

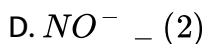
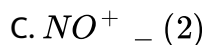
CHEMISTRY

BOOKS - CBSE COMPLEMENTARY MATERIAL CHEMISTRY (HINGLISH)

AMINES

Mcq

1. In the nitration of benzene using a moisture of Conc H_2SO_4) and conc. HNO_3 the species which initiates the reaction is:



Answer: C

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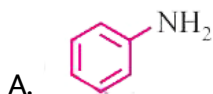
2. The correct IUPAC name of $CH_2 = CH - CH_2NHCH_3$ is:

- A. Allylmethyl amine
- B. 2-amino -4-pentene
- C. 4-aminopent-lene
- D. N-methylprop-2-en-amine

Answer: D

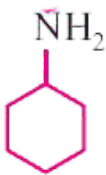
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3. Which is the weakest base :





B.



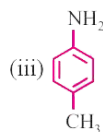
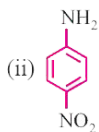
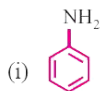
C.

D. CH_3NH_2

Answer: A

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4. The correct order of basic strength for the following compounds is :



A. $ii < iii < i$

B. $iii < i < ii$

C. $iii < ii < i$

D. $ii < i < iii$

Answer: D

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5. Methylamine reacts with HNO_2 to form....

A. $CH_3 - O - N = O$

B. CH_3OCH_3

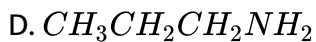
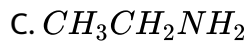
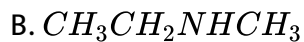
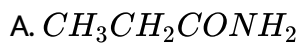
C. CH_3OH

D. CH_3CHO

Answer: C

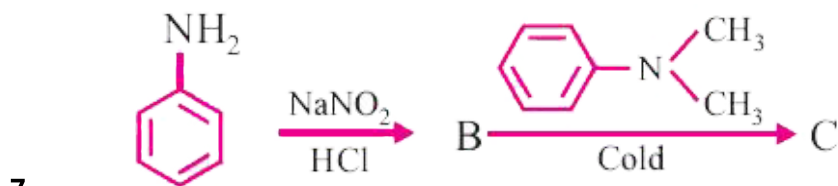
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6. CH_3CH_2COOH The structure of 'c' would be



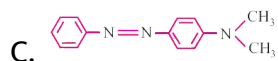
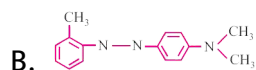
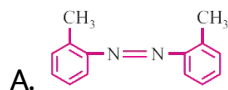
Answer: C

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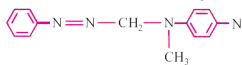


The

structure of 'c' would be:



D.



Answer: C

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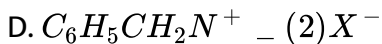
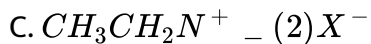
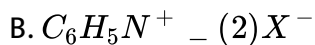
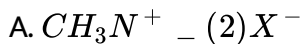
8. Which of the following statements about primary amines is false ? .

- A. Aryl amines react with nitrous acid to produce phenol
- B. Alkylamines are stronger base than ammonia
- C. Alkyl amines are stronger base than aryl amines
- D. Alkyl amines react with nitrous acid to produce alcohol

Answer: A

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9. Which of the following is most stable diazonium salt ?



Answer: B

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10. Method by which aniline can not be prepared is :

A. reduction of nitrobenzene with $\frac{H_2}{P}$ in ethanol

B. potassium salt of phthalimide treated with chlorobenzene

C. hydrolysis of phenyl isocyanide with acidic solution

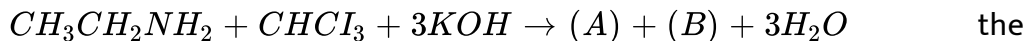
D. degradation of benzamide with bromine in alkaline medium solution.

Answer: B

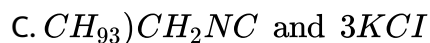
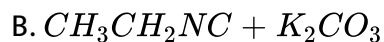


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11. In the chemical reaction



compound (A) and (B) are respectively

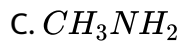
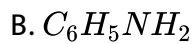
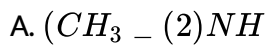


Answer: C



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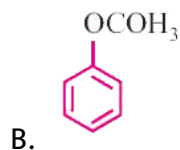
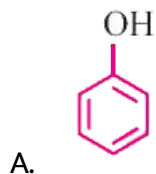
12. Considering the basic strength of amines in aqueous solution which one has the smallest pK_b value?

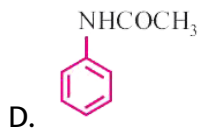
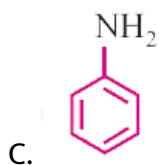


Answer: A

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13. Which of the following compounds will give significant amount of meta-product during mononitration reaction?

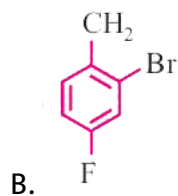
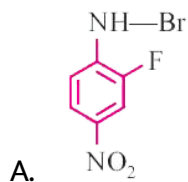
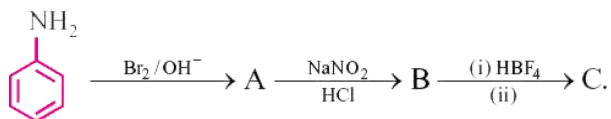


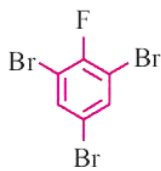
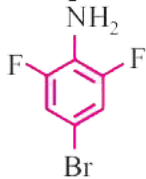


Answer: C

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14. The final product (c) in the following sequence of reaction is :





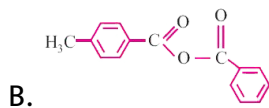
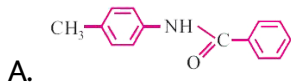
Answer: D

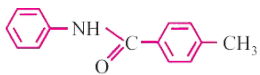
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15. In the reaction

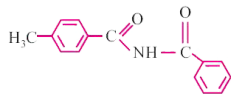
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The structure of product A is: `





C.



D.

Answer: A

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16. A positive carbylamine test is given by

A. *NLTN* – *Dimethylan* $\in e$

B. 2,4-Dimethylaniline

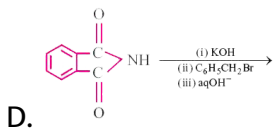
C. N-Methyl-O-methylaniline

D. p-methylbenzylamine

Answer: B::D

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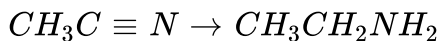
17. Which of the following reactions form benzylamine:



Answer: A:D

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18. Which reagents among the following can affect the conversion ?



A. H_2, Pt

B. Ammonical AgNO_3

C. $\text{Li} \frac{\text{A}}{\text{H}_4}$

D. NaBH_4

Answer: A::C



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19. In which of the following amines , the first has lower pK_b value than the second

- A. aniline, m-nitroaniline
- B. m- Toluidine, p-toluidine
- C. aniline, p-chloraniline
- D. aniline, p-aminophenol

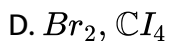
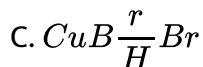
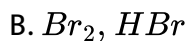
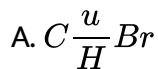
Answer: A::C



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20. Bromobenzene can be prepared from benzene diazonium chloride.

When it is treated with

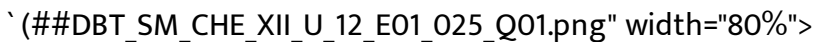


Answer: A:C



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21. The no. of amines having pK_b less than $C_6H_5NH_2$ among the following





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1. Assertion : n-propylamine has higher boiling point than trimethylamine.

Reason: Among n-propylamine molecules, there is hydrogen bonding but there is not hydrogen in trimethylamine.

- A. Assertion and reason both are both wrong statements .
- B. Assertion is correct statement but reason is wrong statement
- C. Assertion is wrong statement but reason is correct statement
- D. Assertion and reason both are correct statements but reason is not correct explanation of assertion

Answer: A



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2. Assertion: Aniline does not undergo Friedel Crafts reaction.

Reason : Friedel Crafts reaction is an electrophilic substiution reaction.

- A. Assertion and reason both are both wrong statements .
- B. Assertion is correct statement but reason is wrong statement
- C. Assertion is wrong statement but reason is correct statement
- D. Assertion and reason both are correct statements but reason is not correct explanation of assertion

Answer: B

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Mcq Matching

1. Match column I and column II

((A) Ammolysis

(B) Gabriel phthalimide

(C) Hoffmann bromide amide degradation

(D) Carbylamine reaction

(p) Amine with lesser no. of

(q) Detection of primary ami

(r) Reaction of pthalimide wi

(s) Reaction of alkyl halides

A. A-s, B-r, C-p, D-q

B. A-p, B-q, C-r, D-s

C. A-r, B-s, C-p, D-q

D. A-s, B-r, C-q, D-p

Answer: A



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2. Match column I and column II

- | | |
|--------------------------------|----------------------------|
| (A) Benzene sulphonyl chloride | (p) zwitter ion |
| (B) Sulphanilic acid | (q) Hinsberg reagent |
| (C) Alkyl diazonium salts | (r) Dyes |
| (D) Aryl diazonium salts | (s) Conversion to alcohols |

A. A-p, B-q, C-s, D-r

B. A-q, B-p, C-s, D-r

C. A-q, B-p, C-r, D-s

D. A-s, B-r, C-q, D-p

Answer: B

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Very Short Answer Question

1. Write IUPAC name of CH_3NC

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2. Convert m- dinitrobenzene to m-nitro aniline.

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3. Draw structure of TNT, an explosive.

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4. Write IUPAC name of

`(##DBT_SM_CHE_XII_U_12_E02_004_Q01.png" width="80%")>

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5. Give one use of quaternary ammonium salts.

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6. What is Hinsberg's reagent ?

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7. Why is aniline soluble in aqueous HCl?

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8. How will you test the presence of primary amine?

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9. What is vapour phase nitration ?

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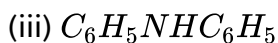
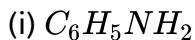
10. Write one use of dopamine and atropine alkaloid.

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11. Direct nitration of aniline is not carried out. Explain.

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12. Among the compounds as following which will react with



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13. How will you give expression for K_b to indicate its basic strength ?

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14. What happen when aniline is treated with bromine ?

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15. Write a chemical equation to illustrate the ammonolysis.

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16. Write the structure of p-toluidine.

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17. Prepare / convert nitrobenzene into aniline.

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18. Convert C_6H_5COOH to $C_6H_5NH_2$.

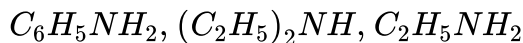
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19. Write isomerism exhibited by different amines.



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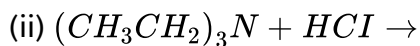
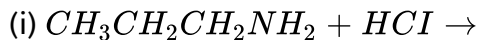
20. Arrange the following compounds in increasing order of solubility in water:



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Short Answer Question

1. Complete the following acid-base reactions and name the products :



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2. Write chemical reaction of $C_6H_5NH_2 + C_6H_5COCl$ and name product obtained.

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3. How will you convert :

- (i) 3- methylaniline to 3- nitrotoluene`
- (ii) Aniline to 1,3,5-tribromobenzene

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4. How will you convert :

- (i) Propanoic acid to Ethanoic acid
- (ii) Nitromethane to Dimethylamine

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5. Draw the structures of the following compounds :

(i) N-isopropylaniline

(ii) t-butylamine

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6. Why $C_6H_5N^+(CH_3)_3OH^-$ a stronger base than NH_4OH ?

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7. Explain K_b order : $Et_2NH > Et_3N > EtNH_2$ in aqueous solution.

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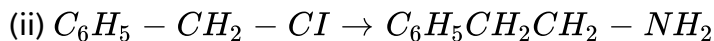
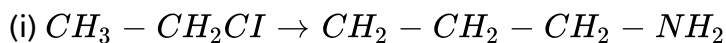
8. Distinguish between 1° , 2° , and 3° amines by HNO_2 acid test.

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9. A compound *A* having molecular formula C_3H_7ON reacts with Br_2 in presence of $NaOH$ to give compound 'B'. This compound 'B' reacts with HNO_2 to form alcohol and N_2 gas. Identify compound 'A' and 'B' and write the reaction involved.

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10. Write chemical equation for the following conversions :



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11. Account for :

(i) Amino group in aniline is o- and p- directing in aromatic electrophilic substitution reactions. Aniline on nitration gives a substantial amount of m - nitroaniline.

(ii) Aniline does not go Friedel Crafts reaction.



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12. Account for the following :

(i) Electrophilic substitution in aromatic amines takes place more readily than benzene.

(ii) Nitro compounds have higher boiling points than hydrocarbons having almost same molecular mass.



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13. Write short notes on :

(i) Coupling reaction

(ii) Ammonolysis



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14. Prepare pure sample of 1° amine from 1° alkyl halide.



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Short Answer II Type Question

1. What happens when :

- (i) An alkyl halide reacts with $AgNO_2$ and product is reduced.
- (ii) An alkyl halide is treated with $AgCN$ and product is hydrolysed.
- (iii) Methyl magnesium bromide is treated with cyanogens chloride.



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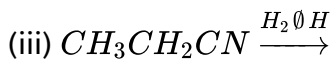
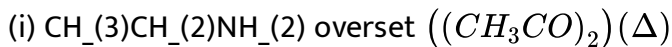
2. How would you prepare :

- (i) $C_6H_5NH_2$ from $C_6H_5NO_2$
- (ii) CH_3NH_2 from $C_2H_5NH_2$
- (iii) $C_2H_5NH_2$ from CH_3NH_2



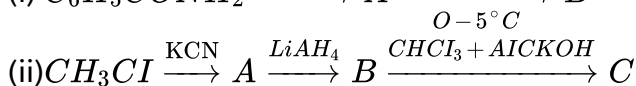
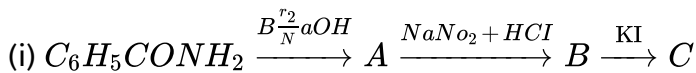
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3. Write the structure of the products in each case:



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4. Write the structures of A, B and C in following



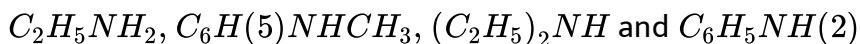
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5. Write the structure of reagents/ organic compounds 'A' to 'F':

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1. Arrange the following :

(i) In decreasing order of pK_b values :

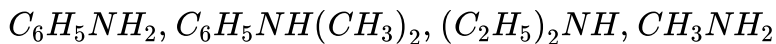


(ii) In increasing order of basis strength :

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



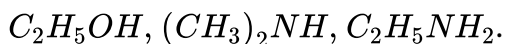
(iii) In decreasing order of basis strength:



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



(v) Increasing order of boiling point :



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2. How will you convert :

- (i) Ethanoic acid into methanamine
- (ii) Hexane nitrile into 1-aminopentane
- (iii) Methanol into ethanoic acid
- (iv) Ethanamine into methanamine



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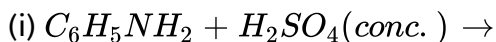
3. Write short note on the following :

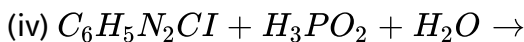
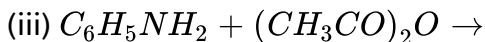
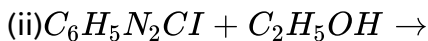
- (i) Carbylamine reaction
- (ii) Diazotization
- (iii) Hoffmann's bromide reaction
- (iv) Coupling reaction



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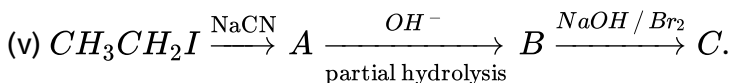
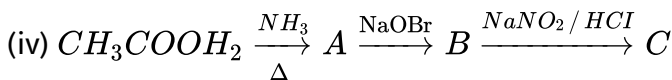
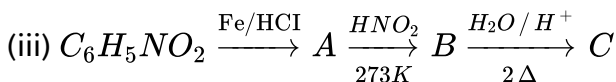
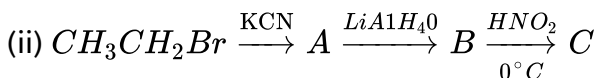
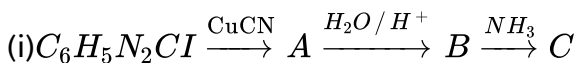
4. Complete the following reactions :





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5. Write A,B and C in the given reactions :



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6. Accomplish the following conversions :



(ii) Benzene \rightarrow m-bromophenol

(iii) $C_6H_5COOH \rightarrow C_6H_5NH_2$

(iv) Aniline \rightarrow 2,4,6 tribromoaniline

(v) Benzylchloride \rightarrow 2-phenyl ethanamine.



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7. Give reasons for the following

(a) Acetylation of aniline reduces its activation effect.

(b) CH_3NH_2 is more basic than $C_6H_5NH_2$.

(c) Although $-NH_2$ is o/p directing group, yet aniline on nitration gives a significant amount of m-nitroaniline.



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