CHEMISTRY

BOOKS - MODERN PUBLICATION CHEMISTRY (KANNADA ENGLISH)

ORGANIC COMPOUNDS CONTAINING NITROGEN

Multiple Choice Questions Level I Basic Conceptual Qs

1. Methyl cyanide on reduction with sodium and alcohol gives:

A. Methyl amine

B. Ethyl amine

C. Methyl alcohol

D. Acetic acid.

Answer: B

Watch Video Solution

2. Ethylamine can be prepared by the action of bromine and caustic potash on :

A. Acetamide

B. Propionamide

C. Formamide

D. Methy cyanide.

Answer: B

Watch Video Solution

3. An isocyanide on reduction with hydrogen in the presence of Pt gives:

A. Amide

B. Primary amine

C. Secondary amine

D. Alcohol.

Answer: C

Watch Video Solution

4. Hoffmann degradation of m-bromo benzamide gives:

A. Aniline

B. m - Bromoaniline

C. Bromobenzene

D. m - Bromoethyl benzene.

Answer: B

Watch Video Solution

5. Reaction of acetamide with bromine water and KOH gives:

A. CH_3COOH

B. $CH_3CH_2NH_2$

C. $CH_{\#}COONH_4$

D. CH_3NH_2.

Answer: D

Watch Video Solution

6. Gabriel phthalimide synthesis is used for the preparation of:

A. Primary aromatic amine

B. Primary aliphatic amine

C. Secondary amine

D. Tertiary amine.

Answer: B

Watch Video Solution

7. Which of the following will give a primary amine on reduction with $LiAIH_4$?

A. Oxime

B. Alkyl cyanide

C. Alkyl isocyanide

D. Nitroparaffin.

Answer: B

Watch Video Solution

8. C_3H_9N cannot represent:

A. 1° amine

B. 2° amine

C. 3° amine

D. quaternary salt.

Answer: D

Watch Video Solution

9. Which of the following is a $3_{\circ}$ amine?

A. 1 - methylcyclohexylamine

B. Triethylamine

C. tert - butylamine

D. N - methylaniline.

Answer: B

Watch Video Solution

10. The correct IUPAC name for

$CH_2 = CHCH_2NHCH_3$ is :

A. Allylmethylamine

B. 2 - amine -4- pentene

C. 4 - aminopent -1- ene

D. N - methylprop -2- ene -1- amine

Answer: D

Watch Video Solution

11. Out of the following compounds, which is the most basic ?

A. CH_3NH_2

B. $(CH_3)_2NH$

C. $(CH_3)_3N$

D. $C_6H_5NH_2$.

Answer: B

Watch Video Solution

12. Aniline on oxidation with $Na_2Cr_2O_7$ and H_2SO_4 gives :

A. Benzoic acid

B. m - Aminobenzoic acid

C. Schiff's base

D. p - Benzoquinone.

Answer: D

Watch Video Solution

13. Ethyl amine reacts with nitrous acid to form :

A. C_2H_5OH

B. C_2H_5OH, N_2, H_2O

C. $C_2H_5N_2^+Cl^-$

D. $C_2H_5NHOH, NH_3.$

Answer: B

Watch Video Solution

14. Which of the following amines gives carbylamine reaction ?

A. $C_2H_5NH_2$

B. $(C_2H_5)2NH$

C. $(C_2H_5)_3N$

D. $CH_3NHC_2H_5.$

Answer: A

Watch Video Solution

15. Which of the following reactions is given only by primary amines ?

A. Reaction with $HONO$

B. Reaction with chloroform and alcoholic KOH

C. Reaction with acetyl chloride

D. Reaction with Grignard reagent.

Answer: B

Watch Video Solution

16. Primary and secondary amines are distinguished by :

A. Br_2 / KOH

B. HNO_2

C. NH_3

D. $HCl + HNO_3$.

Answer: B

Watch Video Solution

17. The major product in the reaction,

$CH_3CH_2NH_2 + Cl - \overset{O}{\overset{||}{C}} - CH_3$ is

A. N - Methylaminoethane

B. Propionamide

C. N - Ethylacetamide

D. N - Methylacetamide.

Answer: C

Watch Video Solution

18. Which of the following gives yellow oily liquid when treated with nitrous acid ?

A. CH_3NH_2

B. $CH_3CH_2NH_2$

C. $(CH_3)_2NH$

D. $C_6H_5NH_2$.

Answer: C

Watch Video Solution

19. Silver chloride is soluble in methylamine due to the formation of:

A. $Ag(CH_3NH_2)Cl$

B. $Ag + CH_3Cl + NH_4Cl$

C. $\left[Ag(CH_3NH_2)_2\right]Cl$

D. $AgOH$.

Answer: C

Watch Video Solution

20. Diethylamine reacts with nitrous acid to give :

A. $(C_2H_5)_2NH^+NO_2^-$

B. $(C_2H_5)_2NNO$

C. C_2H_5OH

D. NH_3 and alcohol.

Answer: B

Watch Video Solution

21. Aniline on reaction with aqueous solution of bromine gives:

A. o - Bromoaniline

B. p - Bromoaniline

C. 2, 4, 6 - Tribromoaniline

D. m - Bromoaniline.

Answer: C

Watch Video Solution

22. Which of the following has the highest boiling point?

A. CH_3NH_2

B. CH_3CH_3

C. CH_3OH

D. $HCOOH$.

Answer: D

Watch Video Solution

23. Which of the following has lowest pK_b value ?

A. NH_3

B. $(CH_3)_2NH$

C. $C_6H_5NH(CH_3)_2$

D. CH_3NH_2.

Answer: B

Watch Video Solution

24. A primary amine can be converted into an alcohol by the action of:

A. $NaOH$

B. $HONO$

C. NH_4OH

D. HNO_3 and HCl

Answer: B

Watch Video Solution

25. In the reaction

$$RNH_2 \xrightarrow{CHCl_3 . KOH} X + Y + H_2O.$$

X and R are :

A. RCN, KCl

B. RNC, KCl

C. ROH, KCl

D. $RCONH_2, KCl$

Answer: B

Watch Video Solution

26. Which of the following does not react with acetyl chloride ?

A. $(C_2H_5)_2NH$

B. $C_2H_5NH_2$

C. CH_3NH_2

D. $(CH_3)_3N.$

Answer: D

Watch Video Solution

27. Ethylamine undergoes oxidation in the presence of $KMNO_4$ to give:

A. Ethylamine undergoes oxidation in the presence of $KMnO_4$ to give

:

B. acid

C. alcohol

D. aldehyde

Answer: C

Watch Video Solution

28. The hybridisation of N-atom in amines is:

A. sp

B. sp^2

C. sp^3

D. no hybridsation.

Answer: C

Watch Video Solution

29. Which reagent is commonly used for the separation of $1^\circ, 2^\circ$ and 3° amines ?

A. Benzene sulphonly chloride

B. HNO_2

C. Alcoholic KOH

D. Tollen's reagent.

Answer: A

Watch Video Solution

30. Which of the following statements is correct ?

A. Methylamine is less basic than ammonia.

B. Methylamine is more basic than aniline.

C. Methylamine is more basic than ethylamine.

D. Methylamine is more basic than benzylamine.

Answer: B

Watch Video Solution

31. Conversion of nitrobenzene to aniline is carried out in:

A. acidic medium

B. neutral medium

C. basic medium

D. may be in acidic or basic medium.

Answer: A

Watch Video Solution

32. Aniline is purified by :

A. Fractional distillation

B. Simple distillation

C. Steam distillation

D. None of these.

Answer: C

Watch Video Solution

33. Aniline reacts with sulphuric acid to give :

A. Benzene sulphonic acid

B. Aniline hydrogen sulphate

C. Benzene sulphate

D. Nitrobenzene.

Answer: B

Watch Video Solution

34. In the reaction

$$RNH_2 + CS_2 \rightarrow A \xrightarrow{HgCl_2} B.$$

the product B is :

A. Alkyl halide

B. Alkyl isothiocyanate

C. Amide

D. Mercury salt of acid.

Answer: B

Watch Video Solution

35. The conjugate base of $(CH_3)_3NH^+$ is :

A. $(CH_3)_3N$

B. $(CH_3)_3NH_2^+$

C. $(CH_3)_3NH$

D. $(CH_3)_3N^+$.

Answer: A

Watch Video Solution

36. Among the following compounds $NH_3, CH_3NH_2, C_6H_5NH_2$ and $C_2H_5NH_2$, the least basic compound is :

A. NH_3

B. CH_3NH_2

C. $C_2H_5NH_2$

D. $C_6H_5NH_2$.

Answer: D

Watch Video Solution

37. Which of the following is weakest base in water ?

A. Aniline

B. p - nitroaniline

C. Trimethylaniline

D. Ammonia.

Answer: B

Watch Video Solution

38. The correct order of reactivity towards electrophilic substitution of the compounds :

aniline (I), benzene (II) and nitro benzene (III) is :

A. $III > II > I$

B. $II > III > I$

C. $I < II < III$

D. $I > II > III.$

Answer: D

Watch Video Solution

39. The best reagent for converting 2-phenylpropanamide into 2 phenylpropanamine is:

A. excess H_2

B. Br_2 in aqueous $NaOH$

C. iodine in the presence of red phosphorus

D. $LiAlH_4$ in ether

Answer: D

Watch Video Solution

40. Methylamine reacts with HNO_2 to form:

A. $CH_3 - O - N = O$

B. $CH_3 - O - CH_3$

C. CH_3OH

D. CH_3CHO

Answer: C

Watch Video Solution

41. The gas evolved when methylamine reacts with nitrous acid is:

A. NH_3

B. N_2

C. H_2

D. C_2H_6

Answer: B

Watch Video Solution

42. In the nitration of benzene using a mixture of conc. $H(2)SO_4$, the species which initiates the reaction is :

A. NO_2

B. NO^+

C. NO_2^+

D. NO_2^-

Answer: C

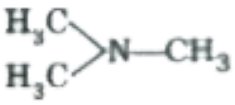
Watch Video Solution

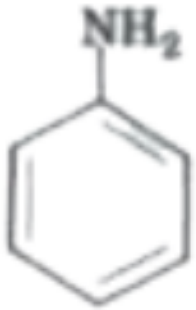
43. The most reactive amine towards dilute hydrochloric acid is:

A. $CH_3 - NH_2$

B.

C.



D. 

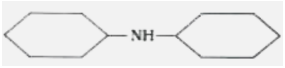
Answer: B

Watch Video Solution

44. Maximum pK_b value is of

A. $(CH_3)_2NH$

B. $(CH_3)CH_2)_2NH$

C. 

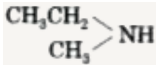
D. 

Answer: C

Watch Video Solution

45. Which of the following should be most volatile?

$(I) CH_3CH_2CH_2NH$ (II) $(CH_3)_3N$

(III)  (IV) $CH_3CH_2CH_3$

A. II

B. IV

C. I

D. III

Answer: B

Watch Video Solution

46. On treating aniline with nitrous acid and HCl at $0-5^\circ C$ gives :

A. An alcohol

B. Diazonium salt

C. Aniline hydrogen chloride

D. Nitro aniline.

Answer: B

Watch Video Solution

47. Benzene diazonium chloride reacts with hypophosphorus acid to give :

A. Phenol

B. Cyanobenzene

C. Benzene

D. Chlorobenzene.

Answer: C

Watch Video Solution

48. The indicator which is obtained by coupling the diazonium salt of sulphanilic acid with N, N-dimethylaniline is:

A. indigo

B. methyl orange

C. methyl red

D. phenolphthalein.

Answer: B

Watch Video Solution

49. Aniline when diazotized in cold and then treated with dimethyl aniline gives a coloured product. Its structure would be :

Watch Video Solution

50. Fluorobenzene can be prepared from benzene diazonium chloride by heating with:

A. fluoroboric acid followed by heating

B. aqueous KF

C. F_2 in the presence of CS_(2)`

D. H_3PO_2 followed by heating with KF

Answer: A

Watch Video Solution

Multiple Choice Questions Level Ii Comprehensive Qs

1. The IUPAC name of $CH_2 = CHCN$ is:

A. Ethenenitrile

B. Vinyl cyanide

C. Cyanoethene

D. 2 - Propenenitrile.

Answer: D

Watch Video Solution

2. Nitrous acid has no action on:

A. $CH_3CH_2NO_2$

B. CH_3CH_2COOH

C. $C_6H_5N(CH_3)_2$

D. $C_6H_5CONH_2$.

Answer: B

Watch Video Solution

3. In the reaction $CH_3CN \xrightarrow{Na, C_2H_5OH} X$, the compound X is :

A. $CH_3CH_2NH_2$

B. C_2H_6

C. CH_3CONH_2

D. $(CH_3)_2NH.$

Answer: A

Watch Video Solution

4. The most basic among the following compounds is:

A. Acetanilide

B. Aniline hydrogen sulphate

C. Benzyl amine

D. p - Nitroaniline.

Answer: C

Watch Video Solution

5. Aniline undergoes condensation to form Schiff base on reacting with:

A. Acetyl chloride

B. Ammonia

C. Acetone

D. Benzaldehyde.

Answer: D

Watch Video Solution

6. A compound giving NH_3 on boiling with sodium hydroxide is:

A. CH_3CONH_2

B. CH_3NH_2

C. CH_3CN

D. C_6H_5CHO.

Answer: A

Watch Video Solution

7. Oxidation of aniline with manganese dioxide and sulphuric acid gives :

A. Phenol

B. Acetanilide

C. p - Benzoquinone

D. Nitrobenzene.

Answer: C

Watch Video Solution

8. In the reaction

$$\text{Ethyl bromide} \xrightarrow{KCN} X \xrightarrow[\text{or } LiAlH_4]{H_2/Ni} Y,$$

Y is :

A. n - Propylamine

B. Ethylamine

C. Propionamide

D. Propane.

Answer: A

Watch Video Solution

9. Amino $(-NH_2)$ group is susceptible to oxidation by HNO_3. Therefore, nitration is done in the presence of:

A. dil H_2SO_4

B. CS_2 at $0^\circ C$

C. CH_3COCl

D. water.

Answer: C

Watch Video Solution

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

A. Soda time

B. $NaOH + Br_2$

C. PCl_5

D. Conc. H_2SO_4.

Answer: B

Watch Video Solution

11. In the reaction

$C_3H_7CONH_2 \xrightarrow{P_2O_5} X \xrightarrow{Pt.H_2} Y.$

Y is :

A. C_3H_7CN

B. $C_3H_7CH_2NH_2$

C. C_3H_7OH

D. $C_3H_7NH_2.$

Answer: B

Watch Video Solution

12. Benzamide on reduction with Na and C_2H_5OH gives:

A. Benzyl alcohol

B. Benzoic acid

C. Benzylamine

D. Benzene.

Answer: C

Watch Video Solution

13. Reduction of $CH_3CH_2NO_2$ with $LiAlH_4$ gives:

A. $CH_3CH_2NH_2$

B. CH_3NH_2

C. CH_3CH_2OH

D. CH_3CH_3.

Answer: A

Watch Video Solution

14. Reaction of ethylamine with chloroform in alcoholic KOH gives:

A. C_2H_5CN

B. C_2H_5NC

C. CH_3CN

D. $CH_3CN.$

Answer: B

Watch Video Solution

15. The indicator methyl orange is prepared by coupling diazonium salt of sulphanilic acid with:

A. Aniline

B. N, N - Dimethylaniline

C. p - Methylaniline

D. Naphthol.

Answer: B

Watch Video Solution

16. In the reaction,

$CH_3(CH_2)_4CN \xrightarrow{Zn, HCl} A \xrightarrow{HONO} B \xrightarrow{O} C$. C is :

A. Pentanal

B. Pentanone

C. 2 - Hexanone

D. Hexanal.

Answer: D

Watch Video Solution

17. An organic compound A having molecular formula C_2H_3N on reduction gave a compound B. Upon treatment with HONO, B gave ethyl alcohol and on warming with `CHCI_(3) and alcoholic KOH, it gave offensive smell. The compound A is:

A. Acetamide

B. Methyl cyanide

C. Ethylamine

D. Ethyl cyanide.

Answer: B

Watch Video Solution

18. When aniline is heated with chloroform and alcoholic KOH, a foul smelling product is formed. It is :

A. Carbyl cyanide

B. Aniline isocyanide

C. Phenyl isocyanide

D. Benzo aniline.

Answer: C

Watch Video Solution

19. Which of the following amine gives a characteristic offensive odour of isocyanide when heated with chloroform and caustic potash ?

A. CH_3NH_2

B. $(CH_3)_2NH$

C. $(CH_3)_3N$

D. $(C_6H_5)_2NH.$

Answer: A

Watch Video Solution

20. Aniline reacts with carbonyl chloride and forms :

A. chloro benzene

B. phenyl cyanate

C. phenyl cyanide

D. phenyl isocyanate.

Answer: D

Watch Video Solution

21. Hydrolysis of benzonitrile gives :

A. Benzylamine

B. Aniline

C. Benzene

D. Benzoic acid.

Answer: D

Watch Video Solution

22. In the reaction,

$$C_6H_5NH_2 \xrightarrow[HCl]{NaNO_2} X \xrightarrow{CuCN} Y \xrightarrow{H_2O} Z,$$

Z is :

A. $C_6H_5CH_2NH_2$

B. $C_6H_5NHCH_3$

C. C_6H_5COOH

D. $C_6H_5NH_2COOH.$

Answer: C

Watch Video Solution

23. Which one of the following is most basic ?

A. Aniline

B. Benzylamine

C. N - Methylaniline

D. N, N - Dimethylaniline.

Answer: B

Watch Video Solution

24. Ethylamine can be prepared by the action of bromine and caustic potash on :

A. Formamide

B. Acetamide

C. Propionamide

D. Methyl cyanide.

Answer: C

Watch Video Solution

25. How many structures are possible for amines (C_7H_9N) having one benzene ring ?

A. Five

B. Three

C. Four

D. Six

Answer: A

Watch Video Solution

26. On heating aniline with alcoholic CS_2 in the presence of $HgCl_2$ gives :

A. p - aminobenzene sulphoric acid

B. Phenyl cyanide

C. Phenyl isothiocyanate

D. Phenyl isocyanide.

Answer: C

Watch Video Solution

27. Which of the following does not give amine ?

A. $RX + NH_3 \rightarrow$

B. $RCONH_2 + 4[H] \xrightarrow{LiAlH_4}$

C. $RCN + H_2O \xrightarrow{H^+}$

D. $RCH = NOH + [H] \xrightarrow[C_2H_5OH]{Na}$

Answer: C

Watch Video Solution

28. The pK_b value is highest for :

A. p - methoxy aniline

B. p - chloroaniline

C. p - nitroaniline

D. p - methylaniline

Answer: A

Watch Video Solution

29. Ethanamide is :

A. Feebly acidic

B. Basic

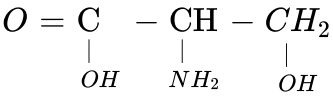
C. Neutral

D. None of these.

Answer: B

Watch Video Solution

30. The IUPAC name of the compound:



A. 2 - Amino hydroxypropanoic acid

B. 2 - Amino - propan -3- al - oic acid

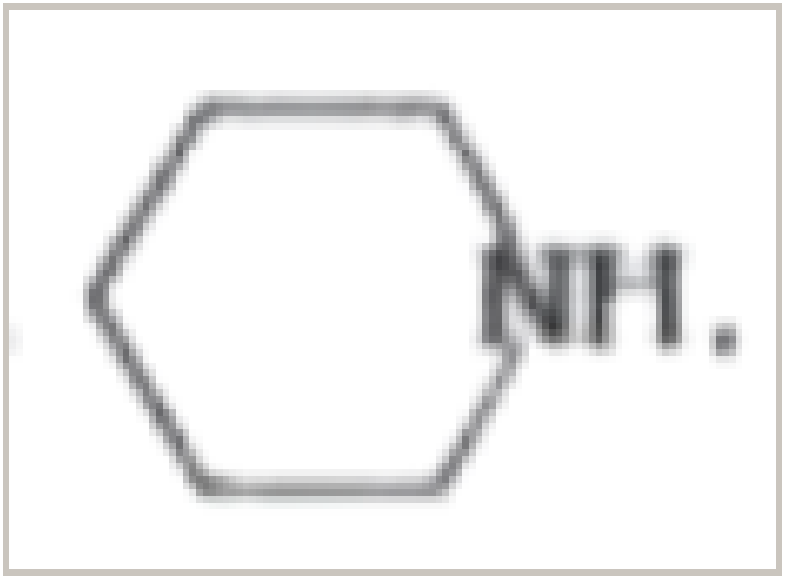
C. 3 - Amino -2- hydroxy propanoic acid.

D. 2- Amino -3-hydroxy propanoic acid.

Answer: D

Watch Video Solution

31. In piperidine,



the N atom involves :

A. sp - hybiridisation

B. sp^2 — hybridisation

C. sp^3 — hybridisation

D. dsp^2 — hybridisation

Answer: C

Watch Video Solution

32. C_2H_5CN on hydrolysis gives :

A. Acetic acid

B. Formic acid

C. Propionic acid

D. Carbon dioxide.

Answer: C

Watch Video Solution

33. The end product of the reaction :

$C_2H_5NH_2 \xrightarrow{HONO} A \xrightarrow{PCl_5} B \xrightarrow{NH_3} C$ is :

A. Ethyl cyanide

B. Ethyl amine

C. Acetamide

D. Methy amine.

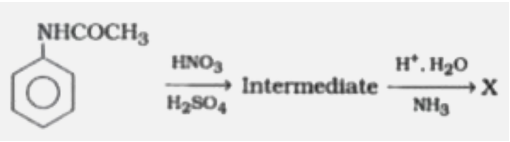
Answer: B

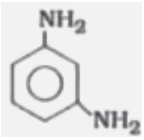
Watch Video Solution

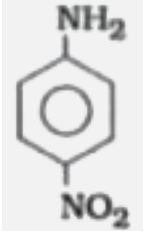
34. An organic compound P having molecular formula $C_6H_4N_2O_4$ is insoluble in both dilute acid and base and its dipole moment is zero. Its structure is :

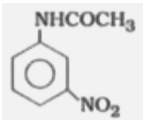
Watch Video Solution

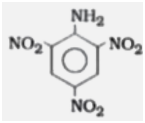
35. Identify X in the series :



A. 

B. 

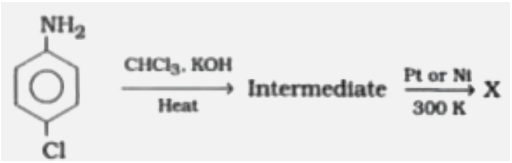
C. 

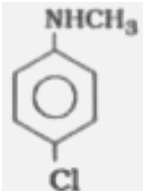
D. 

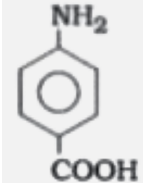
Answer: B

Watch Video Solution

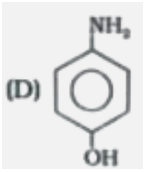
36. Identify X in the reaction,



A. 

B. 

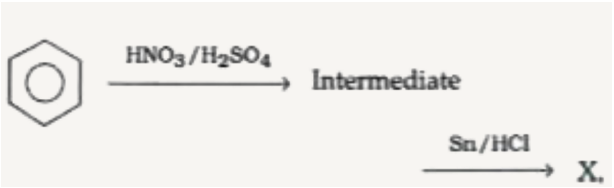
C. 

D. 

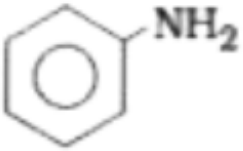
Answer: A

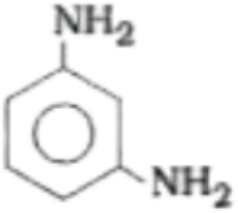
Watch Video Solution

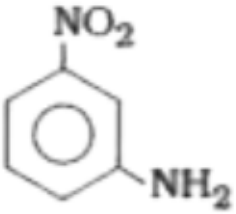
37. In the reaction

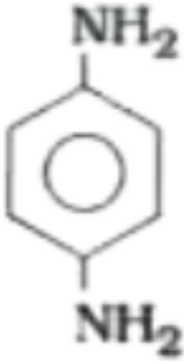


the product X is :

A. 

B. 

C. 

D. 

Answer: A

Watch Video Solution

38. The electrolytic reduction of nitrobenzene in strongly acidic medium produces:

A. phenol

B. p - amino phenol

C. hydroazobenzene

D. azobenzene.

Answer: C

Watch Video Solution

39. When primary amine is heated with CS_2 in the presence of excess of mercuric chloride, it gives isothiocyanate. This reaction is called :

A. Hoffmann bromamide reaction

B. Hoffmann mustard oil reaction

C. Perkin's reaction

D. Hoffmann elimination reaction.

Answer: B

Watch Video Solution

40. Acetaldoxime reacts with P_2O_5 to give :

A. Methyl cyanide

B. Ethyl cyanide

C. Ethyl cyanide

D. Mixture of all these.

Answer: A

Watch Video Solution

41. The type of isomerism shown by,

$C_6H_5C \equiv N$ and $C_6H_5N \equiv C$ is :

A. position

B. functional

C. enantiomerism

D. functional and tautomerism.

Answer: D

Watch Video Solution

42. Allyl isocyanide contains $\sigma$and π bonds respectively as:

A. $9\sigma, 3\pi$

B. $9\sigma, 9\pi$

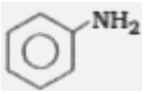
C. $3\sigma, 4\pi$

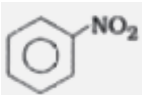
D. $5\sigma, 7\pi$.

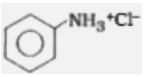
Answer: A

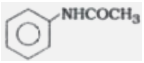
Watch Video Solution

43. Towards electrophilic substitution the most reactive species will be :

A. 

B. 

C. 

D. 

Answer: A

Watch Video Solution

44. Which of the following statements is not correct regarding aniline ?

A. It is less basic than ethylamine

B. It can be steam distilled

C. It is less basic than m - methylaniline

D. It is soluble in water.

Answer: D

Watch Video Solution

45. Consider the amines:

1. NH_3 2. RNH_2 3. $C_6H_5NH_2$

The correct sequence of basicity is :

A. $3 < 2 < 1$

B. $3 < 1 < 2$

C. $1 < 2 < 3$

D. $2 < 3 < 1.$

Answer: B

Watch Video Solution

46. Phenyl isocyanide is prepared by heating $CHCl_3$ with :

A. 

B. 

C. 

D. 

Answer: A

Watch Video Solution

47. Primary amine reacts with an aldehyde to give:

A. amide

B. imine

C. nitrite

D. nitro compound.

Answer: B

Watch Video Solution

48. In the reaction of p-chlorotoluene with KNH_2 in liquid NH_3, the major product is :

A. o - toluidine

B. m - toluidine

C. p - toluidine

D. p - chloroaniline.

Answer: B

Watch Video Solution

49. Benzene diazonium chloride on reaction with phenol in weakly basic medium gives :

A. Diphenyl ether

B. p - hyddroxyazobenzene

C. chlorobenzene

D. benzene.

Answer: B

Watch Video Solution

50. p-chloroaniline and anilinium hydrochloride can be distinguished by :

A. Sandmeyer reaction

B. $NaHSO_3$

C. $AgNO_3$

D. Carbylamine test.

Answer: B

Watch Video Solution

51. m-Bromo benzamide reacts with Br_2 and KOH to give :

A. m - Bromoaniline

B. 3, 5 - dibromo benzamide

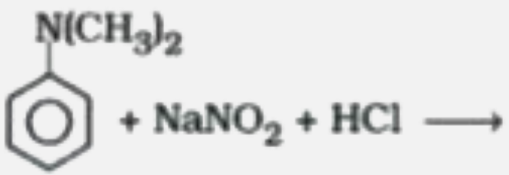
C. m - Bromobenzylamine

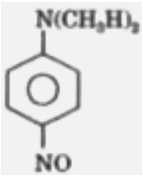
D. m - Bromophenol.

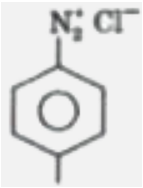
Answer: A

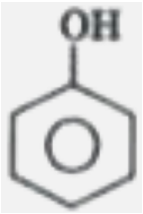
Watch Video Solution

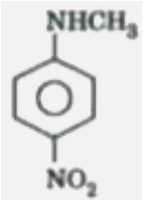
52. Complete the following reaction:



A. 

B. 

C. 

D. 

Answer: A

Watch Video Solution

53. Which of the following has highest boiling point ?

A. $C_2H_5CH(CH_3)_2$

B. $C_4H_9NH_2$

C. $(C_2H_5)_2NH$

D. $C_2H_5N(CH_3)_2$

Answer: B

Watch Video Solution

54. In the reaction,

$$Rx \xrightarrow{NaN_3} A \xrightarrow{H_2/Pd-C} B + N_2$$

The product B is :

A. R_2NH

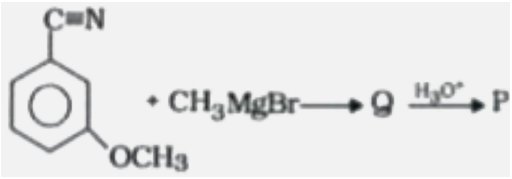
B. RN_3

C. R_3N

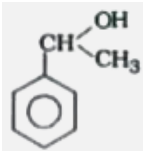
D. RNH_2.

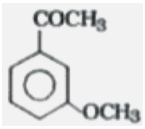
Answer: D

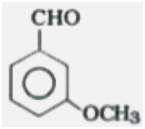
Watch Video Solution

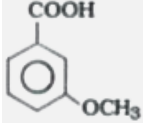
55. 

The product P in the reaction is :

A. 

B. 

C. 

D. 

Answer: B

Watch Video Solution

56. In the following reaction

$$CH_3CH_2CH_2I \xrightarrow{alc.KOH} X \xrightarrow{Br_2} Y \xrightarrow[Liq.NH_3]{NaNH_2} Z$$

the end product Z is :

A. $CH_3CH_2CH_2NHCOCH_3$

B. $CH_3CH_2CH_2NH_2$

C. $CH_3CH_2CH_2CONHCH_3$

D. $CH_3CH_2CH_2CONHCOCH_3$

Answer: A

Watch Video Solution

57. Which one of the following on reduction with lithium aluminium hydride yields a secondary amine ?

A. Methylisocyanide

B. Acetamide

C. Methyl cyanide

D. Nitroethane.

Answer: A

Watch Video Solution

58. The most basic among the following compounds is:

A. 

B. 

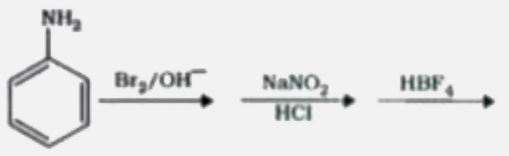
C. 

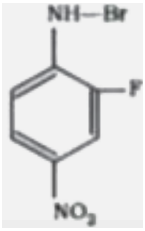
D. 

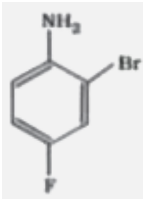
Answer: A

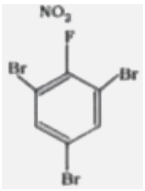
Watch Video Solution

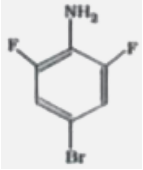
59. The final product in the following sequence of reaction is:



A. 

B. 

C. 

D. 

Answer: C

Watch Video Solution

60. 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

A. $NH_3 < (CH_3)_3N < CH_3NH_2 < (CH_3)_2NH$

B. $(CH_3)_3N < CH_3NH(2) < (CH_3)_2NH$

C. $CH_3NH_2 < (CH_3)_2NH < (CH_3)_3N < NH_3$

D. $NH_3 < (CH_3)_3N < (CH_3)NH < CH_3NH_2$

Answer: A

Watch Video Solution

61. Choose the amide which on reduction with $LIAlH_4$ yields a secondary amine

A. Ethanamide

B. N - Methyl ethanamide

C. N, N - dimethyl ethanamide

D. Phenyl methanamide.

Answer: B

Watch Video Solution

62. Arrange the following amines in the decreasing order of their basic strength

Aniline (I), Benzylamine (II), p-toluidine (III)

A. I gt II gt III

B. III gt II gt I

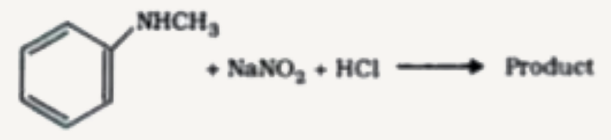
C. II gt I gt III

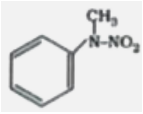
D. III gt I gt II.

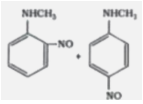
Answer: B

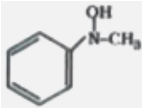
Watch Video Solution

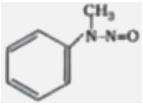
63. Predict the product



A. 

B. 

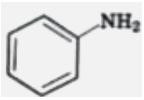
C. 

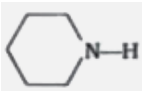
D. 

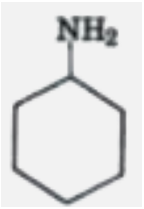
Answer: D

Watch Video Solution

64. Which of the following is the weakest Brönsted base?

A. 

B. 

C. 

D. CH_3NH_2

Answer: A

Watch Video Solution

65. Benzylamine may be alkylated as shown in the following equation : $C_6H_5CH_2NH_2 + R - X \rightarrow C_6H_5CH_2NHR$ Which of the following alkyl halides is best suited for this reaction through S N 1 mechanism?

A. CH_3Br

B. C_6H_5Br

C. $C_6H_5CH_2Br$

D. C_2H_5Br

Answer: C

Watch Video Solution

66. Which of the following reagent would not be a good choice for reducing an aryl nitro compound to an amine?

A. $H_2 \ (\text{excess})/\text{Pt}$

B. $LiAlH_4$ in ether

C. Fe and HCl

D. Sn and HCl

Answer: B

Watch Video Solution

67. In order to prepare a $1_{\circ}$ amine from an alkyl halide with simultaneous addition of one CH_2 group in the carbon chain, the reagent used as source of nitrogen is:

A. Sodium amide, $NaNH_2$

B. Sodium azide, NaN_3

C. Potassium cyanide, KCN

D. Potassium phthalimide, $C_6H_4(CO)_2N^-K^+$

Answer: C

Watch Video Solution

68. The source of nitrogen in Gabriel synthesis of amines is:

A. Sodium azide, NaN_3

B. Sodium nitrite, $NaNO_2$

C. Potassium cyanide, KCN

D. Potassium phthalimide, $C_6H_4(CO)_2N^-K^+$

Answer: D

Watch Video Solution

69. Amongst the given set of reactants, the most appropriate for preparing $2_\circ$ amine is:

A. $2^\circ R - Br + NH_3$

B. $2^\circ R - Br + NaCN$ followed by H_2 / Pt

C. $1^\circ R - NH_2 + RCHO$ followed by H_2 / Pt

D.

$1^{\circ} R - Br \quad (2\,\text{mol}) + \text{potassium phthalimide followed by} \quad H_3O^+ / \text{he}$

Answer: C

Watch Video Solution

70. The best reagent for converting 2-phenylpropanamide into 2 phenylpropanamine is:

A. excess H_2 / Pt

B. $NaOH / Br_2$

C. $NaBH_4 / \text{methanol}$

D. $LiAlH_4 / \text{ether}$

Answer: B

Watch Video Solution

71. Reduction of aromatic nitro compounds using Fe and HCl gives:

A. aromatic oxime

B. aromatic hydrocatbon

C. aromatic primary amine

D. aromatic amide

Answer: C

Watch Video Solution

72. Hoffmann bromamide degradation reaction is shown by:

A. $ArNH_2$

B. $ArCONH_2$

C. $ArNO_2$

D. $ArCH_2NH_2$

Answer: B

Watch Video Solution

73. Acid anhydrides on reaction with primary amines give:

A. amide

B. imide

C. Secondary amine

D. imine

Answer: A

Watch Video Solution

74. The reaction $Ar\overset{+}{N}_2Cl^- \xrightarrow{Cu\,/\,HCl} ArCl + N_2 + CuCl$ is named as :

A. Sandmeyer reaction

B. Gattermann reaction

C. Claisen reaction

D. Carbylamine reaction.

Answer: B

Watch Video Solution

75. Best method for preparing primary amines from alkyl halides without changing the number of carbon atoms in the chain is

A. Hoffmann bromamide reaction

B. Gabriel phthalimide synthesis

C. Sandmeyer reaction

D. Reaction with NH_3

Answer: B

Watch Video Solution

76. Which of the following compound will not undergo azo coupling reaction with benzene diazonium chloride.

A. Aniline

B. Phenol

C. Anisole

D. Nitrobenzene.

Answer: D

Watch Video Solution

77. Which of the following methods of preparation of amines will not give same number of carbon atoms in the chain of amines as in the reactant?

A. Reaction of nitrile with $LiAlH_4$.

B. Reaction of amide with $LiAlH_4$ followed by treatment with water.

C. Heating alkylhalide with potassium salt of phthalimide followed by hydrolysis.

D. Treatment of amide with bromine in aqueous solution of sodium hydroxide.

Answer: D

Watch Video Solution

78. The major product of the reaction between m-dinitrobenzene and NH_4HS is

A. 

B. 

C. 

D. 

Answer: B

Watch Video Solution

79. Aniline when diazotized in cold and then treated with dimethyl aniline gives a coloured product. Its structure would be :

A. 

B. 

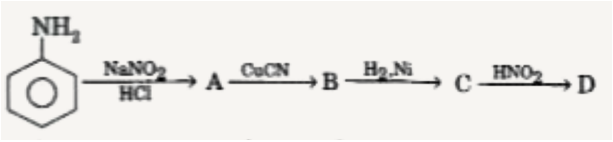
C. 

D. 

Answer: B

Watch Video Solution

80. Aniline in a set of reactions yielded a product D.



The structure of the product D would be :

A. C_6H_5NHOH

B. $C_6H_5NHCH_2CH_3$

C. $C_6H_5CH_2NH_2$

D. $C_6H_5CH_2OH$

Answer: D

Watch Video Solution

81. The correct order of increasing basic nature for the bases $NH_3CH_3NH_2$ and $(CH_3)_2NH$ in aqueous solution

A. $CH_3NH_2 < (CH_3)_2NH < NH_3$

B. $CH_3NH_2 < NH_3 < (CH_3)_2NH$

C. $(CH_3)_2NH < NH_3 < CH_3NH_2$

D. $NH_3 < CH_3NH_2 < (CH_3)_2H.$

Answer: D

Watch Video Solution

82. Which of the following is the strongest base ?

A. 

B. 

C. 

D. 

Answer: D

Watch Video Solution

83. Fluorobenzene can be synthesised in the laboratory:

A. from aniline by diazotisation followed by heating the diazonium salt with HBF_4.

B. by direct fluorination of benzene with F_2 gas.

C. by reacting bromobenzene with NaF solution.

D. by heating phenol with HF and KF.

Answer: A

Watch Video Solution

84. In the chemical reaction,

$CH_3CH_2NH_2 + CHCl_3 + 3KOH \rightarrow (A) + (B) + 3H_2O.$

the compounds (A) and (B) are respectively :

A. $CH_3CH_2CONH_2$ and $3KCl$

B. C_2H_5NC and K_2CO_3

C. C_2H_5NC and $3KCl$

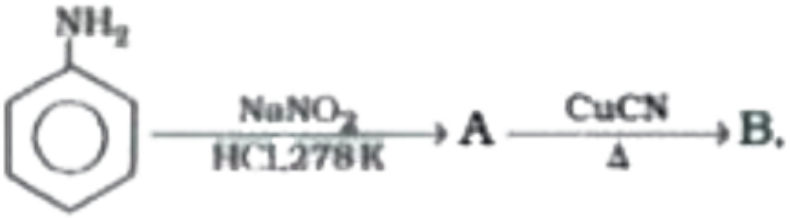
D. C_2H_5CN and $3KCl.$

Answer: C

Watch Video Solution

Multiple Choice Questions Level Iii Question From Aieee Jee Examinations

1. In the chemical reaction,



the compounds A and B respectively are :

A. Benzene diazonium chloride and benzonitrile

B. Nitrobenzene and chlorobenzene

C. Phenol and bromobenzene

D. Fluorobenzene and phenol

Answer: A

Watch Video Solution

2. A compound with molecular mass 180 is acylated with CH_3COCl to get a compound with molecular mass 390. The number of amino groups present per molecule of the former compound is :

A. 2

B. 5

C. 4

D. 6

Answer: B

Watch Video Solution

3. On heating an aliphatic primary amine with chloroform and ethanolic potassium hydroxide, the organic compound formed is

A. an alkanol

B. an alkanediol

C. an alkyl cyanide

D. an alkyl isocyanide

Answer: D

Watch Video Solution

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

A. $(CH_3)_2NH$

B. CH_3NH_2

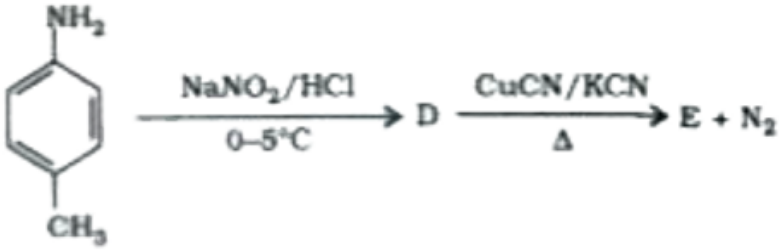
C. $(CH_3)_3N$

D. $C_6H_5NH_2$.

Answer: A

Watch Video Solution

5. In the reaction :



The product E is :

A. 

B. 

C.

D.

Answer: C

Watch Video Solution

Recent Examination Questions

1. $CH_3CH_2Br \xrightarrow[\Delta]{\text{aq. KOH}} A \xrightarrow[\Delta]{KMnO_4/H^+} B \xrightarrow[\Delta]{NH_3} C \xrightarrow[\text{alkali}]{Br_2} D$, ''$D$'' is :

A. CH_3Br

B. CH_3CONH_2

C. CH_3NH_2

D. $CHBr_3$.

Answer: C

Watch Video Solution

2. Which one of the following forms propane nitrile as the major product?

A. Ethyl bromide+alcoholic KCN

B. Propyl bromide+alcoholic KCN

C. Propyl bromide+alcoholic AgCN

D. Ethyl bromide +alcoholic AgCN.

Answer: A

Watch Video Solution

3. Benzylamine is a stronger base than aniline because :

A. The lone pair of electrons on the nitrogen

B. atom in benzylamine is delocalised

C. The lone pair of electrons on the nitrogen atoms in aniline is delocalised.

D. The lone pair of electrons on the nitrogen atom in aniline is not involved in resonance.

Answer: B

Watch Video Solution

4. Which one of the following gives amine on heating with amide?

A. Br_2 in aqueous KOH

B. Br_2 in alcoholic KOH

C. Cl_2 in sodium

D. Sodium in ether.

Answer: A

Watch Video Solution

5. The correct sequence of reactions to be performed to convert benzene into m-bromoaniline is

A. Nitration, reduction, bromination

B. Bromination, nitration, reduction

C. Nitration, bromination, reduction

D. Reduction, nitration, bromination.

Answer: C

Watch Video Solution

6. $C_6H_5COOH \xrightarrow[2.\ \Delta]{1.\ NH_3} P \xrightarrow{NaOBr} Q \xrightarrow[(2)\quad \Delta\ ,460K]{(1)\ \text{Conc.}\ \ H_2SO_4} R$

'R' is :

A. o - bromosulphanilic acid

B. sulphanilamide

C. sulphanilic acid

D. p - bromosulphanilamide.

Answer: C

Watch Video Solution

7. One of the following amide will not undergo Hoffmann bromamide reaction :

A. $C_6H_5CONH_2$

B. CH_3CONH_2

C. $CH_3CH_2CONH_2$

D. $CH_3CONHCH_3$

Answer: D

Watch Video Solution

8. A mixture of methyl amine and dimethyl amine is given to you. The regents used to separate the components of the mixture are :

A. $CHCl_3$ and HCl

B. $C_6H_5SO_2Cl$ and KOH

C. $C_6H_5SO_2Cl$ and HCl

D. $CHCl_3$ and KOH.

Answer: B

Watch Video Solution

9. Gabriel phthalimide synthesis is used for the preparation of:

A. Secondary Amines

B. Amides

C. Primary Amines

D. Tertiary amine.

Answer: C

Watch Video Solution

10. The correct increasing order of basic strength of following amines, $C_2H_5NH_2$, NH_3, $(C_2H_5)_2NH$, $C_6H_5NH_2$ in gaseous state is :

A. $(C_2H_5)_2NH < C_2H_5NH_2 < NH_3 < C_6H_5NH_2$

B. $C_6H_5NH_2 < (C_2H_5)_2NH < C_2H_5NH_2 < NH_3$

C. $C_6H_5NH_2 < NH_3 < C_2H_5NH_2 < (C_2H_5)_2NH$

D. $(C_2H_5)_2NH < C_2H_5NH_2 < C_6H_5NH_2 < NH_3$.

Answer: C

Watch Video Solution