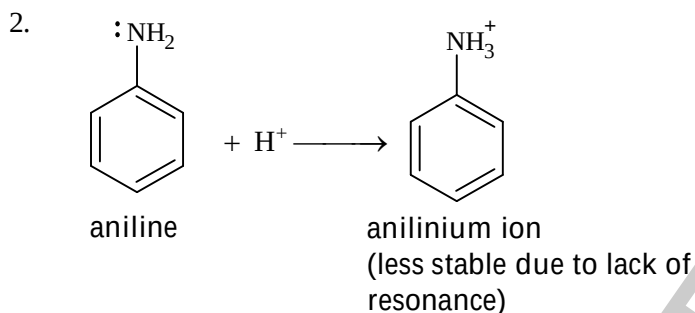


SOLUTION TEST-A



1° amine because N is attached to only one carbon atom.

The correct answer is (i)



The correct answer is (ii)

3. Tertiary amine is one in which the N-atom is attached to three carbon atoms.

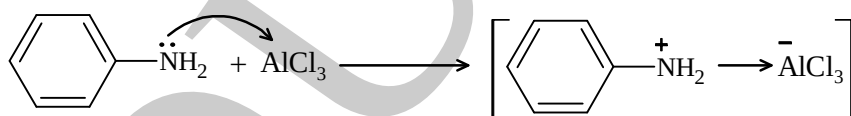
The correct answer is (iv)

4. Isopropyl amine, $\text{CH}_3 - \underset{\text{CH}_3}{\text{CH}} - \text{NH}_2$ is a primary amine. Primary amines give base soluble product with

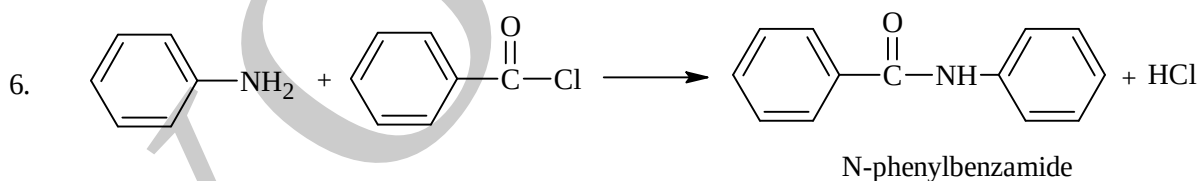
benzene sulphonyl chloride.

The correct answer is (iv)

5. Aniline does not give Friedel-Craft reaction because aniline combines with Lewis acid AlCl_3 and form a salt. In this salt, N-atom acquires a positive charge and the ring gets deactivated.

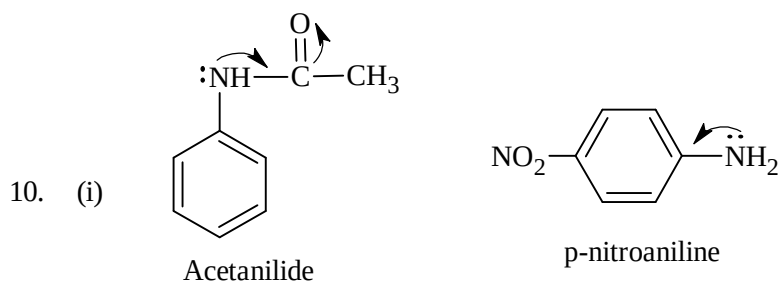


The correct answer is (iii)



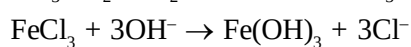
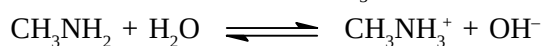
7. (i) 4-Aminobenzene sulphonic acid
(ii) N-methyl-2-methyl pent-3-enamine
8. (i) HNO_2 or NaNO_2/HCl
(ii) NaNO_2/HCl , 0–4°C followed by $\text{H}_2\text{O}/160^\circ\text{C}$
(iii) NaNO_2/HCl , 0–4°C followed by coupling with phenol
(iv) CHCl_3/KOH (eth), warm

9. (i) A $\rightarrow$ $\text{C}_6\text{H}_5\text{NHCOCH}_3$
(ii) B $\rightarrow$ $\text{CH}_3\text{CH}_2\text{CH}_2\text{NHCH}_3$
(iii) C $\rightarrow$ $(\text{CH}_3)_2\text{CHNH}_2$
D $\rightarrow$ $(\text{CH}_3)_2\text{CHOH}$



In acetanilide, the C = O (EWG) is attached directly to the N-atom whereas in p-nitroaniline, the EWG (NO₂) is present at p-position. Therefore, the decrease in e⁻ density on N-atom in acetanilide is more than in p-nitroaniline. So, the tendency to accept H⁺ ion is less in acetanilide. Hence, acetanilide is a weaker base than p-nitroaniline.

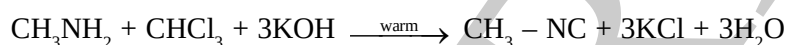
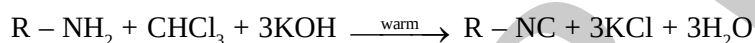
(ii) CH₃NH₂ is basic in nature, dissolves in H₂O to give OH⁻. This OH⁻ ion reacts with FeCl₃ to give reddish brown precipitate of Fe(OH)₃.



reddish brown ppt.

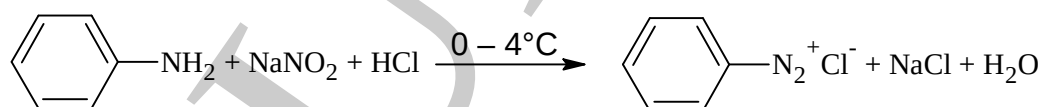
11. (i) **Carbylamine reaction**

Primary amines on reaction with CHCl₃ and ethanolic potash gives a product carbylamine which has a very unpleasant smell.



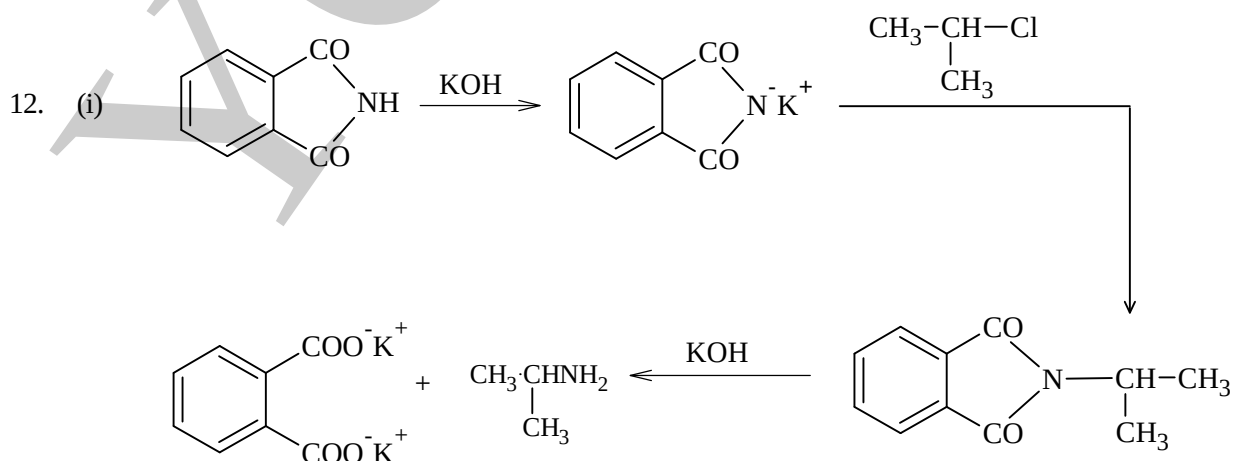
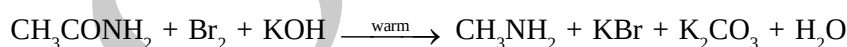
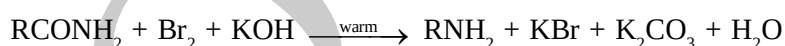
(ii) **Diazotisation**

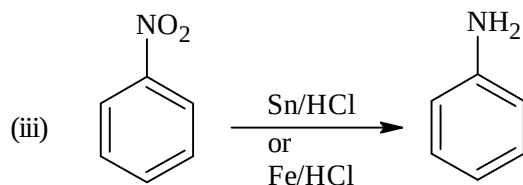
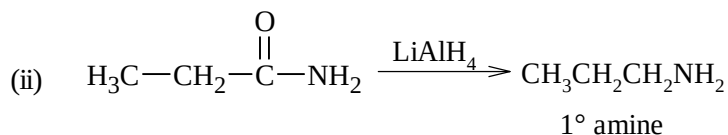
Aromatic compounds in which NH₂ group is attached directly to the benzene ring on reaction with NaNO₂, HCl, in ice-cold solution give benzene diazonium chloride. The reaction is called diazotisation.

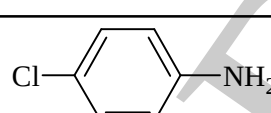
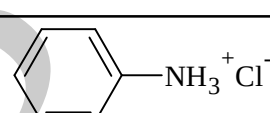


(iii) **Hoffmann bromamide reaction**

1° amides with α-carbon on reaction with Br₂/KOH gives primary amine with one carbon less.





13. (a) (i) Test	$\text{CH}_3-\overset{\text{CH}_3}{\underset{ }{\text{CH}}}-\text{CH}_2\text{NH}_2$	$\text{CH}_3-\overset{\text{CH}_3}{\underset{ }{\text{CH}}}-\text{NH}-\text{CH}_3$
Hinsberg's reagent $\text{C}_6\text{H}_5\text{SO}_2\text{Cl} + \text{KOH}$	It gives a base soluble product	It gives a base insoluble product
(ii) Test	 p-chloro aniline	 anilinium hydrochloride
dil. $\text{HNO}_3/\text{AgNO}_3$	No white ppt	It gives a white ppt of AgCl

14. (a) (i) $(\text{C}_2\text{H}_5)_2\text{NH} < \text{C}_2\text{H}_5\text{NH} < \text{C}_6\text{H}_5\text{NHCH}_3 < \text{C}_6\text{H}_5\text{NH}_2$
(ii) $\text{CH}_3\text{CH}_2\text{CH}_3 < (\text{CH}_3)_2\text{NH} < \text{C}_2\text{H}_5\text{NH}_2 < \text{C}_2\text{H}_5\text{OH}$

(b)

