

AMINES

CHAPTER-13

TEST-A

SOLVED

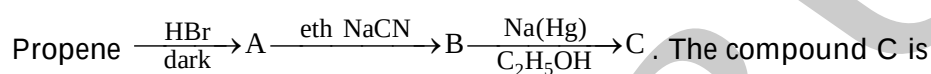
Time: 1 hr.

Max. Marks: 30

SECTION-A

Tick the correct option:

1. In the reaction [1]

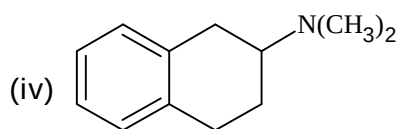
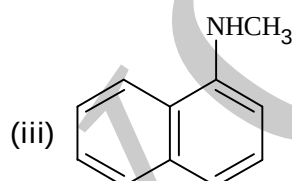


- (i) Isobutyl amine, 1° (ii) sec-butyl amine, 1°
 (iii) n-butyl amine, 1° (iv) sec-butyl amine, 2°

2. The correct statement among the following is [1]

- (i) $(\text{C}_2\text{H}_5)_3\text{N}$ has a higher pK_b value than $\text{C}_2\text{H}_5\text{NH}_2$
 (ii) Aniline is more stable than anilinium ion
 (iii) Phenylamine is a stronger base than benzyl amine
 (iv) Diethyl amine has a higher boiling point than n-butylamine

3. Which of the following amine is an example of tertiary amine? [1]



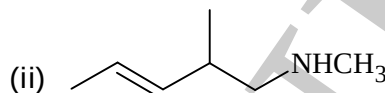
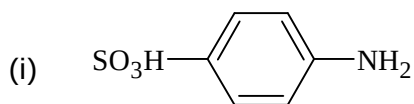
Assertion-Reason type Questions:

- (i) If assertion and reason both are correct and reason is the correct explanation of assertion.
 (ii) If assertion and reason both are correct and reason is not the correct explanation of assertion.
 (iii) If assertion is correct and reason is wrong.
 (iv) If assertion is wrong and reason is correct.
4. Assertion: Isopropyl amine gives a base insoluble product with benzene sulphonyl chloride.
 Reason: Isopropyl amine is a primary amine. [1]

5. Assertion: Aniline does not give Friedel Craft's reaction.
Reason: The benzene ring gets deactivated due to the presence of NH_2 group. [1]

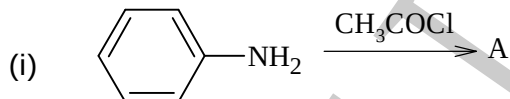
One word /One Sentence type Questions.

6. Write chemical reaction of aniline with benzoyl chloride and write the name of the product obtained. [1]
7. Write IUPAC name of the following compounds: [1]



SECTION-B

8. Suggest the reagents / reaction conditions for the following transformation: [2]
(i) Propanamine $\rightarrow$ Propanol
(ii) Aniline $\rightarrow$ Phenol
(iii) Aniline $\rightarrow$ p-hydroxyazobenzene
(iv) Ethylamine $\rightarrow$ Carbylamino ethane
9. Identify the structures of compound A to D [2]



10. Account for the following: [2]
(i) Acetanilide is a weaker base than p-nitroaniline.
(ii) Methylamine solution in water reacts with ferric chloride solution to give a precipitate of ferric hydroxide.
11. Give an example for each and describe the following reactions: [3]
(i) Carbylamine reaction
(ii) Diazotisation
(iii) Hofmann bromamide reaction
12. How will you prepare [3]
(i) Isopropyl amine using Gabriel phthalimide synthesis
(ii) Primary amine from amide with same number of carbon atom
(iii) Aniline by reduction method.

13. (a) Give a chemical test to distinguish between the following pair of organic compounds: **[2+1]**
- (i) 2-methyl propanamine and N-methyl propan-2-amine
 - (ii) p-chloroaniline and anilinium hydrochloride
- (b) Write an equation for the reaction involving replacement of the diazonium group by iodide ion.
14. (a) Arrange the following in order of increasing property indicated **[2+1]**
- (i) $\text{C}_2\text{H}_5\text{NH}_2$, $\text{C}_6\text{H}_5\text{NHCH}_3$, $(\text{C}_2\text{H}_5)_2\text{NH}$, $\text{C}_6\text{H}_5\text{NH}_2 \rightarrow \text{p}K_b$ value
 - (ii) $\text{C}_2\text{H}_5\text{OH}$, $(\text{CH}_3)_2\text{NH}$, $\text{C}_2\text{H}_5\text{NH}_2$, $\text{CH}_3\text{CH}_2\text{CH}_3 \rightarrow$ boiling point
- (b) Convert aniline into 1, 3, 5-tribromobenzene.
15. (a) An aromatic compound 'A' on treatment with aqueous ammonia and heating form compound 'B' which on heating with Br_2 and caustic potash form a compound 'C' of molecular formula $\text{C}_6\text{H}_7\text{N}$. Write the structures and IUPAC names of the compounds 'A'. 'B' and 'C'. **[3+2]**
- (b) Complete the following reaction
- (i) $\text{C}_6\text{H}_5\text{N}_2^+\text{Cl}^- + \text{H}_3\text{PO}_2 + \text{H}_2\text{O} \rightarrow$
 - (ii) $\text{C}_6\text{H}_5\text{N}_2^+\text{Cl}^- + \text{CH}_3\text{O}-\text{C}_6\text{H}_5 \rightarrow$

