

I. VERY SHORT TYPE:

1. Why is respiration considered an exothermic process?
2. What happens chemically when quicklime is added to water filled in a bucket?
3. What is wrong with the following chemical equation?
 $Mg + O_2 \rightarrow MgO$ Correct then balance it.
4. What does the symbol (aq) represent in a chemical equation?
5. Why is photosynthesis considered an endothermic reaction?

II. FILL IN THE FOLLOWING BLANKS WITH SUITABLE WORDS:

1. Chemical equations are balanced to satisfy the law of
2. The addition of hydrogen to a substance is called whereas removal of hydrogen is called
3. Anti-oxidants are often added to fat containing foods to prevent due to oxidation.
4. The substances that take part in chemical reaction are called _____.
5. When 2 H S gas is passed through a solution of 4 CuSO₄, _____ precipitate is formed.
6. The reaction in which heat is evolved is called _____ reaction.
7. The new substances formed in a chemical reaction having different properties are called _____.
8. The decomposition caused by light is called _____.
9. The reaction of copper sulphate solution and iron fillings is a _____ reaction.

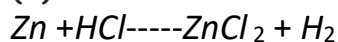
III. SHORT ANSWER TYPE QUESTIONS:

1. (a) Give one example of chemical reaction.
(b) State two characteristics of the chemical reaction which takes place when dilute sulphuric acid is poured over zinc granules.
(c) Give two characteristics of the chemical reaction which occurs on adding potassium iodide solution to lead nitrate solution.
3. When hydrogen is passed over copper oxide, copper and steam are formed. Write a balanced equation for this reaction and state which of the chemicals are :
(i) Elements (ii) compounds (iii) reactants (iv) products
(v) Metals (vi) non-metals
4. (a) What are the various ways in which a chemical equation can be made more informative? Give examples to illustrate your answer.

(b) Write balanced chemical equation from the following information. An aqueous calcium hydroxide solution (lime water) reacts with carbon dioxide gas to produce a solid calcium carbonate precipitate and water.

5. (a) Explain with example, how the physical states of the reactants and products can be shown in a chemical equation

(b) Balance the following equation and add state symbols:



(c) Convey the following information in the form of a balanced chemical equation: "An aqueous solution of ferrous sulphate reacts with an aqueous solution of sodium hydroxide to form a precipitate of ferrous hydroxide and sodium sulphate remains in solution.

6. Carbon monoxide reacts with hydrogen under certain conditions to form methanol (CH₃OH). Write a balanced chemical equation for this reaction indicating the physical states of reactants and product as well as the conditions under which this reaction takes place

7. (a) Substitute formulae for names and balance the following equation: Calcium carbonate reacts with hydrochloric acid to produce calcium chloride, water and carbon dioxide gas.

(b) Write balanced chemical equation with state symbols for the following reaction: Sodium hydroxide solution reacts with hydrochloric acid solution to produce sodium chloride solution and water.

8. Translate the following statement into chemical equation and then balance it: Barium chloride solution reacts with aluminum sulphate solution to form a precipitate of barium sulphate and aluminum chloride solution.

IV. LONG ANSWER TYPE:

1. (a) What is meant by a chemical reaction? Explain with the help of an example.
- (b) Give one example each of a chemical reaction characterized by
 - (i) Evolution of a gas (ii) change in color
 - (iii) Formation of a precipitate (iv) Change in temperature
 - (v) Change in state.
2. (a) What do you understand by exothermic and endothermic reactions?
- (b) Give one example of an exothermic reaction and one of an endothermic reaction
- (c) Which of the following are endothermic reactions and which are exothermic reactions?
 - (i) Burning of natural gas (ii) Photosynthesis
 - (iii) Electrolysis of water (iv) Respiration (v)

Decomposition of calcium carbonate

3. The metal M reacts vigorously with water to form a solution S and a gas G. The solution S turns red litmus to blue whereas gas G, which is lighter than air, burns with a pop sound. Metal M has a low melting point and it is used

as a coolant in nuclear reactors.

(a) What is metal M? (b) What is solution S? Is it acidic or alkaline?

(c) What is gas G?

(d) Write a balanced chemical equation for the reaction which takes place when metal M reacts with water.

(e) Is this reaction exothermic or endothermic?

4. (a) Explain the term "corrosion" with an example. Write a chemical equation to show the process of corrosion of iron.

(b) What special name is given to the corrosion of iron?

(c) What type of chemical reaction is involved in the corrosion of iron?

(d) Name any three objects (or structures) which are gradually damaged by the corrosion of iron and steel?

5. (a) Explain the term "rancidity". What damage is caused by rancidity?

(b) What type of chemical reaction is responsible for causing rancidity?

(c) State and explain the various methods for preventing or retarding rancidity of food.