

# GOVT COLLEGE HODAL, PALWAL

LESSON PLAN (SESSION 2021-22) EVEN SEMESTER

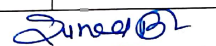
Class: B.Sc. 2<sup>nd</sup> Sem (Even Semester)

Subject: *Physics*

Faculty: *Mr. Suneel Bharduwaj*

Months	Week 1	Week 2	Week 3	Week 4
March	Properties of Matter (Elasticity) : Elasticity,	Hooke's law, Elastic constants and their relations, Poisson's ratio, torsion of cylinder and twisting couple.	Bending of beam (bending moment and its magnitude)	cantilevers, Centrally loaded beam.
April	Kinetic Theory of Gases : Assumptions of Kinetic Theory of gases,	Law of equipartition of energy and its applications for specific heats of gases.	Maxwell distribution of speeds and velocities (derivation required),:	Experimental verification of Maxwell's Law of speed distribution
May	most probable speed, average and r.m.s. speed, mean free path.	Transport of energy and momentum, diffusion of gases.	Assignment & Presentation	Brownian motion (qualitative), Real gases; Van der Waal's equation and Test
June	Theory of Relativity: Reference systems, inertial frames, Gallilean invariance and conservation laws	, Newtonian relativity principle, Michelson -Morley experiment: Search for ether.	Lorentz transformations length, contraction, Time dilation, Velocity addition theorem,	Variation of mass with velocity and mass energy equivalence.

Date:

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# GOVT COLLEGE HODAL, PALWAL

## LESSON PLAN (SESSION 2021-22) EVEN SEMESTER

Class: B.Sc. 6<sup>th</sup> Sem (Even Semester)

Subject: *Physics*

Faculty: *Mr. Suneel Bharduwaj*

Months	Week 1	Week 2	Week 3	Week 4
March	Vector atom model, quantum numbers associated with vector atom model,	penetrating i and non-penetrating orbits (qualitative description),	spectral lines in different series of alkali spectra,	spin orbit interaction and doublet term separation LS or Russel-Saunders Coupling 1] coupling required).
April	Zeeman effect (normal and Anomalous) Zeeman pattern of D1 and D2 lines of Na atom,	Paschen, Back effect of a single valence electron system.	Weak field Zeeman effect of Hydrogen atom.	Discrete set of electronic energies of molecules.
May	Quantization of Vibrational and rotational energies	Raman effect (Quantitative description) Stokes and anti Stokes lines.	Assignment & presentation	Main features of a laser : Directionality, high intensity, high degree of coherence, spatial and temporal coherence, Einstein's coefficients and Test
June	Possibility of amplification, momentum transfer, life time of a level, kinetics of optical absorption.	Threshold condition for laser emission, Laser Pumping,	He-Ne laser and RUBY laser (Principle, Construction and Working)	Applications of laser in the field of medicine and industry.

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