Dr. BhimRao Ambedkar Govt. College Jagdishpura (Kaithal)

Lesson Plan: (from 22 July 2024 to 22NOVEMBER 2025)

Name of Assistant Professor: **Ms. RupaliChugh**
Class and Section: **BSc Physical Sciences II**
Subject: **Physics (B23 PHY-301) Thermodynamics & Statistical Physics**

Dates	Lesson Plan
July Week-4	**Unit-III** **Statistical Physics-I** Basics of Probability, Probability Distribution
August : Week -1	Distribution of N (for N= 2, 3, 4) distinguishable and indistinguishable particles in two boxes of equal size
Week -2	Contd.. Microstates and Macrostates, Thermodynamical Probability
Week -3	Probability of macrostates and microstates, constraints and accessible states, statistical fluctuations, General distribution of distinguishable particles in compartments of different sizes
Week -4	β-parameter, entropy and probability; Concept of phase space, division of phase space into cells
September : Week -1	Postulates of statistical mechanics; Classical and quantum statistics, basic approach to these statistics,
Week -2	, Maxwell-Boltzmann statistics applied to an ideal gas in equilibrium-energy distribution law, Maxwell's distribution of speed & velocity (derivation required),
Week -3	most probable speed,average and r.m.s speed, mean energy for Maxwellian distribution **Unit II Statistical Physics-II** Dulong and Petit Law, Unit Test1
Week -4	Derivation of Dulong and Petit law from classical physics;Need of Quantum statistics-classical versus quantum statistics
OCTOBER : Week- 1	Bose-Einstein energy distribution Law,Application of B. E. Statistics to Planck's radiation law,
Week -2	Degeneracy and B. E. condensation; Fermi-Dirac energy distribution Law,F. D. gas and degeneracyFermi energy and Fermi temperature
Week -3	**Contd..** F. D. energy distribution Law for electron gas in metals,zero point energy, average speed (at 0 K) of electron gas
Week -4	Contd..
Week -5	**Diwali Vacations (27 October-03 November)**
November Week -2	Unit test II Variation of intrinsic energy with volume for (i) perfect gas (ii) Vander wall gas (iii) solids and liquids,
Week -3	Derivation of Stefan's law, adiabatic compression and expansion of gas & deduction of theory of Joule Thomson effect.
Week -4	Revision
23 November 2024	EXAM ONWARDS

Ms. RupaliChugh
Assistant Professor of Physics, GC Kaithal

Dr. Bhim Rao Ambedkar Govt. College Jagdishpura (Kaithal)

Lesson Plan: (from 22 July 2024 to 22 NOVEMBER 2025)

Name of Assistant Professor: **Ms. Rupali Chugh**
Class and Section: **BSc Physical Sciences I**
Subject: **Physics (B23 PHY-101 MECHANICS)**

Dates	Lesson Plan
July Week-4	**Unit-4:** Gravitation and central force motion: Law of gravitation
August : Week -1	Potential and field due to spherical shell and solid sphere
Week-2	Two body problem and its reduction to one body problem and its solution
Week-3	Contd.
Week-4	Motion of a particle under central force field,
Week - 5	Compound pendulum or physical pendulum in form of elliptical lamina and expression of time period
September : Week -1	determination of g by means of bar pendulum, Normal coordinates and normal modes, Normal modes of vibration for given spring mass system,
Week -2	Contd..
Week -3	Contd..
Week -4	Possible angular frequencies of oscillation of two identical simple pendulums of length (l) and small bob of mass (m0 joined together with spring of spring constant
OCTOBER : Week- 1	Contd.. Unit test
Week -2	Relativistic Doppler effect
Week -3	Relativistic kinematics
Week -4	Contd.
Week -5	**Diwali Vacations (27 October-03 November)**
NovemberWeek -2	Transformation of energy and momentum, transformation of force,
Week -3	Problems of relativistic dynamics
Week -4	Revision
23 November 2024	EXAM ONWARD

Ms. Rupali Chugh
Assistant Professor of Physics,GC Kaithal

Dr. Bhim Rao Ambedkar Govt. College Jagdishpura (Kaithal)

Lesson Plan: (from 22 July 2024 to 22 NOVEMBER 2025)

Name of Assistant Professor: **Ms. Rupali Chugh**

Class and Section: **BBA- II**

Subject: **Physics MDC , Elements of modern Physics**

Dates	Lesson Plan
July Week-4	Basics of Laser systems
August Week -1	Introduction to LASER, important properties of laser light,
Week -2	Principle of laser- Light amplification, population inversion and pumping;
Week -3	Working of laser- schematic diagram for functioning of laser, three level and four level Laser systems;
Week -4	applications of Lasers in different fields of science and technology.
September : Week -1	Introduction to nuclear physics- the atomic nucleus and the nucleons, Unit Test I
Week -2	Atomic number, mass number, isotopes, isobars and isotones;
Week -3	Nuclear binding energy, natural radioactivity and radioactive decay- α, β, and γ decay
Week -4	Nuclear fission reaction and its application as a source of energy (nuclear reactor) and hazardous
Week - 5	Nuclear fusion reaction and source of stellar energy
OCTOBER : Week- 1	Magnetic Materials- Introduction, classification and applications of magnetic materials;
Week -2	Piezoelectricity and applications of Piezoelectric materials;
Week -3	Ceramics and polymers and their applications
Week -4	Nanomaterials - Introduction to nanomaterials, extraordinary properties of nanomaterials,
Week -5	Basics of semiconductor and semiconductor devices-Atomic structure and energy levels,
November Week -2	Energy bands (basic idea), definition of conductor, semiconductor and insulators (on the basis of energy gap)
Week -3	Intrinsic semiconductors, extrinsic semiconductors-p-type and n-type semiconductor),
Week -4	Revision
23 November 2024	EXAM ONWARD

Ms. Rupali Chugh
Assistant Professor of Physics, GC Kaithal