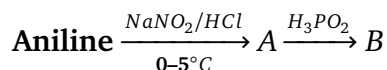




1. Aniline is converted into benzene by the following sequence of reactions:



The compounds A and B respectively are:

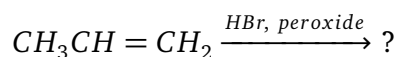
- (A) Benzene diazonium chloride, Benzene
 - (B) Nitrobenzene, Benzene
 - (C) Benzene diazonium chloride, Phenol
 - (D) Chlorobenzene, Benzene
-

2. Among the following compounds, the correct order of acidic strength is:

Phenol, *p*-Nitrophenol, *p*-Methoxyphenol

- (A) *p*-Methoxyphenol > Phenol > *p*-Nitrophenol
 - (B) *p*-Nitrophenol > Phenol > *p*-Methoxyphenol
 - (C) Phenol > *p*-Nitrophenol > *p*-Methoxyphenol
 - (D) *p*-Nitrophenol > *p*-Methoxyphenol > Phenol
-

3. The major product formed in the following reaction is:



- (A) $\text{CH}_3\text{CHBrCH}_3$
 - (B) $\text{CH}_3\text{CH}_2\text{CH}_2\text{Br}$
 - (C) $\text{CH}_2\text{BrCH}=\text{CH}_2$
 - (D) $\text{CH}_3\text{CHBrCH}_2\text{Br}$
-

4. The SI unit of rate constant for a first order reaction is:

- (A) $\text{mol L}^{-1}\text{s}^{-1}$
(B) s^{-1}
(C) $\text{L mol}^{-1}\text{s}^{-1}$
(D) $\text{mol}^{-1}\text{L s}^{-1}$
-

5. Which of the following complexes shows maximum number of unpaired electrons?

- (A) $[\text{Fe}(\text{CN})_6]^{4-}$
(B) $[\text{FeF}_6]^{3-}$
(C) $[\text{Co}(\text{NH}_3)_6]^{3+}$
(D) $[\text{Ni}(\text{CO})_4]$
-

6. The correct increasing order of basic strength of the following amines/compounds is:

- (I) $\text{C}_6\text{H}_5\text{NH}_2$ (Aniline)
(II) NH_3 (Ammonia)
(III) $\text{C}_6\text{H}_5\text{CH}_2\text{NH}_2$ (Benzylamine)
(IV) $\text{C}_2\text{H}_5\text{NH}_2$ (Ethylamine)
(V) $(\text{C}_2\text{H}_5)_2\text{NH}$ (Diethylamine)

- (A) $\text{C}_6\text{H}_5\text{NH}_2 < \text{NH}_3 < \text{C}_6\text{H}_5\text{CH}_2\text{NH}_2 < \text{C}_2\text{H}_5\text{NH}_2 < (\text{C}_2\text{H}_5)_2\text{NH}$
(B) $\text{NH}_3 < \text{C}_6\text{H}_5\text{NH}_2 < \text{C}_6\text{H}_5\text{CH}_2\text{NH}_2 < \text{C}_2\text{H}_5\text{NH}_2 < (\text{C}_2\text{H}_5)_2\text{NH}$
(C) $\text{C}_6\text{H}_5\text{CH}_2\text{NH}_2 < \text{C}_6\text{H}_5\text{NH}_2 < \text{NH}_3 < \text{C}_2\text{H}_5\text{NH}_2 < (\text{C}_2\text{H}_5)_2\text{NH}$
(D) $\text{C}_2\text{H}_5\text{NH}_2 < (\text{C}_2\text{H}_5)_2\text{NH} < \text{C}_6\text{H}_5\text{NH}_2 < \text{NH}_3$
-

7. When blood cells are placed in 1% (w/v) NaCl aqueous solution, what will happen to the cells?

- (A) Cell will burst
(B) Cell will shrink
(C) Cell will swell
(D) Cell remains as such
-

8. Which of the following solutions is isotonic with human blood?

- (A) 0.1% NaCl solution
(B) 0.5% NaCl solution
-

- (C) 0.9% NaCl solution
 - (D) 2% NaCl solution
-

9. Which of the following compounds will not undergo an Azo coupling reaction?

- (A) Aniline
 - (B) Phenol
 - (C) Anisole
 - (D) Nitrobenzene
-

10. Which of the following are fat soluble vitamins?

- (A) Vitamin A
- (B) Vitamin B
- (C) Vitamin D
- (D) Vitamin E
- (E) Vitamin K

Choose the correct answer from the options given below:

- (A) (A), (B), (D) and (E) only
 - (B) (A), (B), (C) and (D) only
 - (C) (A), (C), (D) and (E) only
 - (D) (B), (C), (D) and (E) only
-