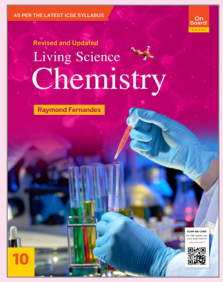
ICSE Living Science CHEMISTRY

Class 10



Multiple-Choice Questions

CHAPTER 8: STUDY OF COMPOUNDS – HYDROGEN CHLORIDE

1. Hydrogen chloride gas is ..... in water.
   (a) soluble
   (b) highly soluble
   (c) slightly soluble
   (d) insoluble
   Ans: b

2. Hydrogen chloride has molecular polarity due to the ..... difference between the two combining elements.
   (a) electropositive
   (b) ionization potential
   (c) electronegative
   (d) atomic size
   Ans: c

3. In the presence of diffused sunlight, hydrogen combines with chlorine to form hydrogen chloride gas. Activated charcoal acts as a catalyst. Activated charcoal ..... hydrogen, which is very reactive in nature and can react with chlorine to form hydrogen chloride easily.
   (a) adsorbs
   (b) dissolves
   (c) melts
   (d) none of these
   Ans: a

4. When metallic chlorides react with ....., hydrogen chloride gas is liberated.
   (a) concentrated nitric acid
   (b) concentrated hydrochloric acid
   (c) concentrated acetic acid
   (d) concentrated sulphuric acid
   Ans: d

5. In the laboratory, hydrogen chloride gas is prepared by the action of concentrated sulphuric acid on .....
   (a) sodium hydroxide.
   (b) sodium acetate.
   (c) sodium chloride.
   (d) sodium carbonate.
   Ans: c

6. If the temperature of the reaction between sodium chloride and concentrated sulphuric acid increases beyond 200 °C, ... is formed.
   (a) sodium sulphate
   (b) sodium carbonate
   (c) sodium hydroxide
   (d) sodium sulphite
   Ans: a

7. Conventional drying agents like calcium oxide (CaO) and phosphorus pentoxide (P_2O_5 or P_4O_{10}) are not used in the manufacture of hydrogen chloride gas because they react with the gas to form their respective .....
   (a) sulphates.
   (b) sulphites.
   (c) sulphides.
   (d) chlorides.
   Ans: d

8. Dry HCl gas cannot be collected over water, because it is ..... in water.
   (a) highly soluble
   (b) insoluble
   (c) slightly soluble
   (d) highly reactive
   Ans: a

9. The formation of dense ..... fumes of ammonium chloride at the mouth of the jar shows the presence of hydrogen chloride gas.
   (a) yellow
   (b) orange
   (c) white
   (d) green
   Ans: c

10. The colour of the fountain in Fountain experiment is .....
   (a) blue.
   (b) red.
   (c) brown.
   (d) green.
   Ans: b

11. The ..... ions formed when hydrogen chloride gas is dissolved in water are responsible for the colour changes in the indicators.
   (a) hydroxyl
   (b) nitrate
   (c) sulphate
   (d) hydronium
   Ans: d

12. When heated above ....., less than 0.5% of hydrogen chloride gas dissociates to form hydrogen and chlorine.
   (a) 400 °C
   (b) 500 °C
   (c) 600 °C
   (d) 700 °C
   Ans: b

13. Pure hydrochloric acid is a colourless liquid but commercially available acid is slightly yellow in colour due to the presence of ..... as an impurity.
   (a) ferric chloride
   (b) ferric hydroxide
   (c) ferric nitrate
   (d) ferric nitrite
   Ans: a

14. Hydrochloric acid reacts with active metals to form metal chlorides and liberates ..... gas.
   (a) nitrogen
   (b) oxygen
   (c) carbon dioxide
   (d) hydrogen
   Ans: d

15. Metal oxide + HCl $\rightarrow$ Metal ..... + H_2O
   (a) sulphate
   (b) sulphite
   (c) nitrate
   (d) chloride
   Ans: d

16. Hydrochloric acid reacts with metallic sulphites and bisulphites to give the corresponding metal chlorides and liberates .....
   (a) sulphur.
   (b) sulphur oxide.
   (c) sulphur dioxide.
   (d) sulphur trioxide.
   Ans: c

17. Aqua regia is used to dissolve noble metals like .....
   (a) platinum.
   (b) copper.
   (c) gold.
   (d) both (a) and (c).
   Ans: d

18. Hydrochloric acid forms a ..... precipitate with silver nitrate solution.

(a) curdy white
(b) pale blue
(c) light green
(d) crimson red

Ans: a

19. Hydrochloric acid is used in the manufacture of ..... for photography.

(a) sodium chloride
(b) silver chloride
(c) potassium chloride
(d) calcium chloride

Ans: b

20. Hydrochloric acid is used in the cleaning of metal surfaces before

(a) galvanizing.
(b) painting.
(c) electroplating.
(d) all of these.

Ans: d