

EXAM-DAY · 90-MIN REVISION CARD

Acids, Bases and Salts

Print this · Fold it · Carry to the exam-hall gate · Revise once · Then walk in.

FORMULAS & KEY RESULTS

Arrhenius acid: $\text{HX(aq)} \rightarrow \text{H}^+(\text{aq}) + \text{X}^-(\text{aq})$

Arrhenius base: $\text{MOH(aq)} \rightarrow \text{M}^+(\text{aq}) + \text{OH}^-(\text{aq})$

Acid + Metal $\rightarrow$ Salt + $\text{H}_2 \uparrow$ (e.g. $\text{Zn} + 2\text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2 \uparrow$)

Acid + Metal carbonate $\rightarrow$ Salt + $\text{CO}_2 \uparrow$ + H_2O

Acid + Metal oxide $\rightarrow$ Salt + H_2O (basic oxide)

Base + Non-metal oxide $\rightarrow$ Salt + H_2O (acidic oxide)

Neutralisation: Acid + Base $\rightarrow$ Salt + Water ($\Delta H < 0$, exothermic)

$\text{pH} = -\log_{10}[\text{H}^+]$; $\text{pH} < 7$ acidic, = 7 neutral, > 7 basic

Chlor-alkali: $2\text{NaCl(aq)} + 2\text{H}_2\text{O(l)} \rightarrow 2\text{NaOH(aq)} + \text{Cl}_2 \uparrow + \text{H}_2 \uparrow$

Bleaching powder: $\text{Ca(OH)}_2 + \text{Cl}_2 \rightarrow \text{Ca(OCI)Cl} + \text{H}_2\text{O}$

Plaster of Paris: $\text{CaSO}_4 \cdot 2\text{H}_2\text{O} \rightarrow [100^\circ\text{C}] \text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O} + 1\frac{1}{2}\text{H}_2\text{O}$

Baking soda $\rightarrow$ washing soda:
heat NaHCO_3 , then recrystallise:
 $\text{Na}_2\text{CO}_3 + 10\text{H}_2\text{O} \rightarrow \text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$

TOP 5 PYQ PATTERNS

1 Chlor-alkali process: equation + 2 uses each of NaOH , Cl_2 , H_2

5 marks · 88% of years

Always include states (aq)/(g) in the equation and list TWO uses per product.

2 pH and everyday life — tooth decay / acid rain / stomach antacids

3 marks · 95% of years

Always quote the critical pH (5.5 enamel, < 5.6 acid rain, 1-3 stomach) and the basic remedy.

3 Plaster of Paris — preparation, formula, two uses, storage

5 marks · 82% of years

Write the $\frac{1}{2}\text{H}_2\text{O}$ carefully; mention 100°C ; explain moisture-proof storage.

4 Bleaching powder — formula and one preparation equation

3 marks · 70% of years

Formula is Ca(OCI)Cl (NOT CaCl_2). Use DRY slaked lime.

5 Test for CO_2 gas (acid + carbonate) — equation + lime-water test

2 marks · 78% of years

Two equations needed: the evolution reaction + the lime-water turning milky reaction.

90-MIN REVISION FLOW

0-15 min

Re-read NCERT pp. 18-34. Tick every BOLD term and write a one-line meaning beside it.

15-30 min

Practise writing the 4 reaction families (with metals, with carbonates, with oxides, with bases) — 1 example each, balanced.

30-50 min

Memorise the pH-scale strip (12 anchor values) + indicator colour table. Self-test by covering one column.

50-70 min

Drill: 15 quick-drill MCQs from this chapter pack. Mark wrong ones; revisit remediation slide id.

70-85 min

Write a model 5-mark answer on either Chlor-alkali OR Plaster of Paris from memory; check against topper template.

85-90 min

Flash-revise the 6 common-salt formulae: NaOH , Ca(OCI)Cl , NaHCO_3 , $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$, $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$, NaCl .

Confidence, not anxiety. You've practised this all year. Trust your steps. Don't change strategy on exam morning.
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