27

AMINES

MCQs with One Correct Answer

1. The end product (Y) in the reaction sequence

$$CH_3CONH_2 \xrightarrow[\Delta]{P_2O_5} X \xrightarrow{Sn/HCl} Y$$, is :

(a) ethane nitrile (b) acetic acid
(c) ethanamine (d) chloroethane

2. The end product of the reactions is

$$C_2H_5NH_2 \xrightarrow{HNO_2} A \xrightarrow{PCl_5} B \xrightarrow{H.NH_2} C$$

(a) ethyl cyanide (b) ethyl amine
(c) methyl amine (d) acetamide

3. The correct order of basicities of the following compounds is

1. $CH_3-C(=NH)-NH_2$ 2. $CH_3-CH_2-NH_2$
3. $(CH_3)_2NH$ 4. $CH_3-\overset{O}{\overset{\|}{C}}-NH_2$

(a) $2>1>3>4$ (b) $1>3>2>4$
(c) $3>1>2>4$ (d) $1>2>3>4$

4. *n*-Butylamine(I), diethylamine(II) and N, N-dimethylethyl amine(III) have the same molar mass.
The increasing order of their boiling point is
(a) III < II < I (b) I < II < III
(c) II < III < I (d) II < I < III

5. Which of the following reactions will not give a primary amine?

(a) $CH_3CONH_2 \xrightarrow{Br_2/KOH}$
(b) $CH_3CN \xrightarrow{LiAlH_4}$
(c) $CH_3NC \xrightarrow{LiAlH_4}$
(d) $CH_3CONH_2 \xrightarrow{LiAlH_4}$

6. $CH_3CH_2Cl \xrightarrow{NaCN} X \xrightarrow{Ni/H_2} Y \xrightarrow{\text{acetic anhydride}} Z$

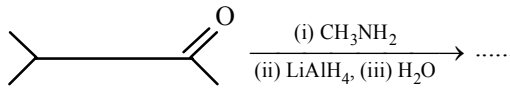
Z in the above reacting sequence is
(a) $CH_3CH_2CH_2NHCOCH_3$
(b) $CH_3CH_2CH_2NH_2$
(c) $CH_3CH_2CH_2CONHCH_3$
(d) $CH_3CH_2CH_2CONHCOCH_3$

7. Identify the prdouct C in the series

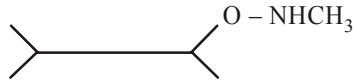
$$CH_3CN \xrightarrow{Na/C_2H_5OH} A \xrightarrow{HNO_2} B \xrightarrow{Cu/573K} C$$

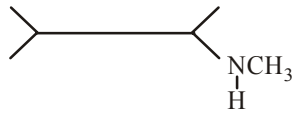
(a) CH_3COOH (b) CH_3CH_2NHOH
(c) CH_3CONH_2 (d) CH_3CHO

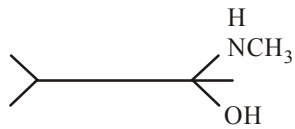
8. The major organic product formed from the following reaction :

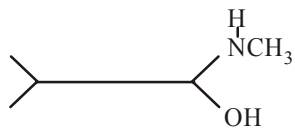


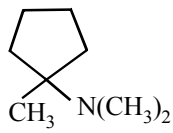
is

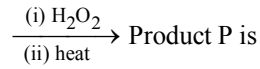
(a) 

(b) 

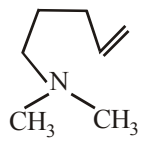
(c) 

(d) 

9. 



Product P is

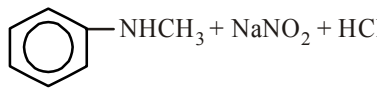
(a) 

(b) 

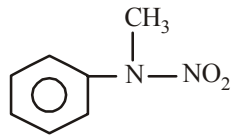
(c) 

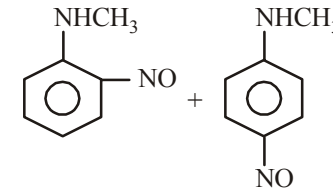
(d) 

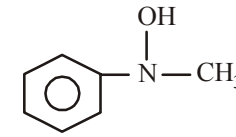
10. Predict the product:

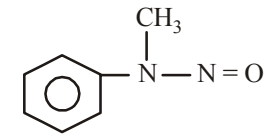


⟶ Product

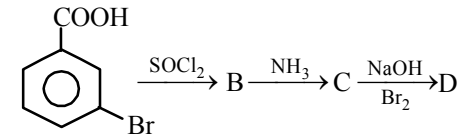
(a) 

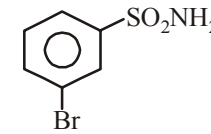
(b) 

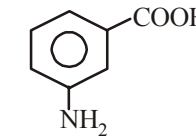
(c) 

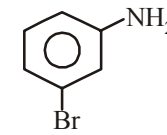
(d) 

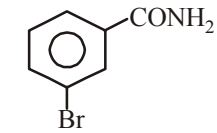
11. In a set of reactions *m*-bromobenzoic acid gave a product D. Identify the product D.

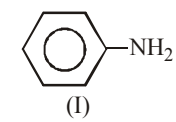


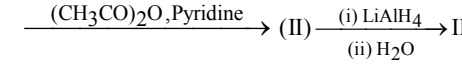
(a) 

(b) 

(c) 

(d) 

12. 

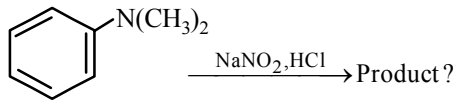


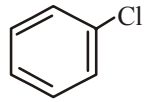
The basicity order of I, II and III is –

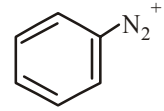
(a) III > I > II (b) I > II > III

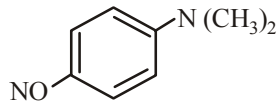
(c) III > II > I (d) II > III > I

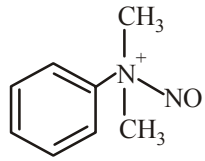
13. What could be the product for the following reaction?



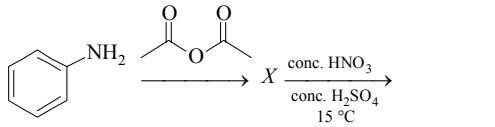
(a) 

(b) 

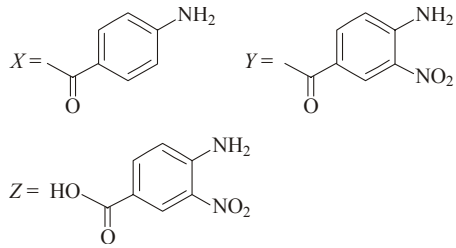
(c) 

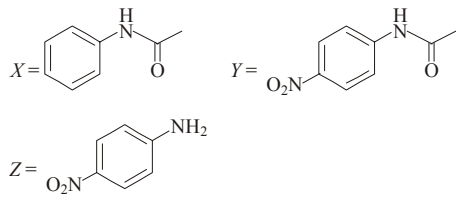
(d) 

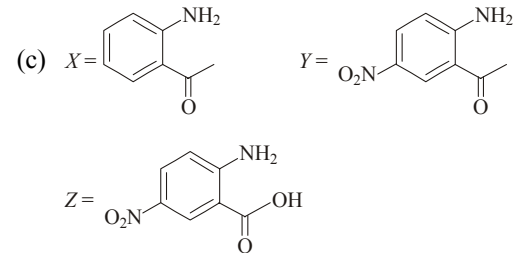
14. The major products **X**, **Y** and **Z** in the following sequence of transformations

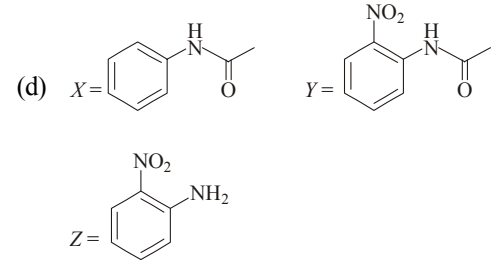


are

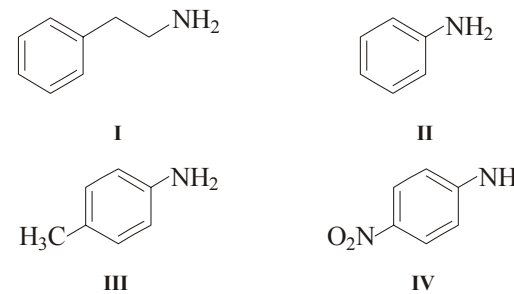
(a) 

(b) 

(c) 

(d) 

15. The correct order of basicity of the following amines



is

(a) I > II > III > IV (b) I > III > II > IV

(c) III > II > I > IV (d) IV > III > II > I

Numeric Value Answer

16. How many of the following method(s) is/ are used for eliminating nitrogen of an amine present outside the ring?

Hofmann elimination, Cope elimination and Emde degradation

17. How many of the following compounds can be methylated by diazomethane ?

C_2H_5COOH, $C_2H_5NH_2$, C_6H_5OH and $CH_3COCH_2COOC_2H_5$

18. Starting with nitrobenzene, what is the minimum number of following reagents required to convert it to P-dinitrobenzene?

(a) Conc. HNO_3 + Conc. H_2SO_4,

(b) NH_3

(c) C_2H_5OK

(d) Sn + HCl

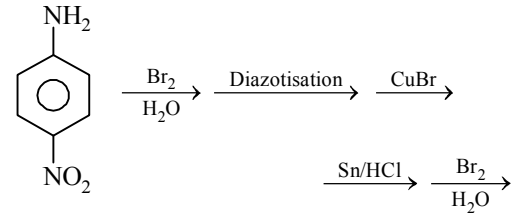
(e) $NaNO_2 + HBF_4$

(f) $NaNO_2$ + Cu

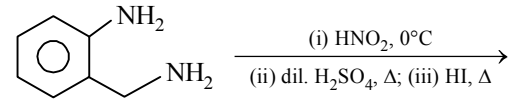
(g) $(CH_3CO)_2O$ + Pyridine

(h) H_3O^+

19. Find the total number of bromine atoms present in the end product of following scheme of reactions.



20.



How many hydrogen atoms are present in the final product of above reaction?

ANSWER KEY																			
1	(c)	**3**	(d)	**5**	(c)	**7**	(d)	**9**	(d)	**11**	(c)	**13**	(c)	**15**	(b)	**17**	(3)	**19**	(5)
2	(b)	**4**	(a)	**6**	(a)	**8**	(b)	**10**	(d)	**12**	(a)	**14**	(b)	**16**	(2)	**18**	(6)	**20**	(7)