Curriculam Plan For even sem 2025-26

Name Of Teacher: Prof. Seema Gupta

Paper: Solid state Physics

No. Of Periods per week:3

Topoic	No. of lectures	Time frame	Assignment/tests
Crystal structure: amorphous and crystalline, unit cell, miller indices, reciprocal lattice, Brilluin zones, Bragg's law, atomic and geometrical factor, Lattice vibrations- mionoatomic and diatomic lattice, acoustical and optical phonos, Dulong and Petit law, Einstein theory, Debye theory, T^3 law	16	January	Numericals, assignment
Polarization, Local field, Electrical susceptibility, Clausius Mossotti equation, Classical theory of dipolar polarization, Normal and anamolous dispersion, Complex dielectric constant, plasma oscilations, Dia, para and ferro magnetic materials, Classical langevin theory of diamagnetics and paramagnetics, Quantum mechanical treatment of paramagnetics, Weiss theory, B-H curve, energy loss	16	Feburary	Numerical, Tests
Elementary band theory, Bloch Theorem, Kroning and Penny model, effective mass semiconductor physics, Hall Effect	12	March	Test, Numericals
Introduction of superconductors, experimental properties, isotope effect, Meissner	9	April	Revision, Numericals

effect, Type I and Type II superconductors, London equations, peneteration depth, coherence length,energy gap			