

PRINCIPAL SAAB

Periodic Assessment 1 (PA-1) — Sample Paper**Class X | Science (086) | Periodic Assessment 1 | Session 2026-27****Time: 40 minutes | Maximum Marks: 25 | Question Paper****Chapter coverage**

- Ch 1 Chemical Reactions and Equations — 7 marks
- Ch 2 Acids, Bases and Salts — 8 marks
- Ch 3 Metals and Non-metals — 10 marks

General Instructions

1. This question paper has 13 questions in four sections. All questions are compulsory and there is no internal choice.
2. Section A has 5 multiple choice questions of 1 mark each.
3. Section B has 4 very short answer questions of 2 marks each.
4. Section C has 3 short answer questions of 3 marks each.
5. Section D has 1 case-study question of 3 marks.
6. Write all chemical equations in balanced form. Full marks are given only for a correctly balanced equation.
7. Every question carries a chapter tag such as [Ch 1]. If your school has kept fewer chapters for PA-1, skip the questions tagged with those chapters.

Periodic Assessment pattern — school pattern se thoda alag ho sakta hai.

Section A - Multiple Choice Questions (5 x 1 = 5 marks)**Q1. [Ch 1]** $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2$ — what type of reaction is this?

- (A) Decomposition
- (B) Combination
- (C) Displacement
- (D) Double displacement

[1]

Q2. [Ch 1] Water is broken down using electricity (electrolysis): $2\text{H}_2\text{O} \rightarrow 2\text{H}_2 + \text{O}_2$ — what type of reaction is this?

- (A) Combination
- (B) Decomposition
- (C) Displacement
- (D) Double displacement

[1]

Q3. [Ch 2] Which one of the following solutions will have a pH greater than 7?

- (A) Lemon juice
- (B) Vinegar
- (C) Baking soda solution
- (D) Distilled water

[1]

Q4. [Ch 3] Which metal reacts with cold water so vigorously that it catches fire?

- (A) Iron
- (B) Sodium
- (C) Copper
- (D) Gold

[1]

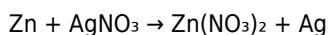
Q5. [Ch 3] Which is the most reactive metal among the options given below?

- (A) Copper
- (B) Iron
- (C) Zinc
- (D) Potassium

[1]

Section B - Very Short Answer Questions (4 x 2 = 8 marks)

Q6. [Ch 1] Balance the following equation and state the type of reaction:



[2]

Q7. [Ch 2] Write the chemical formula of baking soda and of washing soda, and give one use of each.

[2]

Q8. [Ch 2] A magnesium ribbon was added to dilute hydrochloric acid. Write the balanced equation and state two observations.

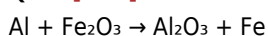
[2]

Q9. [Ch 3] What is the reactivity series? Why are gold and silver found in the free (native) state in nature?

[2]

Section C - Short Answer Questions (3 x 3 = 9 marks)

Q10. [Ch 1] Write the balanced equation for the thermite reaction:



Classify this reaction as a displacement reaction and as a redox reaction. State which element is oxidised and which is reduced.

[3]

Q11. [Ch 2] What does the pH scale tell us? Explain why toothpaste is basic, and why this makes it suitable for cleaning teeth.

[3]

Q12. [Ch 3] Explain how magnesium (Mg) and chlorine (Cl₂) form the ionic compound MgCl₂ through the transfer of electrons, and draw the electron-dot (Lewis) diagram for this transfer. Also write two general properties of ionic compounds.

[3]

Section D - Case Study / Application (1 x 3 = 3 marks)

Q13. [Ch 3] A student tested four metals A, B, C and D by placing each one in the salt solutions of the others. These were the results:

- Metal A placed in a salt solution of B → a reaction took place (B was displaced)
- Metal B placed in a salt solution of C → a reaction took place (C was displaced)
- Metal C placed in a salt solution of D → a reaction took place (D was displaced)
- Metal D placed in a salt solution of A → no reaction took place

(i) State the rule of displacement reactions that is used to compare reactivity. (1)

(ii) Using these results, arrange A, B, C and D in decreasing order of reactivity. (1)

(iii) Will metal D be able to displace metal A from its salt solution? Give a reason. (1)

[3]

End of question paper. The full worked answer key is available as a separate download and on the post page at principalsaab.com.