

MULTIPLE CHOICE QUESTIONS

1. In some equations, the oxidation numbers of some atoms change during the reaction. Such equations are known as _____.

- (1) oxidation-reduction reactions
- (2) oxidation reactions
- (3) reduction reactions
- (4) all of these

2. A balanced chemical equation conforms to the _____.

- (1) law of conservation of mass
- (2) law of conservation of energy
- (3) law of conservation of momentum
- (4) all of the above

Pick the correct balanced equation from the following direct union equations:

3. Potassium reacts with bromine to form potassium bromide.

- (1) $2K + Br_2 \rightarrow 2KBr$
- (2) $K_2 + Br_2 \rightarrow 2KBr$
- (3) $K_2 + Br_2 \rightarrow KBr_2$
- (4) $K_2 + Br_2 \rightarrow KBr$

4. Reaction of oxygen with magnesium to form magnesium oxide.

- (1) $Mg + O_2 \rightarrow 2MgO$
- (2) $2Mg + O_2 \rightarrow 2MgO$
- (3) $Mg_2 + O_2 \rightarrow 2MgO$
- (4) $Mg + O_2 \rightarrow MgO_2$

5. Bromine vapours react with hydrogen gas to form hydrogen bromide.

- (1) $H_2 + Br_2 \rightarrow 2HBr$
- (2) $H_2 + Br_2 \rightarrow H_2Br_2$
- (3) $H_2 + Br_2 \rightarrow 2HBr_2$
- (4) $H_2 + Br_2 \rightarrow 2H_2Br_2$

6. Iodine vapours on reaction with sodium metal form sodium iodide.

- (1) $Na + I_2 \rightarrow Na_2I_2$
- (2) $Na + I_2 \rightarrow 2Na_2I_2$
- (3) $2Na + I_2 \rightarrow 2NaI$
- (4) $Na + I_2 \rightarrow NaI_2$

Choose the right answer among the following decomposition equations:

7. In the reaction $Zn + FeSO_4 \rightarrow ZnSO_4 + Fe$,

- (1) SO_4 gets oxidised
- (2) Fe gets oxidised
- (3) Zn is oxidising agent
- (4) Zn gets oxidised

8. $CaCO_3 + \text{heat} \rightarrow$

- (1) $3CaO + CO_2$
- (2) $CaO + CO_2$
- (3) $2CaO + CO_2$
- (4) $3CaO + 2CO_2$

9. In the reaction $2FeCl_2 + Cl_2 \rightarrow 2FeCl_3$, chlorine may be regarded as _____.

- (1) an oxidising agent
- (2) a reducing agent
- (3) a catalyst
- (4) a supporter of the reaction

10. Which of the following is a metathesis reaction?

- (1) $NiSO_4 + Na_2CO_3 \rightarrow NiCO_3 + Na_2SO_4$
- (2) $Zn + O_2 \rightarrow 2ZnO$
- (3) $3H_2O + P_2O_5 \rightarrow 2H_3PO_4$
- (4) $NaOH + \text{heat} \rightarrow Na + H_2O$

11. The reaction $Al + Br_2$ is a type of _____ reaction.

- (1) displacement
- (2) combination
- (3) combustion
- (4) metathesis

12. The co-efficient of copper sulphate in the balanced equation of $Al + CuSO_4 \rightarrow Al_2(SO_4)_3 + Cu$ is _____.

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- (1) 4 (2) 3
(3) 1 (4) 2
13. The gas liberated in the decomposition reaction of KClO_3 is _____.
(1) chlorine oxide (2) chlorine
(3) potassium oxide (4) oxygen
14. A silver spoon on exposure to air reacts with the sulphur present in air to give a black material called _____.
(1) silver oxide (2) silver sulphide
(3) tarnish (4) coal tar
15. Rust, which results by the reaction of oxygen in the air with iron, is formulated as _____.
(1) $\text{Fe}_2\text{O}_3 \cdot x\text{H}_2\text{O}$ (2) $\text{Fe}_3\text{O}_4 \cdot x\text{H}_2\text{O}$
(3) Fe_2O_3 (4) $\text{FeO} \cdot 6\text{H}_2\text{O}$
16. Which of the following compound precipitated in the reaction, $\text{BaCl}_2 + \text{K}_2\text{SO}_4$?
(1) barium chloride
(2) barium sulphate
(3) potassium chloride
(4) potassium sulphide
17. In the combustion of ethane, the reaction is _____.
(1) ethane + carbon dioxide $\rightarrow$ oxygen + water
(2) carbon dioxide + water $\rightarrow$ ethane + oxygen
(3) ethane + oxygen $\rightarrow$ carbon dioxide + water
(4) ethane + water $\rightarrow$ carbon dioxide + oxygen
18. The reaction $\text{SO}_2 + \text{H}_2\text{O} \rightarrow \text{H}_2\text{SO}_3$ is an example of _____ reaction.
(1) metathesis
(2) displacement
(3) combination
(4) neutralisation
19. What is produced when magnesium strip is burnt in air?
(1) Mg_2O (2) MgO_2
(3) Mg_2O_2 (4) MgO
20. Which of the following element among the four is least active according to the activity series?
(1) hydrogen (2) copper
(3) iron (4) zinc
21. Combustion of a fuel is a type of _____ reaction.
(1) displacement
(2) combination
(3) metathesis
(4) oxidation
22. Which of the following is insoluble in water?
(1) Precipitate (2) Fluid
(3) Gas (4) Ionic solids
23. Formation of a precipitate is indicated in the reaction by _____.
(1) an upward arrow
(2) a downward arrow
(3) both upward and downward arrows
(4) neither upward nor downward arrow
24. Neutralisation reactions are also called _____.
(1) acid-base reactions
(2) oxidation-reduction reactions
(3) precipitation reactions
(4) decomposition reactions
25. Which of the following four metals given below cannot displace hydrogen from cold water?
(1) Na (2) K (3) Ca (4) Mg
26. Non-metal oxides are classified as _____.
(1) acid hydrides
(2) acid hydrates
(3) acid anhydrides
(4) basic anhydrides
27. Choose the correct answer.
(1) Most active metals form the most stable compounds.
(2) Most active metals form the most unstable compounds.
(3) Most inactive metals form more stable compounds.
(4) All active metals form more stable compounds.
28. The oxides of the metals above hydrogen in the activity series are reduced by hydrogen to give _____.
(1) metal only
(2) water and metal
(3) water only
(4) neither metal nor water
29. The hydroxides of one group do not decompose on heating. The group is _____.
(1) chalcogen
(2) halogen
(3) alkali metals
(4) coinage group metals
30. In the decomposition of sulphates by heat, which is the gas formed exclusively along with the metal oxide?
(1) SO_2 (2) SO_3
(3) SO_3 and SO_2 (4) H_2SO_3
31. The hydroxides of mercury and silver are unstable, the products of decomposition at room temperature are _____.