

Govt. College, Safidon (Jind)-126112

Session: 2024-25 (Even Semester)

Lesson Plan

BA Ist (MDC)

Name of the Teacher: Reenu Devi

Subject: Physics fundamental II

Sr. No.	Months	Topic
1	JAN	Nature and properties of light, its speed, frequency and wavelength; Reflection of light-types of reflection and their importance in daily life, laws of reflection.
2	FAB	- laws of refraction, refractive index, refraction of light through prism (dispersion of light), formation Rainbow, twinkling of stars,
3	MARCH	Advance Sunrise and delayed Sunset; Scattering of light and blue colour of the sky, total internal reflection.
4	APRIL	Images formed by plane mirrors, multiple images formed by two flat mirrors and optical illusions; images formed by parabolic mirrors and spherical mirrors- C
5	MAY	Concave and convex mirrors, ray diagrams, mirror equation and magnification; applications of plane and curved mirrors in daily life.

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Lesson Plan

BSC I (Physical Science)Sem II

Name of the Teacher: Reenu Devi

Subject: Phyics

Sr. No.	Months	Topic
1	JAN	Gradient of a scalar and its physical significance, Flux of a vector field, Divergence and curl of a vector and their physical significance, Electrostatic Potential, Potential as line integral of field, potential difference Derivation of electric field E from potential as gradient.
2	FAB	Derivation of Laplace and Poisson equations. Electric flux, Gauss's Law, Differential form of Gauss's law. Mechanical force of charged surface. 8 II Magnetic Field: Biot-Savart law and its simple applications: straight wire and circular loop,
3	MARCH	Current Loop as a Magnetic Dipole and its Dipole Moment, Ampere's Circuital Law and its applications to (1) Solenoid and (2) Toroid. Magnetic Properties of Matter: Force on a dipole in an external field, Electric currents in Atoms, Electron spin and Magnetic moment, types of magnetic materials, Magnetization vector (M)
4	APRIL	Magnetic Intensity (H), Magnetic Susceptibility and permeability, Relation between B, H and M, Electronic theory of dia and paramagnetism, Domain theory of ferromagnetism (Langevin's theory)Electromagnetic induction, Faraday's laws of induction and Lenz's Law, Self-inductance, Mutual inductance, Energy stored in a Magnetic field, Derivation of Maxwell's equations, Displacement current, Maxwell's equations in differential and integral form and their physical significance.
5	MAY	Electromagnetic waves, Transverse nature of electromagnetic wave, energy transported by electromagnetic waves, Poynting vector, Poynting's theorem.

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Lesson Plan

B.Sc. III(Ist Paper)

Name of the Teacher: Reenu Devi

Subject: Physics Theory

Sr. No.	Months	Topic
1	JAN	Crystalline and glassy forms, liquid crystals, crystal structure, periodicity, lattice and basis, crystal translational vectors and axes. Unit cell and Primitive Cell, Wigner Seitz primitive Cell, symmetry operations for a two dimensional crystal, Bravais lattices in two and three dimensions.
2	FEB	Crystal planes and Miller indices, Interplaner spacing, Crystal structures of Zinc Sulphide, Sodium Chloride and Diamond. X-ray diffraction, Bragg's Law and experimental X-ray diffraction methods. K-space and reciprocal lattice and its physical significance, reciprocal lattice vectors, reciprocal lattice to a simple cubic lattice, b.c.c. and f.c.c.
3	MARCH	Historical introduction, Survey of superconductivity, Super conducting systems, High Tc Super conductors, Isotopic Effect, Critical Magnetic Field, Meissner Effect, London Theory and Pippards' equation, Classification of Superconductors (type I and Type II), BCS Theory of Superconductivity,
4		Flux quantization, Josephson Effect (AC and DC), Practical Applications of superconductivity and their limitations, power application of superconductors.Meissner Effect, London Theory and Pippards' equation,
5	APRIL	Classification of Superconductors (type I and Type II), BCS Theory of Superconductivity, Flux quantization, Josephson Effect (AC and DC), Practical Applications of superconductivity and their limitations, power application of superconductors. Definition, Length scale, Importance of Nano-scale and technology, History of Nantechnology, Benefits and challenges in molecular manufacturing Understanding advanced capabilities
6	MAY	Vision and objective of Nano-technology, Nanotechnology in different field, Automobile, Electronics, Nano-biotechnology, Materials, Medicine.Revision