

**BOARD-PATTERN PRACTICE PAPER · CBSE CLASS 10**

# Chemical Reactions and Equations

Science · Chapter 1 · Matches current CBSE blueprint · Each question PYQ-sourced where indicated

DATE	TOTAL MARKS	DURATION	MARKING	TARGET
_____	<b>30</b>	<b>60 min</b>	<b>As per board</b>	<b>≥ 24/30</b>

**GENERAL INSTRUCTIONS**

- All questions are compulsory.
- Section A: 4 one-mark questions. Section B: 3 two-mark questions. Section C: 3 three-mark questions. Section D: 2 four/five-mark case-study questions.
- Write chemical formulae carefully; state symbols required where appropriate.
- Balanced equations only — half-marks deducted for unbalanced equations even if reaction-type is correct.
- Use of pencil for balancing draft is allowed; final answer in pen.

**Section A — Very Short Answer (1 mark each, 4 Qs)**
**4 MARKS · 8 MIN**

- Q1.** Write the chemical formula of rust. [PYQ 2020 All India] **[1 mark]**
- Q2.** What does the symbol  $\Delta$  written over an arrow in a chemical equation indicate? [PYQ 2019 Delhi] **[1 mark]**
- Q3.** Name one substance which on decomposition gives oxygen gas. [PYQ 2018 Outside Delhi] **[1 mark]**
- Q4.** Why is photosynthesis considered an endothermic reaction? [PYQ 2022 All India] **[1 mark]**

**Section B — Short Answer I (2 marks each, 3 Qs)**
**6 MARKS · 12 MIN**

- Q5.** What is rancidity? Mention any two ways to prevent it. [PYQ 2022 Delhi] **[2 marks]**
- Q6.** Distinguish between a displacement and a double-displacement reaction with one example each. [PYQ 2019 Delhi] **[2 marks]**
- Q7.** Why are decomposition reactions sometimes called the opposite of combination reactions? Give one example of each. [PYQ 2020 Outside Delhi] **[2 marks]**

**Section C — Short Answer II (3 marks each, 3 Qs)**
**9 MARKS · 20 MIN**

- Q8.** Balance the equation:  $\text{Fe} + \text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + \text{H}_2$ . Also state the type of reaction. [PYQ 2019 Delhi] **[3 marks]**
- Q9.** In the reaction  $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$ , identify (a) the substance oxidised, (b) the substance reduced, (c) the oxidising agent, and (d) the reducing agent. [PYQ 2018 All India] **[3 marks]**
- Q10.** What is corrosion of iron called? Write the balanced chemical equation and state any two methods of prevention. [PYQ 2023 Delhi] **[3 marks]**

**Section D — Case Study / Long Answer (4-5 marks each, 2 Qs)**
**11 MARKS · 20 MIN**

- Q11.** When a strip of zinc is dipped in copper(II) sulphate solution, a reaction takes place. (a) Write the balanced equation. (b) Why does the blue colour of the solution fade? (c) Identify the type of reaction. (d) What change is observed on the zinc strip? Justify using the reactivity series. [PYQ 2022 All India] **[5 marks]**
- Q12.** Read the passage and answer: Mr Sharma left a freshly-fried plate of samosas open on the kitchen table overnight. By morning, the samosas had developed a foul, bitter taste. The shop next door uses puffed nitrogen-flushed packaging for its packets of namkeen and never reports such complaints. (a) Name the process responsible for the change in taste of Mr Sharma's samosas. (b) Why does it happen? Give the chemical explanation. (c) Explain how nitrogen-flushed packaging at the shop prevents this. (d) State one other domestic method of prevention besides nitrogen-flushing. [PYQ 2024 Delhi] **[6 marks]**

**Marking scheme & model answers** — see companion Answer Key PDF · all PYQs traceable to actual CBSE papers · readyforboards.com · +91 70330 05444