# 🗓️ DAY 5 PLAN

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## 1) 📚 Daily Revision (15 min each)

(Always from previous days + spiral revision)

### 🔹 Physics Revision

- Units & Dimensions
- Scalars & Vectors
- Basic Kinematics formulas (from Day 4)

### 🔹 Chemistry Revision

- Mole Concept basics
- Concentration terms
- Balancing equations
- (From Day 4: Mass–mol–particle conversions)

### 🔹 Math Revision

- Quadratic forms
- Nature of roots
- Relation between roots & coefficients
- Discriminant shortcuts (Day 4)

### 🔹 General Concepts Revision

- Study planning
- Memory techniques
- Mistake analysis
- Concept building steps

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## 2) 📕 Main Study Block

### PHYSICS – Kinematics (Part 2)

#### Topics to Study Today

- Equations of motion (derivation + application)
- Graphs: v–t, x–t, a–t
- Relative Velocity (1D)

### Fast Tricks

- Area under v–t = displacement
- Slope of v–t = acceleration
- Slope of x–t = velocity
- Use **u = v – at** when final velocity is known
- When acceleration is constant → choose kinematic equation based on missing variable

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## CHEMISTRY – Mole Concept (Part 3)

### Topics to Study Today

- Empirical & Molecular Formula
- % Composition
- Basic Stoichiometry (simple cases)

### Fast Tricks

- Empirical formula ratio = mass % ÷ atomic mass
- Molecular formula = empirical formula × (Molar mass ÷ empirical mass)
- For reactions → make table: Given → Required → Compare mol

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## MATHEMATICS – Quadratic Equations (Part 3)

### Topics to Study

- Formation of quadratic equations
- Quadratic inequalities
- Maximum/minimum value using vertex formula

### Fast Tricks

- Vertex: $x = \frac{-b}{2a}$
- Max/min value: $f(x) = -\frac{D}{4a}$

- Inequality: **Check sign of a → open direction**
- Convert statements into quadratic form directly

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## GENERAL CONCEPTS – Productivity & Accuracy

### Today's Concept

**"The 3-Layer Revision Technique"**

(1) Same-day revision

(2) 48-hour revision

(3) Weekly recall test

### Application Today

- After study → revise notes
- Before sleeping → recall formulas without looking
- Mark weak areas with ★

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# 3) 📝 10 Daily Mixed Questions

## Physics (3)

1. A body accelerates uniformly from 5 m/s to 25 m/s in 5 s. Find acceleration.
2. Draw velocity–time graph for a body starting from rest with uniform acceleration.
3. A car A moves at 20 m/s, car B at 15 m/s. Find relative velocity (i) A w.r.t B (ii) B w.r.t A.

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## Chemistry (3)

4. Determine empirical formula of a compound: C = 40%, H = 6.67%, O = 53.33%.
5. Empirical formula $CH_2O$, molar mass = 180 g/mol. Find molecular formula.
6. How many moles of $O_2$ are required to completely burn 5 moles of $CH_4$?

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## Maths (3)

7. Form quadratic equation if sum of roots = 5 and product = 6.
8. Find vertex of $y = 2x^2 - 8x + 3$

8. Find vertex of $y = 2x^2 - 8x + 3$.
9. Solve inequality: $x^2 - 5x + 6 < 0$.

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## General Concept (1)

10. Write your **top 2 weak points** from today's study based on the 3-layer revision rule.