Chapter-1

Worksheet-2

1. Chemically rust is

(a) Ferric sulphate

(b) Ferric oxide

(c) Hydrated ferrous oxide

(d) Hydrated ferric oxide.

2. The following reaction is an example of a

$$4NH_3(g) + 5O_2(g) \rightarrow 4NO(g) + 6H_2O\ (g)$$

(i) displacement reaction

(ii) combination reaction

(iii) redox reaction

(iv) neutralization reaction

(a) (i) and (iv)

(b) (ii) and (iii)

(c) (i) and (iii)

(d) (iii) and (iv)

3. The following reaction is used for preparation of oxygen gas in the laboratory:

$$2KClO_3(s) \xrightarrow[\text{Catalyst}]{\text{Heat}} 2KCl\ (s) + 3O_2\ (g)$$

Which of the following statement(s) is (are) correct about the reaction?

(a) It is a decomposition reaction and endothermic in nature.

(b) It is a combination reaction.

(c) It is a decomposition reaction and is accompanied by release of heat. (d) It is a photo chemical decomposition reaction and exothermic in nature

4. What happens when dilute hydrochloric acid is added to iron filings?

(a) Hydrogen gas and iron (II) chloride are produced.

(b) Chlorine gas and ferric hydroxide are produced.

(c) Heat is absorbed, i.e., test tubes becomes cold.

(d) Iron salt and water are produced.

5. Solid calcium oxide reacts vigorously with water to form calcium hydroxide accompanied by liberation of heat. This process is called slaking of lime. Calcium hydroxide dissolves in water to form its solution called lime water. Which among the following is (are) true about slaking of lime and the solution formed?

(i) It is an endothermic reaction

(ii) It is an exothermic reaction

(iii) The pH of the resulting solution will be

(iv) The pH of the resulting solution will be less than seven

(a) (i) and(w)

(b) (ii) and (iii)

(c) (i) and (iv)

(d) (iii) and (iv)

6. In the double displacement reaction between aqueous potassium iodide and aqueous lead nitrate, a yellow precipitate of lead iodide is formed. While performing the activity if lead nitrate is not available, which of the following can be used in place of lead nitrate?

(a) Lead sulphate (insoluble)

(b) Lead acetate

(c) Ammonium nitrate

(d) Potassium sulphate

7. Which one of the following processes involve chemical reactions?

(a) Storing of oxygen gas under pressure in a gas cylinder

(b) Liquefaction of air

(c) Keeping petrol in a china dish in the open

(d) Heating copper wire in presence of air at high temperature

8. Which of the following are exothermic processes?

(i) Reaction of water with quick lime

(ii) Dilution of an acid

(iii) Evaporation of water

(iv) Sublimation of camphor (crystals)

(a) (i) and (ii)

(b) (ii) and (iii)

(c) (i) and (iv)

(d) (iii) and (iv)

9. Which of the following are combination reactions?

(i) $2KClO_3 \rightarrow 2KCl + 3O_2$

(ii) $MgO + H_2O \rightarrow Mg(OH)_2$

(iii) $4Al + 3O_2 \rightarrow 2Al_2O_3$

(iv) $Zn + FeSO_4 \rightarrow ZnSO_4 + Fe$

(a) (i) and (iii)

(b) (iii) and (iv)

(c) (ii) and (iv)

(d) (ii) and (iii)

10. A dilute ferrous sulphate solution was gradually added to the beaker containing acidified permanganate solution. The light purple colour of the solution fades and finally disappears.

Which of the following is the correct explanation for the observation?

(a) $KMnO_4$ is an oxidising agent, it oxidises $FeSO_4$

(b) $FeSO_4$ acts as an oxidising agent and oxidises $KMnO_4$

(c) The colour disappears due to dilution; no reaction is involved

(d) $KMnO_4$ is an unstable compound and decomposes in presence of $FeSO_4$ to a colourless compound.

11. Why is combustion of Liquified Petroleum Gas (LPG) a chemical change?

12. What is wrong with the following equation?

$$Mg + O \rightarrow MgO$$

Identify the mistake and balance the equation.

13. Balance the following chemical equation:

$$Pb\ (NO_3)_2\ (s) \xrightarrow{Heat} PbO(s) + NO_2(g) + O_2(g)$$

14. Give one example of a combination reaction which is also exothermic.

15. What is the difference between the following two types of reactions?

$$AgNO_3 + HCl \rightarrow AgCl + HNO_3$$

$$Mg + 2HCl \rightarrow MgCl_2 + H_2$$

16. Why is hydrogen peroxide kept in coloured bottles?

17. How will you test for the gas which is liberated when hydrochloric acid reacts with an active metal?

18. What changes in the colour of iron nails and copper sulphate solution do you observe after keeping the iron nails dipped in copper sulphate solution for about 30 minutes'

19. Define rancidity.

20. How do we come to know that a chemical reaction has taken place?