

- Q.8.** Since ammonia gas is _____ than air, it is collected by downward displacement of air.
- Ans.** lighter
- Q.9.** Ammonia is dried by passing through _____.
- Ans.** quick lime
- Q.10.** Ammonia is _____ soluble in water.
- Ans.** highly
- Q.11.** In ammonia we have nitrogen and _____.
- Ans.** hydrogen
- Q.12.** Ammonia gas is passed over heated black cupric oxide which is reduced to red metallic _____.
- Ans.** copper
- Q.13.** $2\text{NH}_4\text{Cl} + \text{Ca}(\text{OH})_2 = \text{_____} + \text{CaCl}_2 + 2\text{H}_2\text{O}$
- Ans.** 2NH_3
- Q.14.** When excess chlorine reacts ammonia forming nascent nitrogen which again combines with chlorine producing _____, an oily yellow explosive compound.
- Ans.** nitrogen trichloride.
- Q.15.** _____ gas is obtained by heating ammonium sulphate with sodium hydroxide.
- Ans.** Ammonia
- Q.16.** _____ reagent is used for the identification of ammonia.
- Ans.** Nessler's
- Q.17.** Ammonia is _____ for eyes.
- Ans.** harmful
- Q.18.** Ammonia gas is collected by the _____ displacement of air.
- Ans.** downward.
- Q.19.** Ammonia is dried with _____.
- Ans.** calcium oxide.
- Q.20.** When ammonia leaks from factory we should wash our eyes with _____.
- Ans.** water.
- Q.21.** _____ is an inorganic fertilizer which is produced from ammonia.
- Ans.** Ammonium sulphate $[(\text{NH}_4)_2\text{SO}_4]$
- Q.22.** _____ is an organic fertilizer which is produced from ammonia.
- Ans.** Urea $[\text{CO}(\text{NH}_2)_2]$
- Q.23.** HNO_3 is manufactured from ammonia by _____ process.
- Ans.** Ostwald.

(iii) Multiple Choice Questions

Q.1. Ammonia is :

- (A) acidic (B) basic (C) neutral (D) amphoteric

Ans. (B) basic

Q.2. The reaction $N_2 + 3H_2 = 2NH_3$ is

- (A) exothermic (B) endothermic
(C) neither of the two (D) Both of the two

Ans. (A) exothermic

Q.3. Liquid ammonia is used in refrigerators because :

- (A) It has a high dipole moment
(B) It has a high heat of evaporation
(C) of its basicity
(D) of its stability

Ans. (B) It has a high heat of evaporation

Q.4. High heat of vaporization of ammonia is due to its

- (A) basic nature (B) polar nature
(C) hydrogen bonding (D) high solubility

Ans. (C) hydrogen bonding

Q.5. In the Ostwald process for the manufacture of HNO_3 ,

- (A) air is blown into an electric arc
(B) ammonia is catalytically oxidized
(C) chile saltpetre is treated with cone. H_2SO_4
(D) $NaNO_3$ is treated with conc. H_2SO_4

Ans. (B) ammonia is catalytically oxidized

Q.6. Which of the following statements is correct for the manufacture of ammonia by Haber's process ?

- (A) Low temperature, high pressure, presence of catalyst.
(B) High temperature, high pressure and catalyst
(C) Low temperature and pressure
(D) High temperature and low pressure

Ans. (A) Low temperature, high pressure, presence of catalyst

Q.7. Ammonia water makes a good cleaning agent because it:

- (A) is weakly basic (B) emulsifies grease.
(C) leaves no residue when wiped out (D) all are true

Ans. (D) all are true

Q.8. A mixture of ammonia and air at about $800^\circ C$ in the presence of Pt gauze forms :

- (A) N_2O (B) NO (C) NH_2OH (D) N_2O_3

Ans. (B) NO

Q.9. Ammonium ion in solution is detected by :

- (A) Brown-ring test (B) Molish's test
(C) Nessler's solution (D) Fehling's solution

Ans. (C) Nessler's solution

Q.10. The substance used for drying ammonia gas in the laboratory is :

- (A) conc. H_2SO_4 (B) P_2O_5
(C) quick lime (D) silica gel

Ans. (C) quick lime

Q.11. Non-combustible hydride is :

- (A) NH_3 (B) PH_3 (C) AsH_3 (D) SbH_3

Ans. (A) NH_3

Q.12. Which is most explosive ?

- (A) NCl_3 (B) PCl_3 (C) $AsCl_3$ (D) All

Ans. (A) NCl_3

Q.13. Ammonia gas is prepared in the laboratory by the action of slaked lime on :

- (A) NH_4Cl (B) $(NH_4)_2SO_4$
(C) $NH_4Cl + NaNO_3$ (D) NH_4NO_3

Ans. (A) NH_4Cl

Q.14. With excess of Cl_2 , ammonia gives :

- (A) NCl_3 (B) HCl (C) NH_4Cl (D) N_2O

Ans. (A) NCl_3

Q.15. How NH_3 is generally manufactured for fertilizers ?

- (A) by reducing the by-product HNO_3
(B) passing a mixture of N_2 and H_2 under high pressure and moderate temperature over a catalyst
(C) by passing an electric discharge in the mixture of H_2 and N_2
(D) $2NH_4Cl + Ca(OH)_2 \rightarrow CaCl_2 + 2NH_3 + 2H_2O$

Ans. (B) passing a mixture of N_2 and H_2 under high pressure and moderate temperature over a catalyst

Q.16. Liquid NH_3 bottles are opened only after cooling for some time. This is because :

- (A) NH_3 is corrosive liquid (B) it is a mild explosive
(C) it brings tears in eyes (D) it generates high vapour pressure.

Ans. (D) it generates high vapour pressure

Q.17. Aqueous solution of ammonia consists of :

- (A) H^+ (B) OH^- (C) NH_4^+ (D) $NH_4^+ + OH^-$

Ans. (D) $NH_4^+ + OH^-$

Q.18. The vapour density of ammonia is :

- (A) 7 (B) 7.5 (C) 8.5 (D) 17

Ans. (C) 8.5

Q.19. Nessler's reagent is :

- (A) K_2HgI_4 (B) $K_2HgI_4 + KOH$
(C) K_2HgI_4 (D) $KHgI_4 + KOH$

Ans. (B) $K_2HgI_4 + KOH$