



# PRACTICAL QUESTIONS

## Multiple Choice Questions

1. Students were asked to study the reaction between barium chloride and sodium sulphate. Four different reports of the experiment are given below. Choose the correct one.

Procedure	Observation
(a) Powder of barium chloride and sodium sulphate were mixed	The colour of the mixture changes to yellow.
(b) Solution of barium chloride and sodium sulphate were mixed	Thick white precipitate is formed.
(c) Solution of barium chloride and sodium sulphate solution were added	Solution becomes turbid.
(d) Powder of barium chloride and sodium sulphate solution were added	No change is observed.

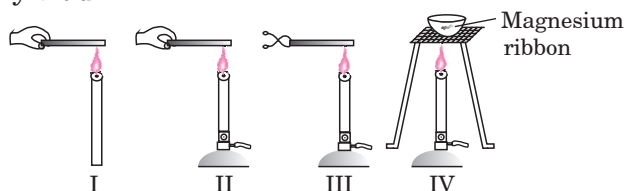
**Ans. (b) :** It is a double decomposition reaction leading to the formation of a white ppt. of barium sulphate.

2. When you place iron nail in copper sulphate solution, the reddish brown coating formed on the nail is

- soft and dull
- hard and flaky
- smooth and shining
- rough and granular.

**Ans. (a) :** The freshly deposited copper is soft and dull.

3. Four students used different ways of burning magnesium ribbon during an experiment as shown below. The correct way has been followed by student



- I
- II
- III
- IV

**Ans. (c) :** Magnesium ribbon should be burnt directly on a Bunsen burner using a pair of tongs.

4. To study decomposition of ferrous sulphate, one should do

- strong heating
- gentle heating
- electrolysis
- exposure to air.

**Ans. (a)**

5. Which of the following is a correct observation when water is added to lime?

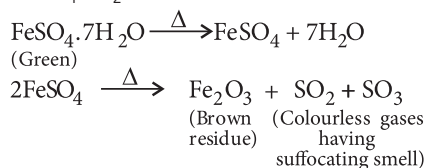
- No change and a hissing sound
- Vigorous bubbling and a hissing sound
- Slow bubbling with no sound
- Vigorous bubbling with evolution of heat and a hissing sound.

**Ans. (d) :** When lime is added to water, slaked lime or  $\text{Ca(OH)}_2$  is produced. It is a vigorous and exothermic reaction and produces hissing sound.

6. A student strongly heats hydrated ferrous sulphate salt in a dry test tube. He would observe a

- yellow residue
- brown residue
- light green residue
- white residue.

**Ans. (b) :** A student strongly heats hydrated ferrous sulphate ( $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$ ) salt, he observes a brown residue.



7. Some iron nails are put in a copper sulphate solution. After sometime, the nails are covered with a

- black deposit
- white deposit
- reddish brown deposit
- none of these.

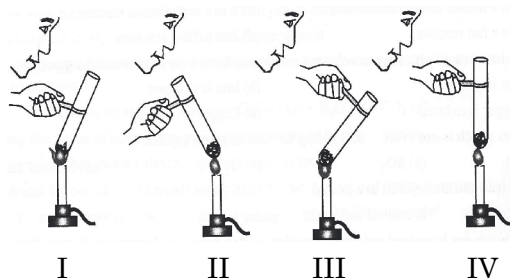
**Ans. (c)**

8. When dilute sulphuric acid is added to zinc granules, you will observe that

- a precipitate is formed
- the reaction mixture turns yellow
- the container becomes hot
- bubbles start coming out from the surface of zinc granules.

Ans. (d)

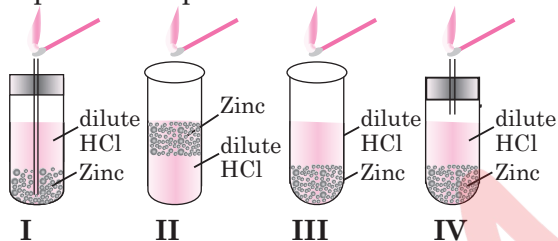
9. Which one of the following represents the correct method of heating lead nitrate crystals in a test tube ?



- (a) I  
(b) II  
(c) III  
(d) IV

Ans. (c)

10. Four set-ups as given below were arranged to identify the gas evolved when dilute hydrochloric acid was added to zinc granules. The most appropriate set up is



- (a) I  
(b) II  
(c) III  
(d) IV

Ans. (d)

## Subjective Questions

11. Why does zinc plate develop holes when placed in copper sulphate solution for a few hours/days?

Ans. Zinc is more reactive than copper. It displaces copper from copper sulphate solution to form zinc sulphate which is colourless. Hence, the blue colour of copper sulphate solution starts fading.



12. What happens to the crystals of copper sulphate on heating ?

Ans. Copper sulphate crystals which are blue in colour, loses water of crystallization and get converted into anhydrous copper sulphate, which is greyish white in colour.

13. A silvery - grey coloured rod is placed in a blue solution. The blue colour of the solution fades away gradually and after a few days, the rod appears etched. Answer the following :

- Name the silvery-grey material of the rod.
- Name and write the formula of the substance present in blue solution.
- Write the chemical equation for the reaction involved.
- What is the type of reaction?

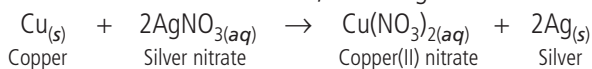
Ans. (i) Name of the silvery-grey material – Zinc  
(ii) Blue solution contains copper sulphate.  
Formula –  $\text{CuSO}_4$   
(iii)  $\text{CuSO}_{4(aq)} + \text{Zn}_{(s)} \longrightarrow \text{Cu}_{(s)} + \text{ZnSO}_{4(aq)}$   
(iv) Displacement reaction

14. How would you devise the procedure to show the  $\text{Mg} > \text{Fe} > \text{Cu}$  in reactivity series?

Ans. Add magnesium in  $\text{FeSO}_4$  solution, keep it for 5 minutes undisturbed. Observe the change and draw inference. Add iron metal in  $\text{CuSO}_4$  solution keep it for 5 minutes. Observe changes and draw inference. Since magnesium can displace iron, it is more reactive than iron. Since iron can displace copper, iron is more reactive than copper.

15. A copper coin was kept dipped in silver nitrate solution for a few hours/days. What will happen to the copper coin ? What will happen to the colour of the solution ?

Ans. Copper is more reactive than silver. Hence, it displaces silver from silver nitrate solution, according to the reaction



The silver thus formed is deposited on the surface of copper thereby giving it a white shining appearance.

The solution becomes blue due to the formation of copper nitrate.

