

Lesson Plan

Name of the Assistant/ Associate Professor..... JASVINDER.....

Class and Section:..... B.Sc. Ist Year.....

Subject:..... Electricity and Magnetism (PHYSICS).....

Week	Date	Topics
1	3 Feb to 8 Feb 2025	Scalars and vectors, dot and cross product, Triple vector product, scalar and vector fields, Gradient of a scalar and its physical significance, integration of a vector, Gauss's divergence theorem, Stoke's theorem, derivation of Laplace and Poisson equation, Electric flux, Gauss's law and application, mechanical force surface.
2	17 Feb to 28 Feb 2025	Biot - Savart's law and its simple application. Ampere's circuital law and its application. Curl and divergence, vector potential. Force on a dipole in an external field. Electric current in atoms, Electron spin and magnetic moment, types of magnetic materials, Domain theory of ferromagnetism, cycle of magnetisation B-H curve and Hysteresis Loop.
3	17 March to 29 March	Faraday's law of induction and Lenz's law, self induction, mutual inductance, Energy stored in a magnetic field, Maxwell's equation and their derivation. Displacement current, vector and scalar potential, boundary condition at interface between two different media, propagation of electromagnetic wave. Poynting vectors and Poynting theorem.
4	21 April to 26 April	Electric current and current density, electrical conductivity and ohm's law, Applications to DC circuits. Growth and decay of current in a circuit with capacitance and resistance. Capacitance and inductance. A resonance circuit, Phasors, complex reactance and impedance.
	29 April to 31 May 2025	Analysis for RL, RC and LC circuits, Series LCR circuit, Resonance, power Dissipation, Quality factor, Bandwidth, parallel LC circuit.
5	19 May to 31 May 2025	Revision the whole syllabus.

Bay

Lesson Plan

Name of the Assistant/ Associate Professor..... JASVINDER | PARAMJEET
 Class and Section:..... B.A. Ist Year.....
 Subject:..... P.H.Y.S.I.C.S. Fundamentals :- II.....

Week	Date	Topics
1	3 Feb to 8 Feb 2025	Waves and its types. wave motion transverse and longitudinal with examples, displacement, amplitude, time period, frequency, wavelength, wave velocity, frequency and wave length. simple harmonic motion, definition, examples, free force and resonant vibrations with examples.
2	10 Feb to 15 Feb 2025	Speed and properties of light, reflection and refraction of light, laws of reflection and refraction, examples and applications in daily life, reflection through mirrors and refraction through lenses, refractive index, refraction of light through prism, rainbow.
3	17 March to 29 March	Electricity electric charge, types of charges, Unit of charge, frictional electricity, Coulomb's law of electrostatics, electric field
	31 March to 19 April	electric lines of force, electric field intensity, electric flux Gauss's law electric current, measurement of current resistance, resistivity and ohm's law.
4	21 April to 26 April	Resistor, capacitor, electric cell, ammeter, Voltmeter, galvanometer, keys and variable resistors, series and parallel combination
	28 April to 03 May 2025	of resistors, domestic electrical wiring and electrical safety. electric power and electric power transmission, Heating effect of current and its practical applications.
5	19 May to 31 May 2025	Revision the whole syllabus Sessional Test.

(Jasvinder)
 P.H.