

India's Number 1 Education App

CHEMISTRY

BOOKS - MS CHOUHAN

AMINES

Level 1

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

$$\mathsf{B.}\,Ph - \overset{O}{\overset{\mid \mid}{C}} - NH_2 \overset{NaOH}{\overset{Br_2}{\longrightarrow}}$$

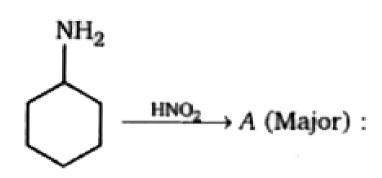
$$\operatorname{\mathsf{C.}} Ph - \overset{O}{\overset{\mid \mid}{C}} - NH_2 \overset{P_4O_{10}}{\longrightarrow}$$

D.
$$Ph-\overset{O}{\overset{||}{C}}-O-H\overset{SOCl_4}{\longrightarrow}\overset{NH_3}{\longrightarrow}$$

Answer: C

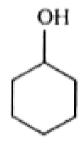


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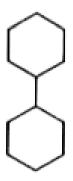


2.

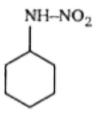
Product (A) is:



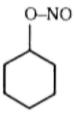
A.



В.



C.



D.

Answer: A



3. Which of the following alkene cannot be prepared by de-amination of

 $n-Bu-NH_2$ with $NaNO_2/HCl$?

A. 1-butene

B. cis-2-butene

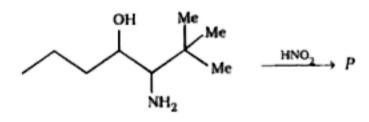
C. trans-2-butene

D. Iso-butene

Answer: D



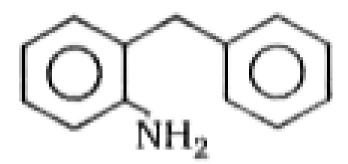
4. Predict the major product P in the following reaction.



$$\mathsf{B}. \overset{\mathsf{OH}}{\overset{\mathsf{Me}}{\longrightarrow}} \mathsf{Me}$$

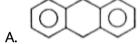
Answer: A

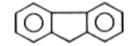




5.

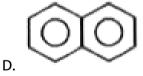
 $\stackrel{NaNO_2}{\longrightarrow} (A)$, Product of this reaction is





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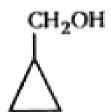
Answer: B



$$CH_2 - NH_2 \xrightarrow{HNO_2} (A) + 48\% + CH_2 = CH - CH_2 - CH_2 - OH$$

A will be

A.
$$CH_2 = CH - CH - CH_3$$



В.



C.



Answer: B



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- **7.** Which of the following isomers of C_8H_9NO is the weakest base ?
 - A. o-Aminacetophenone
 - B. p-Aminoacetophenone
 - C. m-Aminoacetophenone
 - D. Acetanilide

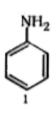
Answer: D

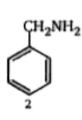


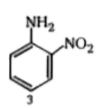
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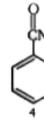
8. Rank the following compounds in order of increasing basic strength.

(weakest \rightarrow strongest)









A.
$$4 < 2 < 1 < 3$$

$${\rm B.}\,4 < 3 < 1 < 2$$

$$\mathsf{C.}\,4 < 1 < 3 < 2$$

Answer: B



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9. Which of the following aryl amines will not form a diazonium salt on reaction with sodium nitrite in hydrochloric acid?

A. m-Ethylanilie

B. p-Aminoacetophenone

C. 4-Chloro-2-nitroaniline

D. N-Ethyl-2-methylaniline

Answer: D



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10. In the given reaction sequence,

$$CH_3 - \stackrel{\mid}{C} - CH_2CH_2OH \xrightarrow{K_2Cr_2O_7, H_2SO_4}{H_2O, \Delta} (A) \xrightarrow{SOCl_2} (B) \xrightarrow{(CH_3)_2NH} (C) \xrightarrow{1.Li.} CH_3 \qquad (CH_3)_2 \qquad (CH_3)_$$

 CH_3 OH

Answer: B



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11. Which one of the following is best catalyst for the reaction shown below?

$$CH_3(CH_2)_8CH_2Br \xrightarrow{KCN} CH_3(CH_2)_8CH_2CN$$

.

Answer: C



12. The major products obtained from the following sequence of reactions are:

$$(CH_3)_2CHCH_2N(CH_2CH_3)_2 \stackrel{CH_3I}{\longrightarrow} \stackrel{Ag_2O}{\longrightarrow} \stackrel{\mathrm{heat}}{\longrightarrow} \mathsf{products}$$

A.
$$(CH_3)_2CHCH_2NH_2+H_2C=CH_2$$

$$\mathrm{B.}\left(CH_{3}\right)_{2}NCH_{2}CH_{3}+H_{2}C=\left.C(CH_{3})_{2}\right.$$

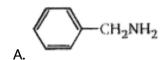
C.
$$(CH_3)_2CHCH_2\stackrel{|}{N}CH_2CH_3+H_2C=CH_2$$

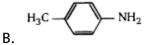
Answer: C



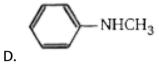
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13. Which compound yields an N-nitroso amine after treatment with nitrous acid $(NaNO_2+HCl)$?



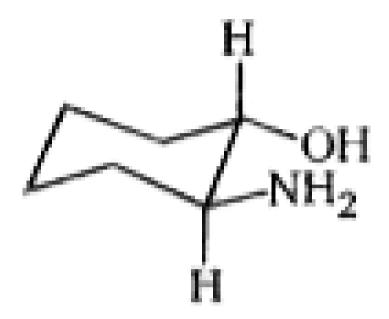


C



Answer: D





14.

$$\stackrel{HNO_2}{\longrightarrow} (A)$$
 , Product (A) is :

A. cyclopentane carboxyaldehyde

B. cyclohexane -1, 2-diol

C. 2-aminocyclohexene

D. cyclohex-2-enol

Answer: A



15. Choose the appropriate product for this reaction.



$$\xrightarrow{1.LiAlH_4\,(\,\,\text{excess}\,)} \quad \mathsf{product}$$

A.

Answer: B

D.



16. Which of the following product will be obtained in the given (consider minor product also) Beckmann-type rearrangement ?

$$\xrightarrow{\begin{array}{c} (1)\,NH_2OH\,,HCl\\ \hline (2)\,PCl_5\,,\,\Delta \end{array}} \ \text{product}$$

В.

C.

$$\langle {}^{0}_{0} \downarrow {}^{N}_{Me}$$

D. all of these

Answer: D



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17. Deamination (or) diazotization of $n-Bu-NH_2$ with $NaNO_2 \, / \, HCl$ gives......isomeric butene.

A. 2

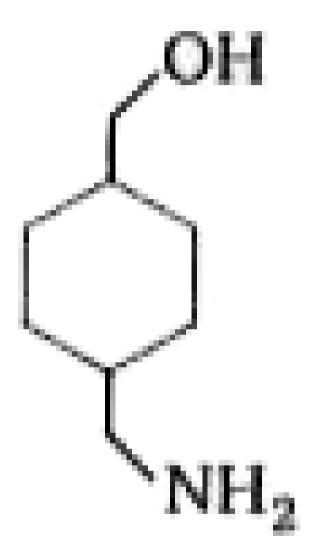
B. 3

C. 4

D. 5

Answer: B





18.

$$\stackrel{Ac_2O}{\longrightarrow} P \stackrel{Ac_2O}{\longrightarrow} QAc_2O = CH_3 - \stackrel{|}{C} - O - \stackrel{|}{C} - CH_3$$

P and Q respectively are:

A.

В.

C

Answer: D



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19. A nitrile X is treated with $LiAIH_4$ to obtain compound Y (C_2H_7N) . In a separate reaction X is hydrolyzed in an acid medium to obtain Z. The product obtained after mixing Y and Z will be

A. $CH_3CONHCH_2CH_3$

 $\mathsf{B.}\,CH_3CH_2CONHCH_2CH_3$

C. $(CH_3COO^-)(CH_3CH_2NH_3^+)$

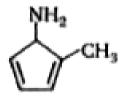
D. $\left(CH_3CH_2COO^ight)\left(CH_3NH_2^+
ight)$

Answer: C



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20. The compound $X(C_7H_9N)$ reacts with benzensulfonyl chloride to give $Y(CH_{13}H_{13}NO_2S)$ which is insoluble in alkali. The compound X is:



В.

Answer: A



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Level 2

1. Five amine syntheses are outlined below. In each reaction box enter a single letter designating the best reagent and conditions selected from the list at the bottom of the page.

A.	CH ₂ - Br	First Step Second Step	CH ₂ - CH ₂ - NH ₂
В.	O ^l H	First Step Second Step Third Step	CH ₂ -N CH ₂ CH ₃
c.	○N - H	First Step Second Step	0-0
D.	○ NO ₂	First Step Second Step	N(CH ₃) ₂
E.	→Br	First Step Second Step Third Step Fourth Step	
(a)	(i) LiAlH ₄ in ether	(ii) H ₂ O & base	
(b)	C ₂ H ₅ NH ₂ (cat. H ⁽⁺⁾)		
(c)	NaCN in alcohol		
(d)	H ₂ & Ni catalyst or H ₂ & Pd catalyst		E-pally during engage A. A.
(e)	NaN ₃ in alcohol		
(f)	(CH ₃ CO) ₂ O & pyridine		
(g)	C ₂ H ₅ Br		

(h)	, н [®]	
(i)	2CH ₃ 1& pyridine	
(j)	KOH in H ₂ O	