



RBSE

CHAPTERWISE PYQ

# SCIENCE

2013 - 2025



Class  
**10**

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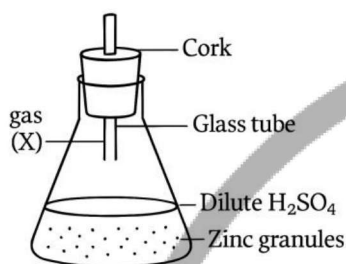
01

# CHEMICAL REACTION AND EQUATIONS

## [Section-A]

### Multiple Choice Questions :-

1.



According to the given diagram identify the gas (X) formed in above reaction

[1M]

- (A)  $O_2$
- (B)  $CO_2$
- (C)  $H_2$
- (D)  $O_3$

(RBSE 2022)

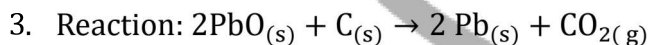


Coefficient of Fe in balanced equation of the above reaction will be

[1M]

- (A) 1
- (B) 2
- (C) 3
- (D) 4

(RBSE 2024)



Statements : i) Lead is getting oxidised.

ii) Carbon dioxide is getting oxidised.

iii) Carbon is getting oxidised.

iv) Lead oxide is getting reduced.

True statement for above reaction is -

- A) i) and ii)
- B) Only i)
- C) Only ii)
- D) iii) and iv)

[1M]

(RBSE 2025)



**Fill in the Blanks :-**

4. Name of the nitrogen containing gas obtained by thermal decomposition of lead nitrate is \_\_\_\_\_. [1M]  
(RBSE 2024)
5. The name of compound obtained on burning of magnesium ribbon in air is \_\_\_\_\_. [1M]  
(RBSE 2025)

**Very Short Answer Type Questions:-**

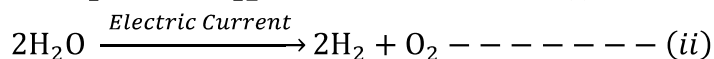
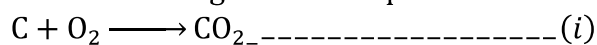
6.  $\text{FeSO}_4 \xrightarrow{\text{heat}} \text{Fe}_2\text{O}_3 + \text{SO}_3 + \text{Z}$ . Z in the equations : [1M]  
(RBSE 2013)
7. Write one difference between displacement and double displacement reaction. [1M]  
(RBSE 2013, 2014)
8. Write the balanced equation of the combustion of methane. [1M]  
(RBSE 2013)
9.  $2\text{Mg} + \text{O}_2 \longrightarrow ?$   
complete the above reaction. [1M]  
(RBSE 2017)
10.  $\text{CuO} + \text{H}_2 \xrightarrow{\text{Heat}} \text{Cu} + \text{H}_2\text{O}$   
Write the name of reactant reduced in above reaction. [1M]  
(RBSE 2023)
11.  $\text{CaO} + \text{H}_2\text{O} \rightarrow [\text{x}] + \text{Heat}$   
Write chemical name of [x] in above reaction. [1M]  
(RBSE 2025)

**[Section-B]****Short Answer Type Questions:-**

12. (a) Give one example of redox reaction.  
(b) Draw the labelled diagram of electrolytic decomposition of water. [2M]  
(RBSE 2014)
13. Write combination reaction and decomposition reaction with one example each. [2M]  
(RBSE 2015, 2016, 2023)

14. What is combination reaction? Write combination reaction of quick lime with water. [2M]  
(RBSE 2015, 2016, 2023)

15. In the following chemical equations -



a) Identify equation (i) and (ii) and write its types.

b) Write any one difference between equation (i) and (ii).

[2M]

(RBSE 2019)

16. Draw a labelled diagram for burning of magnesium ribbon in air along with the name of the product collected in the watch glass.

[2M]

(RBSE 2022)

17. Define endothermic and exothermic reactions.

[2M]

(RBSE 2022)

18. Draw the systematic equipment for showing the emission of nitrogen dioxide gas on heating lead nitrate.

[2M]

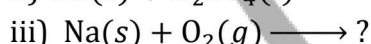
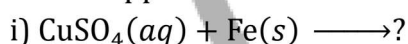
(RBSE 2025)

### [Section-C]

#### Long Answer Type Questions:-

19. What happens when -

[3M]

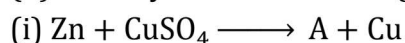


(RBSE 2013)

20. (a) What is displacement reaction? (RBSE 2013)

[3M]

(b) Identify A in the following reactions :



(RBSE 2014)

21. In the reaction  $\text{CuO} + \text{H}_2 \longrightarrow \text{Cu} + \text{H}_2\text{O}$  which substance gets oxidised and which gets reduced?

Give one more example of such type of reaction.

[3M]

(RBSE 2015)

22. What is redox reaction? In the reaction  $\text{ZnO} + \text{C} \longrightarrow \text{Zn} + \text{CO}$  which substance gets oxidised and which gets reduced? [3M]  
(RBSE 2014, 2016)

23. (a) What is done to prevent rancidity in foods containing fats?  
(b)  $\text{CuO} + \text{H}_2 \longrightarrow \text{Cu} + \text{H}_2\text{O}$   
In the above reaction which substance is being oxidized and which is reduced? [3M]  
(RBSE 2017)

24. i) Explain the oxidation reaction with example.  
ii) Balance the following chemical equation  
$$\text{NH}_3 + \text{CuO} \longrightarrow \text{Cu} + \text{N}_2 + \text{H}_2\text{O}$$
 [3M]  
(RBSE 2022)

25. i) Explain the reduction reaction with example.  
ii) Balance the following chemical equation.  
$$\text{NaOH} + \text{H}_2\text{SO}_4 \longrightarrow \text{Na}_2\text{SO}_4 + \text{H}_2\text{O}$$
 [3M]  
(RBSE 2022)

26. Explain the following by giving one example of each - [3M]  
i) Combination reaction  
ii) Decomposition reaction  
(RBSE 2015, 2016, 2023)

**[Section-D]**

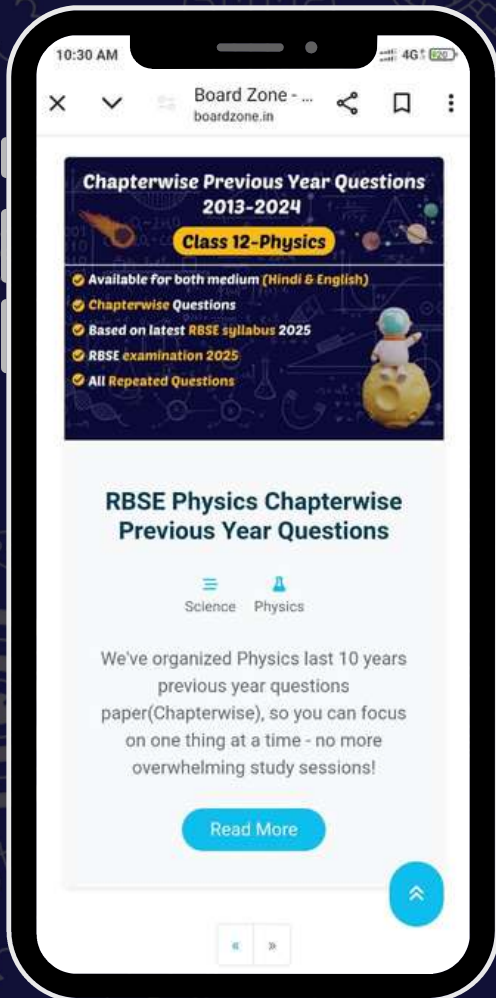
**Very Long Answer Type Questions:-**

27. (i) Write name of the gas obtained on burning of coal.  
(ii) Copper (II) oxide + Hydrogen  $\longrightarrow$  Copper + Water  
Write balanced chemical equation for above word-equation.  
(iii) Draw the systematic equipment for exhibition of oxidation of copper into copper oxide. [4M]  
(RBSE 2024)

28. (i) Define reduction.  
(ii) Iron + Copper sulphate  $\longrightarrow$  Iron sulphate + Copper  
Write balanced chemical equation for above word-equation.  
(iii) Draw the systematic equipment for exhibition of reaction of iron nails dipped in solution of copper sulphate. [4M]  
(RBSE 2024)



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