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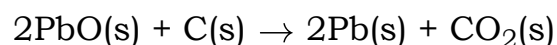
Chemical Reactions And Equations T1

10th Standard

Science

20 x 1 = 20

1) Which of the statements about the reaction below are incorrect?



- (a) Lead is getting reduced
 - (b) Carbon dioxide is getting oxidized
 - (c) Carbon is getting oxidized
 - (d) Lead oxide is getting reduced.
- (a) (a) and (b) (b) (a) and (c) (c) (a), (b) and (c) (d) All of these

2) $\text{Fe}_2\text{O}_3 + 2\text{Al} \rightarrow \text{Al}_2\text{O}_3 + 2\text{Fe}$.

The reaction is an example of a

- (a) Combination of reaction
- (b) Double displacement reaction
- (c) Decomposition reaction
- (d) Displacement reaction.

3) What happens when dilute hydrochloric acid is added to iron fillings? Tick the correct answer

- (a) Hydrogen gas and Iron chloride are produced.
- (b) Chloride gas and Iron hydroxide are produced.
- (c) No reaction takes place
- (d) Iron salt and water are produced

4) Which of the following is not a physical change?

- (a) Boiling of water to give water vapour.
- (b) Melting of ice to give water.
- (c) Dissolution of salt in water.
- (d) Combustion of Liquefied Petroleum Gas(LPG).

5) Which of the following are exothermic processes?

- (i) Reaction of water with quicklime
 - (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)

6) Which among the following statement(s) is (are) true? Exposure of silver chloride to sunlight for a long duration turns grey due to

- (i) the formation of silver by decomposition of silver chloride
 - (ii) sublimation of silver chloride
 - (iii) decomposition of chlorine gas from silver chloride
 - (iv) oxidation of silver chloride
- (a) (i) only (b) (i) and (iii) (c) (ii) and (iii) (d) (iv) only

7) Which of the following is (are) an endothermic process (es)?

- (i) Dilution of sulphuric acid
 - (ii) Sublimation of dry ice
 - (iii) Condensation of water vapours
 - (iv) Evaporation of water
- (a) (i) and (iii) (b) (ii) only (c) (iii) only (d) (ii) and (iv)

8) Which one of the following processes involves 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.

9) In the reaction, $\text{SO}_2\text{(g)} + 2\text{H}_2\text{S(g)} \rightarrow 2\text{H}_2\text{O(l)} + \text{S(s)}$, the reducing agent is

- (a) SO_2 (b) H_2S (c) H_2O (d) S

10) Fatty foods become rancid due to the process of

- (a) corrosion (b) reduction (c) hydrogenation (d) oxidation

11) The reaction of H_2 gas with oxygen gas to form water is an example of

- (a) redox reaction (b) combination reaction (c) exothermic reaction (d) all of these reactions

12) Silver article turns black when kept in the open for a few days due to formation of

- (a) H_2S (b) AgS (c) AgSO_4 (d) Ag_2S

13) In which of the following, heat energy will be evolved?

- (a) Electrolysis of water (b) Dissolution of NH_4Cl in water (c) Burning of L.P.G
(d) Decomposition of AgBr in the presence of sunlight

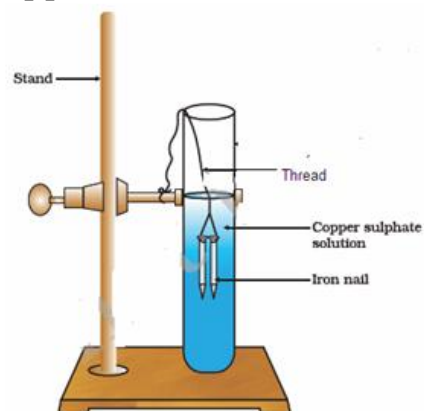
14) An element X on exposure to moist air turns reddish-brown and a new compound Y is formed. The substance X and Y are

- (a) $\text{X} = \text{Fe}$, $\text{Y} = \text{Fe}_2\text{O}_3$ (b) $\text{X} = \text{Ag}$, $\text{Y} = \text{Ag}_2\text{S}$ (c) $\text{X} = \text{Cu}$, $\text{Y} = \text{CuO}$ (d) $\text{X} = \text{Al}$, $\text{Y} = \text{Al}_2\text{O}_3$

15) In a reaction between zinc and hydrochloric acid, the changes accompanying a reaction are:

- (a) Evolution of gas and heat (b) Evolution of steam (c) Formation of precipitate
(d) Formation of dazzling white light

16) As seen in the figure, two nails are carefully dipped in copper sulphate solution with the help of threads. What will happen when the nails are removed after half an hour?



- (a) No change is observed (b) Nails turn blue in colour (c) Nails turn green in colour
(d) Nails turn brown in colour

17) An example of reaction in which precipitate is formed is:

- (a) Reaction between hydrogen and oxygen (b) Reaction between lead nitrate and potassium iodide
(c) Reaction between hydrochloric acid and zinc (d) Reaction between sodium and water

18) A drop of colourless liquid is poured over blue litmus paper and it turns to red. The colourless liquid is

- (a) sodium chloride solution (b) pure water (c) potassium hydroxide solution (d) dilute hydrochloric acid

19) The symbol used to denote a liquid reactant or product in a reaction is

- (a) (s) (b) (aq) (c) (g) (d) (l)

20) Which one of the following reaction is not balanced?

- (a) $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$ (b) $2\text{KI} + \text{H}_2\text{O}_2 \rightarrow 2\text{KOH} + \text{I}_2$ (c) $\text{Mg} + 2\text{HCl} \rightarrow \text{MgCl}_2 + \text{H}_2$
(d) $2\text{Fe} + 3\text{H}_2\text{O} \rightarrow \text{Fe}_2\text{O}_3 + \text{H}_2$

5 x 1 = 5

21) **Assertion:** Ferrous sulphate crystals ($\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$) lose water when heated.

Reason: The colour of the crystals changes and it is a decomposition reaction.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
(b) If both assertion and reason are true but reason is not a correct explanation of assertion.
(c) If assertion is true and reason is false.
(d) If both assertion and reason are false.

22) **Assertion:** White silver chloride turns grey in sunlight

Reason: In sunlight, silver chloride reacts with oxygen to form silver oxide.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
(b) If both assertion and reason are true but reason is not a correct explanation of assertion.
(c) If assertion is true and reason is false.
(d) If both assertion and reason are false.

23) **Assertion:** $\text{CO} + 2\text{H}_2 \xrightarrow[\Delta]{340 \text{ atm}} \text{CH}_3\text{OH}(\text{l})$

Reason: It is a combination reaction because CO combines with H_2 to form CH_3OH i.e., two substances combine to form a single compound.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
(b) If both assertion and reason are true but reason is not a correct explanation of assertion.
(c) If assertion is true and reason is false.
(d) If both assertion and reason are false.

24) **Assertion:** $\text{MnO}_2 + 4\text{HCl} \longrightarrow \text{MnCl}_2 + \text{Cl}_2 + 2\text{H}_2\text{O}$, is a redox reaction.

Reason: MnO_2 oxidises HCl to Cl_2 and gets reduced to MnCl_2

Codes

- (a) Both A and R are true, and R is correct explanation of the assertion.
- (b) Both A and R are true, but R is not the correct explanation of the assertion.
- (c) A is true, but R is false.
- (d) A is false, but R is true.

25) **Assertion:** The food items containing oil and fat are flushed with nitrogen.

Reason: Oil and fat become rancid on oxidation which has the bad taste and smell.

Codes

- (a) Both A and R are true, and R is correct explanation of the assertion.
- (b) Both A and R are true, but R is not the correct explanation of the assertion.
- (c) A is true, but R is false.
- (d) A is false, but R is true.

5 x 2 = 10

26) Balance the following chemical equations.

- (a) $\text{HNO}_3 + \text{Ca(OH)}_2 \rightarrow \text{Ca(NO}_3)_2 + \text{H}_2\text{O}$
- (b) $\text{NaOH} + \text{H}_2\text{SO}_4 \rightarrow \text{Na}_2\text{SO}_4 + \text{H}_2\text{O}$
- (c) $\text{NaCl} + \text{AgNO}_3 \rightarrow \text{AgCl} + \text{NaNO}_3$
- (d) $\text{BaCl}_2 + \text{H}_2\text{SO}_4 \rightarrow \text{BaSO}_4 + \text{HCl}$

27) Why decomposition reactions are called the opposite of combination reactions? Write equations for these reactions.

28) What do you mean by a precipitation reaction? Explain by giving examples.

29) Explain the following terms with one example each:

- (a) Corrosion
- (b) Rancidity

30) Give an example of a double displacement reaction.

5 x 3 = 15

31) What is a balanced chemical equation? Why should chemical equations be balanced?

32) Why is respiration considered an exothermic reaction? Explain

33) When a copper wire was left in silver nitrate solution for sometime, it was observed that the solution turned bluish green.

- (i) Explain the observation.
- (ii) Write the balanced chemical equation to represent the change taking place.

34) Identify the type of each of the following reactions. Also write balanced chemical equation for each.

- (i) The reaction mixture becomes warm.
- (ii) An insoluble substance is formed.

35) Complete and balance the following chemical equations:

- (i) $\text{CaCO}_3 + \text{HCl}$
- (ii) $\text{Al} + \text{HCl}$
- (iii) $\text{MnO}_2 + \text{HCl}$
