



SHIKSHA CLASSES

Subject : Chemistry

BOARD ANSWER PAPER

Total Marks : 20

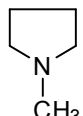
Class : XII

Topic: 13. Amines

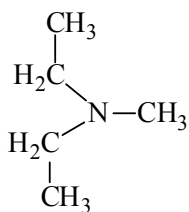
Section (A)

Q.1 : a) Select and write the most appropriate answer from given alternatives in each sub-question 5]

i) Which of the following is tertiary amine?

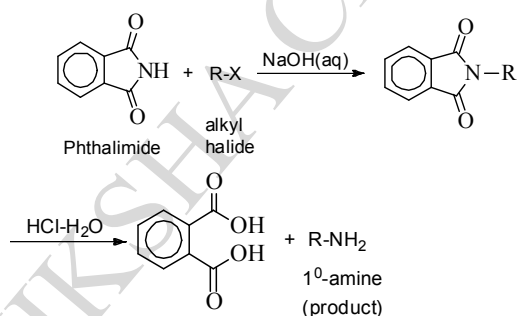
Ans : (a)  N-methyl pyrrolidine (3° -amine)

ii) IUPAC Name of : 

Ans : (a)  N-Ethyl-N-methyl
Ethanamine (IUPAC Name)

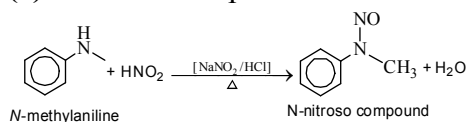
iii) When Phthalimide is heated with alkyl halide using (aq.) sodium hydroxide it gives

Ans : (c) Primary amine



iv) When N-methylamine is reacted with nitrous acid followed by diazotized mixture it gives

Ans : (a) N-nitroso compound :



v) Alkyl cyanide on Reduction produces.

Ans : a) 1° amine

i) $\text{R-CN} + 4(\text{H}) \text{Na/ethanol}$

$\text{R-CH}_2\text{-NH}_2$ 1° amine

Q.1 : (b) Very short answer type Question. [2]

i) What is acylation product of Aniline in Basic condition?

Ans : "Acetanilide" is the product of Acylation of Aniline in pyridin as a base medium."

ii) What is the reducing product of nitrobenzene?

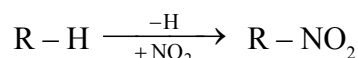
Ans. : Aminobenzene (Aniline) is the product of nitrobenzene which is on treating Sn/HCl as a reducing agent.

Section (B)

Q.2 : Answer the following question (Any three) [6]

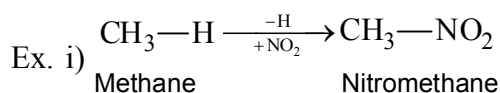
i) What are 'Nitro alkane'? Explain with an example.

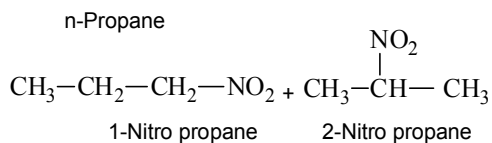
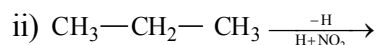
Ans: "Nitroalkane".



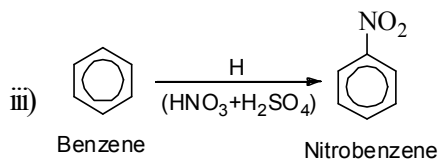
Where R = alkyl and aryl

When 'nitro' as organic functional group is present or attached to hydrocarbon or when replacement of hydrogen atom by nitro ($-\text{NO}_2$) as functional group in alkane or hydrocarbon is known as "Nitro alkane".





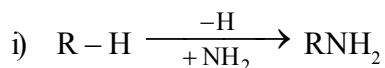
Ex. (i) + (ii) is Aliphatic nitro compound



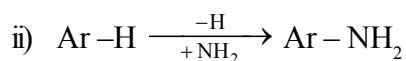
Ex. (iii) Is Aromatic nitro compound.

ii) **What are Amine? Give its classifications.**

Ans : "Amine"



Aliphatic Amine



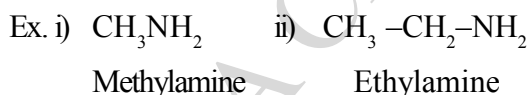
Aromatic Amine

When replacement of one or more hydrogen atom by one or more amine/ amino as functional groups in hydrocarbon (Aliphatic /Aromatic) is known as Amine.

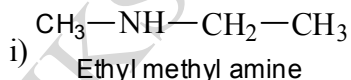
Classification :

i) **Primary amine : (1^o - amine) :**

"When one alkyl or aryl group is attached to amino group is known as primary amine".

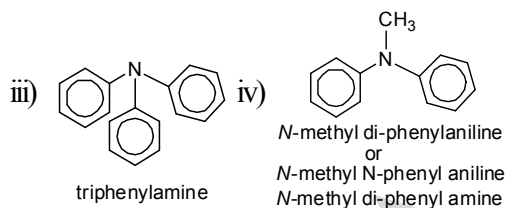
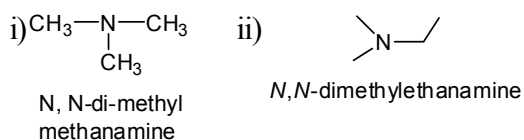


ii) **Secondary Amine :** Two alkyl group attached to nitrogen atom.



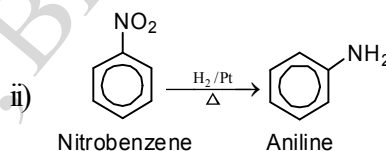
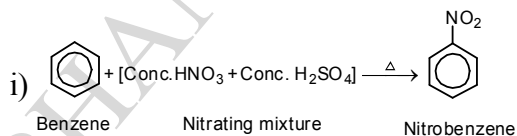
iii) **Tertiary amine (3^o Amine) :** When three alkyl group is attached to amino functional group or nitrogen atom is known as tertiary amine (3^o amine).

Ex. of tertiary amine :

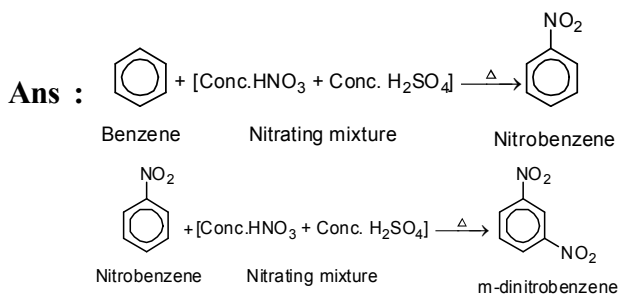


iii) **Give the methods of preparation of Aniline from benzene.**

Ans : When benzene is treated with nitrating mixture it gives nitrobenzene further which is heated with hydrogen and platinum metal gives Aniline or Amino benzene.



iv) **How will you obtained m-dinitro benzene from benzene?**



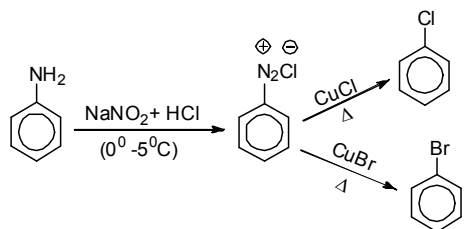
When nitration of benzene using nitrating mixture [$\text{Conc. HNO}_3 + \text{Conc. H}_2\text{SO}_4$] it gives Nitro benzene further which is treated with nitrating mixture again it gives m-di-nitrobenzene 1,3-dinitrobenzene

Section (C)

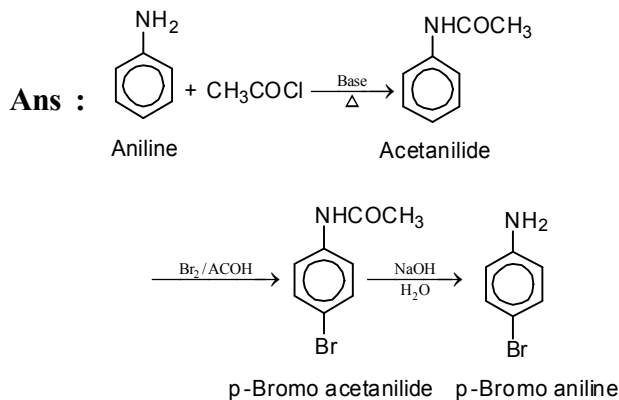
Q.3 : Answer the following question (Any one) [3]

i) **What are Sandmeyer reaction give its application.**

Ans : **Sandmeyer Reaction**



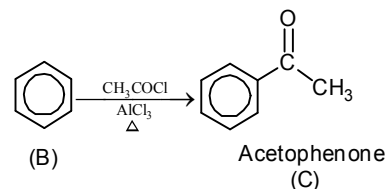
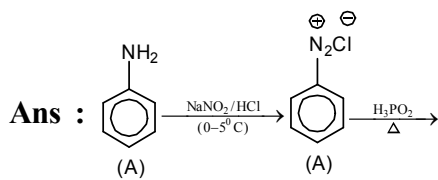
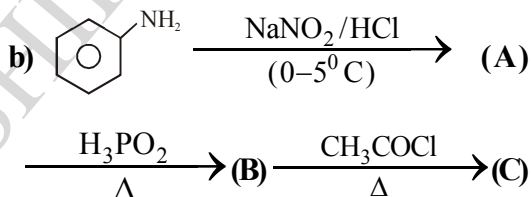
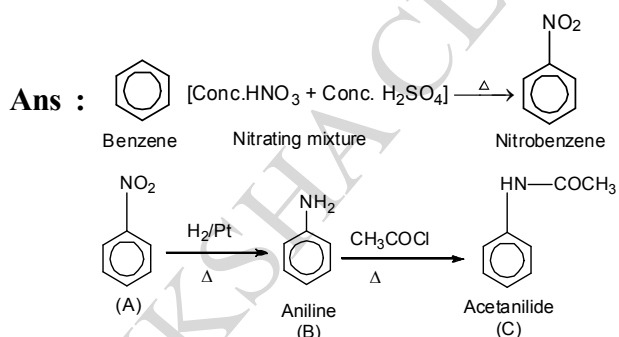
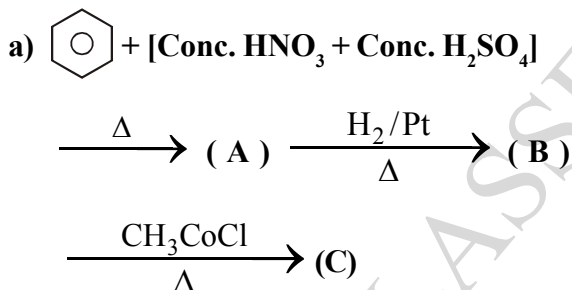
ii) Give the synthetic methods of 4-bromo aniline from aniline?



Section (D)

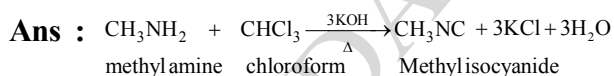
Q.4 : Answer the following question. (Any One) [4]

i) Complete the reaction



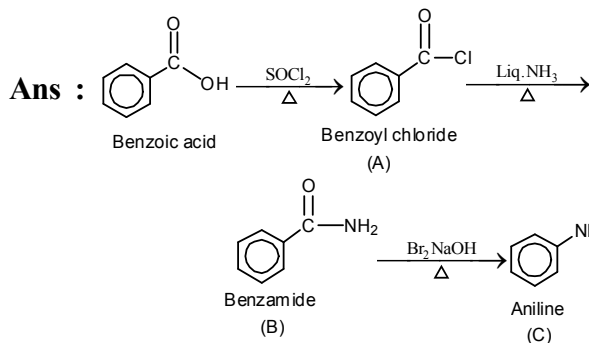
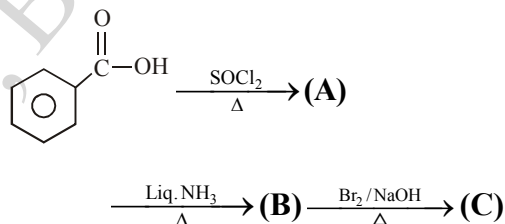
OR

ii) a) What happens when methyl amine is heated with chloroform in presence of potassium hydroxide?



When methyl amine is heated with chloroform in presence of potassium hydroxide it gives methyl isocyanide, this is done by "Carbylamine Test"

b) Complete the given reaction



In the first step of reaction : simple halogenation or substitution of OH-atom by chlorine (-Cl) from thionyl group.

In second step of reaction : Addition of liq. ammonia in acid chloride-benzoyl chloride to benzamide.

In the final step (III) of reaction for formation of aniline (primary amine) by Hoffman degradation method. using bromine and sodium hydroxide starting from amide.

BECOME AN ACE IN JEE & NEET



SHIKSHA CLASSES
Believe & Achieve

JEE | NEET | Previsa (8-10)

📞 8625055707 | 8623085707 🌐 shikshaclasses.co.in

M-19, MHADA Colony, Khat Road, Bhandara



Learn with Jaiswal sir