



Octahedral classes, kharadi

2nd floor, yashwant plaza, near bank of India,

Class 10 - Science

electricity

Maximum Marks: 35

Time Allowed: 2 hours

Section A

1. Why is the amount of gas collected in one of the test tubes in electrolysis of water double of the amount collected in the other? Name this gas. 1
2. What is wrong with the following equation? 1
$$\text{Mg} + \text{O} \rightarrow \text{MgO}$$
Identify the mistake and balance the equation.
3. Identify the type of chemical reaction 1
(i) $A + B \rightarrow C$
(ii) $A + BC \rightarrow AC + B$
4. An aqueous solution of metal nitrate P reacts with sodium bromide solution to form yellow ppt of compound Q which is used in photography. Q on exposure to sunlight undergoes decomposition reaction to form metal present in P along with reddish brown gas. Identify P & Q. Write the chemical reaction & type of chemical reaction. 1
5. Indicate the oxidizing and reducing agent in the reaction. 1
$$\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$$
6. Define a displacement reaction. 1
7. What is the role of a catalyst in a chemical reaction? 1
8. Write the reaction used in black and white photography. 1
9. Identify the type of reaction given below: 1
$$\text{Fe(s)} + \text{CuSO}_4(\text{aq}) \longrightarrow \text{FeSO}_4(\text{aq}) + \text{Cu(s)}$$
10. Write one equation each for decomposition reactions where energy is supplied in the form of heat, light or electricity. 1
11. Identify the oxidising agent in the following: 1
$$\text{MnO}_2(\text{s}) + 4\text{HCl} \longrightarrow \text{MnCl}_2(\text{aq}) + \text{Cl}_2(\text{g}) + 2\text{H}_2\text{O}$$
12. Is hydrogen gas evolved on reaction of silver metal with dilute sulphuric acid (H_2SO_4)? if not, why? 1

13. Name the brown coloured gas evolved when lead nitrate crystals are heated in a dry test tube. 1
14. In the refining of silver, the recovery of silver from silver nitrate solution involved displacement by copper metal. Write down the reaction involved. 1
15. Why is combustion of Liquefied Petroleum Gas (LPG) a chemical change? 1
16. Bhawna took a pale green substance A in a test tube and heated it over the flame of a burner. A brown coloured residue B was formed along with evolution of two gases with burning smell of sulphur. Identify A & B. Write the chemical reaction involved. 1
17. Write a balanced chemical equation with symbols for the following reaction. Sodium hydroxide solution (in water) reacts with hydrochloric acid solution (in water) to produce sodium chloride and water. 1
18. In the reaction, $\text{Be}_2\text{C} + x\text{H}_2\text{O} \longrightarrow y\text{Be}(\text{OH})_2 + \text{CH}_4$ Write the values of x and y. 1
19. Name the type of reaction : Iron reacts with chlorine to form ferric chloride. 1
20. Can a double displacement reaction take place when the products are highly soluble or highly ionised? 1
21. A shiny brown coloured element 'X' on heating in the air becomes black in colour. Name the element 'X' and the black coloured compound formed. 1
22. Identify the substance oxidized and reduced in the following reaction. $\text{CuO}(s) + \text{Zn}(s) \rightarrow \text{ZnO}(s) + \text{Cu}(s)$ 1
23. Give an example of a double displacement reaction other than the reaction of barium chloride with sodium sulphate. 1
24. Name the type of reaction : Hydrogen burns in oxygen in air to form water. 1
25. Give one example of a combination reaction which is also exothermic. 1
26. Aastha has been collecting silver coins and copper coins. One day she observed a black coating on silver coins and a green coating on copper coins. Which chemical phenomenon is responsible for these coatings? Write the chemical name of black and green coatings? 1
27. What is the role of an oxidising agent in a redox reaction? 1
28. Write an activity in support of a combination reaction. 1
29. Why are chemical reactions irreversible? 1
30. Write the formula and then balance the following equation. Copper (II) sulphate + Oxygen \rightarrow Copper (II) oxide + Sulphur dioxide 1
31. What is the role of oxidising agent in a reaction? 1

32. Name the type of reaction :Zinc reacts with sulphuric acid to form zinc sulphate and hydrogen. **1**
33. Write the formula and then balance the following equation. **1**
Ammonia + Oxygen \rightarrow Nitric oxide + Water
34. Give one example of atomic equation. **1**
35. Write the balanced chemical equation for the following reaction and identify the type of reaction. **1**
Zinc carbonate (s) \rightarrow Zinc oxide (s) + Carbon dioxide (g)