



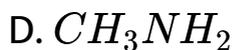
CHEMISTRY

BOOKS - MBD -HARYANA BOARD

ORGANIC COMPOUNDS CONTAINING NITROGEN

Objective Type Questions





Answer: B



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2. Reaction of aniline with benzoyl chloride gives :

A. Benzoin

B. Benzanilide

C. Benzanide

D. None of these

Answer: B



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3. Which compound gives dye tests ?

A. Methylamine

B. Aniline

C. Diphenylamine

D. Benzoic acid

Answer: B



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4. Benzylamine reacts with nitrous acid to form :

- A. Azobenzene
- B. Benzene
- C. Benzylalcohol
- D. Phenol

Answer: C



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5. Which is the most basic ?

- A. Benzyl amine

B. Aniline

C. Acetamide

D. All are equal.

Answer: A



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6. Which of the most basic ?





Answer: C



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7. Amine does not react with Hinsberg's reagent.

A. 1°

B. 2°

C. 3°

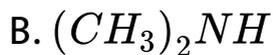
D. None

Answer: B



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8. Which of the following is strongest base ?



Answer: B



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9. Which is most basic ?

A. Benzyl amine

B. Aniline

C. Acetamide

D. All are equal.

Answer: A



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10. Which will show carbylamine reaction ?

A. Aniline

B. Diethylamine

C. Triethylamine

D. None

Answer: A



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11. Which of the following compound gives dye test ?

A. Aniline

B. Methylamine

C. Diphenylamine

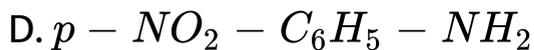
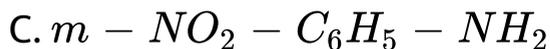
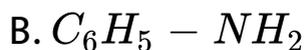
D. Ethylamine

Answer: A



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12. The strongest base is :



Answer: A

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13. KCN reacts to form cyanide with :

A. Ethanol

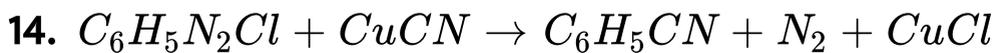
B. Bromoethane

C. Bromobenzene

D. Chlorobenzene

Answer: B

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is :

A. Balz-Schiemann reaction

B. Gattermann reaction

C. Simonini reaction

D. Sandmeyer reaction

Answer: D



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15. Which of the following is most basic ?

A. Benzylamine

B. Aniline

C. Acetamide

D. p-Nitroaniline.

Answer: A

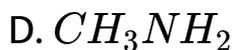
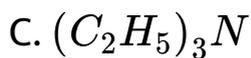


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16. Which of the following does not react with Hinsberg's reagent ?

A. $C_2H_5NH_2$

B. $(C_2H_5)_2NH$



Answer: C



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17. Which of the following will not do coupling reaction with benzene diazonium chloride ?

A. Aniline

B. Phenol

C. 2-Naphthol

D. Benzyl alcohol

Answer: C



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18. $C_2H_5 - NH_2 + HNO_2 \rightarrow A$, A is :



Answer: A



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19. Which of the following is a 3^o - amine ?

A. Triethylamine

B. t-Butylamine

C. N-methylamine

D. Ethylamine

Answer: A



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20. Hoffman Bromamide degradation reaction involves

:

A. $Ar - NH_2$

B. $Ar - CONH_2$

C. $Ar - NO_2$

D. None of these

Answer: B



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Very Short Answer Questions

1. How will you convert Aniline into Benzene diazonium chloride ?

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2. Complete the reaction :



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3. How will you convert an isocyanide into a secondary amine ?

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4. What is Mendius reaction ?

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5. Write carbylamine reaction .

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6. Give reduction reaction of nitroethane by H_2 / Ni .

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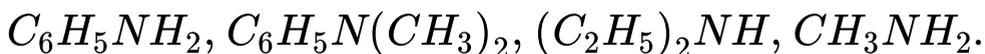
7. Write Hofmann-bromamide reaction.

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8. Write a short note on diazotisation .

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9. Arrange the following in the increasing order of basicity.



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10. Arrange the following in the increasing order of basicity.





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11. Arrange the following in the increasing order of basicity .

Aniline, p-Nitroaniline, p-toluidine



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12. Write a short note on coupling reaction.



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13. Convert benzene diazonium chloride into :

(i) Benzene (ii) Phenol (iii) Iodobenzene ?



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14. Show how p-aminobenzene can be obtained from aniline.



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15. Write a note on coupling reactions.



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16. How will you convert Benzene diazonium chloride into phenol ?

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17. Give reduction reaction of nitroethane by H_2 / Ni .

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18. For an amine RNH_2 , write the expression of k_b to indicate its base strength.

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19. State one use of acetonitrile.



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20. What does k_b value for an amine stand for ?



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21. Write chemical equation for the hydrolysis of ethane isonitrile.



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22. What is Schotten-Baumann reaction ?

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23. How will you convert Aniline into Benzene diazonium chloride ?

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Short Answer Type Question

1. How will you prepare amines from the following ?

Write then chemical reactions.

(i) $RCONH_2$ (ii) RX (iii) $R - C \equiv N$

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2. Write the chemical reactions of the following conversions :

(i) $CH_3 - CH_2 - Cl$ to $CH_3 - CH_2 - CH_2 - NH_2$

(ii) $C_6H_5 - CH_2 - Cl$ to

$C_6H_5 - CH_2 - CH_2 - NH_2$

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3. Write short notes on the following :

(i) Carbylamine reactions .

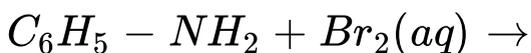
(ii) Gabriel-Phthalimide synthesis

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

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5. Complete the reaction :



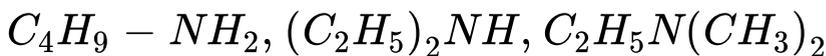
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6. Arrange the following :

(i) IN increasing order of basic strength :



(ii) In increasing order of boiling point :



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7. Complete the reaction of benzene diazonium chloride with :



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8. Why is aniline less basic than NH_3 ?

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9. Explain why does nitro group nitrobenzene direct the incoming group to m-position?

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10. Give chemical test to distinguish between the following pairs of compounds : $CH_3 - CH_2 - NH_2$

and $(CH_3)_2NH$.

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11. Complete the following :



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12. How is aniline prepared on large scale ? How will you convert it into :

(i) Benzonitrile

(ii) Acetanilide ?

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13. Write a short note on Hofmann's bromamide reaction.

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14. How will you distinguish between aniline and ethylamine ?

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15. Write the use of aniline.

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16. Explain the following reactions :

(a) Mustard oil reaction

(b) Gattermann reaction



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17. Write the chemical reaction equations with one example of the Coupling reaction.



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18. Tertiary amines do not undergo acylation. Give reason.



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Long Answer Type Question

1. Give plausible explanation for each of the following .

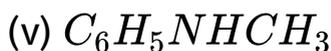
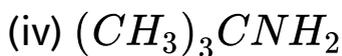
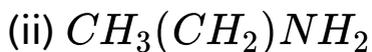
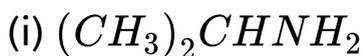
(i) Why are amines less acidic than alcohols of comparable molecular masses ?

(ii) Why have primary amines higher boiling points than tertiary amines.

(iii) Why are aliphatic amines stronger bases than aromatic amines ?

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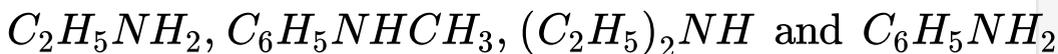
2. Write IUPAC names of the following compounds and classify them into primary, secondary and tertiary amines.



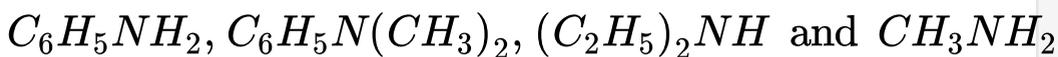


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3. Arrange the following :



(ii) In decreasing order of basic strength :

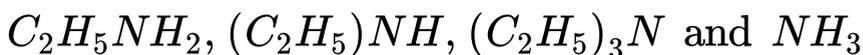


(iii) Increasing order of basic strength :

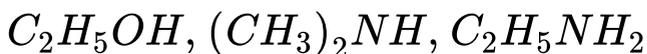
(a) Aniline, p-nitroaniline and p-toluidine



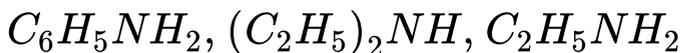
(iv) Decreasing order of basic strength in gas phase :



(v) Increasing order of boiling point :



(vi) Increasing order of solubility in water :



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4. Account for the following :

(i) pK_b of aniline is more than that of methylamine .

(ii) Ethylamine is soluble in water, whereas aniline is not.

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

(iv) Although amino group is o- and p-directing in

aromatic electrophilic substitution reactions, aniline on nitration gives a substantial amount of m-nitroaniline.

(v) Aniline does not undergo Friedel-Crafts reaction.



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