CBSE NCERT Based Chapter wise Questions (2025-2026)

Class-XII

Subject: Chemistry

Total : 6 Marks (expected) [MCQ-1 × 1 Mark, VSAQ-1 × 1 Mark or 2 marks or 3 marks, LQ-5 Marks]

Chapter Name : *Amines* (Chap : 9)

Level - 2

SECTION – A **[1 Marks MCQ]**

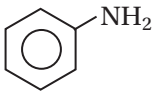
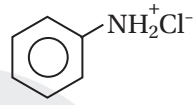
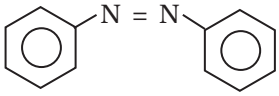
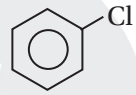
1. The reaction of ammonia with a large excess of methyl chloride will yield mainly

   Ⓐ methylamine Ⓑ dimethylamine
   Ⓒ tetramethyl ammonium chloride Ⓓ trimethylamine

2. In the reaction, $C_6H_5NH_2 + CHCl_3 + 3KOH \longrightarrow A + 3B + 3C$ the product A is

   Ⓐ C_6H_5NC Ⓑ C_6H_5CN Ⓒ C_6H_5Cl Ⓓ $C_6H_5NHCH_3$

3. When nitrobenzene is heated with tin and concentration HCl, the product formed is

   Ⓐ 
   Ⓑ 
   Ⓒ 
   Ⓓ 

SECTION – B **[3 Marks CQ]**

(II) Very Short Questions:

4. How is the following conversion carried out? Aniline to p-hydroxyazobenzene?
5. Write one reaction that can be used as a test for primary amines.
6. Give a chemical test to distinguish between ethylamine and aniline.
7. Give a chemical test to distinguish between amiline and N-methylaniline.
8. Why electrophilic substitution takes place more readily in aromatic amines than benzene?

SECTION – C **[2 Marks]**

(III) 2 Marks Questions:

9. How will you bring about the following conversions?
   (i) Methylamine into iodomethane.
   (ii) Chlorobenzene into p-chloroaniline.
10. Give a chemical test to distinguish between
    (i) methylamine and dimethylamine
    (ii) aniline and N-methylaniline

SECTION – D [3 Marks]

(IV) 3 Marks Questions:

11. An organic aromatic compound 'A' with the molecular formula C_6H_7N is sparingly soluble in water. 'A' on treatment with dil. HCl gives a water soluble compound 'B'. 'A' also reacts with chloroform in presence of alcoholic KOH to form an obnoxious smelling compound 'C'. 'A' reacts with $NaNO_2$ benzene sulphonyl chloride to form an alkali soluble compound 'D'. 'A' reacts with $NaNO_2$ and HCl to form a compound 'E' which on reaction with phenol forms an orange red dye 'F'. Elucidate the structures of the organic compounds from 'A' to 'F'.

12. An aromatic compound 'A' on treatment with aqueous ammonia and heating forms compound 'B' which on heating with Br_2 and KOH forms a compound 'C' of molecular formula C_6H_7N. Write the structure and IUPAC names of compounds A, B and C.

13. Give the structures of A, B and C in the following reactions:

(i) $CH_3Br \xrightarrow{KCN} [A] \xrightarrow{LiAlH_4} [B] \xrightarrow[273\ K]{HNO_2} [C]$

(ii) $CH_3COOH \xrightarrow[\Delta]{NH_3} [A] \xrightarrow{Br_2 + KOH} [B] \xrightarrow{CHCl_3 + NaOH} [C]$

14. How will you convert the following?

(i) Nitrobenzene into aniline.

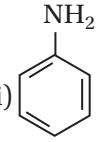
(ii) Ethanoic acid into methanamine.

(iii) Aniline into N-phenylethanamide.

15. Complete the following reaction.

(i) $CH_3CH_2NH_2 + CHCl_3 + Alc.KOH \longrightarrow$

(ii) $C_6H_5N_2^+Cl^- \xrightarrow[\text{(At room temperature}]{H_2O}$

(iii)  $\xrightarrow{NaNO_2/HCl} [A] \xrightarrow[H_2O/H^+]{\text{Boiling}} [B]$

16. Give the structures of A, B and C in the following reactions.

(i) $C_6H_5N_2^+Cl^- \xrightarrow{CuCN} [A] \xrightarrow{H_2O/H^+} [B] \xrightarrow[\Delta]{NH_3} [C]$

(ii) $C_6H_5NO_2 \xrightarrow{Sn + HCl} [A] \xrightarrow[273\ K]{NaNO_2 + HCl} [B] \xrightarrow[\Delta]{H_2O/H^+} [C]$

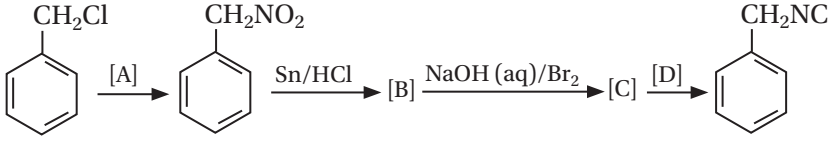
SECTION – E [3 Marks]

(V) 5 Marks Questions:

17. An organic compound 'A' with molecular formula C_7H_7NO reacts with Br_2/aq. KOH to give compound 'B', which upon reaction with $NaNO_2$ and HCl at 0°C gives 'C'. Compound 'C' on heating with CH_3CH_2OH gives a hydrocarbon 'D'. Compound 'B' on further reaction with Br_2 water gives white precipitate of compound 'E'.

Identify the compound A, B, C, D and E. Also, justify your answer by giving relevant chemical equations.

18. (i) Identify A, B, C and D.



(ii) Distinguish between the following pair of compounds.

(a) Aniline and benzylamine (b) Methylamine and dimethylamine

(iii) Complete the following.

ANSWER

1. Ⓒ
2. Ⓐ
3. Ⓐ