

Lesson Plan
Name of the Assistant/ Associate Professor
Class and Section
Subject

Dr. PARAMJEET

B.A-I (IInd Semester)

Physics (24PHYX02MD01) (Physics Fundamentals-II)

Week	Date	Topics
<u>January</u> 2026	05-10	Nature and Properties of light, its speed frequency and wavelength.
	12-17	Reflection of light and its importance in daily life, laws of Reflection.
	19-24	Multiple reflections by mirrors/applications Refraction and laws of Refraction.
	27-31	Refractive index and prisms, Rainbow, Scattering of light, blue colour of sky.
<u>February</u>	02-07	Apparent depth, Total Internal reflection. Image formation through reflection by plane mirrors, Assignment presentation-I
	09-14	Image formed by spherical mirrors.
	16-21	Ray diagrams and mirror equation.
	23-28	Magnification of images by lenses. Lense equation and optical instruments (Holi Vacations)
<u>March</u>	02-07	
	09-14	Electric charge, Electricity and current conductors and insulators, Resistance law and combination of Resistance.
	16-21	Electric potential and pot-difference.
	23-28	Electric circuit with series/parallel combinations of R, C and ammeter
<u>April</u>	30-31	and voltmeter.
	01-04	Electric wiring in houses and electric safety, uses of electric components.
	06-11	Electric power and its transmission, Heating effect of current with application.
	13-18	Magnetic Effect of Electric Current.
	20-25	Assignment presentation - II
	27-30	Magnetic field and field Lines, bar magnet
<u>May 2026</u>	01-06	Direction of magnetic field through straight conductor and circular loop, Solenoid, Toroid

Dr.
06/01/2026

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Class and Section

B.Sc-II (4th Semester)

Subject

PHYSICS (25PHY M404 5501) Thermodynamics & Statistical Mechanics

Week	Date	Topics
<u>January</u> 2026	05 - 10	Thermodynamics - I, 2 nd Law of Thermodynamics Carnot theorem.
	12 - 17	Absolute scale of Temperature, Absolute zero. Entropy, $(dQ/dT) = 0$ explanation.
	19 - 24	T-S diagram Nernst heat law, Joule's free expansion.
	27 - 31	Joule Thomson porous plug experiment Joule Thomson effect
<u>February</u>	02 - 07	Assignment / presentation - I Thermodynamics - II, Clausius - Clapeyron
	09 - 14	Latent heat equation, Phase diagrams Triple point of a substance.
	16 - 21	Maxwell thermodynamical relations & Relation b/w entropy, specific heat and
	23 - 28	Thermodynamical Variables.
	02 - 07	(Holi Vacations)
<u>March</u>	09 - 14	Thermodynamic Functions, U, F, H, G and relationships between them.
	16 - 21	Distribution of N distinguishable and Indistinguishable particles in two boxes.
	23 - 28	microstates and macrostates.
	30 - 31	Thermodynamical probability
<u>April</u>	01 - 04	Constraints and accessible states. statistical fluctuations.
	06 - 11	Distribution of particles in components at different μ 's, β - parameter.
	13 - 18	Assignment / presentation - II Phase space, postulates of Stat. Mech.
	20 - 25	classical and Quantum Statistics.
	27 - 30	Dulong and Petit Law Classical Versus Quantum Statistics, B-E Gaseous Statistics.
<u>May</u>	01 - 06	Fermi - Dirac Statistics

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Class and Section B.Sc-III (IIIrd Semester)

Subject PHYSICS (Atom, Molecular and LASER Physics) (PHY-601)

Week	Date	Topics
January ¹ 2026	05 - 10	Vector Atom Model and Quantum Number Penetrating, Non-penetrating orbitals
	12 - 17	Spectral lines in Alkali spectra Spin-orbital interaction energy
	19 - 24	Doublet Term separation, LS & JJ coupling Interaction energy in LS, JJ coupling
	27 - 31	1 st Assignment and presentation
February ² 2026	02 - 07	Zeeman Effect (Normal and Anomalous) Zeeman patterns of D ₁ & D ₂ lines of sodium atom spectra
	09 - 14	Paschen-Back effect of single valance electron system
	16 - 21	Stark-Effect (Weak field) in H-atom Discrete set of electronic energies of molecules
	23 - 28	Vibrational / Rotational energies
March ³ 2026	02 - 07	Holi Break (Vacations)
	09 - 14	Raman Effect, Stokes lines Anti-Stokes lines with description
	16 - 21	2 nd Assignment and Sessional Test LASER and it's properties / Application
	23 - 28	Directionality and Intensity of LASER
	30 - 31	Coherence (Temporal and spacial)
April ⁴ 2026	01 - 04	Einstein's co-efficients & possibility of amplification, momentum Transfer
	06 - 11	Life-Time of a level Kinetics of optical absorptions
	13 - 18	Sessional Test and presentation
	20 - 25	Threshold condition for emission LASER pumping
	27 - 30	He-Ne LASER (Construction & working) Ruby LASER (" ")
May	01 - 06	Applications of LASER.

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