

QB365 Question Bank Software Study Materials

Organic Nitrogen Compounds 50 Important 1 Marks Questions With Answers (Book Back and Creative)

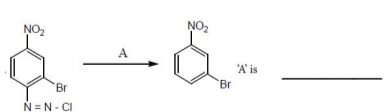
12th Standard

Chemistry

Total Marks : 50

Multiple Choice Question

50 x 1 = 50

- Which of the following reagent can be used to convert nitrobenzene to aniline.
(a) Sn / HCl (b) Zn/Hg / NaOH (c) Zn/NH₄Cl (d) All of these
- The method by which aniline cannot be prepared is _____.
(b) potassium salt of phthalimide treated with chlorobenzene followed by hydrolysis with aqueous NaOH solution.
 (a) degradation of benzamide with Br₂ / NaOH
 (c) reduction of Nitrobenzene with LiAlH₄ (d) reduction of nitrobenzene by Sn / HCl
- Which one of the following will not undergo Hofmann bromamide reaction.
(a) CH₃CONHCH₃ (b) CH₃CH₂CONH₂ (c) CH₃CONH₂ (d) C₆H₅CONH₂
- CH₃CH₂Br $\xrightarrow[\Delta]{aqNaOH}$ A $\xrightarrow[\Delta]{KMnO_4/H^+}$ B $\xrightarrow[\Delta]{NH_3}$ C $\xrightarrow{Br_2/NaOH}$ D D' is _____.
(c) methanamine (a) bromomethane (b) α - bromo sodium acetate (d) acetamide
- Which one of the following nitro compounds does not react with nitrous acid.
(c) (CH₃)₃CNO₂ (a) CH₃-CH₂-CH₂-NO₂ (b) (CH₃)₂CH-CH₂NO₂ (d) $\begin{matrix} CH_3 - C - CH - NO_2 \\ || \quad || \\ O \quad CH_3 \end{matrix}$
- Aniline + benzoylchloride \xrightarrow{NaOH} C₆H₅-NH-COC₆H₅ this reaction is known as _____.
(c) Schotten - Baumann reaction (a) Friedel - crafts reaction (b) HVZ reaction (d) none of these
- The product formed by the reaction an aldehyde with a primary amine _____.
(c) schiff 's base (a) carboxylic acid (b) aromatic acid (d) ketone
- Which of the following reaction is not correct.
(b) $(CH_3)_2N-C_6H_4-N=N-Cl \xrightarrow{NaNO_2/HCl} (CH_3)_2N-C_6H_4-N=N-Cl$ (a) CH₃CH₂NH₂ $\xrightarrow{HNO_2}$ CH₃CH₂OH + N₂ (c) CH₂CONH₂ $\xrightarrow{Br_2/NaOH}$ CH₃NH₂
 (d) none of these
- When aniline reacts with acetic anhydride the product formed is _____.
(d) acetanilide (a) o - aminoacetophenone (b) m-aminoacetophenone (c) p - aminoacetophenone
- The order of basic strength for methyl substituted amines in aqueous solution is _____.
(d) N(CH₃)₂H > N(CH₃)H₂ > N(CH₃)₃ > NH₃
 (a) N(CH₃)₃ > N(CH₃)₂H > N(CH₃)H₂ > NH₃ (b) N(CH₃)H₂ > N(CH₃)₂H > N(CH₃)₃ > NH₃
 (c) NH₃ > N(CH₃)H₂ > N(CH₃)₂H > N(CH₃)₃
-  **(a) H₃PO₂ and H₂O** (b) H⁺/H₂O (c) HgSO₄/H₂SO₄ (d) Cu₂Cl₂
- C₆H₅NO₂ $\xrightarrow{Fe/Hcl}$ A $\xrightarrow[273K]{NaNO_2/HCl}$ B $\xrightarrow[283]{H_2O}$ C C' is _____.
(a) C₆H₅-OH (b) C₆H₅-CH₂OH (c) C₆H₅-COH (d) C₆H₅NH₂

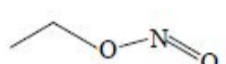
- 13) Nitrobenzene on reaction with $\text{Con HNO}_3 / \text{H}_2\text{SO}_4$ at $80-100^\circ\text{C}$ forms which one of the following products?
 (a) 1,4 – dinitrobenzene (b) 2,4,6 – trinitrobenzene (c) 1,2 – dinitrobenzene **(d) 1,3 – dinitrobenzene**
- 14) $\text{C}_5\text{H}_{13}\text{N}$ reacts with HNO_2 to give an optically active compound – The compound is _____.
 (a) pentan – 1- amine **(b) pentan – 2- amine** (c) N,N – dimethylpropan -2-amine (d) diethyl methyl amine
- 15) Secondary nitro alkanes react with nitrous acid to form _____.
 (a) red solution **(b) blue solution** (c) green solution (d) yellow solution

16) Which of the following amines does not undergo acetylation?

- (a) t – butylamine (b) ethylamine (c) diethylamine **(d) triethylamine**

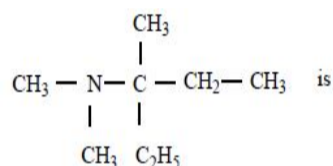
17) Which one of the following is most basic?

- (a) 2,4 – dichloroaniline **(b) 2,4 – dimethyl aniline** (c) 2,4 – dinitroaniline (d) 2,4 – dibromoaniline

18) When  is reduced with Sn / HCl the pair of compounds formed are _____.

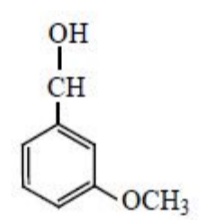
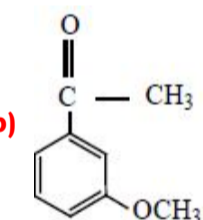
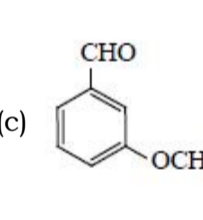
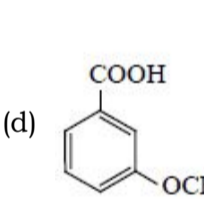
- (a) Ethanol, hydrozylamine hydrochloride** (b) Ethanol, ammonium hydroxide (c) Ethanol, NH_2OH
 (d) $\text{C}_3\text{H}_5\text{NH}_2, \text{H}_2\text{O}$

19) IUPAC name for the amine



- (a) 3 – Bimethylamino – 3 – methyl pentane (b) 3 (N,N – Triethyl) – 3- amino pentane (c) 3 – N,N – trimethyl pentanamine
(d) N,N – dimethyl – 3- methyl - pentan - 3 amine

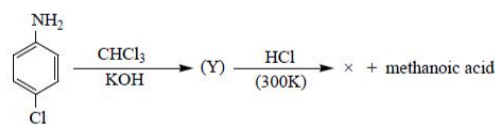
20)  P Product 'P' in the above reaction is _____.

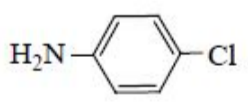
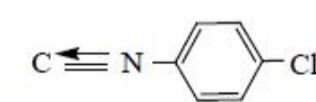
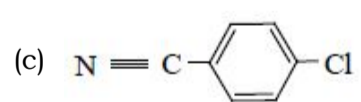
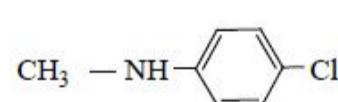
- (a)  **(b)**  (c)  (d) 

21) Ammonium salt of benzoic acid is heated strongly with and the product so formed is reduced and then treated with $\text{NaNO}_2 / \text{HCl}$ at low temperature. The final compound formed is _____.

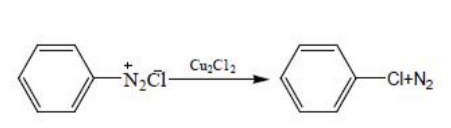
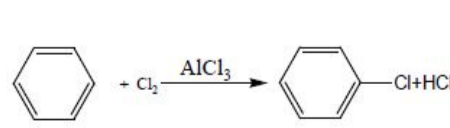
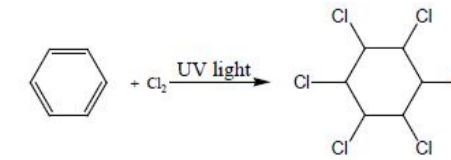
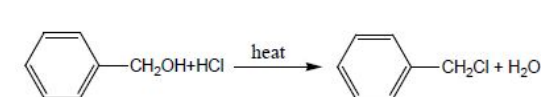
- (a) Benzene diazonium chloride **(b) Benzyl alcohol** (c) Phenol (d) Nitrosobenzene

22) Identify X in the sequence give below

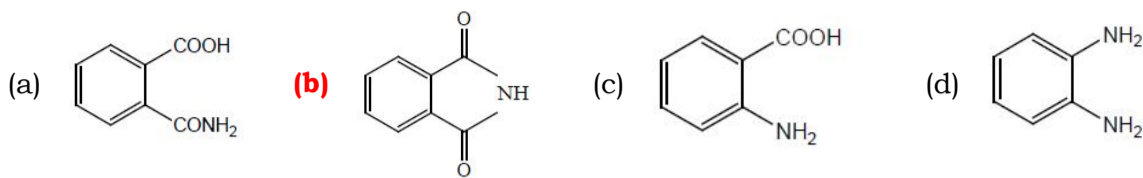
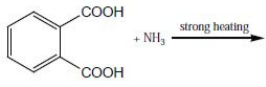


- (a)**  (b)  (c)  (d) 

23) Among the following, the reaction that proceeds through an electrophilic substitution is : _____.

- (a)  **(b)**  (c) 
 (d) 

24) The major product of the following reaction



25) Electrolytic reduction of nitrobenzene in strongly acidic medium gives

- (a) aniline (b) **p - aminophenol** (c) m-nitroaniline (d) azoxybenzene

26) Bromo ethane reacts with silver nitrite to give

- (a) **C₂H₅NO₂** (b) C₂H₅-O-NO (c) C₂H₅Ag+NaBr (d) C₂H₅NC

27) The compound that is most reactive towards electrophilic nitration is

- (a) **Toluene** (b) benzene (c) benzoic acid (d) nitrobenzene

28) The basic character of amines is due to the

- (a) tetrahedral structure (b) presence of nitrogen atom (c) **lone pair of electrons on nitrogen atom**
(d) high electronegativity of nitrogen

29) Aniline differs from ethylamine by the reaction with

- (a) metallic sodium (b) an alkyl halide (c) chloroform and caustic potash (d) **nitrous acid**

30) When aqueous solution of benzene diazonium chloride is boiled the product formed is

- (a) benzyl alcohol (b) benzene + N₂ (c) **phenol** (d) phenyl hydroxylamine

31) Chloropicrin (CCl₃NO₂) is used as

- (a) dyes (b) pharmaceuticals (c) explosives (d) **soil sterilizing agents**

32) The IUPAC name of $\text{CH}_3 - \underset{\text{CH}_3}{\text{CH}} - \text{CH}_2\text{NH}_2$

- (a) isobutyl amine (b) **1-amino-2-methyl propane** (c) 1-methyl-2-amino propane (d) 2-amino-3-methyl butane

33) Tertiary amine is less basic than secondary amine because of

- (a) delocalisation of π electrons (b) resonance effect (c) inductive effect (d) **steric effect**

34) Which among the following is a tertiary amine?

- (a) (CH₃)₃-C-NH₂ (b) $\text{CH}_3 - \underset{\text{CH}_3}{\text{CH}} - \text{NH} - \text{CH}_3$ (c) **(CH₃)₂-N-C₂H₅** (d) $\text{CH}_2 - \overset{\text{CH}_3}{\underset{\text{NH}_2}{\text{C}}} - \text{C}_2\text{H}_3$

35) Aniline react with benzoyl chloride in the presence of sodium hydroxide and gives benzanilide. This reaction is known as

- (a) Gattermann reaction (b) Sandmeyer's reaction (c) **Schotten - Baumann reaction**
(d) Gomberg - Bachmann reaction

36) The compound which gives an oily nitrosoamine on reaction with nitrous acid at low temperature is _____

- (a) C₂H₅NH₂ (b) **(CH₃)₂NH** (c) (CH₃)₃N (d) (CH₃)₂CHNH₂

37) The isomerism exhibited by 1-nitro butane and 1-nitro - 2- methyl propane is _____

- (a) chain (b) **tautomerism** (c) position (d) functional

38) p-amino phenol is the product of reducing nitrobenzene in _____

- (a) acid medium (b) basic medium **(c) electrolytic reduction** (d) neutral medium
- 39) The nitro group can be reduced to primary amino group by _____
(a) Sn / conc. HCl (b) Zn dust (c) Zn / NH₄ Cl (d) Zn / NaOH
- 40) Use of chloropicrin is as _____
(a) explosive (b) dye (c) anaesthetic **(d) sterilizing agent**
- 41) The primary suffix with position number of 2,2 - dimethyl -1 - nitropropane is
(a) 2,2 - dimethyl (b) 1- nitro (c) propane **(d) ane**
- 42) The number of chain and position isomers of C₄H₉NO₂ is
(a) 4 (b) 3 (c) 2 (d) 1
- 43) Nitro methane tautomerises to
(a) Methyl nitrate **(b) Methyl nitrite** (c) Nitro ethane (d) Ethyl nitrite
- 44) With CF₃COOOH, acetaldoxime reacts to give
(a) Ethylamine (b) Nitroethane (c) Nitromethane (d) Methylcyanide
- 45) Libermann's nitroso test is a characteristic test for
(a) 1^o amines **(b) 2^o amines** (c) 3^o amines (d) C₆H₅NH₂
- 46) Mustard oil reaction is a characteristic reaction of
(a) 1^o amines (b) 2^o amines (c) 3^o amines (d) Quarternary salt
- 47) With hypo phosphorus or phosphinic acid or ethanol in benzene diazonium chloride gives
(a) Benzene (b) Toluene (c) Phenol (d) Anisole
- 48) Acetamide is treated with the following separately. Which one of these will yield methylamine?
(a) PCl₅ (b) Hot.con.H₂SO₄ **(c) NaOH/Br₂** (d) Soda lime
- 49) In the following series of reactions (A) is $\langle A \rangle \xrightarrow{\text{Reduction}} (B) \xrightarrow{\text{HNO}_2} \text{C}_2\text{H}_5\text{OH}$
(a) Ethane nitrile (b) Methyl isocyanide (c) Propane nitrile (d) Nitro methane
- 50) ArCN cannot be prepared by
(a) ArX + KCN (b) ArN₂Cl + CUCN (c) ArCONH₂ + P₂O₅ (d) ArCONH₂ + SOCl₂