✅ DAY 4 — MIXED MCQ TEST (10 Questions)

Covers:

✔ Electrostatics (Electric field + lines)

✔ Solid State (SC/BCC/FCC basics)

✔ Relations & Functions (Types of relations)

✔ Revision of Day 1–3 topics

🧲 PHYSICS (Q1–Q4)

Q1. Electric field due to a point charge decreases as:

a) $1/r$

b) $1/r^2$

c) $1/r^3$

d) r^2

Q2. At a point where electric field is ZERO, which is true?

a) No charge is present

b) Net electric field due to all charges cancels

c) Field lines must be circular

d) Coulomb's law fails

Q3. Electric field lines:

a) Can intersect

b) Cannot intersect

c) Are straight always

d) Depend only on magnitude, not direction

Q4. For an electric dipole, the field is strongest:

a) On axial line

b) On equatorial line

c) Same on both

d) Field is zero everywhere

🧪 CHEMISTRY (Q5–Q7)

Q5. Coordination number of atoms in BCC is:

a) 4

b) 6

c) 8

d) 12

Q6. Number of atoms effectively present in a simple cubic unit cell:

a) 1

b) 2

c) 4

d) 8

Q7. In FCC, atoms touch along the:

a) Edge

b) Face diagonal

c) Body diagonal

d) None

🔢 MATHS (Q8–Q10)

Q8. A relation R on set A is reflexive if:

a) (a, b) ∈ R for all a, b

b) (a, a) ∈ R for all a ∈ A

c) (a, b) ∉ R

c) (a, b) ∉ R

d) (a, b) = (b, a) always

Q9. Relation R = { (1,1), (2,2), (3,3), (1,2), (2,1) } is:

a) Reflexive only

b) Symmetric only

c) Symmetric & reflexive

d) Neither reflexive nor symmetric

Q10. If a relation is reflexive + symmetric + transitive, then it is:

a) Bijective relation

b) Function

c) Equivalence relation

d) Continuous relation