6

Physical and Chemical Changes

ORAL QUESTIONS

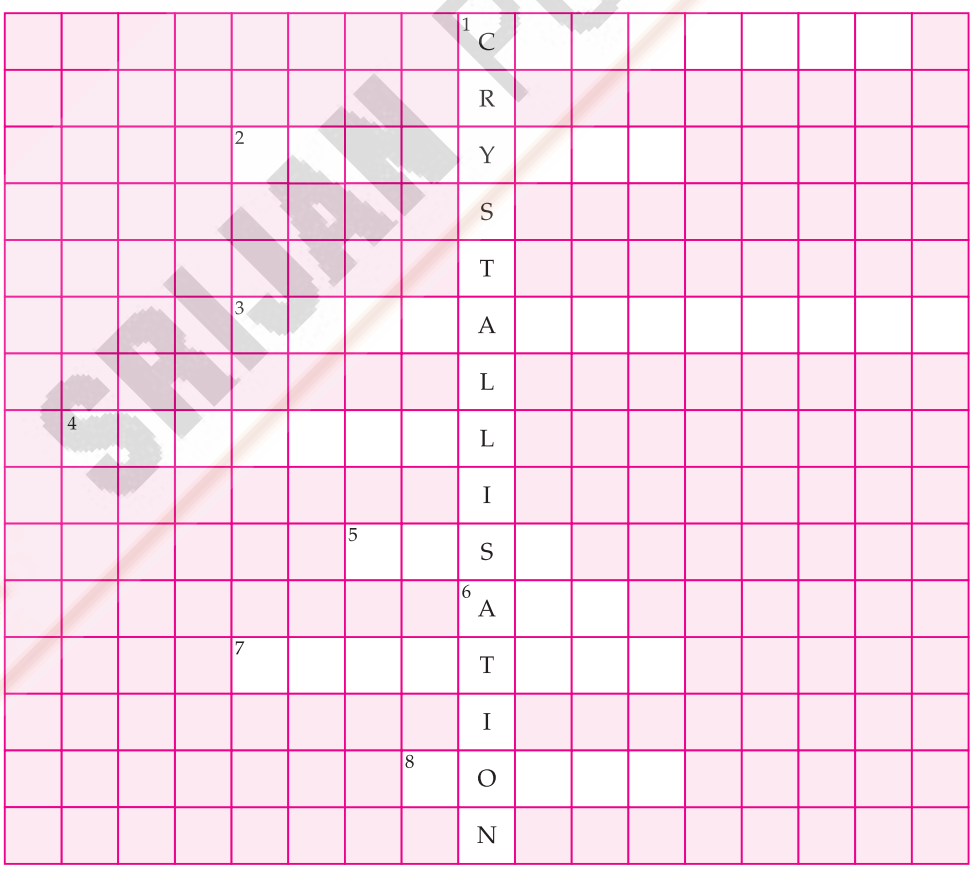
A. Answer these questions orally.

1. Is burning of a substance always a chemical change?
2. Is rusting of iron a physical or a chemical change?
3. Name a metal which burns with a dazzling white flame.
4. Name one method which can prevent rusting.
5. Which of these is the odd-one-out?
   rusting, melting of wax, burning of magnesium ribbon, bursting of a cracker.

PUZZLE/QUIZ

B. Complete the following word puzzle with the help of the clues given.

1. A change in which a new substance is formed.
2. A method used to prevent rusting.
3. Another method used to prevent rusting.
4. A change in which no new substance is formed.
5. A reddish-brown flaky substance formed on iron articles.
6. An essential condition for rusting to take place.
7. Another essential condition for rusting to take place.
8. A characteristic of a chemical change.



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CLASS TEST

C. MCQ–Tick (✓) the correct option.

1. Most physical changes are
   (a) Irreversible ☐
   (b) Accompanied with evolution of a gas ☐
   (c) Reversible ☐
   (d) Accompanied with change of smell ☐
2. Magnesium hydroxide is
   (a) Acidic ☐ (b) Basic ☐
   (c) Neutral ☐ (d) None of these ☐
3. When a zinc granule is placed in a test tube containing dilute hydrochloric acid, which of the following is not observed?
   (a) Hydrogen gas is evolved. ☐
   (b) The test tube becomes warm. ☐
   (c) A 'pop' sound is heard on bringing a burning matchstick near the mouth of the test tube. ☐
   (d) A dazzling white flame is seen. ☐
4. Which of the following is incorrect for the reaction between an iron nail and copper sulphate solution?
   (a) The blue colour of solution fades away. ☐
   (b) Copper gets deposited on the iron nail. ☐
   (c) The green colour formed is due to iron sulphide. ☐
   (d) Copper sulphate + Iron → Iron sulphate + Copper. ☐
5. Which of these cannot be used to prevent rusting of iron?
   (a) Galvanisation ☐ (b) Alloying ☐
   (c) Painting ☐ (d) Cooking ☐

D. Write the given statements correctly.

1. Iron + Water + Carbon dioxide → Rust

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2. Limewater + Oxygen → Calcium carbonate + Water

3. Coal + Oxygen → Calcium carbonate

4. Copper + Iron sulphate → Copper sulphate + Iron

5. Magnesium oxide + Oxygen → Magnesium hydroxide

E. Very short answer questions.

1. What is the powdery ash formed by burning a magnesium ribbon called?

2. Name the product formed when magnesium oxide dissolves in water.

3. Does magnesium hydroxide turn blue litmus to red or red litmus to blue?

4. Name the gas evolved when dilute hydrochloric acid is added to a zinc granule.

5. What is the process of depositing a layer of zinc on an iron article called?

F. Short answer questions.

1. List the differences between a physical change and a chemical change.

PHYSICAL CHANGE	CHEMICAL CHANGE

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2. Give an example of a chemical change which is accompanied by

   (a) Change in colour

   (b) Release of energy

   (c) Absorption of energy

3. What happens when carbon dioxide gas is passed through limewater? Is it a physical or a chemical change?

4. What is rust? What chemical change occurs during rusting?

5. What is alloying? Name any one alloy.

6. What is crystallisation?

G. Long answer questions.

1. How does applying a coating of paint or grease on an iron article helps in preventing rusting?

2. Mixing of iron filings with sulphur is a physical change where as heating iron filings with sulphur is a chemical change. Do you agree with this statement? Why/why not?

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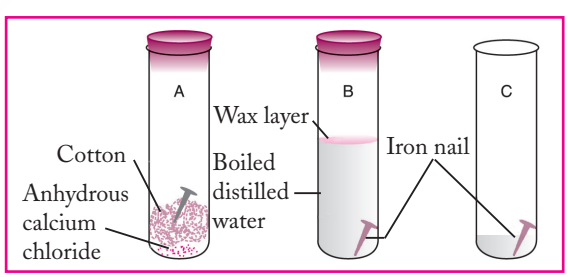
3. A chemical change may be accompanied by a change in colour. Give an example in support of this statement.

HOME ASSIGNMENT

H. Think and Answer.

1. Piyush had studied that a chemical change may be accompanied by the evolution of a gas. When he heated water in a container, he saw liquid water converting into a gas. Is it a chemical change? Why/why not?

2. Look at the set-up shown below?
   (a) In which of the test-tubes rusting of iron nails will be observed?



   (b) Give reason for your answer.

3. Akash decided to get his home white washed. When he saw the painter mixing lime with water, he heard a hissing sound and observed a gas being evolved. Would you classify the change as a physical or a chemical change? Why?

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WORKSHEET

I. Give reasons for the following.

1. Inflating a balloon is considered a physical change.

2. We should get the iron grills painted frequently.

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