

Chemical Reactions & Equations

Quick Study Guide

HOW TO USE THIS GUIDE

HIGHLIGHTED TEXT SHOWS IMPORTANT POINTS

- ★ MARKS HIGH-FOCUS TOPICS
- 📝 INDICATES EXAM TIPS
- ⚠️ SHOWS COMMON ERRORS
- 💡 GIVES QUICK TIPS

TYPES OF CHEMICAL REACTIONS

Mnemonic: "MERI CHAI PIYO"

- M** Metal + Acid \rightarrow Salt + H_2
Like Zinc + HCl \rightarrow ZnCl₂ + $H_2 \uparrow$
- C** Combination (Single banti Double)
Like CaO + $H_2O \rightarrow$ Ca(OH)₂
- P** Precipitation (Milky mein Dahi jamna)
Like AgNO₃ + NaCl \rightarrow AgCl \downarrow + NaNO₃
- I** Ion Exchange (Partner Exchange)
- Y** Yellow precipitate forms
- O** Oxidation (Roti ka burn hona)

Exam Tips

- Always write observations
- Note color changes
- Mention gas evolution
- Write precipitate formation

Do's

ye galtiya mat karna

- Missing state symbols (s, l, g, aq)
- Forgetting equation balancing
- Mention gas evolution
- Not mentioning conditions (heat/catalyst)

CHEMICAL EQUATIONS & BALANCING

Mnemonic: "PUBG KHELO"

- P** Products & reactants likho
- U** Underline important elements
- B** Balance one by one
- G** Gather all coefficients

Example Steps:

1. Fe + O₂ \rightarrow Fe₂O₃
2. Count Fe (1 \rightarrow 2)
3. Count O (2 \rightarrow 3)
4. Final: $4Fe + 3O_2 \rightarrow 2Fe_2O_3$

- K** Khatam karo with arrow
- H** Heat add if needed
- E** Equation check karo
- L** Last mein state symbols
- O** Once more verify

Must Show in Exam

- Skeleton equation first
- Element counting steps
- Final balanced equation

REACTION SIGNS & OBSERVATIONS

Mnemonic: "POORI KHAO"

- P** Precipitation dikhega
- O** Odor change hoga
- O** Orange/color change
- R** Release of gas
- I** Immediate effect

- K** Keep watching bubbles
- H** Heat release/absorb
- A** Any sound/fizz
- O** Observe carefully

Key Example:

- $CuSO_4 + Fe \rightarrow FeSO_4 + Cu$
- Blue solution \rightarrow Green solution
- Reddish copper deposits

Remember to Note:

- Initial color
- Final color
- Time taken for change
- Temperature changes

REDOX REACTIONS

Mnemonic: "CORONA TIME"

- C** Copper loses electrons
- O** Oxidation number change
- R** Reduction gains e^-
- O** Oxidation loses e^-
- N** Number of e^- equal
- A** Atoms balance karo

- T** Transfer of electrons
- I** Increase in O.N.
- M** Metal displacement
- E** Electron count sam

Key Points:

- Electron transfer
- O.N. changes
- Charge balancing

IMPORTANT REACTIONS LIST

Mnemonic: "MAMA KI CHAT"

- M** Metal + Acid \rightarrow Salt + H_2
- A** Acid + Base \rightarrow Salt + H_2O
- M** Metal + O₂ \rightarrow Metal oxide
- A** Acid + Carbonate \rightarrow Salt + H_2O + CO₂
- K** KMnO₄ decomposition
- I** Iron + O₂ rusting

- C** CaO + $H_2O \rightarrow$ Ca(OH)₂
- H** $H_2 + O_2 \rightarrow$ H₂O
- A** AgNO₃ + NaCl \rightarrow AgCl + NaNO₃
- I** Important displacement

Must Learn Reactions:

- $Zn + H_2SO_4 \rightarrow ZnSO_4 + H_2$
- $2KClO_3 \rightarrow 2KCl + 3O_2$
- $CuSO_4 + Zn \rightarrow Cu + ZnSO_4$

QUICK REVISION CHECKLIST

Before Exam:

- ✓ All balancing steps clear
- ✓ State symbols remembered
- ✓ Observations for each type
- ✓ Color changes noted
- ✓ Gas tests known
- ✓ Important reactions memorized

Scoring Tips:

1. Write balanced equations
2. Include state symbols
3. Mention observations
4. Show all steps in balancing
5. Draw arrow diagrams where needed

100%

HIGH FOCUS AREAS

1. Balancing equations (5 marks)
2. Types of reactions (3 marks)
3. Redox concepts (3 marks)
4. Practical observations (3-5 marks)

GOOD LUCK!

