Types of Reaction

1. Which of the following is a displacement reaction? (a) MgCO₃ \longrightarrow MgO + CO₂ (b) $2Na + 2H_2O \longrightarrow 2NaOH + H_2$ (c) $2H_2 + O_2 \longrightarrow 2H_2O$ (d) $2Pb (NO_3)_2 \longrightarrow 2PbO + 4NO_2 + O_2$ 2. Which of the following statements about the given reaction are correct? $3Fe(s) + 4H_2O(g) \rightarrow Fe_3O_4(s) + 4H_2(g)$ (i) Iron metal is getting oxidised (ii) Water is getting reduced (iii) Water is acting as reducing agent (iv) Water is acting as oxidising agent (a) (i), (zi) and (iii) (b) (in) and (iv) (c) (i), (ii) and (iv) (d) (ii) and (iv) 3. MnO₂ + 4HCl \rightarrow ₂ + 2H₂O + Cl₂ Identify the substance oxidized in the above . equation. (a) $MnCl_2$ (b) HCl (c) H_2O (d) MnO_2 4. A substance 'X' is used in white-washing and is obtained by heating limestone in the absence of air. Identify 'X'. (a) $CaOCl_2$ (b) $Ca (OH)_2$ (c) CaO (d) $CaCO_3$ 5. When Ag is exposed to air it gets a black coating of (a) $AgNO_3$ (b) Ag_2S (c) Ag_20 (d) Ag_2CO_3

- 6. Which of the following is an endothermic process?
- (a) Dilution of sulphuric acid
- (b) Sublimation of dry ice
- (c) Condensation of water vapours
- (d) Respiration in human beings

7. In the double displacement reaction between aqueous potassium iodide and aqueous lead nitrate, a yellow precipitate of lead iodide is forme(d) 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)
- (&) Lead acetate
- (c) Ammonium nitrate
- (d) Potassium sulphate
- 8. A substance added to food containing fats and oils is called:
- (a) Oxidant
- (b) Rancid
- (c) Coolant
- (d) Antioxidant

9. The condition produced by aerial oxidation of fats and oils in foods marked by unpleasant smell and taste is called:

- (a) antioxidation
- (b) reduction
- (c) rancidity
- (d) corrosion

10. Name the products formed when iron filings are heated with dilute hydrochloric acid

- (a) Fe (III) chloride and water
- (b) Fe (II) chloride and water
- (c) Fe (II) chloride and hydrogen gas
- (d) Fe (III) chloride and hydrogen gas

11. nPb + CuCl₂ → PbCl₂ + Cu
The above reaction is an example of:
(a) combination
(b) double displacement
(c) decomposition
(d) displacement

12. In which of the following chemical equations, the abbreviations represent the correct states of the reactants and products involved at reaction temperature? (a) $2H_2(l) + O_2(l) > 2H_2O(g)$ (b) $2H_2(g) + O_2(l) > 2H_2O(l)$ (c) $2H_2(g) + O_2(g) > 2H_2O(l)$ (d) $2H_2(g) + O_2(g) > 2H_2O(g)$

13. The respiration process during which glucose undergoes slow combustion by combining with oxygen in the cells of our body to produce energy, is a kind of:

- (a) Exothermic process
- (b) Endothermic process
- (c) Reversible process
- (d) Physical process

14. A chemical reaction does not involve:

- (a) Formation of new substances having entirely different properties than that of the reactants
- (b) Breaking of old chemical bonds and formation of new chemical bonds
- (c) Rearrangement of the atoms of reactants to form new products
- (d) Changing of the atoms of on element into those of another element to form new products

15. One of the following processes does not involve a chemical reaction. That is:

- (a) Melting of candle wax when heated
- (b) Burning of candle wax when heated
- (c) Digestion of food in our stomach
- (d) Ripening of banana

16. It is necessary to balance a chemical equation in order to satisfy the law of:

- (a) Conservation of motion
- (b) Conservation of momentum
- (c) Conservation of energy
- (d) Conservation of mass
- 17. Rusting of iron involves a chemical reaction which is a combination of:
- (a) Reduction as well as combination reactions
- (b) Oxidation as well as combination reactions
- (c) Reduction as well as displacement reactions
- (d) Oxidation as well as displacement reactions

18. When ferrous sulphate is heated strongly it undergoes decomposition to form ferric oxide as a main product accompanied by a change in colour from:

- (a) Blue to green.
- (b) Green to blue.
- (c) Green to brown.
- (d) Green to yellow.

19. Which of the following gases is used in the storage of fat and oil containing foods for a long time?

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(a) Carbondioxide gas
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(b) Nitrogen gas

(c) Oxygen gas

(d) Neon gas

20. The neutralization reaction between an acid and a base is a type of:

- (a) Double displacement reaction
- (b) Displacement reaction
- (c) Addition reaction
- (d) Decomposition reaction

21. Which of the following reactions involves the combination of two elements :-

 $(a)CaO + CO_2 -> CaCO_3$ $(b)4Na + O_2 -> 2Na_2O$ $(c)SO_2 + (1/2)O_2 -> SO_3$ $(d)NH_3 + HCI -> NH_4CI$ 22. In the following equation: $Na_2CO_3 + xHCI \rightarrow 2NaCI + CO_2 + H_2O$, the value of x is (a)1 (b)2 (c)3 (d)4 23. In the equation, NaOH + HNO₃ -> NaNO₃ + H₂O nitric acid is acting as (a)An oxidizing agent (b)An acid (c)A nitrating agent (d)A dehydrating agent 24. $Zn + H_2SO_4(dil) -> ZnSO_4 + H_2$ Above reaction is (a)Decomposition reaction (b)Single displacement reaction

(c)Combination reaction

(d)Synthesis reaction

Answers Key

1. b2. c3. d4. a5. b6. b7. b8. d9. c10. d11. d12. d13. a14. d15. a16. d17. b18. c19. b20. a21. b22. b23. b24. b