

Very Short Answer Type (VSA) (1 Mark each)

1. Write balanced equation for the following reaction :
Zinc carbonate (s) \rightarrow Zinc oxide (s) + Carbon dioxide (g)
2. What are displacement reactions? Give one example.
3. What are exothermic reactions? Give one example.
4. Write chemical equation for the following reaction :
When solid mercury (II) oxide is heated, liquid mercury and oxygen gas are produced.
5. Select the oxidising agent and reducing agent in the reaction :
 $4\text{Na} + \text{O}_2 \rightarrow 2\text{Na}_2\text{O}$
6. When sulphur dioxide is passed through a saturated solution of hydrogen sulphide, the following reaction occurs :
 $\text{SO}_2 + 2\text{H}_2\text{S} \rightarrow 2\text{H}_2\text{O} + 3\text{S}$
Predict reducing agent and oxidising agent in this reaction.
7. Give one example of a reaction in which oxidation occurs without involving oxygen.
8. What are redox reactions? Give one example.
9. When a copper strip is placed in a solution of silver

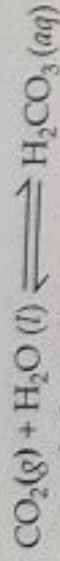
10. When magnesium burns in Cl_2 , it forms magnesium chloride. Which element is reduced?
the reaction.
11. Does an oxidising agent in a redox reaction gets reduced or gets oxidised?
12. Is the law of conservation of mass observed in a skeletal equation?
13. Aluminium metal replaces iron from iron oxide (Fe_2O_3) giving aluminium oxide and iron. Which is more reactive: aluminium or iron?
14. Consider the general reaction :
 $\text{A}^{2+} + \text{B}^{2-} \rightarrow \text{A} + \text{B}$
Name the reducing agent.
15. Give one example of a double displacement reaction.
16. Identify the type of reaction in the following example :
 $\text{Na}_2\text{SO}_4(\text{aq}) + \text{BaCl}_2(\text{aq}) \rightarrow \text{BaSO}_4(\text{s}) + 2\text{NaCl}(\text{aq})$
17. Identify the type of reaction in the following example:
 $2\text{H}_2(\text{g}) + \text{O}_2(\text{g}) \rightarrow 2\text{H}_2\text{O}(\text{l})$
18. Balance the given chemical equation:
 $\text{HNO}_3 + \text{Ca}(\text{OH})_2 \rightarrow \text{Ca}(\text{NO}_3)_2 + \text{H}_2\text{O}$

Short Answer Type-I (SA-I) (2 Marks each)

1. Balance the following equations :



2. What is meant by a chemical equation? What do the symbols *g*, *l*, *aq* and \rightleftharpoons signify in the following equation :

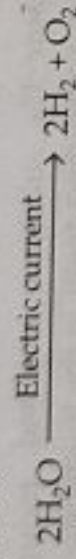


3. What is a balanced chemical equation? Why should the chemical equation be balanced?

4. What is a chemical equation? What information do we get from a chemical equation? Explain with the help of examples.

5. Name three different types of chemical reactions. Discuss any one of these with examples.

6. By passing electric current through water, H_2 and O_2 are obtained as



But H_2 and O_2 can also be combined to form water

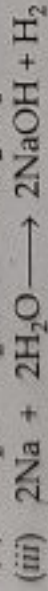
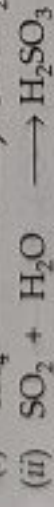


The first reaction is decomposition reaction and second is combination reaction. Is this statement true? Justify.

7. How are combination and decomposition reactions related?

8. What is a displacement reaction? Give one example.

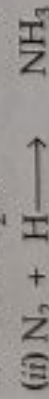
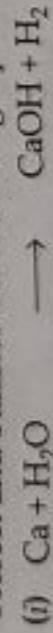
9. Classify the following reactions as combination, decomposition or displacement reactions :



10. Translate the following into the language of chemistry :

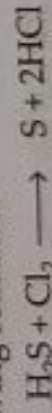
Sulphur dioxide reacts with oxygen at 450°C in the presence of a catalyst (V_2O_5) to form sulphur trioxide. The reaction is reversible and 182 kJ of energy is liberated.

11. Correct and balance the following equations :



12. Ethane (C_2H_6) burns in oxygen to form carbon dioxide and water. Write balanced chemical equation for this reaction.

13. Identify the substance oxidised and oxidising agent in the following reaction :



14. Predict the oxidising agent and reducing agent in the following reaction :



15. The reaction : $\text{Fe}^{2+} \longrightarrow \text{Fe}^{3+} + \text{e}^-$ is called and the reaction : $\text{Fe}^{3+} + 3\text{e}^- \longrightarrow \text{Fe}$ is called Complete the statement.

16. How are the physical states of reactants and products represented in an equation?

17. What are exothermic and endothermic reactions? Give examples.

18. Write the balanced chemical equation for the following chemical reactions :

(i) Aqueous solutions of sulphuric acid and sodium hydroxide react to form aqueous sodium sulphate and water.

(ii) Phosphorus burns in chlorine gas to form phosphorus pentachloride.

19. Explain :

(i) Difference between the displacement and double displacement reactions.

(ii) Can a displacement reaction be a redox reaction?

20. Write a brief note on

(i) Corrosion (ii) Rancidity.

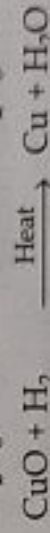
21. What is an oxidation reaction? Give an example of oxidation reaction. Is oxidation an exothermic or an endothermic reaction?

22. Define a combination reaction. Give one example of a combination reaction which is also exothermic.

23. When water is added to a white powder 'A', vigorous reaction takes place and a large amount of heat is released. 'A' is also used for white washing. Identify 'A', write a chemical equation for its reaction with water and name the product.

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24. What is meant by redox reaction? Identify the substances oxidised and reduced in the following reactions:

**Short Answer Type-II (SA-II) (3 Marks each)**

1. What are decomposition reactions? Give one experiment to demonstrate a decomposition reaction. How do they differ from combination reactions?

2. What is meant by the term 'chemical equation'? Write any chemical equation and discuss the informations conveyed by it.

3. What information does the following equation convey?



Suggest two improvements by which the equation becomes more informative.

4. Identify the chemical reactions in the following :

