1.

An organic compound A on reduction gives compound B which on reaction with chloroform and potassium hydroxide forms C. The compound C on catalytic reduction gives N-methylaniline. The compound A is

(a) nitrobenzene

(b) nitromethane

(c) methylamine

(d) aniline

2.

Acetamide and ethyl amine can be distinguished by reacting with

(a) aq. HCl and heat

(b) aq. NaOH and heat

(c) acidified $KMnO_4$

(d) bromine water

3.

Which of the following compound gives dye test

(1) Aniline (2) Methylamine (3) Diphenylamine (4)Ethylamine

4.

Which one of the following on reduction with $LiAlH_4$ yields a secondary amine? **[2007]**

(a) Methyl isocyanide

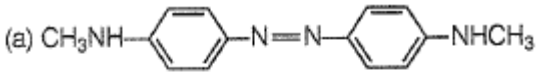
(b) Acetamide

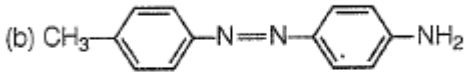
(c) Methyl cyanide

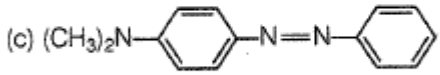
(d) Nitroethane

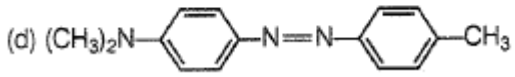
5.

Aniline when diazotised in cold and then treated with dimethylaniline, gives a coloured product. Its structure would be

(a) 

(b) 

(c) 

(d) 

6.

What is the end product in the following sequences of operations;

$\text{Acetamide} \xrightarrow{P_2O_5} A \xrightarrow{4H} B$?

(a) CH_3NH_2 (b) $C_2H_5NH_2$

(c) CH_3CN (d) CH_3COONH_4

7.

Name the end product in the following series of reactions,

$CH_3COOH \xrightarrow{NH_3} A \xrightarrow{\Delta} B \xrightarrow{P_2O_5} C$:

(a) CH_4 (b) CH_3OH

(c) acetonitrile (d) ammonium acetate

8.

The type of isomerism shown by C_6H_5CN and C_6H_5NC is:

(a) position

(b) functional

(c) enantiomerism

(d) tautomerism

9.

An organic compound *A* on reduction gives compound *B* which on reaction with chloroform and potassium hydroxide forms *C*. The compound *C* on catalytic reduction gives N-methylaniline. The compound *A* is [2000]

(a) nitrobenzene

(b) nitromethane

(c) methylamine

(d) aniline

10.

An aromatic primary amine with cold nitrous acid leads to the formation of:

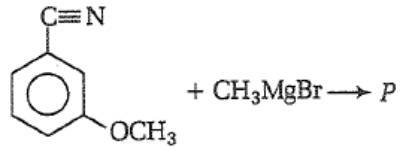
(a) alcohol

(b) nitrite

(c) diazonium salt

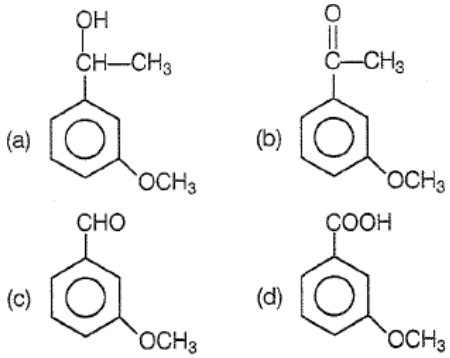
(d) benzene

11.



Product *P* in the above reaction is

[2002]



12.

In the reaction,

$CH_3\,CN + 2H \xrightarrow[SnCl_2]{HCl} X \xrightarrow{\text{Boiling } H_2O} Y$, the term Y is

[1999]

(a) acetone

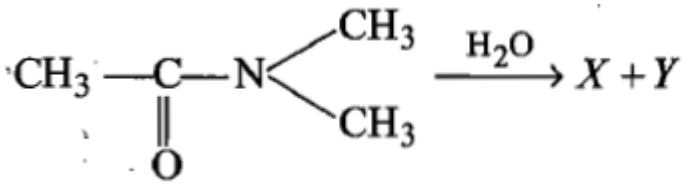
(b) ethanamine

(c) acetaldehyde

(d) dimethyl amine

13.

X and Y in the given reaction are:



(a) $CH_3\,COOH + (CH_3)_2\,NH$

(b) $CH_3\,CONH_2 + CH_3\,OH$

(c) $CH_3\,CHO + (CH_3)_2\,NH$

(d) $CH_3\,COCH_3 + CH_3\,NH_2$

14.

Which of the following statements about primary amines is false ?

[2010]

(a) Alkyl amines are stronger bases than aryl amines

(b) Alkyl amines react with nitrous acid to produce alcohols

(c) Aryl amines react with nitrous acid to produce phenols

(d) Alkyl amines are stronger bases than ammonia

15.

Among the following, the strongest base is:

(a) $C_6H_5NH_2$

(b) *p*-NO_2-$C_6H_4NH_2$

(c) *m*-NO_2-$C_2H_4NH_2$

(d) $C_2H5CH_2NH_2$

16.

An amine reacts with $C_6H_5\,SO_2\,Cl$ and the product is soluble in alkali, amine is:

(a) 1°

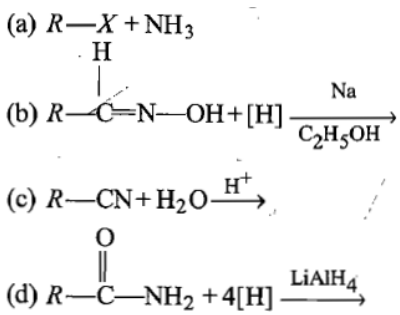
(b) 2°

(c) 3°

(d) all of those

17.

Which of the following reactions does not yield an amine?



18.

What is the end product in the following sequence of reactions,

$C_2H_5NH_2 \xrightarrow{HNO_2} A \xrightarrow{PCl_5} B \xrightarrow{NH_3} C$?

(a) Ethyl cyanide

(b) Ethylamine

(c) Methylamine

(d) Acetamide

19.

Identfy *X* in the sequence,

$X \xrightarrow{HNO_2} C_3H_8O \xrightarrow[H_2SO_4]{K_2Cr_2O_7} C_3H_6O_2$:

(a) $CH_3 - NH - CH_2 - CH_3$

(b) $CH_3 - CH_2 - CH_2 - NH_2$

(c) $(CH_3)_3N$

(d) none of the above

20.

$CH_3CH_2NH_2$ contains a basic NH_2 group, but CH_3CONH_2 does not, because;

(a) acetamide is amphoteric in character

(b) in $CH_3CH_2NH_2$ the electron pair on N-atom is delocalized by resonance

(c) in $CH_3CH_2NH_2$ there is no resonance, while in acetamide the lone pair of electron on N-atom is delocalized and therefore less available for protonation

(d) none of the above

21.

Tertiary nitro compounds cannot show tautomerism because:

(a) they are very stable

(b) isomerises to give *sec*. nitro compounds

(c) do not have labile H-atom

(d) they are highly eactive

22.

Aniline and ethylamine resembles in:

(a) solubility

(b) action with HNO_2

(c) action of Grignard reagent

(d) coupling reaction

23.

A secondary amine is:

(a) a compound with two -NH_2 groups

(b) a compound with 2 carbon atoms and a -NH_2 group

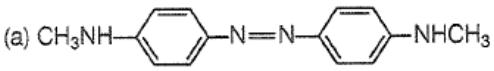
(c) a compound with a -NH_2 group on the carbon atom in number 2 position

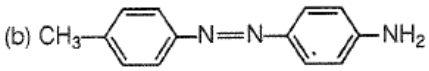
(d) a compound in which 2 of the hydrogens of NH_3 have been replaced by alkyl or aryl groups

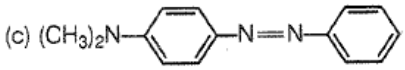
24.

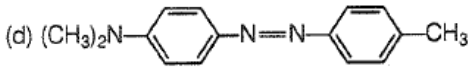
Aniline when diazotised in cold and then treated with dimethyl aniline, gives a coloured product. Its structure would be

[2004]

(a) 

(b) 

(c) 

(d) 

25.

The hydrochlorides of amines form double salt with:

(a) $PtCl_4$

(b) $AuCl_3$

(c) both (a) and (b)

(d) none of these

26.

An amine is reacted with benzene sulphonyl chloride then a solid compound is formed which is insoluble in alkali, The amine is

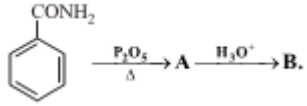
(1) $CH_3 - CH_2 - NH_2$

(2) $CH_3 - NH - CH_2 - CH_3$

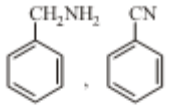
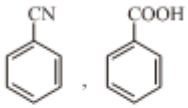
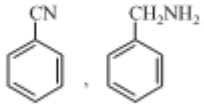
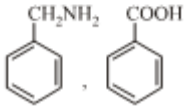
(3) $(CH_3)_3N$

(4) $C_6H_5 - NH_2$

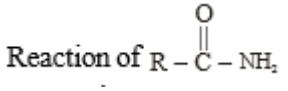
27.

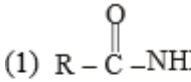
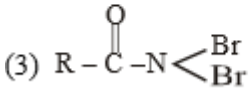


The compound A and B respectively are

1. 
2. 
3. 
4. 

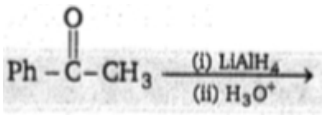
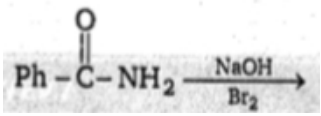
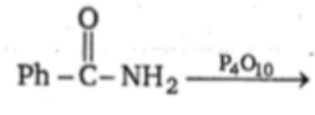
28.

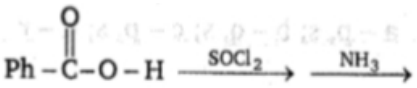
Reaction of  with a mixture of Br_2 and KOH gives R-NH_2 as the main product. The intermediates involved in this reaction are:

(1)  and R–N=C=O
(2) RCN
(3) 
(4) RNHBr

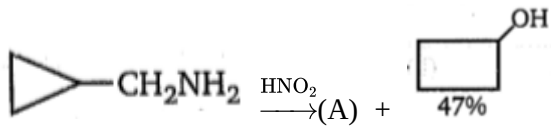
29.

In which of the following reaction cyanide will be obtained as a major product ?

1. 
2. 
3. 

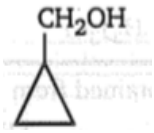
4. 

30.

 CH-CH_2-CH_2-OH

A will be:

(a) CH2 =

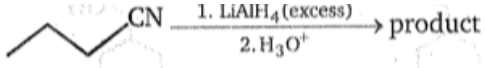
(b) 

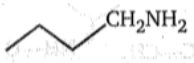
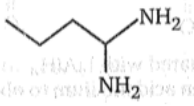
(c) 

(d) 

31.

Choose the appropriate product for this reaction.



(a) 
(b) 
(c) 
(d) 

32.

Which of the following reactions can be used to prepare acetophenone ?

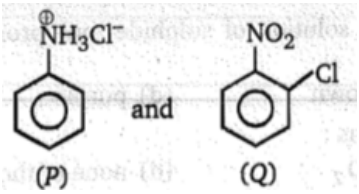
(a) $C_6H_5\,CN \xrightarrow[2H_2O]{1.AlCl_3}$

(b) $(C_6H_5\,COO)_2\,Ca + (CH_3\,COO)_2Ca \xrightarrow{heat}$

(c) $C_6H_5\,CN \xrightarrow[2\,H_3O^+]{1.CH_3\,MgI}$

(d) All of these

33.



Above compounds (P) & (Q) can be differentiated by:

(a) amm. $AgNO_3$

(b) NaOH

(c) $FeCl_3$

(d) Both (a) & (b)

34.

Identify the product (A) in following reaction series,

$CH_3CN \xrightarrow{Na/C_2H_5OH} (X) \xrightarrow{HNO_2} (Y) \xrightarrow{[O]} (Z) \xrightarrow{\text{Tollens reagent}} (A)$:

(a) CH_3CHO

(b) CH_3CONH_2

(c) CH_3COOH

(d) CH_3-CH_2-NHOH

35.

Amine may contain:

(a) $-NH_2$ gp. (b) $>NH$ gp.
(c) $>N$ gp. (d) all of these

36.

Which nitro compound will show tautomerism ?

(a) $C_6H_5NO_2$

(b) $(CH_3)_3CNO_2$

(c) $CH_3CH_2NO_2$

(d) *o*-nitrotoluene

37.

The reduction of CH_3CN to $CH_3CH_2NH_2$ is called:

(a) Rosenmund's reduction

(b) Clemmensen's reduction

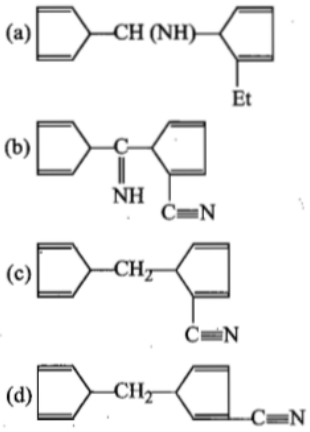
(c) Mendius reduction

(d) Hofmann's reduction

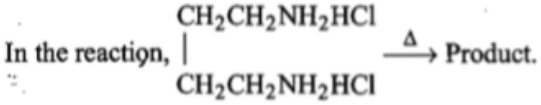
38.

The product [*A*] formed in the reaction;

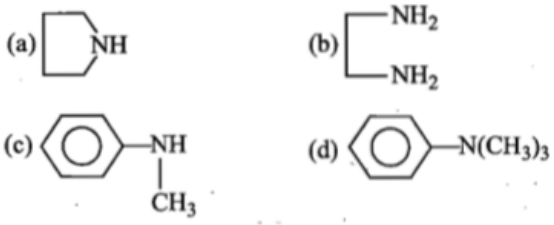
$2C_5H_5 - CN \xrightarrow[Et_2O]{Na} [A]$ is :



39.

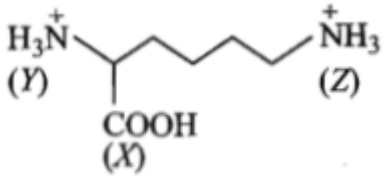


The product is:



40.

In the compound given below,



the correct order of acidic nature of the positions (*X*), (*Y*) and (*Z*) is:

(a) *Z*>*X*>*Y*

(b) *X*>*Y*>*Z*

(c) *X*>*Z*>*Y*

(d) *Y*>*X*>*Z*

41.

Aniline was acetylated. The product on nitration followed by alkaline hydrolysis gave:

(a) *o*-nitroacetanilide

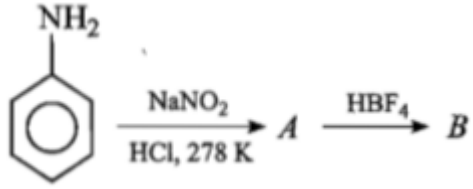
(b) *o*- and *p*-nitroaniline

(c) *m*-nitroaniline

(d) acetanilide

42.

In the chemical reactions,



the compounds '*A*' and '*B*' respectively are:

(a) nitrobenzene and chlorobenzene

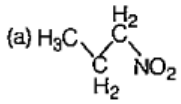
(b) nitrobenzene and flurobenzene

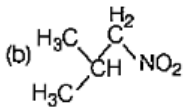
(c) phenol and benzene

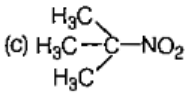
(d) benzene diazonium chloride and fluorobenzene

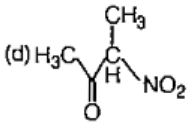
43.

Which one of the following nitro-compounds does not rect with nitrous acid ?









44.

The correct statement regarding the basicity of arylamines is

(a) Arylamines are generally more basic than alkylamines because the nitrogen lone-pair electrons are not delocalized by interaction with the aromatic ring p -electron system.

(b) Arylamines are generally more basic than alkylamines because of aryl group.

(c) Arylamines are generally more basic than alkylamines, because the nitrogen atom in arylamines is *sp*-hybridized

(d) Arylamines are generally less basic than alkylamines because the nitrogen lone-pair electrons are delocalized by interaction with the aromatic ring p-electron system.

45.

Which of the following is more basic than aniline ?

(a) Diphenylamine

(b) Triphenylamine

(c) *p*-nitroaniline

(d) Benzylamine

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