CHEMISTRY

BOOKS - ARIHANT PUBLICATION

AMINES

Part I Questions For Practice Multiple Choice Type Questions

1. The IUPAC nomenclature for the following compound is

$$CH_3CH_2CH_2-\overset{CH_2CH_3}{\underset{|}{N}}-CH_3$$

A. ethyl methyl propylamine

B. N-ethyl-N -methyl-1-propanamine

C. N-methyl-N-ethyl-1-propanamine

D. None of the above

Answer: B

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2. Which of the following halide will give highest yield in ammonolysis?

A. Primary halides

B. Secondary halides

C. Tertiary halides

D. Quaternary salrs of amines

Answer: A

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3. In Hofmann-bromamide reaction an amide is converted to -

A. primary amine

B. secondary amine

C. teruary amine

D. aldehyde

Answer: A

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4. Acetamide is converted to methylamine when it is heated with—

A. H_2SO_4

B. $NaOH + Br_2$

C. $Aq.\ KOH$

D. $NaNO_2 + H_2$

Answer: B

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Part I Questions For Practice Very Short Answer Type Questions

1. Write the IUPAC names of the following compounds and classify them into primary, secondary and tertiary amines.

$(CH_3)_2CHNH_2$

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2. Write the IUPAC names of the following compounds and classify them into primary, secondary and tertiary amines.

$CH_3(CH_2)_2NH_2$

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3. Write the IUPAC names of the following compounds and classify them into primary, secondary and tertiary amines.

$CH_3NHCH(CH_3)_2$

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4. Write the IUPAC names of the following compounds and classify them into primary, secondary and tertiary amines.

$(CH_3)_3CNH_2$

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5. Write the IUPAC name of the following compound and classify it into $1^\circ, 2^\circ$ and 3° amine. $m - BrC_6H_4NH_2$

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6. Write the IUPAC name of the following compound

$$CH_3 - \underset{\underset{NH_2}{|}}{CH} - CH_2 - CHO$$

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7. Draw the structure of prop-2-en-1-amine.

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8. Write the IUPAC name and structure of allyl amine.

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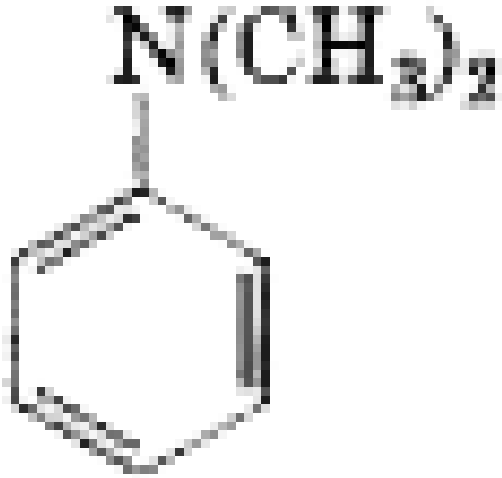
9. Write down the IUPAC name of



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10. Nitrogen atoms in amines are sp^3-hybridised, why?

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11. $R - CH_2 - CN$ on reduction with H_2 / Ni forms....

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12. What is the best reagent to convert nitrile to primary amine?

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13. What happens when nitromethane reacts with Sn and HCl?

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14. What happens when nitromethane is reduced ? Give equation.

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15. How benzene is converted to aniline?

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16. How can you convert acetic acid to methyl amine?

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17. Explain why aromatic primary amines can't be prepared by Gabriel phthalimide process.

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Part I Questions For Practice Short Answer Type Questions

1. Give the structures of different isomeric amines corresponding to the molecular formula, $C_4H_{11}N$

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2. Write the IUPAC names of all the isomers.

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3. Do the conversion : benzene to aniline.

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4. How will you convert

benzene into N, N-dimethyl aniline?

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5. How will you convert

$Cl-(CH_2)_4-Cl$ into hexane-1, 6-diamine?

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Part I Questions For Practice Long Answer Type Questions

1. 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 structures and IUPAC names of compounds A, B and C.

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Part I Part I Questions For Assessment Multiple Choice Type Questions

1. Consider the following reaction,

$$CH_3C \equiv N + 4H \xrightarrow{Na/C_2H_5OH} CH_3CH_2NH_2$$

Which of the following is the correct name for the above reaction?

A. Carbylamine reaction

B. Mendius reaction

C. Hofmann's reaction

D. Gabriel's reaction

Answer: B

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2. Gabriel phthalimide synthesis is used in the preparation of

A. 1° amines

B. 2° amines

C. 3° amines

D. mixutre of all amines

Answer: A

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3. Which of the following chemical reaction produces isocyanides as a product?

A. Hofmann reaction

B. Gabriel phthalimide reaction

C. carbylamine reaction

D. None of the above

Answer: C

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Part I Questions For Assessment Multiple Choice Type Questions

1. Write the IUPAC nomenclature of the compound

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Part I Questions For Assessment Very Short Type Questions

1. Draw the structure of N, N-bis (1-bromo ethyl) ethanamine.

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2. Name the reagent that reacts with nitromethane to form methyl hydroxylamine.

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3. Why does trimethylamine have an angle of 108°?

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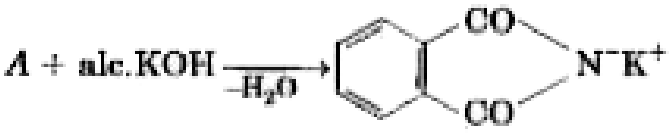
4. Give the structure of A in the following reaction



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Part I Questions For Assessment Short Answer Type I Questions

1. Name the following reactions

$$CH_3CH_2CONH_2 + Br_2 + 4NaOH \rightarrow CH_3CH_2NH_2 + Na_2CO_3 + 2NaI$$

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2. Name the following reactions

$$R-X+:NH_3 \xrightarrow[\text{Sealed tube}]{373K} R-\overset{+}{N}H_3X^- \overset{NH_3}{\Longleftrightarrow} \underset{1^\circ\text{amine}}{RNH_2} + NH_4^+X^-$$

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3. Explain any one method which is used for preparing amine containing one carbon less than the reactant.

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Part I Questions For Assessment Short Answer Type Ii Questions

1. Name the reagent used in the following reactions

$$R-C\equiv N \xrightarrow{A} RCH_2NH_2$$

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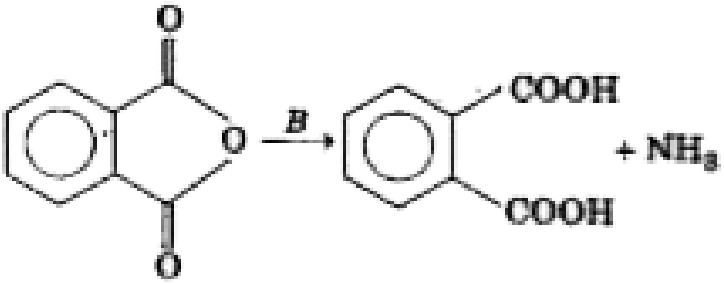
2. Name the reagent used in the following reactions



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3. Name the reagent used in the following reactions

$$C_6H_5NO_2 + 3H_2 \xrightarrow{C} C_6H_5NH_2 + 2H_2O$$

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Part I Questions For Assessment Long Answer Type Question

1. Find out the incorrect names and correct them.

(a) N-butylaminoethane

(b) 1-amino 2-ethanol

(c) methylaniline

(d) propanediamine

(e) 1-phenylaminoethane

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2. How aniline is obtained from benzoic acid?

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Part Ii Questions For Practice Multiple Choice Type Questions

1. Which of the following has the most basic character ?

A. NH_3

B. CH_3NH_2

C. $(CH_3)_2NH$

D. $C_2H_5NH_2$

Answer: C

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2. Which is the most basic in aqueous solution?

A. CH_3NH_2

B. $(CH_3)_2NH$

C. $(CH_3)_3N$

D. NH_3

Answer: B

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3. How does ethyl amine react with acetyl chloride ?

A. acetamide

B. N-methylacetamide

C. N-ethylacetamide

D. ethyl acetate

Answer: C

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4. Reaction between primary amine, $CHCl_3$ and alc. KOH is called

A. aldol condensation

B. Friedel-Craft's reaction

C. Cannizzaro's reaction

D. carbylamine reaction

Answer: D

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5. Reaction between methylamine, chloroform and alc. KOH is called

A. aldol condensation

B. Friedel-Crafts reaction

C. carbylamine reaction

D. Cannizzaro's reaction

Answer: C

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6. Electrophilic substitution reaction in aniline takes place at

A. m-position

B. only o-position

C. only p-position

D. o-and p-position

Answer: D

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Part Ii Questions For Practice Very Short Answer Type Questions

1. .....is obtained by treating acetamide with Br_2 and excess of NaOH solution.

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2. Complete the following chemical equation.

$CH_3NH_2 + CH_3COCl \rightarrow$ ___+___

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3. Name the main product obtained by the carbylamine reaction of $CH_3 - CH_2 - NH_2$

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4. Complete the following reaction and name the products formed $C_6H_5NH_2 + HNO_2 + HCl \xrightarrow{273-278K}$ ...+...

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5. Complete the following reaction,

$C_2H_5NH_2 + ... + 3KOH \rightarrow C_2H_5N \Longrightarrow C + 3KCl + ...$

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6. Name the compound precipitated when excess of bromine water is added to aniline.

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Part Ii Questions For Practice Short Answer Type I Questions

1. Why aniline is less basic than methyl amine?

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2. Account for the following

pK_b of aniline is more than that of methylamine.

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3. Account for the following

Ethylamine is soluble in water whereas aniline is not

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4. How is methylamine converted to trimethyl amine?

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5. Identify X, Y and Z and name the reaction.

$C_6H_5NH_2 + CHCl_3 + 3KOH \rightarrow X + Y + Z$

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6. What happens when ethylamine reacts with chloroform and KOH solutions?

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7. What happens when propionamide is heated with alkine solution of bromine ?

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8. How can you convert ethylamine to ethyl alcohol?

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9. Name the products of following reaction.

$C_2H_5NH_2 + HNO_2 \rightarrow$ ___+___+___

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10. $C_5H_{13}N$ reacts with HNO_2 to give an optically active alcohol. What is this compounds ? Give its IUPAC name.

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11. Account for the following

Methylamine in water reacts with ferric chloride to precipitate hydrated ferric oxide.

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12. Why does aniline not undergo Fidel crafts reaction?

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13. Identify A, B, C and name the reaction involved in the transformation of B to C.

$$CH_3 - \underset{\underset{O}{||}}{C} - NH_2 \xrightarrow[P_4O_{10}]{\text{Heat}} [A] \xrightarrow{LiAlH_4} [B] \xrightarrow[KOH]{\text{Heat},CHCl_3} \underset{\text{Foul smell}}{[C]}$$

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14. Give one chemical test to distinguish between the following pairs of compounds

Aniline and benzylamine

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15. Give one chemical test to distinguish between the following pairs of compounds

Aniline and N-methyl aniline

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Part Ii Questions For Practice Short Answer Type Ii Questions

1. Draw the structures of different isomers corresponding to the molecular formula C_3H_9N. Write the IUPAC names of the isomers which will liberate nitrogen gas on treatment with nitrous acid.

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2. Account for the following

Primary amines $(R-NH_2)$ have higher boiling point than tertiary amines (R_3N)

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3. Account for the following

$(CH_3)_2NH$ is more basic than $(CH_3)_3N$ in an aqueous solution.

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4. Arrange the following

In the decreasing order of basic strength in gas phase $C_2H_5NH_2, (C_2H_5)_2NH, (C_2H_5)_3N$ and NH_3.

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5. Arrange the following

In the increasing order of boiling point $C_2H_5OH, (CH_3)_2NH, C_2H_5NH_2$

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6. Arrange the following

In the increasing order of solubility in water

$C_6H_5NH_2, (C_2H_5)_2NH, C_2H_5NH_2$

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

$$CH_3CH_2Br \xrightarrow{KCN} A \xrightarrow{LiAlH_4} B \xrightarrow[0^\circ C]{HNO_2} C$$

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

$$CH_3COOH \xrightarrow[\Delta]{NH_3} A \xrightarrow{NaOBr} B \xrightarrow{NaNO_2/HCl} C$$

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9. Accomplish the following conversions

Aniline to p-bromoaniline

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10. Accomplish the following conversions

Benzamide to toluene

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11. How will you convert

ethanamine into methanamine?

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12. How will you convert

ethanoic acid into propanoic acid?

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13. How will you convert

methanamine into ethanamine?

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14. Write the main products of the following reactions

$$CH_3CH_2NH_2 \xrightarrow[(0^\circ C)]{HNO_2}$$

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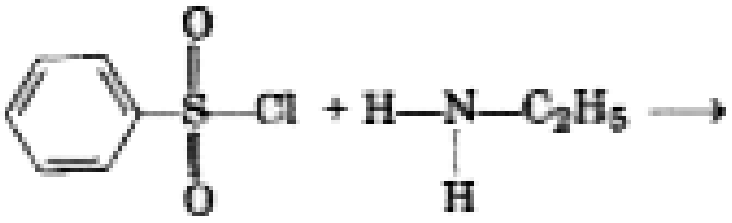
15. Write the main products of the following reactions



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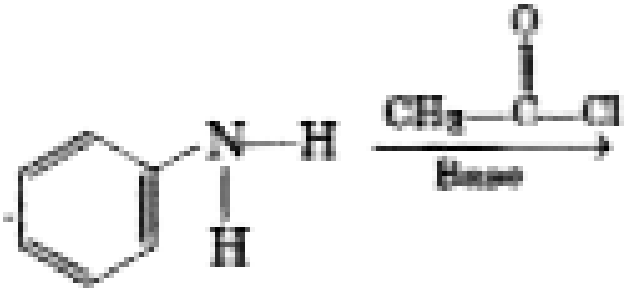
16. Write the main products of the following reactions



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17. Accomplish the following conversions

Aniline to 2, 4 , 6-tribromofluorobenzene

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18. Accomplish the following conversions

Benzyl chloride to 2-phenylethanamine

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19. Accomplish the following conversions

Chlorobenzene to p-chloroaniline

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20. Account for the following

Although, amino group is o-and p-directing in aromatic electrophilic substitution reactions, aniline on nitration gives a substantial amount of m-nitroaniline.

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21. Account for the following

Gabriel phthalimide synthesis is preferred for synthesising primary amines.

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Part Ii Questions For Practice Long Answer Type Questions

1. Write the structure of main products when aniline reacts with the following reagents

Br_2 water

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2. Write the structure of main products when aniline reacts with the following reagents

HCl

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3. Write the structure of main products when aniline reacts with the following reagents

$(CH_3CO)_2O$/pyridine

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4. Arrange the following in the increasing order of their boiling point

$C_2H_5NH_2, C_2H_5OH, (CH_3)_3N$

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5. Give a simple chemical test to distinguish between the following pair of compounds. $(CH_3)_2NH$ and $(CH_3)_3N$

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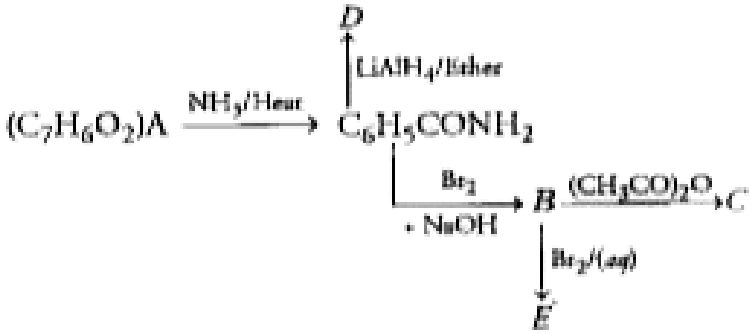
6. An aromatic compound 'A' of molecular formula $C_7H_6O_2$ undergoes a series of reactions as shown below. Write the structures of A, B, C, D and E

in the following reactions



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7. Give any two methods for the preparation of primary amine. How does it react with

CH_3COCl

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8. Give any two methods for the preparation of primary amine. How does it react with

CH_3Cl?

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9. How can you show that amines are basic ?

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10. How is methyl amine prepared from nitromethane and acetamide? How does it react with (i) acetylchloride and (ii) excess of methyl iodide? Compare the basic character of CH_3NH_2, $(CH_3)_2NH$ and $(CH_3)_3N$ in aqueous solution with justification.

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11. Write the structure formulae of all the isomeric amines with molecular formula C_3H_9N and classify them. Why dimethyl amine is more basic than methyl amine?

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12. How is methylamine prepared from nitromethane and acetamide? How does it react with (i) acetyl chloride and (ii) chloroform in the presence of alcoholic KOH solution? Compare the basic character of ammonia and methylamine with justrification

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13. What are different types of aliphatic amines? Describe two general methods of preparation of primary amine. How ethyl amine reacts with methyl bromide?

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14. What are different types of aliphatic amines? Describe two general methods of preparation of primary amine. How ethyl amine reacts with acetyl chloride ?

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15. How is ethylamine prepared from $C_2H_5NO_2$ and $CH_3CH_2CONH_2$? Mention its reaction with CH_3COCl and C_2H_5Cl

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16. Which is more basic NH_3 or CH_3NH_2?

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17. A compound A of molecular formula $C_3H_7O_2N$ on reaction with iron and concentrated HCl gives a compound B of molecular formula C_3H_9N. Compound B on treatment with $NaNO_2$ and HCl gives another compound C of molecular formula C_3H_8O. Compound C gives effervescence with sodium. On oxidation with CrO_3, compound C gives a saturated aldehyde containing three carbon atoms. Deduce the structures of compounds A, B and C and write the equations of the reactions involved.

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18. An organic compound A having molecular formula $C_2H_5O_2N$ on treatment with HNO_2 gives a blue coloured compound B having molecular formula $C_2H_4O_3N_2$. On reduction, A gives a compound C having molecular formula C_2H_7N. C on treatment with nitrous acid gives D which gives positive iodoform test. Identify the compounds A, B, C and D.

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19. A compound 'A' having molecular formula $C_2H_5O_2N$, on reaction with Sn and conc. HCl gives a compound B which when treated with $NaNO_2$ and dil. HCl gave compound C having molecular formula C_2H_6O. The compound C when treated with Na metal give effervescenes and when reacts with CrO_3 give a saturated aldehyde having 2 carbon atoms. Determine the structures and names of A, B and C along with the sequence of reactions.

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Part I Questions For Assessment Multiple Choice Type Questions

1. Amines are polar compounds because of the

A. difference in electronegativity between N, C and H

B. hydrogen bonding

C. $-NH_2$ group

D. alkyl group

Answer: A

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Part Ii Questions For Assessment Very Short Answer Type Questions

1. Why does the higher aliphatic amines are not soluble in water?

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2. In the reaction, $RNH_2 \xrightarrow{HNO_2} A + B + C \uparrow$ Name the gas C.

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3. Give reason why amines are reactive?

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4. In the following reactions, which species behave as a Lewis base?

$R - \ddot{N}H_2 + H - X \Leftrightarrow R - \overset{+}{N}H_3X^-$

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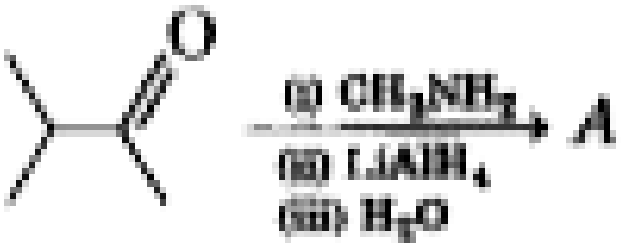
5. What is the major organic compound A formed from the following reaction ?



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Part Ii Questions For Assessment Short Answer Type I Questions

1. Arrange the following in the order of their increasing basicity : p-toluidine, N,N-dimethyl -p-toluidine, p-nitroaniline, aniline

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2. Which type of reagent is a good choice for reducing an aryl nitro compound to an amine?

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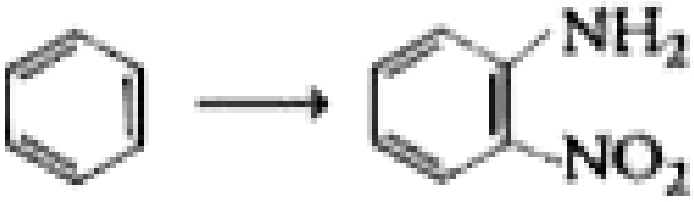
3. Give the following conversion with the major steps



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Part Ii Questions For Assessment Short Answer Type Ii Questions

1. Why does aliphatic amines are more reactive toward hydrochloric acid as comparison to arylamine?

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2. Which is the best method for preparing primary amines from alkyl halides without changing the number of carbon atoms in the chain ? Give mechanism.

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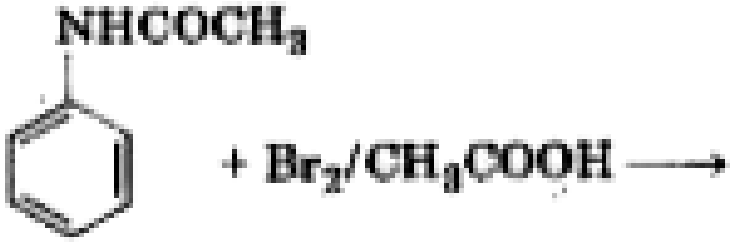
3. Identify the product of the following reaction



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Part Ii Questions For Assessment Long Answer Type Questions

1. Answer the following questions

The compound of $A(C_3H_9N)$ reacts with benzene sulphonyl chloride to give a solid insoluble in alkali. Identify 'A'

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2. Answer the following questions

Outline a synthesis of p-bromonitrobenzene from benzene in two steps.

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Odisha Bureau S Textbook Solutions Multiple Choice Type Questions

1. Most basic among the following is

$$\underset{I}{C_6H_5NH_2}\,\underset{II}{(C_2H_5)_2NH}\,\underset{III}{(C_2H_5)_3N}\,\underset{IV}{C_2H_5NH_2}$$

A. I

B. II

C. III

D. IV

Answer: B

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2. Which of the following compounds gives dye test?

A. Aniline

B. Methylamine

C. Diphenylamine

D. Ethylamine

Answer: A

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3. In the following reaction, X is

$$X \xrightarrow{\text{Bromination}} Y \xrightarrow{NaNO_2/HCl} Z \xrightarrow[C_2H_5OH]{\text{Boiling}} \text{Tribromobenzene}$$

A. Benzoic acid

B. Salicylic acid

C. Phenol

D. Aniline

Answer: D

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4. The correct increasing order of basic strength for aniline (I), p-nitroaniline (II), and p-toluidine (III) is .....

A. $II < III < I$

B. $III < I < II$

C. $III < II < I$

D. $II < I < III$

Answer: D

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5. In the nitration of benzene using a mixture of conc. H_2SO_4 and conc. HNO_3, the species which initiate the reaction is ....

A. NO_2

B. NO^+

C. NO_2^+

D. NO_2^-

Answer: C

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6. Reduction of nitrobenzene by which of the following reagent gives aniline?

A. Sn/HCl

B. $LiAlH_4$

C. Zn/NH_4OH

D. $SnCl_2$

Answer: A

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7. $C_6H_5NO_2 \xrightarrow{Sn/HCl} C_6H_5X$. In the above reaction 'X' is

A. Cl

B. -NH_2

C. $NH_3^+Cl^-$

D. $\overset{+}{N}_2 - Cl^-$

Answer: C

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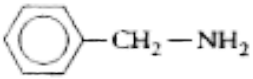
8. Which of the following is not the Bronsted base?

A. 

B. 

C. 

D. 

Answer: A

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9. Which of the following will react with CH_3COCl?

A. Trimethylamine

B. Dimethylethlamine

C. Dimethylamine

D. Triethylamine

Answer: C

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10. Acetamide is treated separately with the following reagent. Which of these would give methylamine?

A. PCl_5

B. $NaOH + Br_2$

C. Soda lime

D. Hot conc. H_2SO_4

Answer: C

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11. Which of the following shows optical activity ?

A. Butan-1-amine

B. Butan-2-amine

C. Isopropylamine

D. Ethylmethylamine

Answer: B

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12. Number of saturated isomeric primary amines possible for the molecular formula C_3H_5N is

A. zero

B. 2

C. 3

D. 4

Answer: A

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13. Primary amines on reaction with alcoholic KOH and chloroform yields

A. isocyanide

B. aldehyde

C. cyanide

D. alcohol

Answer: A

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14. The compound on reaction with aq. HNO_2 at low temperature produces oily nitrosoamine is

A. methylamine

B. diethylamine

C. ethylamine

D. triethylamine

Answer: C

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Odisha Bureau S Textbook Solutions Very Short Answer Type Questions

1. Which of the following is basic?

A. CH_3CH_2OH

B. CH_3COOH

C. CH_3NH_2

D. CH_3OCH_3

Answer: C

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2. Complete the following reaction and give the names of the products?

$CH_3CH_2NH_2 + HNO_2 \rightarrow$ ...+ ..?

What happens when an alkyl cyanide is reduced by sodium metal & ethanol?

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3. Why aniline is soluble in aq. HCl?

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4. Write the IUPAC name for $C_6H_5N(CH_3)_2$

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5. Identify the products in the following

$C_6H_5NO_2 \xrightarrow{Sn/HCl}$

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6. Identify the products in the following

$C_6H_5NO_2 \xrightarrow[H_2]{\text{Raney Ni or Pt or Pd}}$

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7. Identify the products in the following

$C_6H_5NH_2 \xrightarrow{RX} A \xrightarrow{RX} B \xrightarrow{RX} C$ (Identify A, B and C)

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8. Identify the products in the following

$C_6H_5NH_2 \xrightarrow{Br_2\text{Water}}$

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9. Identify the products in the following

$C_6H_5NH_2 \xrightarrow{\text{Sulphonation}}$

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10. Identify the products in the following

$C_6H_5NH_2 \xrightarrow{\text{Nitration}}$

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11. Identify the products in the following

$C_6H_5NH_2 \xrightarrow{Diazotisation}$

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12. Identify the products in the following

$C_6H_5NHCH_3 \xrightarrow{HNO_2}$

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13. Identify the products in the following

$C_6H_5N(CH_3)_2 \xrightarrow{HNO_2}$

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Odisha Bureau S Textbook Solutions Fill In The Blanks

1. Benzyl amine is .....basic than aniline

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2. Among the isomeric o^-, m^- and p^- anisidine, ... is the weakest base.

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3. The reaction of aniline with $NaNO_2$ and HCl at $0^\circ C$ to form benzenediazonium chloride is called....

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4. Aniline on treatment with bromine water gives .....

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5. Tetra-alkyl ammonium salts are called....

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Odisha Bureau S Textbook Solutions Short Answer Type I Questions

1. How will you prepare ethyl amine from methyl iodide ?

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2. Give a method preparation of primary amine.

Watch Video Solution

3. Why methyl amine is more basic than aniline ?

Watch Video Solution

4. What is carbylamine reaction? Give equation.

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5. How will you obtain methanol from methyl amine?

Watch Video Solution

6. How can you get methylamine from ethylamine?

Watch Video Solution

7. Give the IUPAC name of the following compounds

$CH_3CH_2CH_2NH_2$

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8. Give the IUPAC name of the following compounds

$CH_3NHCH_2CH_3$

Watch Video Solution

9. Give the IUPAC name of the following compounds

$(CH_3)_2CHNH_2$

Watch Video Solution

10. Give the IUPAC name of the following compounds

$(CH_3)_3C.NH_2$

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11. Give the IUPAC name of the following compounds

$(CH_3)_2NCH_2CH_2CH_3$

Watch Video Solution

12. Give the IUPAC name of the following compounds

$CH_3CH_2CH(NH_2)CH_2CH_3$

Watch Video Solution

13. Give the structural isomers of C_3H_9N and $C_4H_{11}N$ and give their names. Classify each as primary, secondary and tertiarty amines.

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14. Name the functional group in the following compounds. $CH_3CH_2NH_2$ and CH_3CONH_2

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15. What happens when nitromethane is reduced ? Give equation.

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16. Name the reagent used to distinguish between ethyl amine and diethyl amine.

Watch Video Solution

17. A compound with molecular formula CH_5N on treatment with HNO_2 liberates a colourless and odourless gas. What is the name of the compound and the gas liberated ? Write the equation.

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18. How you will distinguish $C_2H_5NH_2$ and $C_6H_5NH_2$?

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19. What is carbylamine test?

Watch Video Solution

20. Why is aniline less basic than ammonia ?

Watch Video Solution

21. Why is ethyl amine more basic than ammonia ?

Watch Video Solution

22. How will you carry out the conversion of benzene to p-nitroaniline?

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23. Direct nitration of aniline is not carried out at all. Explain Why?

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24. Give an example of a Zwitter ion.

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Odisha Bureau S Textbook Solutions Short Answer Type Ii Questions

1. Arrange the following compounds in decreasing order of basicity, Give reason. Methylamine, dimethylamine, aniline, N-methyl aniline.

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2. How will you prove that amines are basic compounds?

Watch Video Solution

3. Distinguish between primary and secondary amines. Give one test only with equation.

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4. Complete the following equation and balance.

$$C_2H_5OH \xrightarrow{PCl_5} A \xrightarrow{KCN} B \xrightarrow{H_3O^+} C \xrightarrow{NH_3} D$$

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5. How will you prepare ethylamine from

Methyl cyanide

Watch Video Solution

6. How will you prepare ethylamine from

Propanamide

Watch Video Solution

7. Name a tertiary amine in IUPAC system which is isomeric with

$$CH_3 - \overset{\overset{CH_3}{|}}{\underset{\underset{CH_3}{|}}{C}} - NH_2 \text{ and } C_2H_5 - CH_2 - CH_2 - NH_2$$

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8. Describe a test to distinguish between aniline N-methylaniline and N-ethyl-N -methylaniline.

Watch Video Solution

9. How will you convert the following

Benzene to aniline

Watch Video Solution

10. How will you convert the following

Aniline to N, N-dimethylaniline?

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11. Write reactions of the final alkylation product of aniline with excess of methyl iodide in the presence of sodium carbonate solution.

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12. Write the chemical reaction of aniline with benzoyl chloride and mention the name of the product.

Watch Video Solution

13. Convert aniline to 1, 3,5-tribromobenzene.

Watch Video Solution

14. Why aniline is less basic than methyl amine?

Watch Video Solution

15. Explain why p-Nitroaniline is less basic than aniline.

Watch Video Solution

16. Account for the following

p-toluidine is more basic than aniline.

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17. Describe a method for the identification of primary, secondary and tertiary amines

Watch Video Solution

18. Accomplish the following conversions

Aniline to p-bromoaniline

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19. Write the reactions of aromatic and aliphatic primary amines with nitrous acid.

Watch Video Solution

20. How you will prepare benzene diazonium chloride?

Watch Video Solution

21. How you will obtain 2, 4, 6-trichloroaniline from aniline?

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22. How will you convert nitrobenzene to

acetanilide

Watch Video Solution

23. How will you convert nitrobenzene to

benzamide?

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Odisha Bureau S Textbook Solutions Long Answer Type Questions

1. Give any two methods for the preparation of a primary amine. How does it react with

HNO_2

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2. Give any two methods for the preparation of a primary amine. How does it react with

CH_3CHO

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3. Give any two methods for the preparation of primary amine. How does it react with

CH_3COCl

Watch Video Solution

4. Give any two methods for the preparation of a an aromatic primary amine. How does it react with

CH_3COCl

Watch Video Solution

5. Give any two methods for the preparation of a an aromatic primary amine. How does it react with

HNO_2?

Watch Video Solution

6. Write short notes on Hofmam's bromamide reaction.

Watch Video Solution

7. Write short notes on Hofmam's bromamide reaction.

Watch Video Solution

8. Write notes on

Hinsberg's method for distinction $1^{\circ}, 2^{\circ}$ and 3° amines?

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9. What are amines? Explain three types of aliphatic amines giving one example from each. Write with equations how amines react with

alkyl halide

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10. What are amines? Explain three types of aliphatic amines giving one example from each. Write with equations how amines react with acid chloride?

Watch Video Solution

11. Give any two methods for the preparation of primary amine. How does it react with CH_3Cl?

Watch Video Solution

12. What are different types of amines ? Give two methods for the preparation of primary amine. How does it react with methyl iodide? $C_2H_5NH_2$ is more basic than CH_3NH_2, Explain.

Watch Video Solution

13. What are different types of amines? How primary amines are prepared from

nitroparaffins

What happends when methylamine reacts with methyl iodide.

Watch Video Solution

14. What are different types of amines? How primary amines are prepared from

cyanides

What happends when methylamine reacts with methyl iodide.

Watch Video Solution

15. What are different types of amines? How primary amines are prepared from

alkyl halides ?

What happends when methylamine reacts with methyl iodide.

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16. What are different types of aliphatic amines? How aliphatic primary amines are prepared from

acid amides

What happends when methylamine reacts with nitrous acid.

Watch Video Solution

17. What are different types of aliphatic amines? How aliphatic primary amines are prepared from

acid amides

What happends when methylamine reacts with nitrous acid.

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18. How is aniline prepared on a laboratory scale?

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19. How is basicity of aniline affected by substituents on the benzene ring ? How do you explain the ortho and para directive influence of $-NH_2$ groups?

Watch Video Solution

20. Explain the action of nitrous acid on primary, secondary and tertiary amines. How aniline differs from methyl amine in its reaction with nitrous acid?

Watch Video Solution

21. How does aniline react with the following reagents?

Acetic anhydride

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22. How does aniline react with the following reagents?

Benzoyl chloride

Watch Video Solution

23. How does aniline react with the following reagents?

Sodium nitrite/HCl

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24. Name a test by which you can distinguish between aniline and benzyl amine.

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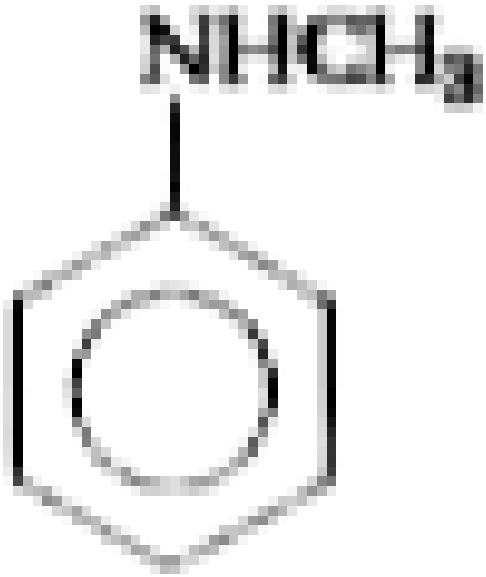
Chapter Practice Multiple Choice Type Questions

1. The IUPAC nomenclature for compound is



A. N-methyl aniline

B. N-methyl benzenamine

C. N-ethyl benzenamine

D. None of the above

Answer: B

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2. The method used to convert ArCOOH into $ArNH_2$ by using N_3H and conc. H_2SO_4 is

A. Schmidt reaction

B. Carbylamine reaction

C. Hofmann's reaction

D. Gabrial's reaction

Answer: A

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Chapter Practice Very Short Answer Type Questions

1. Account for the following Ammonolysis of alkyl halide does not give a corresponding amine in pure state.

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2. Write A in the following sequence

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3. Which is more acidic, aniline or ammonia?

Watch Video Solution

4. Explain any one method which is used for preparing amine containing one carbon less than the reactant.

Watch Video Solution

5. Arrange the following in the decreasing order of basic strength in gaseous phase

$C_6H_5NH_2, (C_2H_5)_2NH, (C_2H_5)_3N, C_2H_5NH_2$

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6. What happends when nitroethane is treated with $LiAlH_4$?

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Chapter Practice Short Answer Type I Questions

1. Account for the following

Amines are basic substances while amides are neutral

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2. Account for the following

Aromatic amines are weaker bases than aliphatic amines.

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3. Under what conditions, aniline gives p-nitro derivative as the major product?

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4. Write the IUPAC name of the product formed when nitrobenzene is reduced using tin and concentrated hydrochloric acid.

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5. Tert-butylamine cannot be prepared by the action of NH_3 on tert-butylbromide. Give reason.

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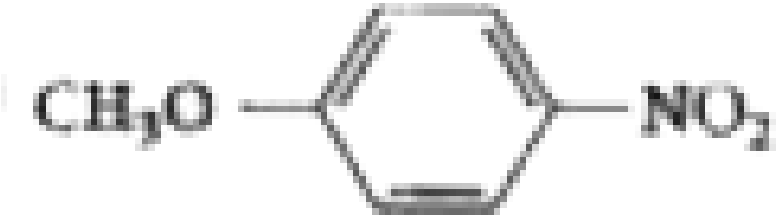
6. How is aminoethane obtained from ethanal?

Watch Video Solution

7. Give the IUPAC names of the following compounds



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8. Give the IUPAC names of the following compounds

$C_6H_5CH = CHNO_2$

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9. How will you distinguish between the following pairs of compounds ?

Ethylamine and dimethylamine

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10. How will you distinguish between the following pairs of compounds ?

Aniline and N-methylaniline

Watch Video Solution

11. What happens when

toluene is treated with conc. HNO_3 and conc. H_2SO_4 at 293K ?

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12. What happens when

nitrobenzene is treated with conc. HNO_3 and conc. H_2SO_4 ?

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Chapter Practice Short Answer Type Ii Questions

1. Complete the following reactions

$CH_3CH_2NH_2 + CHCl_3 + (alc)KOH \rightarrow$

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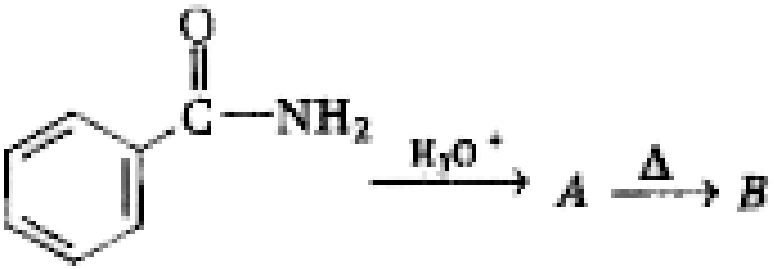
2. Complete the following reactions



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3. Complete the following reactions

$$CH_3 - \underset{\underset{CH_3}{|}}{CH} - CONH_2 \xrightarrow{Br_2, NaOH} A \xrightarrow{HNO_2} B$$

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4. Explain the following observations

Electrophilic substitution in case of aromatic amines takes place more readily than benzene.

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5. Explain the following observations

Aryl cyanides cannot be formed by the reaction of aryl halides and sodium cyanide.

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6. Explain the following observations

Tertiary amines do not undergo acylation.

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Chapter Practice Long Answer Type Questions

1. What are amines and how they are classified? Give suitable examples along with their common and IUPAC names.

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2. 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 structures and IUPAC names of compounds A, B and C.

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