

**SANJEEVANI PUBLIC SCHOOL, UTTAM NAGAR**  
**CLASS- X (SCIENCE)**  
**ASSIGNMENT**

**CHEMICAL REACTIONS AND EQUATIONS**

**NAME OF STUDENT: -** \_\_\_\_\_

1. Which of the following is not a chemical reactions

- (a) Souring of milk
- (b) rusting of iron
- (c) Dissolution of sugar in water
- (d) Digestion of food in our body

2.  $a\text{Mg}_3\text{N}_2 + b\text{H}_2\text{O} \rightarrow c\text{Mg}(\text{OH})_2 + d\text{NH}_3$

When the equation is balanced, the coefficients a , b, c and d respectively are

- (a) 1,3, 3,2
- (b) 1,6,3,2
- (c) 1,2,3,2
- (d) 2,3,6,2

3. Which of the following is not a thermal decomposition reaction

- (a)  $2\text{H}_2\text{O} \rightarrow 2\text{H}_2 + \text{O}_2$
- (b)  $2\text{FeSO}_4 \rightarrow \text{Fe}_2\text{O}_3 + \text{SO}_2 + \text{SO}_3$
- (c)  $\text{ZnCO}_3 \rightarrow \text{ZnO} + \text{CO}_2$
- (d)  $2\text{KClO}_3 \rightarrow 2\text{KCl} + 3\text{O}_2$

4. The correct formula of rust is

- (a)  $\text{Fe}_2\text{O}_3$  (b)  $\text{Fe}_3\text{O}_4$  (c)  $\text{Fe}_2\text{O}_3 \cdot x\text{H}_2\text{O}$  (d)  $\text{Fe}_3\text{O}_4 \cdot x\text{H}_2\text{O}$

5. What do you mean by skeletal equations?

6. A pinch of solid sodium carbonate is added into dilute hydrochloric acid in a test tube. Sodium chloride and water formed remain the solution whereas carbon dioxide escapes out. The tube is found to become hot. How will the reaction represented to make maximum informative?

7. Name the most reactive metal and the least reactive metal of the activity series of metal

8. What type of chemical reaction is used for extraction of metal from their naturally occurring chloride and oxides?

9. What are the two necessary conditions for rusting of iron article?

10. Give two examples from everyday life situations where redox reactions are taking place.
11. What is oxidation and reduction? Taking suitable examples, explain the oxidation and reduction always take place together.
12. How will you indicate the following affects in a chemical equation?
- (1) Evolution of gas (2) formation of precipitate  
 (3) A solution made in water (4) Exothermic reaction  
 (5) Endothermic reaction
13. (a) What type of reaction is represented by digestion of food in our body?  
 (b) Write the basic chemical reaction involved in photography.
14. State an important use of decomposition reactions.
15. What type of chemical reactions is represented by the following equations?
- (1)  $A + BC \rightarrow AC + B$  (2)  $A + B \rightarrow C$  (3)  $X \rightarrow Y + Z$   
 (4)  $PQ + RS \rightarrow PS + RQ$  (5)  $ABC \rightarrow BAC$
16. A lady keeps her knife after applying oil on it. Explain why?
17. The molecular formula of chloride of a cation X is  $XCl_2$ . Write the formula of sulphate of X
18. No chemical reaction takes place when granules of a solid, A, are mixed with the powder of another solid, B. however when the mixture is heated, a reaction takes place between its components. One of the products, C, is a metal and settles down in the molten state while the other product, D, floats over it. It was observed that the reaction is highly exothermic.
19. Write balance chemical equations for following and identify the types of equations
- 1)  $Al_2O_3 \cdot 2H_2O + NaOH \rightarrow NaAlO_2 + H_2O$   
 2)  $NaAlO_2 + HCl + H_2O \rightarrow Al(OH)_3 + NaCl$   
 3)  $CaSO_4 \cdot 2H_2O \rightarrow (CaSO_4)_2H_2O + H_2O$   
 4)  $Cu + AgNO_3 \rightarrow Cu(NO_3)_2 + Ag$   
 5)  $NaHCO_3 \rightarrow Na_2CO_3 + H_2O + CO_2$   
 6)  $C_2H_5OH + O_2 \rightarrow CO_2 + H_2O$   
 7)  $CH_4 + O_2 \rightarrow CO_2 + H_2O$   
 8)  $CH_3COOH + O_2 \rightarrow CO_2 + H_2O$