Great — Day 1 (12th-first strategy) officially begins now.
This plan is designed for Class 12 Boards + JEE together, without stress.

🌅 DAY 1 — STUDY PLAN (Class 12 Priority)

1️⃣ PHYSICS (40 min)

Chapter: Electrostatics – Basic Concepts

Today you study the fundamentals only.

Topics to cover:

- Electric charge (properties)
- Conductors vs Insulators
- Coulomb's law (concept + formula)
- Superposition principle
- Electric field (basic definition)

2️⃣ CHEMISTRY (40 min)

Chapter: Solid State – Introduction

Solid State is VERY scoring in boards and easy for JEE.

Topics to cover:

- Types of solids (ionic, covalent, metallic, molecular)
- Crystal lattice
- Unit cell (basic idea)
- Primitive vs centered unit cells

3️⃣ MATHS (40 min)

Chapter: Relations & Functions – Part 1

Topics to cover:

- Definition of a relation
- Domain, range
- Types of relations (reflexive, symmetric, transitive – basic intro)
- Ordered pairs

- Examples from NCERT Exercises 1.1–1.2 (easy ones)

★ DAY 1 — FAST COACHING TIPS

Physics Tips (Electrostatics)

- Remember: Charge is ALWAYS conserved.

- Coulomb's law trick:
  If distance becomes k times → force becomes $1/k^2$.

- Superposition shortcut:
  Forces are vectors → add using components.

Chemistry Tips (Solid State)

- A simple trick to remember types of solids:
  Ionic → Hard + brittle + high mp
  Covalent → Very hard
  Metallic → Conductors
  Molecular → Soft, low mp

- "Unit cell" = smallest repeating cube.

Maths Tips (Relations)

- When confused about domain & range →
  Make a table of (x, f(x)) pairs → pick unique x and y.

- Reflexive means (a,a) exists.

- Symmetric means if (a,b) then (b,a).

- Transitive means if (a,b) and (b,c) → (a,c).

📝 DAY 1 — REVISION NOTES

(Automatically added to your 4 notebooks)

📖 Notebook 1 — Maths (10 formulas/notes)

1. Relation $\subseteq$ A×B

2. Domain = set of all first elements

3. Range = set of all second elements

4. Reflexive: $(a,a) \in R$

5. Symmetric: $(a,b) \Rightarrow (b,a)$

6. Transitive: $(a,b),(b,c) \Rightarrow (a,c)$

7. Function → each x has unique y

8. If A has m elements, B has n → A×B has mn

9. Number of relations = $2^{(mn)}$

10. Identity relation = {(a,a)} for all $a \in A$

◼ Notebook 2 — Physics (10 formulas/notes)

1. Coulomb's law: $F = k\, q_1 q_2 / r^2$

2. $k = 1/(4\pi\epsilon_0)$

3. Charge is quantized: $q = ne$

4. Electric field: $E = F/q$

5. $E \propto 1/r^2$

6. Superposition principle

7. SI unit of charge = coulomb

8. $1e = 1.6\times10^{-19}$ C

9. Like charges repel

10. Force acting along the line joining charges

◼ Notebook 3 — Organic Chemistry Reactions

(Organic starts later, but per routine we add basic foundation notes first)

Day 1:

1. Functional groups: R–OH, R–X, R–COOH, R–COOR

2. Homolytic vs heterolytic cleavage

3. Nucleophile = electron rich

4. Electrophile = electron deficient

◼ Notebook 4 — General Concept Notes

1. Domain → input values

2. Charge is conserved

3. 1 mole solids = molar mass in grams

4. Unit cell = basic repeating structure

⊙ DAY 1 — PRACTICE QUESTIONS (15 MCQs)

(Mixed from today + basic concepts)

Physics (5)

1. What happens to force if distance between charges becomes 3 times?

2. SI unit of electric charge?

3. If q_1 = 2C, q_2 = 3C, r = 1m → is force attractive or repulsive?

4. Which quantity is vector?
   (a) charge (b) mass (c) electric field (d) temperature

5. Superposition principle applies to:
   (a) charge only (b) field only (c) force only (d) all

Chemistry (5)

6. Which is a molecular solid?

7. Which solid is a conductor?

8. Crystal lattice is:
   (a) 2D arrangement
   (b) 3D arrangement
   (c) random arrangement

9. Unit cell is:
   (a) smallest repeating unit
   (b) whole crystal

10. Ionic solids are:
    (a) soft
    (b) brittle
    (c) flexible

Maths (5)

11. A = {1,2}, B = {3,4}. Find A×B.

12. Relation R = {(1,1),(2,2)} is:
    (a) reflexive (b) symmetric (c) both

13. Domain of R = {(2,5),(3,8)}

14. Number of relations from A={1,2} to B={3,4}?

15. Is R = {(1,2),(2,3),(1,3)} transitive?

🌙 NIGHT TIME INSTRUCTION

When you finish today, say:

"Day 1 completed, give questions review."

I'll check your answers, identify mistakes, and prepare Day 2 perfectly.

Good luck — let's build your Class 12 + JEE journey together.