doubtnut
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 ?

A. $Ph-\overset{\overset{O}{||}}{C}-CH_3 \xrightarrow[(ii)\,H_3O^+]{(i)\,LiAH_4}$

B. $Ph - \overset{\overset{O}{||}}{C} - NH_2 \xrightarrow[Br_2]{NaOH}$

C. $Ph - \overset{\overset{O}{||}}{C} - NH_2 \xrightarrow{P_4O_{10}}$

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

Answer: C

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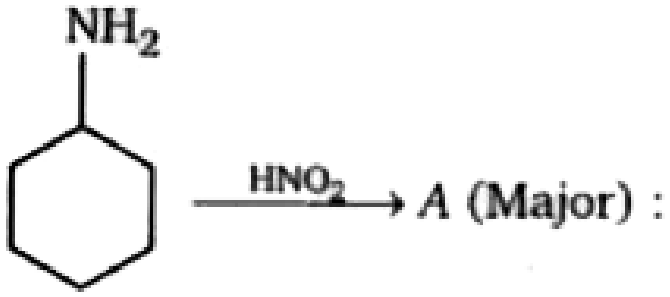
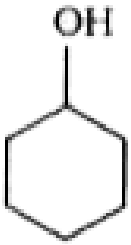
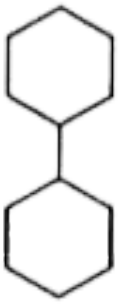
2. 

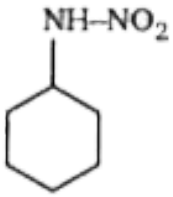
Product (A) is :

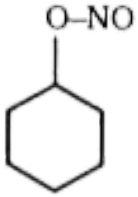


A.



B.

C. 

D. 

Answer: A

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3. Which of the following alkene cannot be prepared by de-amination of $n-\underset{n-\text{Butyl}}{Bu}-NH_2$ with $NaNO_2/HCl$?

A. 1-butene

B. cis-2-butene

C. trans-2-butene

D. Iso-butene

Answer: D

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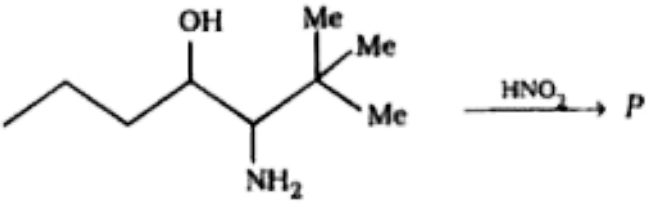
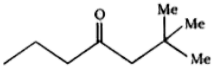
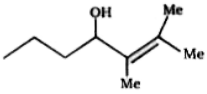
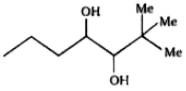
4. Predict the major product P in the following reaction.

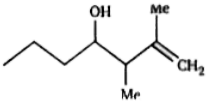


$$\xrightarrow{HNO_2} P$$

A. 

B. 

C. 

D. 

Answer: A

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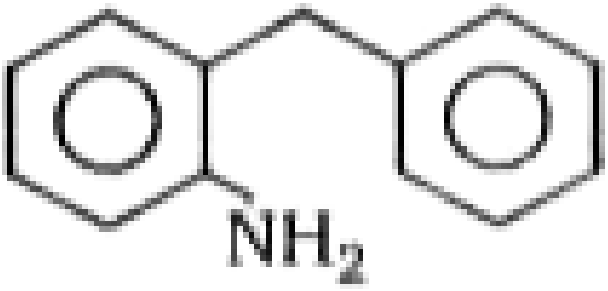
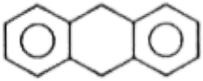
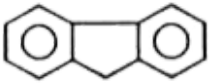
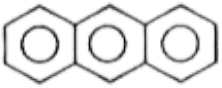


5.

$\xrightarrow[H_2SO_4]{NaNO_2} (A)$, Product of this reaction is

A. 

B. 

C. 

D. 

Answer: B

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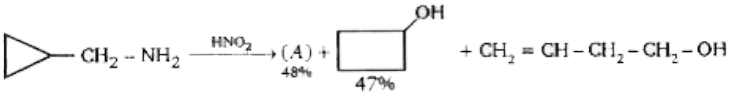
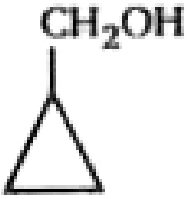
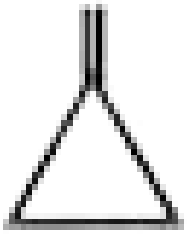
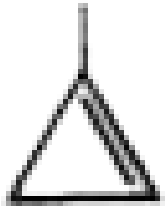
6. 

A will be

A. $CH_2 = CH - \underset{\underset{OH}{|}}{C}H - CH_3$

B. 

C. 

D. 

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. o-Aminoacetophenone

D. Acetanilide

Answer: D

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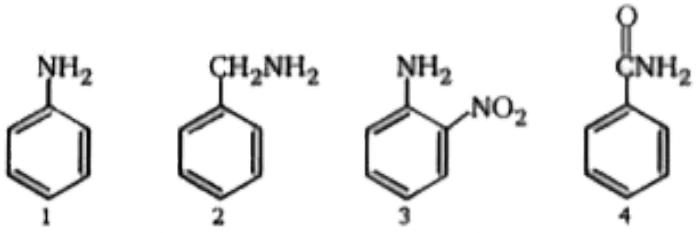
8. Rank the following compounds in order of increasing basic strength. (weakest $\rightarrow$ strongest)



A. $4 < 2 < 1 < 3$

B. $4 < 3 < 1 < 2$

C. $4 < 1 < 3 < 2$

D. $2 < 1 < 3 < 4$

Answer: B

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9. Which of the following arylamines will not form a diazoniuum 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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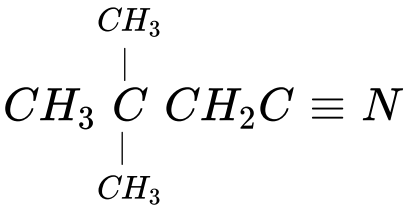
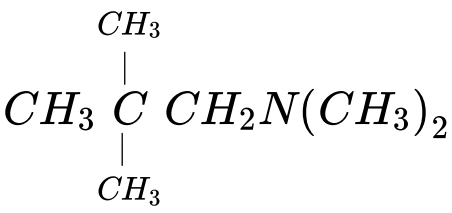
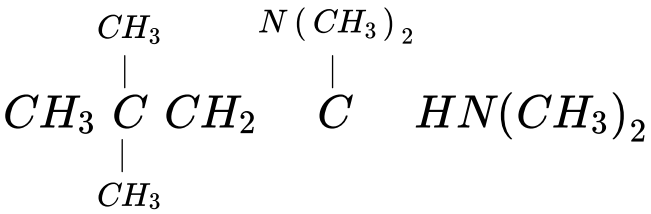
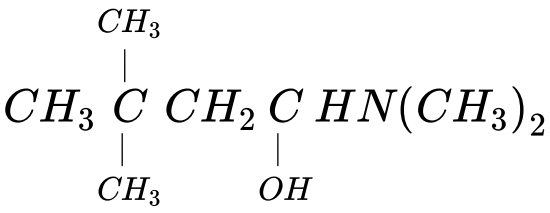
10. Identify product D in the following reaction sequence :

[Math Processing Error]

A. 

B. 

C. 

D. 

Answer: B

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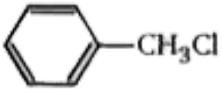
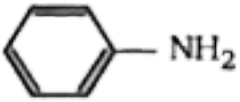
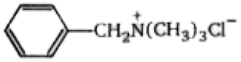
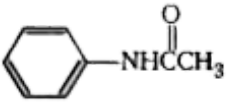
11. Which one of the following is best catalyst for the reaction shown below ?

$$CH_3(CH_2)_8CH_2Br \xrightarrow[\text{benzene}]{KCN} CH_3(CH_2)_8CH_2CN$$

A. 

B. 

C. 

D. 

Answer: C

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

$$(CH_3)_2CHCH_2N(CH_2CH_3)_2 \xrightarrow{CH_3I} \xrightarrow[H_2O]{Ag_2O} \xrightarrow{\text{heat}}$$

products

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

B. $(CH_3)_2NCH_2CH_3 + H_2C = C(CH_3)_2$

C.

$$(CH_3)_2CHCH_2\overset{CH_3}{\underset{|}{N}}CH_2CH_3 + H_2C = CH_2$$

D. $(CH_3)_3\overset{+}{N}CH_2CH_3I^- + H_2C = CH_2$

Answer: C

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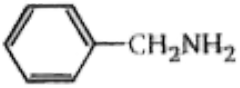
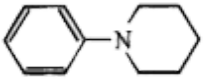
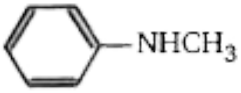
13. Which amine yields N-nitroso amine after treatment with nitrous acid $(NaNO_2, HCl)$?

A. 

B. 

C. 

D. 

Answer: D

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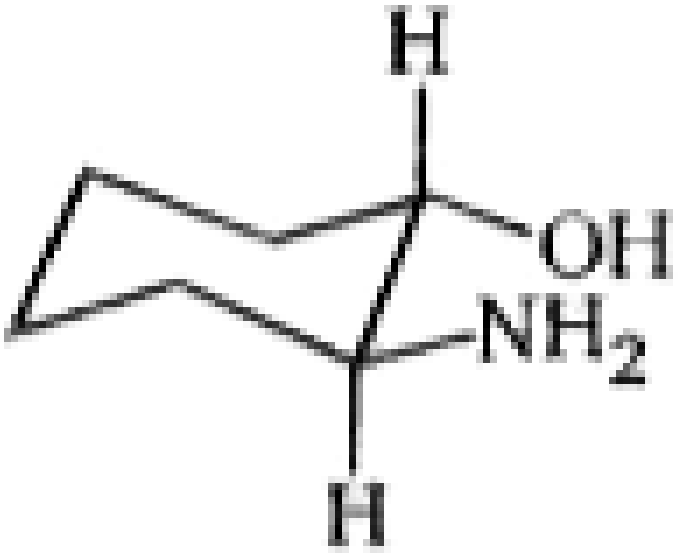

14.

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

A. cyclopentane carboxyaldehyde

B. cyclohexane -1 , 2-diol

C. 2-aminocyclohexene

D. cyclohex-2-enol

Answer: A

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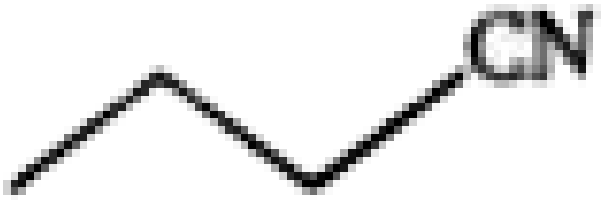
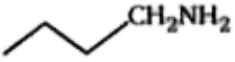
15. Choose the appropriate product for this reaction.

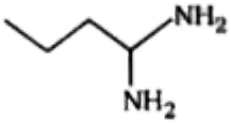


$$\xrightarrow[2.\,H_3O^+]{1.\,LiAlH_4\,(\text{excess})}$$ product

A. 

B. 

C. 

D. 

Answer: B

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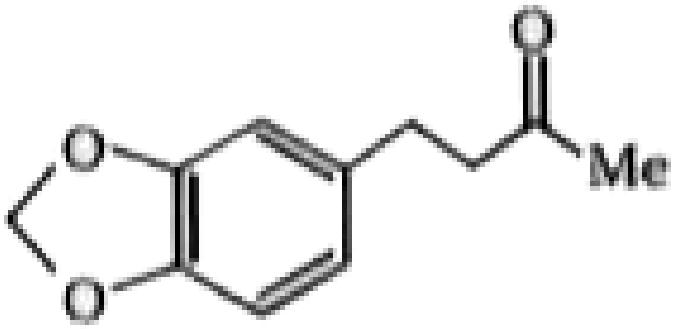
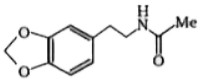
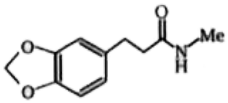
16. Which of the following product will be obtained in the given (consider minor product

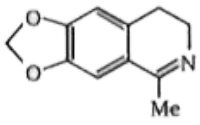
also) Beckmann-type rearrangement ?



$$\xrightarrow[(2)\,PCl_5\,,\,\Delta]{(1)\,NH_2OH\,,\,HCl} \text{product}$$

A. 

B. 

C. 

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.

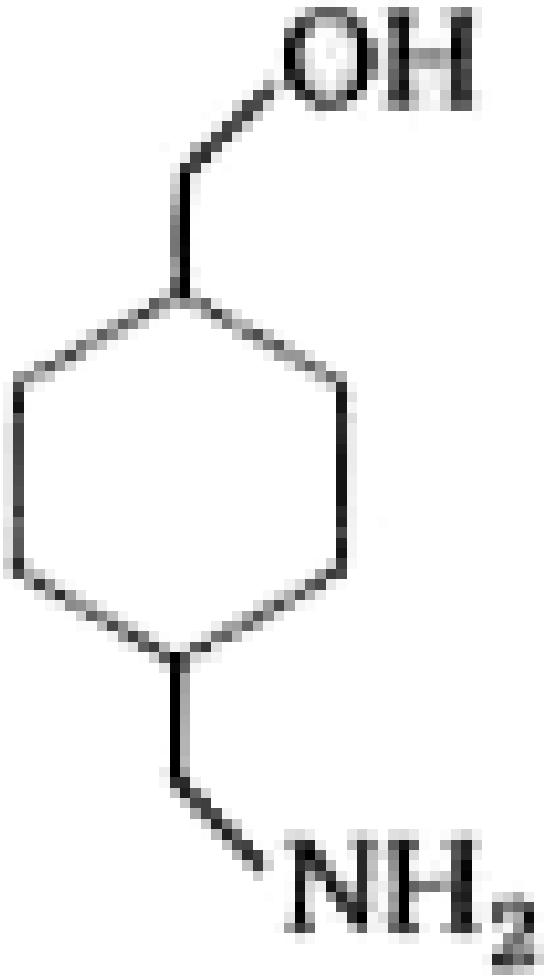
A. 2

B. 3

C. 4

D. 5

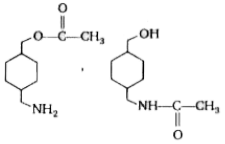
Answer: B

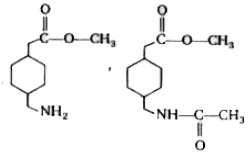


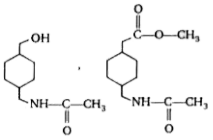
18.

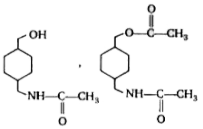
$$\xrightarrow{Ac_2O} P \xrightarrow{Ac_2O} QAc_2O = CH_3 - \overset{O}{\overset{||}{C}} - O - \overset{O}{\overset{||}{C}} - CH_3$$

P and Q respectively are :

A. 

B. 

C. 

D. 

Answer: D

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19. A nitrile X is treated with $LiAlH_4$ 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. $CH_3CONHCH_2CH_3$

B. $CH_3CH_2CONHCH_2CH_3$

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

D. $(CH_3CH_2COO^-)(CH_3NH_2^+)$

Answer: C

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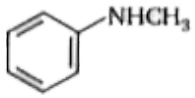
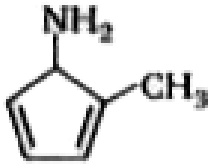
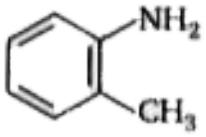
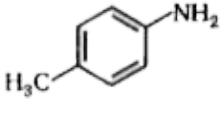
20. The compound $X(C_7H_9N)$ reacts with benzensulfonyl chloride to give $Y(C_{13}H_{13}NO_2S)$ which is insoluble in alkali. The compound X is

A. 

B. 

C. 

D. 

Answer: A

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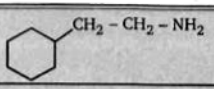
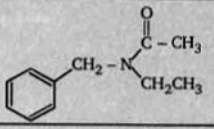
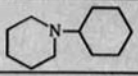
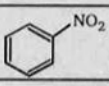
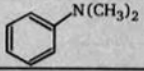
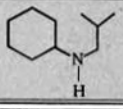
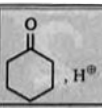
Level 2

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.		First Step ☐ → Second Step ☐	
B.		First Step ☐ → Second Step ☐ Third Step ☐	
C.		First Step ☐ → Second Step ☐	
D.		First Step ☐ → Second Step ☐	
E.		First Step ☐ Second Step ☐ → Third Step ☐ Fourth Step ☐	

(a)	(i) $LiAlH_4$ in ether (ii) H_2O & base	
(b)	$C_2H_5NH_2$(cat. $H^{(+)}$)	
(c)	NaCN in alcohol	
(d)	H_2 & Ni catalyst or H_2 & Pd catalyst	
(e)	NaN_3 in alcohol	
(f)	$(CH_3CO)_2O$ & pyridine	
(g)	C_2H_5Br	

(h)		
(i)	$2CH_3I$ & pyridine	
(j)	KOH in H_2O	

Watch Video Solution