

# Lesson Plan Physics Department

Name of Assistant/Associate Professor:- **RAJESH KUMAR**  
Class :- B.Sc. II Subject:- SEC Physics(Basic Instrumentation Skills)  
Subject- Lesson Plan 13 weeks (from 01 August 2025 to November 2025)

Week 1
<ul style="list-style-type: none"><li>Chapter 1 :Prerequisites, Instruments accuracy, precision, sensitivity,</li></ul>
Week 2
<ul style="list-style-type: none"><li>Chapter 1 :Prerequisites, resolution range etc. Errors in measurements and loading effects,</li></ul>
Week 1
<ul style="list-style-type: none"><li>Chapter 1:Prerequisites, Voltmeter, Ammeter. Multimeter:</li></ul>
Week 2
<ul style="list-style-type: none"><li>Chapter 1 :Prerequisites, Principles of measurement of dc voltage and dc current, ac voltage,</li></ul>
Week 5
<ul style="list-style-type: none"><li>Chapter 1 :Prerequisites, ac current and resistance. Specifications of a multimeter and their significance..</li></ul>
Week 6
<ul style="list-style-type: none"><li>Chapter 1 :Prerequisites, Revision of Unit 1.</li></ul>
Week 7
<ul style="list-style-type: none"><li>Chapter 2 :Prerequisites, Different types of conductors and cables,</li></ul>
Week 8
<ul style="list-style-type: none"><li>Chapter 2 :Prerequisites, Different types of conductors and cables, Voltage drop and losses across cables and conductors.</li></ul>
Week 9
<ul style="list-style-type: none"><li>Chapter 2 :Prerequisites, Insulation. Solid and stranded cable</li></ul>
Week 10
<ul style="list-style-type: none"><li>Chapter 2 :Prerequisites, . Resistance, Inductor, Capacitor, Transformer,</li></ul>
Week 11
Chapter 2 :Prerequisites
<ul style="list-style-type: none"><li>Basics of wiring-Star and delta connection. Components in Series or in shunt. Response of inductors and capacitors with DC or AC sources</li></ul>
Week 12
Chapter 2 :Prerequisites
Assignments
<ul style="list-style-type: none"><li>revision of unit</li></ul>
Week 13
Chapter 2 :Prerequisites
<ul style="list-style-type: none"><li>Class test</li></ul>

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**Name of Assistant/Associate Professor:- Rajesh Kumar**

**Class :- B.Sc. Ist Hons.**

**Subject:- Mathematical Physics**

**Subject- Lesson Plan 13 weeks (from 01 August 2025 to November 2025)**

Week 1
• Chapter 1 :Prerequisites, Introduction to Fourier series and integrals
Week 2
• Chapter 1: Prerequisites- Fourier series coefficients
Week 3
• Chapter 1: Prerequisites, Sine series
Week 4
• Chapter 2: Prerequisites- Cosine series
Week 5
• Chapter 2: Prerequisites Dirichlets Theorem, graphic representation of even and odd functions.
Week 6
• Chapter 2 :Prerequisites- complex form of Fourier series
Week 7
• Chapter 2 :Prerequisites, Properties of Fourier series and convergence
Week 8
• Chapter 3 :Prerequisites, Integration, differentiation and Persival theorem
Week 9
• Chapter 3 :Prerequisites, Applications of Fourier series
Week 10
• Chapter 3 : Prerequisites, Square wave and half wave rectifier
Week 11
Chapter 3 :Prerequisites- Full wave rectifier, Saw tooth wave
Week 12
Chapter 4 :Prerequisites Triangular wave and Fourier integral
Week 13
Chapter 4 :Prerequisites- Revision, Test

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Name of Assistant/Associate Professor:- Rajesh Kumar

Class:- B.Sc. 3<sup>rd</sup> year

Subject:- Modern Physics

Period of Lesson Plan:- 13 weeks (01/08/2025 to November 2025)

Week 1	Chapter 1 :- Prerequisites, Basic introduction to quantum mechanics, Planck's Hypothesis, Radiation's laws
Week 2	Chapter 1 :Prerequisites, concept of quantization, Photoelectric effect and Einstein's equation, Compton's effect
Week 3	Chapter 1 :Prerequisites, Compton's effect revision , Old quantum Theory, De-Broglie's hypothesis
Week 4	Chapter 1 :Prerequisites, Phase and group velocity, Heisonberg's Uncertainty Principle, time-energy uncertainty
Week 5	Chapter 1 :Prerequisites, wave- particle duality, Schrodinger wave Equation(time dependent and independent), Eigen values and functions
Week 6	Chapter 1 :Prerequisites, wave function normalization, Probability density, particle in one dimensional box
Week 7	Chapter 1 :Prerequisites, revision of unit, test of unit
Week 8	Chapter 3 :Prerequisites, Bohr- Sommerfeld atom model, vector atom model, Introduction to quantum numbers
Week 9	Chapter 3 :Prerequisites, Spin orbit interaction and coupling, quantum mechanical relativity correction, structure of hydrogen atom
Week 10	Chapter 3 :Prerequisites, Lamb's Shift, Various Coupling Schemes
Week 11	Chapter 3 :Prerequisites, L-S coupling and interaction energy, J-J coupling and interaction energy, Zeeman Effect
Week 12	Chapter 3:Prerequisites, Raman Spectra, Classical and quantum theory
Week 13	Chapter 3 :Prerequisites Assignments <ul style="list-style-type: none"><li>• Revision of unit 3</li><li>• Test of unit</li></ul>

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**Name of Assistant/Associate Professor:- DR. RATIV CHAHAL**  
**Class :- B.Sc. II Subject:- SEC Physics(Basic Instrumentation Skills)**  
**Subject- Lesson Plan 13 weeks (from 01 August 2025 to November 2025)**

<b>Week 1</b>
• <b>Chapter 3 :Prerequisites</b> , PN junction diode, Zenor Diode,
<b>Week 2</b>
• <b>Chapter 3 :Prerequisites</b> , LEDs, Solar Cell, Photocell,
<b>Week 1</b>
• <b>Chapter 3:Prerequisites</b> , Soldering of electrical circuits having discrete components (R, L, C, diode) and ICs on PCB.
<b>Week 2</b>
• <b>Chapter 3 :Prerequisites</b> , Transistors, Rectifiers.
<b>Week 5</b>
• <b>Chapter 3 :Prerequisites</b> , Filter Circuits (Qualitative ideas only)
<b>Week 6</b>
• <b>Chapter 3 :Prerequisites</b> , Revision of Unit 3.
<b>Week 7</b>
• <b>Chapter 4 :Prerequisites</b> , Solar Energy-Key features, its importance, Merits & demerits of solar energy,
<b>Week 8</b>
• <b>Chapter 4 :Prerequisites</b> , Applications of solar energy, Conversion of Solar energy into Electricity -
<b>Week 9</b>
• <b>Chapter 4 :Prerequisites</b> , Photovoltaic Effect, photovoltaic cell and its working principle,
<b>Week 10</b>
• <b>Chapter 4:Prerequisites</b> , . Different types of Solar cells, Series and parallel connections,
<b>Week 11</b>
<b>Chapter 4 :Prerequisites</b>
• Photovoltaic applications: Battery chargers, Load Calculation
<b>Week 12</b>
<b>Chapter 4 :Prerequisites</b>
<b>Assignments</b>
• Cost Calculation for installing Solar Panels, Domestic electricity, Solar Subsidy Schemes
• revision of unit
<b>Week 13</b>
<b>Chapter 4 :Prerequisites</b>
• Class test

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**Name of Assistant/Associate Professor:- Dr. Rajiv Chahal**

**Class :- B.Sc. I**

**Subject:- Elementary Mechanics**

**Subject- Lesson Plan 13 weeks (from 01 August 2025 to November 2025)**

<b>Week 1</b> <ul style="list-style-type: none"><li>• <b>Chapter 1 :Prerequisites</b>, Fundamentals of Dynamics: Rigid body, Moment of Inertia, Radius of Gyration,</li></ul>
<b>Week 2</b> <ul style="list-style-type: none"><li>• <b>Chapter 1 :Prerequisites</b>, Theorems of perpendicular and parallel axis (with proof), Moment of Inertia of ring</li></ul>
<b>Week 3</b> <ul style="list-style-type: none"><li>• <b>Chapter 1 :Prerequisites</b>, Moment of Inertia of Disc, Angular Disc, Solid cylinder</li></ul>
<b>Week 4</b> <ul style="list-style-type: none"><li>• <b>Chapter 2 :Prerequisites</b>, Deforming force, Elastic limit, stress, strain and their types,</li><li>•</li></ul>
<b>Week 5</b> <ul style="list-style-type: none"><li>• <b>Chapter 2 :Prerequisites</b>, Hooks law, Module of elasticity Relation between shear angle and angle of twist,</li></ul>
<b>Week 6</b> <ul style="list-style-type: none"><li>• <b>Chapter 2 :Prerequisites</b>, Poisson's ratio and its limiting value. Torque required for twisting cylinder.</li></ul>
<b>Week 7</b> <ul style="list-style-type: none"><li>• <b>Chapter 3 :Prerequisites</b>, Michelson's Morley experiments and its outcome, Postulate of special theory of relativity, Lorentz Transformation, Lorentz contraction</li></ul>
<b>Week 8</b> <ul style="list-style-type: none"><li>• <b>Chapter 3 :Prerequisites</b>, Time dilation, Relativistic transformation of velocity, relativistic addition of velocities, variation of mass-energy equivalence</li></ul>
<b>Week 9</b> <ul style="list-style-type: none"><li>• <b>Chapter 4 :Prerequisites</b>, Law of gravitation, Potential and field due to spherical shell and solid sphere. Motion of a particle under central force field,</li></ul>
<b>Week 10</b> <ul style="list-style-type: none"><li>• <b>Chapter 4 :Prerequisites</b>, Normal coordinates and normal modes, Normal modes of vibration for given spring mass system,</li></ul>
<b>Week 11</b> <b>Chapter 4 :Prerequisites</b> <ul style="list-style-type: none"><li>• possible angular frequencies of oscillation of two identical simple pendulums of length (l) and small bob of mass (<math>m_0</math>) joined together with spring of spring constant (k).</li></ul>
<b>Week 12</b> <b>Chapter 4 :Prerequisites</b>
<b>Assignments</b> <ul style="list-style-type: none"><li>• revision of unit</li></ul>
<b>Week 13</b> <b>Chapter 4 :Prerequisites</b> <ul style="list-style-type: none"><li>• Class test</li></ul>

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**Name of Assistant/Associate Professor:- Dr. Rajiv Chahal**

**Class :- B.Sc. III**

**Subject:- Modern Physics**

**Subject- Lesson Plan 13 weeks (from 01 August 2025 to November 2025)**

<b>Week 1</b> <ul style="list-style-type: none"><li>• <b>Chapter 2 :Prerequisites</b>, Crystalline and amorphous solids, crystal lattice and structures, unit cell</li></ul>
<b>Week 2</b> <ul style="list-style-type: none"><li>• <b>Chapter 2 :Prerequisites</b>, Wigner-Seitz cell, symmetric and asymmetric operations, Bravais lattice</li></ul>
<b>Week 3</b> <ul style="list-style-type: none"><li>• <b>Chapter 2 :Prerequisites</b>, Miller indices, Crystal planes and interplaner space, crystal structures</li></ul>
<b>Week 4</b> <ul style="list-style-type: none"><li>• <b>Chapter 2 :Prerequisites</b>, structures of diamond and ZnS, Diffraction, X-Rays diffraction</li></ul>
<b>Week 5</b> <ul style="list-style-type: none"><li>• <b>Chapter 2 :Prerequisites</b>, Bragg's Law of Diffraction , concept of Reciprocal lattice</li></ul>
<b>Week 6</b> <ul style="list-style-type: none"><li>• <b>Chapter 2 :Prerequisites</b>, Reciprocal lattice and its properties, physical significance, Reciprocal lattice of cubic systems</li></ul>
<b>Week 7</b> <ul style="list-style-type: none"><li>• <b>Chapter 2 :Prerequisites</b>, Reciprocal lattice of SCC, FCC and BCC, Revision of unit 2nd</li></ul>
<b>Week 8</b> <ul style="list-style-type: none"><li>• <b>Chapter 4 :Prerequisites</b>, Basics of Nuclear Physics, Structure of atom and Nucleus, composition of nucleus</li></ul>
<b>Week 9</b> <ul style="list-style-type: none"><li>• <b>Chapter 4 :Prerequisites</b>, various properties of nuclei, nuclear stability belt, neutron and protons no.</li></ul>
<b>Week 10</b> <ul style="list-style-type: none"><li>• <b>Chapter 4 :Prerequisites</b>, Actual nuclear stability existence, Nuclear models, Liquid drop</li></ul>
<b>Week 11</b> <b>Chapter 4 :Prerequisites</b> <ul style="list-style-type: none"><li>• Nuclear shell model</li><li>• Introduction to quarks and string theory</li><li>• introduction to elementary particles</li></ul>
<b>Week 12</b> <b>Chapter 4 :Prerequisites</b>
<b>Assignments</b> <ul style="list-style-type: none"><li>• Types of interactions</li><li>• revision of unit</li></ul>
<b>Week 13</b> <b>Chapter 4 :Prerequisites</b> <ul style="list-style-type: none"><li>• revision of unit 2<sup>nd</sup></li><li>• Class test 2</li></ul>

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**Name of Assistant/Associate Professor:- Dr. Rajiv Chahal**

**Class :- B.Sc. Ist Hons.**

**Subject:- Mathematical Physics**

**Subject- Lesson Plan 13 weeks (from 01 August 2025 to November 2025)**

<b>Week 1</b> <ul style="list-style-type: none"><li>• <b>Chapter 1 :Prerequisites</b>, Vector Algebra- Definition and Properties of vectors, Scalar product, vector product</li></ul>
<b>Week 2</b> <ul style="list-style-type: none"><li>• <b>Chapter 1: Prerequisites</b>- vector triple product, area, volume, scalar and vector field.</li></ul>
<b>Week 3</b> <ul style="list-style-type: none"><li>• <b>Chapter 1: Prerequisites</b>, Vector differentiation, Gradient of scalar and Divergence of Vector field, Curl of Vector.</li></ul>
<b>Week 4</b> <ul style="list-style-type: none"><li>• <b>Chapter 2: Prerequisites</b>- Del and Laplacian operators, various types of matrices.</li></ul>
<b>Week 5</b> <ul style="list-style-type: none"><li>• <b>Chapter 2: Prerequisites</b> Class Test, conjugate and anti-hermitian matrices, eigen value and eigen functions</li></ul>
<b>Week 6</b> <ul style="list-style-type: none"><li>• <b>Chapter 2 :Prerequisites</b>- Diagonalisation of matrices, Types and theory of errors</li></ul>
<b>Week 7</b> <ul style="list-style-type: none"><li>• <b>Chapter 2 :Prerequisites</b>, Systematic and Random errors, error propagation</li></ul>
<b>Week 8</b> <ul style="list-style-type: none"><li>• <b>Chapter 3 :Prerequisites</b>, standard and probable errors, error on intercept, slope</li></ul>
<b>Week 9</b> <ul style="list-style-type: none"><li>• <b>Chapter 3 :Prerequisites</b>, Theory of differential equation, first order differential equation.</li></ul>
<b>Week 10</b> <ul style="list-style-type: none"><li>• <b>Chapter 3 : Prerequisites</b>, Class test, Variable separation, Homo. differential equations.</li></ul>
<b>Week 11</b> <b>Chapter 3 :Prerequisites</b> - Linear, exact and inexact differential equations with examples
<b>Week 12</b> <b>Chapter 4 :Prerequisites</b> 2nd order differential equation, vibrating mass on spring
<b>Week 13</b> <b>Chapter 4 :Prerequisites</b> - Revision, Current in LC, RC circuits

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**Name of Assistant/Associate Professor: - Mr. Amit**  
**Class: - B.Sc. III Sem., Subject:- Thermodynamics and Statistical Physics**  
**Duration: 13weeks (1st August 2025 to November 2025 )**

Week 1	<b>Chapter 1 :Prerequisites</b> <ul style="list-style-type: none"> <li>• Introduction to statistical physics</li> <li>• Distribution of N particles in boxes</li> </ul>
Week 2	<b>Chapter 1 :Prerequisites</b> <ul style="list-style-type: none"> <li>• Concept of Micro and Macro states</li> <li>• Thermo dynamical probabilities</li> </ul>
Week 3	<b>Chapter 1 :Prerequisites</b> <ul style="list-style-type: none"> <li>• Particle distribution in different sizes</li> <li>• Entropy and probability</li> <li>• Phase space</li> </ul>
Week 4	<b>Chapter 1 :Prerequisites</b> <ul style="list-style-type: none"> <li>• Phase space divisions</li> <li>• Statistical mechanics</li> <li>• classical and quantum statistics</li> </ul>
Week 5	<b>Chapter 1:Prerequisites</b> <ul style="list-style-type: none"> <li>• Basic approach to statistics</li> <li>• Maxwell-Boltzman, Bose-Einstein and Fermi Dirac statics</li> <li>• Distribution of speed and velocity</li> </ul>
Week 6	<b>Chapter 1:Prerequisites</b> <ul style="list-style-type: none"> <li>• Most probable speed , Avg and RMS value</li> <li>• Mean energy for Maxwell distribution.</li> </ul>
Week 7	<b>Chapter 2:Prerequisites</b> <ul style="list-style-type: none"> <li>• Revision and test of unit 1</li> <li>• Dulong and Petit's law</li> </ul>
Week 8	<b>Chapter 2 :Prerequisites</b> <ul style="list-style-type: none"> <li>• Derivation of law from classical physics</li> <li>• Quantum statistics</li> </ul>
Week 9	<b>Chapter 2 :Prerequisites</b> <ul style="list-style-type: none"> <li>• Classical Vs quantum statistics</li> <li>• Bose-Einstein energy distribution law</li> <li>• applications</li> </ul>
Week 10	<b>Chapter 2 :Prerequisites</b> <ul style="list-style-type: none"> <li>• Plank's radiation law</li> <li>• B-E condensation</li> <li>• F-D energy distribution law</li> </ul>
Week 11	<b>Chapter 2 :Prerequisites</b> <ul style="list-style-type: none"> <li>• Degeneracy</li> <li>• Fermi energy and temperature</li> <li>• F-D energy distribution law for electron gas</li> </ul>
Week 12	<b>Chapter 2 :Prerequisites</b> <ul style="list-style-type: none"> <li>• zero point energy</li> <li>• average speed of electron gas at temperatures</li> </ul>
Week 13	<b>Chapter 3:Prerequisites</b> <ul style="list-style-type: none"> <li>• Revision of unit</li> <li>• Test of unit</li> </ul>

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Name of Assistant/Associate Professor:- Mr. Amit

Class :- B.Sc. Ist Sem.

Subject:- Mechanics

Subject- Lesson Plan 13 weeks (from 01 August 2025 to November 2025)

Week 1	• Chapter 3 :Prerequisites, Concept of Special Theory of relativity, Michelson's-Morley experiment
Week 2	• Chapter 3 : Prerequisites, Lorentz transformation, Time dilation , relativistic velocity
Week 3	• Chapter 3 : Prerequisites, Mass energy equivalence, Doppler effect, Relativistic kinematics
Week 4	• Chapter 3: Prerequisites, Energy-Momentum transformation, Transformation of force
Week 5	• Chapter 3 :Prerequisites, Relativistic dynamics, Four vectors, relativistic concepts
Week 6	• Chapter 3 :Prerequisites, Acceleration of charge particle in electric field, Transverse electric field.
Week 7	• Chapter 4:Prerequisites, Revision of unit and test, Concept of Gravitation
Week 8	• Chapter 4 :Prerequisites, Law of Gravitation , Electric field and Electric potential
Week 9	• Chapter 4 :Prerequisites, Electric field due to hollow and solid sphere, Electric potential due to hollow and solid sphere
Week 10	• Chapter 4 :Prerequisites, Concept of Central force , Motion under central force, conversion of two body problem into equivalent one body problem
Week 11	• Chapter 4 :Prerequisites, Compound pendulum, time period, g of bar pendulum
Week 12	• Chapter 4 :Prerequisites, Planetary motion , Kepler's law
Week 13	Chapter 4 :Prerequisites
Assignments	• revision of unit 2 <sup>nd</sup> • Class test

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**Name of Assistant/Associate Professor:- Mr. Amit**  
**Class :- B.Sc. 1      Subject:- SEC Physics( Electrical Circuits Network Skills)**  
**Subject- Lesson Plan 13 weeks (from 01 August 2025 to November 2025)**

<b>Week 1</b>
• <b>Chapter 1 :Prerequisites</b> , Introduction to Electricity and Circuits: Basics of Electricity, Electric charges (positive and negative), Conductors, Insulators.
<b>Week 2</b>
<b>Chapter 1 :Prerequisites</b> , Basic components of a circuit: battery, wires, bulb, switch etc.
<b>Week 3</b>
<b>Chapter 1 :Prerequisites</b> , Basic Electricity Principles: Voltage, Current, Resistance, and Power, Ohm's law.
<b>Week 4</b>
• <b>Chapter 1 :Prerequisites</b> , Series, Parallel, and series-parallel combinations.
<b>Week 5</b>
• <b>Chapter 1 :Prerequisites</b> , Heating effects of current and applications, AC Electricity (Live, Neutral and Earth),
<b>Week 6</b>
• <b>Chapter 1 :Prerequisites</b> , frequency, DC Electricity (Positive and Negative poles).
<b>Week 7</b>
• <b>Chapter 2 :Prerequisites</b> , AC and DC Voltage Sources, Current and voltage drop across the DC circuit elements.
<b>Week 8</b>
• <b>Chapter 2 :Prerequisites</b> , Kirchhoff's laws.
<b>Week 9</b>
• <b>Chapter 2 :Prerequisites</b> , Instruments to measure current, voltage, power in DC and AC circuits.
<b>Week 10</b>
• <b>Chapter 2 :Prerequisites</b> , Familiarization with multimeter, voltmeter, and ammeter,
<b>Week 11</b>
<b>Chapter 2 :Prerequisites</b>
• Insulation., Preparation of extension board. Joints in electrical conductors. Techniques of soldering.
<b>Week 12</b>
<b>Chapter 2 :Prerequisites</b>
<b>Assignments</b>
• revision of unit
<b>Week 13</b>
<b>Chapter 2 :Prerequisites</b>
• Class test

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Name of Assistant/Associate Professor:- Dr. Meena Devi

Class :- B.Sc. 1st Sem.

Subject:- Mechanics

Subject- Lesson Plan 13 weeks (from 01 August 2025 to November 2025)

Week 1	<ul style="list-style-type: none"><li>Chapter 1 :Prerequisites, Basics of dynamics, Rigid body, Moment of inertia</li></ul>
Week 2	<ul style="list-style-type: none"><li>Chapter 1 :Prerequisites, Radius of gyration, Theorem of Perpendicular axis and parallel axis, Angular motion</li></ul>
Week 3	<ul style="list-style-type: none"><li>Chapter 1 :Prerequisites, MI of ring and Disc, MI of solid cylinder, MI of sphere</li></ul>
Week 4	<ul style="list-style-type: none"><li>Chapter 1:Prerequisites, Revision of MI concept, MI of rectangular and square plate, MI of some other solids</li></ul>
Week 5	<ul style="list-style-type: none"><li>Chapter 1 :Prerequisites, Torque , Rotational kinetic energy, Angular momentum</li></ul>
Week 6	<ul style="list-style-type: none"><li>Chapter 1 :Prerequisites, conservation laws, Rolling and Sliding on inclined plane, MI of Fly wheel and irregular body</li></ul>
Week 7	<ul style="list-style-type: none"><li>Chapter 1:Prerequisites, Revision of unit and test, Concept of Elasticity and deforming forces, Basic definition of Stress and Strain</li></ul>
Week 8	<ul style="list-style-type: none"><li>Chapter 2 :Prerequisites, Hook's law, Modulus of elasticity , Shear and angle of twist</li></ul>
Week 9	<ul style="list-style-type: none"><li>Chapter 2 :Prerequisites, Elastic potential energy, Tension and Poisson's ratio, Relation between Young's, Bulk's and Modulus of rigidity</li></ul>
Week 10	<ul style="list-style-type: none"><li>Chapter 2 :Prerequisites, Torque required for twisting a cylinder, Hollow shaft, Bending of beam</li></ul>
Week 11	<ul style="list-style-type: none"><li>Chapter 2 :Prerequisites, Flexural rigidity, MI of beam (rectangular), Cantilever bending with weight disbursed</li></ul>
Week 12	<ul style="list-style-type: none"><li>Chapter 2 :Prerequisites, Searle's method, Depression of centrally loaded beam, elastic constants</li></ul>
Week 13	<ul style="list-style-type: none"><li>Chapter 4 :Prerequisites, revision of unit 2<sup>nd</sup>, Class test</li></ul>

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01/08/2025



Name of Assistant/Associate Professor: - Dr. Meena Devi  
 Class: - B.Sc. III Sem., Subject:- Thermodynamics and Statistical Physics  
 Duration: 13weeks (1st August 2025 to November 2025 )

<b>Week 1</b>
• Chapter 1 :Prerequisites, Thermodynamics systems, Thermal Equilibrium and Zeroth law, Concept of heat and work
<b>Week 2</b>
Chapter 1 :Prerequisites, State function , Thermodynamics 1 <sup>st</sup> law, Significance and limitations
<b>Week 3</b>
Chapter 1 :Prerequisites, Isothermal, isobaric, adiabatic processes, Cyclic, reversible and irreversible processes
<b>Week 4</b>
• Chapter 1 :Prerequisites, 2 <sup>nd</sup> law of Thermodynamics, Carnot Theorem, Temperature scale
<b>Week 5</b>
• Chapter 1:Prerequisites, Joule-Thomson experiment, Joule's free expansion, Entropy
<b>Week 6</b>
• Chapter 1:Prerequisites, T-S diagram, 3 <sup>rd</sup> law of Thermodynamics, Liquefaction of gases, Adiabatic demagnetisation
<b>Week 7</b>
• Chapter 2:Prerequisites, Revision and test of unit 1, Clausius-Clapeyron equation , Specific heat
<b>Week 8</b>
• Chapter 2 :Prerequisites, Phase diagram and triple point, Thermo dynamical functions, Maxwell thermo dynamical relation
<b>Week 9</b>
• Chapter 2 :Prerequisites, U, F, H , G and relations between them, Specific heat of Gas, application of Maxwell relations
<b>Week 10</b>
Chapter 2 :Prerequisites
• Derivation of Clausius Clapeyron equation and Clausious equations.
• Thermo dynamical functions
• Intrinsic energy
<b>Week 11</b>
Chapter 2 :Prerequisites
• Internal energy-volume for ideal and perfect gases
• Vandarwall gas and for liquids
• Stefan's law
<b>Week 12</b>
Chapter 2 :Prerequisites
• Adiabatic Expansion and compression
• Joule- Thomson effect deduction from adiabatic processes
<b>Week 13</b>
Chapter 3:Prerequisites
• Revision of unit
• Test of unit

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**Name of Assistant/Associate Professor:- Dr. Meena Devi**  
**Class :- B.Sc. I Subject:- SEC Physics( Electrical Circuits Network Skills)**  
**Subject- Lesson Plan 13 weeks (from 01 August 2025 to November 2025)**

<b>Week 1</b>
• Chapter 3 :Prerequisites, Relays, Fuses and disconnect switches, Circuit breakers,
<b>Week 2</b>
• Chapter 3 :Prerequisites, Overload devices, Surge protection. Ground-fault protection.
<b>Week 3</b>
• Chapter 3:Prerequisites, Earthing and its types.
<b>Week 4</b>
• Chapter 3 :Prerequisites, Smart Technology: Smart Switches, Wi fi enabled switches,
•
<b>Week 5</b>
• Chapter 3 :Prerequisites, Smart Bulbs, Ways to make Smart home.
<b>Week 6</b>
• Chapter 3 :Prerequisites, Estimation of electric load, average electricity bill calculation..
<b>Week 7</b>
• Chapter 4 :Prerequisites, Fan, Bulb, Electric Iron, LEDs,
<b>Week 8</b>
• Chapter 4 :Prerequisites, Working of DC & AC Motor,
<b>Week 9</b>
• Chapter 4 :Prerequisites, Water Pump, Water Cooler and Air Conditioner.
<b>Week 10</b>
• Chapter 4 :Prerequisites, Comparison of Invertor & Non-Invertor Air Conditioners.
<b>Week 11</b>
<b>Chapter 4 :Prerequisites</b>
• Invertor, Offgrid & ongrid Solar Systems for home. Ways to save electricity.
<b>Week 12</b>
<b>Chapter 4 :Prerequisites</b>
<b>Assignments</b>
• revision of unit
<b>Week 13</b>
<b>Chapter 4 :Prerequisites</b>
• Class test

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