Curriculam Plan For even sem 2021-22

Name Of Teacher: Dr. Seema Gupta

Paper: Solidstate Physics

No. Of Periods per week:4

|  |  |  |  |
| --- | --- | --- | --- |
| 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, T3 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 masssemiconductor physics, Hall Effect | 12 | March | Home Exam |

|  |  |  |  |
| --- | --- | --- | --- |
| **17** Introduction of superconductors, experimental properties, isotope effect, Meissner effect, Type I and Type II superconductors, London equations, peneteration depth, coherence length,energy gap | 9 | April | Revision |