

CHEMISTRY

BOOKS - OSWAAL PUBLICATION CHEMISTRY (KANNADA ENGLISH)

ORGANIC COMPOUNDS CONTAINING NITROGEN

Amines Methods Of Perparation Physical And Chemical Properties Uses Very Short Answer Type Questions 1. Give the IUPAC name of

$$CH_3- \mathop{N}\limits_{\mid} - CH_3 \ _{CH_3}$$



2. Mention the hybridised state of carbonyl carbon.



3. Arnnge the following In the decreaalng order of theh basic strength in aqueous solution :

 $CH_3NH_2,$ $(CH_3)NH,$ $(CH_3)_3N$ and NH_3



4. Give the IUPAC name of

$$H_2N - CH_2 - CH_2 - CH_3 = CH_2$$
.



Amines Methods Of Perparation Physical And Chemical Properties Uses Short Answer Type Questions **1.** How is a peptide bond formed between two amino acida ?



2. Describe the structure of amines



3. Bond angle in $(CH_3)_3$ N is little more than the bond angle in NH_3 . Explain.



4. Discuss the classification of amines.



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Cyanides Isocyanides And Diazonium Salts
Preparation Physical And Chemical Properties Uses
Very Short Answer Type Questions

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



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2. Direct nitration of aniline is not carried out.

Explain why?



3. Why do amines behave as nucleophilea?



4. Give one chemical test to distinguish between $CH_3CH_2NH_2$ and $C_6H_5NH_2$.



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Cyanides Isocyanides And Diazonium Salts
Preparation Physical And Chemical Properties Uses
Short Answer Type Questions

1. Which is more basic among aqueous solutions of aniline and ammonia? Give one reason?



2. How do you convert ethane nitrite to ethanamine? Give equation.



3. Explain the mechanism of nitration of benzene.



4. What is zwitter ion? Write zwitter ion structure of Alanine.



5. What happens when aniline is heated with chloroform and alcoholic potash? write equation.

OR

Explain carbylamine reaction for a primary amine.

Write general equation



- **6.** Explain the following ructions :
- (a) Gabriel Phthalimide reaction
- (b) Coupling reaction

- **7.** Give chemical tests to distinguish between the following pairs of compounds :
- (a) Aniline and Ethylamine
- (b) Enthylamine and Dimethylamine



- 8. Give reasons:
- (i) Aniline is a weaker base than cyclohexyl amine.

(ii) It is difficult to prepare pure amines by a ammonlysis of alkyl halides.



- 9. Account for the following:
- (i) Diazonium salts of aromatic amines are more stable than those of aliphatic amines.
- (ii) Amines are more basic than alcohols of comparable molecular masses.



- 10. Distinguish between:
- (i) Methyl amine and dimethyl amine,
- (ii) Aniline and N-methyl aniline.



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- **11.** Describe the following giving the relevant chemical equation in each case:
- (i) Carbylamine reaction
- (ii) Hoffmann's bromamide reaction.



12. Bring about the following conversions:

Nitrobenzene to benzoic acid



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13. Bring about the following conversions:

Benzyl chloride to 2-phenyl ethanamine



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14. Give the structure of A, B and C In the following reactions:

 $CH_3COOH \stackrel{NH_3}{\longrightarrow} A \stackrel{Br_2+KOH}{\longrightarrow} B \stackrel{CHCI_3+NaOH}{\longrightarrow} C$

 $CH_3Br \stackrel{KCN}{\longrightarrow} A \stackrel{ ext{LiAH}_4}{\longrightarrow} B \stackrel{HNO_2}{\longrightarrow} C$

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- **16.** How will you convert the following:
- (i) Nitrobenzene into aniline
 - (ii) Ethanoic .acid into methanamine

(iii) Aniline into N-phenylethanamide (Write the chemical equations involved.



17. Explain why an alkyl amine is more basic than ammonia.



- 18. How would you convert:
 - (i) Aniline to nitrobenzene,
- (ii) Aniline to iodobenzene?



Cyanides Isocyanides And Diazonium Salts
Preparation Physical And Chemical Properties Uses
Long Answer Type Questions I

1. Why is ethyl amine a stronger base than aniline



2. How is alkylation of amines carried ? Give example.

Cyanides Isocyanides And Diazonium Salts Preparation Physical And Chemical Properties Uses Long Answer Type Questions Ii

- **1.** (a) In the preparation of p bromo acetanllide from acetanilide.
- (i) Name the regents used .
- (ii) Write the equation for the reaction involved .
- (iii) What is the colour of the product obtained .



2. Name the organic compound obtained when aniline is added to dilute HCI at $0^{\circ}C$. Give the equation for the reaction .



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3. An organic compound (A) on treatment with acetic acid in the presence of sulphuric acid produces an ester (B). (A) on mild oxidation gives (C). (C) with 50% KOH followed by acidification with dilute HCl generates (A) and (D). (D) with PCl_5 followed by reaction with ammonia gives

(E). (E) on dehydration produces hydrocyanic acid.

Identify the compounds. A, B, C, D, and E.

