



QUICK DRILL · CBSE CLASS 10

Acids, Bases and Salts

Science · Chapter 2 · 15 MCQs · 20 minutes · PYQ-tagged with time budgets

DATE _____	TOTAL MARKS 15	DURATION 20 min	MARKING +1 / 0	TARGET ≥ 12/15
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OBJECTIVES

Reinforce the four core topics of Acids, Bases and Salts via 15 PYQ-derived MCQs. Identify weak sub-topics via concept-node IDs (see answer key). Build per-question time budget habit.

INSTRUCTIONS

Attempt all 15. Time budget shown per Q (use it as pacing guide). Mark answers (A/B/C/D) in the margin. Answer key + explanations on the last page. **Don't peek — score yourself honestly.**

SECTION · QUICK DRILL

Q 1-15 · 20 MIN

Q1. Which gas is evolved when dilute HCl reacts with zinc granules?

(A) O₂(B) Cl₂(C) H₂(D) CO₂

PYQ 2019 · Delhi · 1m · 30s

Q2. The chemical formula of bleaching powder is

(A) CaCl₂

(B) Ca(OCl)Cl

(C) CaO

(D) Ca(OH)₂

PYQ 2020 · All India · 1m · 30s

Q3. On heating gypsum at 100°C, the substance obtained is

(A) CaSO₄·2H₂O(B) CaSO₄·½H₂O(C) CaSO₄(D) Ca(OH)₂

PYQ 2022 · Delhi · 1m · 30s

Q4. Phenolphthalein gives which colour in a basic solution?

(A) Red

(B) Colourless

(C) Pink

(D) Yellow

PYQ 2018 · All India · 1m · 25s

Q5. Below which pH does tooth enamel start dissolving?

(A) 7.0

(B) 6.0

(C) 5.5

(D) 4.5

PYQ 2023 · Delhi · 1m · 25s

Q6. Which of the following is NOT produced in the chlor-alkali process?

(A) NaOH

(B) Cl₂(C) O₂(D) H₂

PYQ 2021 · Delhi · 1m · 30s

Q7. Which salt has 10 molecules of water of crystallisation?

(A) NaHCO₃(B) Na₂CO₃·10H₂O(C) CaSO₄·½H₂O(D) CuSO₄·5H₂O

PYQ 2019 · Outside Delhi · 1m · 25s

Q8. Acidic strength of an acid depends on

(A) Concentration only

(B) Degree of dissociation in water

(C) Number of H atoms in formula

(D) Molecular mass

PYQ 2020 · Delhi · 1m · 30s

Q9. Which gas turns lime water milky?

(A) O₂(B) H₂(C) CO₂(D) Cl₂

PYQ 2018 · Delhi · 1m · 25s

Q10. Methyl orange in dilute HCl appears

(A) Yellow

(B) Red

(C) Pink

(D) Green

PYQ 2022 · All India · 1m · 25s

Q11. Baking soda is chemically

(A) Na_2CO_3

(C) Na_2SO_4

PYQ 2024 · Delhi · 1m · 25s

(B) NaHCO_3

(D) NaOH

Q12. Which one of these will NOT liberate H_2 with dilute HCl ?

(A) Zn

(C) Cu

PYQ 2023 · All India · 1m · 30s

(B) Mg

(D) Fe

Q13. pH of pure water at 25°C is

(A) 0

(C) 10

PYQ 2021 · Outside Delhi · 1m · 20s

(B) 7

(D) 14

Q14. Plaster of Paris must be stored in a moisture-proof container because

(A) It dissolves in air

(C) It catches fire

PYQ 2024 · Delhi · 1m · 30s

(B) It absorbs water and becomes gypsum

(D) It evaporates

Q15. Which acid is present in the human stomach to aid digestion?

(A) H_2SO_4

(C) HCl

PYQ 2019 · Delhi · 1m · 25s

(B) HNO_3

(D) CH_3COOH

ANSWER KEY & EXPLANATIONS

Q 1-15 · MARK YOUR SCORE

Q1. Answer: C

Active metal + dilute acid $\rightarrow$ salt + $\text{H}_2 \uparrow$. Confirm by 'pop' test.

Q2. Answer: B

Bleaching powder is calcium oxychloride $\text{Ca}(\text{OCl})\text{Cl}$ — the active species is OCl^- .

Q3. Answer: B

Gypsum loses $1\frac{1}{2}$ water and becomes $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$ — Plaster of Paris.

Q4. Answer: C

Phenolphthalein: colourless in acid $\rightarrow$ PINK in base.

Q5. Answer: C

Enamel is calcium phosphate; it dissolves when mouth pH < 5.5 due to bacterial acid.

Q6. Answer: C

Brine electrolysis gives NaOH (cathode side), Cl_2 (anode), H_2 (cathode). NO oxygen.

Q7. Answer: B

Washing soda is $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$.

Q8. Answer: B

Strong/weak refers to % dissociation — HCl ~100%, CH_3COOH ~1–2%.

Q9. Answer: C

$\text{CO}_2 + \text{Ca}(\text{OH})_2 \rightarrow \text{CaCO}_3 \downarrow$ (milky) + H_2O .

Q10. Answer: B

Methyl orange is RED in acid, YELLOW in base.

Q11. Answer: B

Baking soda = sodium hydrogen carbonate NaHCO_3 . Na_2CO_3 is washing soda.

Q12. Answer: C

Cu is BELOW H in the reactivity series, so it cannot displace H from HCl .

Q13. Answer: B

Pure water is neutral: $[\text{H}^+] = [\text{OH}^-] = 10^{-7} \text{ M}$, so pH = 7.

Q14. Answer: B

$\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O} + 1\frac{1}{2}\text{H}_2\text{O} \rightarrow \text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ (gypsum). It loses setting power.

Q15. Answer: C

Gastric juice contains dilute HCl (pH 1–3) which activates pepsin.