

**CHAPTER - AMINES**  
**MULTIPLE CHOICE QUESTIONS**  
**TOPIC- Preparation Of Amines**

**Q.1** Which of the following compound will give secondary amine on the reduction?

- a) Alkyl nitrile b) Carbylamine c) Primary amine d) Secondary nitro compound

**Answer. (b) Carbylamine**

**Q.2** In order to prepare a 1° amine from an alkyl halide with simultaneous addition of one CH<sub>2</sub> group in the carbon chain, the reagent used as source of nitrogen is:

- (a) Sodium amide, NaNH<sub>2</sub> (b) Sodium azide, NaN<sub>3</sub>  
(c) Potassium cyanide, KCN (d) Potassium phthalimide, C<sub>6</sub>H<sub>4</sub>(CO)<sub>2</sub>N<sup>-</sup>K<sup>+</sup>

**Answer:(c) Potassium cyanide, KCN**

**Q.3** Which of the following reagents would not be a good choice for reducing an aryl nitro compound to an amine?

- (a) H<sub>2</sub> (excess)/Pt (b) LiAlH<sub>4</sub> in ether (c) Fe and HCl (d) Sn and HCl

**Answer:(b) LiAlH<sub>4</sub> in ether**

**Q.4** The best reagent for converting 2-phenylpropanamide into 2-phenylpropanamine is:

- (a) excess H<sub>2</sub> (b) Br<sub>2</sub> in aqueous NaOH  
(c) iodine in the presence of red phosphorus (d) LiAlH<sub>4</sub> in ether

**Answer:(d) LiAlH<sub>4</sub> in ether**

**Q.5** Amongst the given set of reactants, the most appropriate for preparing 2° amine is:

- (a) 2° R—Br + NH<sub>3</sub>  
(b) 2° R—Br + NaCN followed by H<sub>2</sub>/Pt  
(c) 1° R—NH<sub>2</sub> + RCHO followed by H<sub>2</sub>/Pt  
(d) 1° R—Br (2 mol) + potassium phthalimide followed by H<sub>3</sub>O<sup>+</sup>/heat

**Answer:(c) 1° R—NH<sub>2</sub> + RCHO followed by H<sub>2</sub>/Pt**

**Q.6** Reduction of CH<sub>3</sub>CH<sub>2</sub>NC with hydrogen in presence of Ni or Pt as catalvst gives

- (a) CH<sub>3</sub>CH<sub>2</sub>NH<sub>2</sub> (b) CH<sub>3</sub>CH<sub>2</sub>NHCH<sub>3</sub>  
(c) CH<sub>3</sub>CH<sub>2</sub>NHCH<sub>2</sub>CH<sub>3</sub> (d) (CH<sub>3</sub>)<sub>3</sub>N

**Answer:(b) CH<sub>3</sub>CH<sub>2</sub>NHCH<sub>3</sub>**

**Q.7** The best reagent for converting, 2-phenylpropanamide into 1-phenylethanamine is:

- (a) excess H<sub>2</sub>/Pt (b) NaOH/Br<sub>2</sub>  
(c) NaBH<sub>4</sub>/methanol (d) LiAlH<sub>4</sub>/ether

**Answer:(b) NaOH/Br<sub>2</sub>**

**Q.8** Hoffmann bromamide degradation is used for the preparation of

- (a) primary amines (b) secondary amines  
(c) tertiary amines (d) secondary aromatic amines

**Answer:(a) primary amines**

**Q.9** The source of nitrogen in Gabriel synthesis of amines is:

- (a) Sodium azide, NaN<sub>3</sub> (b) Sodium nitrite, NaNO<sub>2</sub>  
(c) Potassium cyanide, KCN (d) Potassium phthalimide, C<sub>6</sub>H<sub>4</sub>(CO)<sub>2</sub>N<sup>-</sup>K<sup>+</sup>

**Answer:(d) Potassium phthalimide, C<sub>6</sub>H<sub>4</sub>(CO)<sub>2</sub>N<sup>-</sup>K<sup>+</sup>**

**Q.10** Best method for preparing primary amines from alkyl halides without changing the number of carbon atoms in the chain is

- (a) Hoffmann Bromamide reaction (b) Gabriel phthalimide synthesis  
(c) Sandmeyer reaction (d) Reaction with NH<sub>3</sub>

**Answer: (b) Gabriel phthalimide synthesis**

**Q.11** Which of the following methods of preparation of amines will give same number of carbon atoms in the chain of amines as in the reactant?

- (a) Reaction of nitrite with LiAlH<sub>4</sub>.  
(b) Reaction of amide with LiAlH<sub>4</sub> followed by treatment with water.  
(c) Heating alkylhalide with potassium salt of phthalimide followed by hydrolysis.

(d) Treatment of amide with bromine in aqueous solution of sodium hydroxide.

**Answer:** (c) Heating alkylhalide with potassium salt of phthalimide followed by hydrolysis.

**Q.12** Reduction of aromatic nitro compounds using Fe and HCl gives \_\_\_\_\_.

- (a) aromatic oxime (b) aromatic hydrocarbon  
(c) aromatic primary amine (d) aromatic amide

**Answer:** (c) aromatic primary amine

**Q.13** Reduction of nitrobenzene by which of the following reagent gives aniline?

- (a) Sn/HCl (b) Fe/HCl (c) H<sub>2</sub>-Pd (d) all the above

**Answer:** (d) all the above

### **Assertion and Reason Type Questions**

**Note :** In the following questions a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices.

- (a) If both Assertion and Reason are correct and the Reason is a correct explanation of the Assertion.  
(b) If both Assertion and Reason are correct but Reason is not a correct explanation of the Assertion.  
(c) If the Assertion is correct but Reason is incorrect.  
(d) If both the Assertion and Reason are incorrect.

**Q.1 Assertion :** Aromatic 1° amines can be prepared by Gabriel Phthalimide Synthesis.

**Reason :** Aryl halides undergo nucleophilic substitution with anion formed by phthalimide.

**Answer:** (d)

**Q.2 Assertion :** Ammonolysis of alkyl halide is not a suitable method for the preparation of pure primary amines.

**Reason :** Ammonolysis of alkyl halide yields mainly secondary amines.

**Answer:** (c)

**Q.3 Assertion :** Hoffmann's bromamide reaction is given by primary amines.

**Reason :** Primary amines are more basic than secondary amines.

**Answer:** (c)