

Government College Hisar

Name of teacher- Surender Singh

Subject- Physics (Mechanics- I and E M T –I)

Theory Class B.Sc. 1st sem

Books and Units	Description of chapter/topics	Duration	Assignment/test
Mechanics Unit 2 nd and 3 rd	Time derivative of vectors with examples Concepts of cartesian, polar and spherical coordinates, Motion in plane Polar Coordinates, velocity and acceleration in polar coordinates , Dynamics Using Polar Coordinates Momentum, Conservation of momentum, Centre of mass, Centre of mass coordinates with examples Motion of rockets Work and energy, Conservation of energy) Elastic and inelastic collisions between particles, Centre of Mass and Laboratory frame	23 August to 15 September	
Mechanics 3 rd and 4 th	Angular velocity angular momentum, Moment of inertia and parallel and perpendicular axis theorem , Moment of inertia of (a) thin uniform wire (b) Thin rectangular sheet (c) Rectangular slab (d) ring (e) disc (f) spherical shell (g) solid sphere (h) hollow sphere, Torque, Conservation of angular moment, Angular momentum as vector, Coriolis forces and its effect on motion .Basics properties of central forces, Two body problem equivalent to one body problem and concept of reduced mass, Motion of a particle in a central force field (motion is in a plane, angular momentum is conserved, areal velocity is constant) Kepler's Laws. Hooke's law - Stress-strain diagram -	15 September to 15 October	1 st Test and 1 st assignment in September

	Elastic moduli, Poisson's Ratio, Relation between four elastic constants , Bending moments, Bending of cantilever and centrally loaded beam		
EMT-I unit 1 st and 2 nd	Electrostatic Field, Electric flux, Gauss's theorem of electrostatics, Applications of Gauss theorem Divergence and curl of electrostatic field and their physical significance, Electric potential, Electric potential as line integral of electric field , Calculation of electric field from potential, Energy stored in electrostatic field per unit volume : Laplace and Poisson's equations for the electrostatic field , Multi-pole expansion of potential due to arbitrary charge distribution, Dielectric medium, Polarization, Bound charges in a polarized dielectric and their physical interpretation, Electric displacement, Gauss's theorem in dielectrics, Parallel plate capacitor completely filled with dielectric, Susceptibility, Permittivity and dielectric constant	15 October to 31 October	
EMT-I Unit-3 rd and 4 th	Magnetism: Lorentz force law, Magnetic forces Magnetostatics: Biot-Savart's law & its applications (1) straight conductor (2) circular coil (3) solenoid carrying current), Divergence and curl of magnetic field Ampere's circuital law and its applications for simple current configurations Magnetic vector potential). The field of a magnetized object, bound currents, physical interpretation of bound currents, Ampere's law for magnetized objects, The Auxiliary field (H), Magnetic properties of materials, Permeability, Magnetic susceptibility, diamagnetism, paramagnetism and ferromagnetism, B-H Curve,	1 st November to 10 December	2 nd Test and 2 nd assignment in November

	Currie point		
	Revision and problem	12 December to Exam	

LESSON PLAN (Session- 2023-24)

Name of Teacher Mr. Shobhit

Class: B. Sc. 1st Semester

Subject: Physics

Nomenclature of Paper: MECHANICS-I

Paper Code: CPL-102

Week	Month & Year	Topic
1	21-08-2023 to 26-08-2023	Scalar and vector fields, Derivatives of a vector with respect to a parameter,
2	28-08-2023 to 02-09-2023	Gradient of a scalar field and its geometrical interpretation Divergence and curl of a vector field
3	04-09-2023 to 09-09-2023	Laplacian operator, Vector identities, Line, surface and volume integrals of Vector fields
4	11-09-2023 to 16-09-2023	Flux of a vector field, Gauss's divergence theorem, Stokes Theorem and their applications
5	18-09-2023 to 22-09-2023	Time derivative of vectors with examples , Concepts of cartesian, polar and spherical coordinates
6	25-09-2023 to 30-09-2023	Motion in plane Polar Coordinates, velocity and acceleration in polar coordinates
7	03-10-2023 to 07-10-2023	Dynamics Using Polar Coordinates, Momentum, Conservation of momentum, Centre of mass, Centre of mass coordinates
8	09-10-2023 to 14-10-2023	Motion of rockets, Work and energy, Conservation of energy, Elastic and inelastic collisions between particles
9	16-10-2023 to 21-10-2023	Centre of Mass and Laboratory frames, Angular velocity and angular momentum ,
10	23-10-2023 to 28-10-2023	Moment of inertia and parallel and perpendicular axis theorem Moment of inertia of (a) thin uniform wire (b) Thin rectangular sheet
11	30-10-2023 to 04-11-2023	(c) Rectangular slab (d) ring (e) disc (f) spherical shell (g) solid sphere (h) hollow sphere, Torque
12	06-11-2023 to 09-11-2023	Conservation of angular momentum , Angular momentum as vector, Coriolis forces and its effect on motion
13	17-11-2023 to 18-11-2023	Basics properties of central forces, Two body problem equivalent to one body problem, concept of reduced mass
14	20-11-2023 to 25-11-2023	Motion of a particle in a central force field, Hooke's law , Stress-strain diagram , Poisson's Ratio, Relation between four elastic constants
15	28-11-2023 to 02-12-2023	Bending moments, Bending of cantilever and centrally loaded beams
16	04-12-2023 to 09-12-2023	Revision of syllabus

Signature of Teacher

LESSON PLAN (Session- 2023-24)

me of Teac Dr.Vanita Devi

Class: B. Sc. 1st Semester

Subject: Physics

Nomenclature of Paper: MECHANICS-I

Paper Code: CPL-102

Week	Month & Year	Topic
1	21-08-2023 to 26-08-2023	Scalar and vector fields, Derivatives of a vector with respect to a parameter,
2	28-08-2023 to 02-09-2023	Gradient of a scalar field and its geometrical interpretation Divergence and curl of a vector field
3	04-09-2023 to 09-09-2023	Laplacian operator, Vector identities, Line, surface and volume integrals of Vector fields
4	11-09-2023 to 16-09-2023	Flux of a vector field, Gauss's divergence theorem, Stokes Theorem and their applications
5	18-09-2023 to 22-09-2023	Time derivative of vectors with examples, Concepts of cartesian, polar and spherical coordinates
6	25-09-2023 to 30-09-2023	Motion in plane Polar Coordinates, velocity and acceleration in polar coordinates
7	03-10-2023 to 07-10-2023	Dynamics Using Polar Coordinates, Momentum, Conservation of momentum, Centre of mass, Centre of mass coordinates
8	09-10-2023 to 14-10-2023	Motion of rockets, Work and energy, Conservation of energy, Elastic and inelastic collisions between particles
9	16-10-2023 to 21-10-2023	Centre of Mass and Laboratory frames, Angular velocity and angular momentum,
10	23-10-2023 to 28-10-2023	Moment of inertia and parallel and perpendicular axis theorem
11	30-10-2023 to 04-11-2023	Moment of inertia of (a) thin uniform wire (b) Thin rectangular sheet (c) Rectangular slab (d) ring (e) disc (f) spherical shell (g) solid sphere (h) hollow sphere, Torque
12	06-11-2023 to 09-11-2023	Conservation of angular momentum, Angular momentum as vector, Coriolis forces and its effect on motion
13	17-11-2023 to 18-11-2023	Basics properties of central forces, Two body problem equivalent to one body problem, concept of reduced mass
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15	28-11-2023 to 02-12-2023	Bending moments, Bending of cantilever and centrally loaded beams
16	04-12-2023 to 09-12-2023	Revision of syllabus

Signature of Teacher

LESSON PLAN

Name of Teacher : Dr Sarita

Subject: Physics

Nomenclature of Paper: Electricity and magnetism

Paper Code: CPL-103

Week

Week	Month & Year	Topic
1	01 Aug 23 - 05 Aug 23	Electrostatics: Electrostatic Field, Electric flux, Gauss's theorem of electrostatics
2	08 Aug 23 - 14 Aug 23	Applications of Gauss theorem, Divergence and curl of electrostatic field and their physical significance
3	16 Aug 23 - 22 Aug 23	Electric potential, Electric potential as line integral of electric field, Calculation of electric field from potential, Energy stored in electrostatic field per unit volume
4	24 Aug 23 - 29 Aug 23	Application of Electrostatics: Laplace and Poisson's equations for the electrostatic field, Multi-pole expansion of potential due to arbitrary charge distribution
5	4 Sep 23 - 09 Sep 23	Dielectric medium, Polarization, Bound charges in a polarized dielectric and their physical interpretation
6	11 Sep 23 - 16 Sep 23	Electric displacement, Gauss's theorem in dielectrics, Parallel plate capacitor completely filled with dielectric
7	18 Sep - 23 Sep 23	Susceptibility, Permittivity and dielectric constants and revision practice
8	24 Sep 23 - 29 Sep 23	Magnetism: Lorentz force law, Magnetic forces, Magnetostatics: BiotSavart's law & its applications (1) straight conductor
9	01 Oct. 23 - 06 Oct. 23	(2) circular coil (3) solenoid carrying current, Divergence and curl of magnetic field.
10	08 Oct. 23 - 13 Oct. 23	Ampere's circuital law and it's applications for simple current configurations, Magnetic vector potential
11	15 Oct. 23 - 20 Oct. 23	Magnetization: The field of a magnetized object, bound currents, physical interpretation of bound currents.
12	22 Oct 23 - 27 Oct. 23	The Auxiliary field (H), Magnetic properties of materials, Permeability, Magnetic susceptibility
13	29 Oct.23 - 04 Nov. 23	diamagnetism, para-magnetism and practice test
14	06 Nov.23 - 11 Nov. 23	ferromagnetism, B-H Curve, Currie point
15	20 Nov. 23 - 25 Nov. 23	Ampere's law for magnetized objects and practice test
16	27 Nov. 23 - 02 Dec. 23	revision
17	04 Dec. 23 - 11 Dec. 23	revision

Signature of Teacher

LESSON PLAN

Name of Teacher: Dr K S GILL

Subject: Physics

Nomenclature of Paper: Electricity and magnetism

Paper Code: CPL-103

Week	Month & Year	Topic
1	01 Aug 23 - 05 Aug 23	Electrostatics: Electrostatic Field, Electric flux, Gauss's theorem of electrostatics
2	08 Aug 23 - 14 Aug 23	Applications of Gauss theorem, Divergence and curl of electrostatic field and their physical significance
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15	20 Nov .23 - 25 Nov .23	Ampere's law for magnetized objects and practice test
16	27 Nov .23 - 02 Dec .23	revision
17	04 Dec. 23 - 11 Dec. 23	revision

Signature of Teacher

LESSON PLAN (Session: 2023-24)

Name of Teacher: Ram Singh

Class: B. Sc. 3rd Semester

Subject: Physics

Nomenclature of Paper: Heat and Thermodynamics;

Paper Code: CPL-302

Week & Month	Topic
24-07-2023 to 29-07-2023	Introduction, Extensive and intensive thermodynamic variables, Thermodynamic equilibrium, Zeroth law and Concept of Temperature,
01-08-2023 to 05-08-2023	Work and heat, State functions, First law of thermodynamics, Internal energy, Applications of first law, General relation between Cp and Cv,
07-08-2023 to 12-08-2023	Work done during isothermal and adiabatic Processes, Reversible and Irreversible process with examples, Conversion of Work into Heat and Heat into Work, Heat Engines, Carnot's Cycle
14-08-2023 to 19-08-2023	Carnot engine & efficiency, Refrigerator & coefficient of performance, 2nd Law of Thermodynamics: Kelvin-Planck and Clausius Statements and their Equivalence,
21-08-2023 to 26-08-2023	Carnot's Theorem, Test/Revision & Numerical Problem
28-08-2023 to 02-09-2023	Introduction & Concept of entropy
04-09-2023 to 09-09-2023	Clausius theorem, Clausius Inequality, Second Law of Thermodynamics in terms of Entropy
11-09-2023 to 16-09-2023	Entropy of a Perfect Gas and Universe, Entropy Changes in Reversible and Irreversible Processes, Principle of Increase of Entropy
18-09-2023 to 22-09-2023	Third Law of Thermodynamics, T-S Diagrams, Phase Change, Classification of Phase Changes
25-09-2023 to 30-09-2023	Test/Revision & Numerical Problem
03-10-2023 to 07-10-2023	Introduction to Chapter & Extensive and Intensive Thermodynamic Variables
09-10-2023 to 14-10-2023	Internal Energy, Enthalpy, Gibbs, Helmholtz function and Their Definitions, Properties and Applications.
16-10-2023 to 21-10-2023	Derivations of Maxwell's Relations. Applications of Maxwell's Relations: (1) ClausiusClapeyron equation, (2) Values of CP – CV,
23-10-2023 to 28-10-2023	(3) Energy equations (4) Change of temperature during adiabatic process. Numerical problem & test
30-10-2023 to 04-11-2023	Introduction to unit & Behaviour of Real Gases, Deviations from the Ideal Gas Equation
06-11-2023 to 09-11-2023	The Virial Equation, Critical, Constants. Continuity of Liquid and Gaseous State. Vapour and Gas, Boyle Temperature,
17-11-2023 to 18-11-2023	Vapour and Gas, Boyle Temperature,
20-11-2023 to 25-11-2023	Van der Waal's Equation of State for Real Gases. Values of Critical Constants. Law of Corresponding States.
28-11-2023 to 02-12-2023	Comparison with Experimental Curves, p-V Diagrams, Joule's Experiment, Free Adiabatic Expansion of a Perfect Gas.
04-12-2023 to 09-12-2023	Revision of syllabus

Signature of Teacher

LESSON PLAN (Session: 2023-24)

Name of Teacher: Dr. Bulkesh

Class: B. Sc. 3rd Semester

Subject: Physics

Nomenclature of Paper: Heat and Thermodynamics;

Paper Code: CPL-302

Week & Month	Topic
24-07-2023 to 29-07-2023	Introduction, Extensive and intensive thermodynamic variables, Thermodynamic equilibrium, Zeroth law and Concept of Temperature,
01-08-2023 to 05-08-2023	Work and heat, State functions, First law of thermodynamics, Internal energy, Applications of first law, General relation between Cp and Cv,
07-08-2023 to 12-08-2023	Work done during isothermal and adiabatic Processes, Reversible and Irreversible process with examples, Conversion of Work into Heat and Heat into Work, Heat Engines, Carnot's Cycle
14-08-2023 to 19-08-2023	Carnot engine & efficiency, Refrigerator & coefficient of performance, 2nd Law of Thermodynamics: Kelvin-Planck and Clausius Statements and their Equivalence,
21-08-2023 to 26-08-2023	Carnot's Theorem, Test/Revision & Numerical Problem
28-08-2023 to 02-09-2023	Introduction & Concept of entropy
04-09-2023 to 09-09-2023	Clausius theorem, Clausius Inequality, Second Law of Thermodynamics in terms of Entropy
11-09-2023 to 16-09-2023	Entropy of a Perfect Gas and Universe, Entropy Changes in Reversible and Irreversible Processes, Principle of Increase of Entropy
18-09-2023 to 22-09-2023	Third Law of Thermodynamics, T-S Diagrams, Phase Change, Classification of Phase Changes
25-09-2023 to 30-09-2023	Test/Revision & Numerical Problem
03-10-2023 to 07-10-2023	Introduction to Chapter & Extensive and Intensive Thermodynamic Variables
09-10-2023 to 14-10-2023	Internal Energy, Enthalpy, Gibbs, Helmholtz function and Their Definitions, Properties and Applications.
16-10-2023 to 21-10-2023	Derivations of Maxwell's Relations. Applications of Maxwell's Relations: (1) ClausiusClapeyron equation, (2) Values of CP – CV,
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30-10-2023 to 04-11-2023	Introduction to unit & Behaviour of Real Gases, Deviations from the Ideal Gas Equation
06-11-2023 to 09-11-2023	The Virial Equation, Critical, Constants. Continuity of Liquid and Gaseous State. Vapour and Gas, Boyle Temperature,
17-11-2023 to 18-11-2023	Vapour and Gas, Boyle Temperature,
20-11-2023 to 25-11-2023	Van der Waal's Equation of State for Real Gases. Values of Critical Constants. Law of Corresponding States.
28-11-2023 to 02-12-2023	Comparison with Experimental Curves, p-V Diagrams, Joule's Experiment, Free Adiabatic Expansion of a Perfect Gas.
04-12-2023 to 09-12-2023	Revision of syllabus

Signature of Teacher

LESSON PLAN (Session: 2023-24)

Name of Teacher: Ms. Namita

Class: B. Sc. 3rd Semester

Subject: Physics

Nomenclature of Paper: Heat and Thermodynamics;

Paper Code: CPL-302

Week & Month	Topic
24-07-2023 to 29-07-2023	Introduction, Extensive and intensive thermodynamic variables, Thermodynamic equilibrium, Zeroth law and Concept of Temperature,
01-08-2023 to 05-08-2023	Work and heat, State functions, First law of thermodynamics, Internal energy, Applications of first law, General relation between Cp and Cv,
07-08-2023 to 12-08-2023	Work done during isothermal and adiabatic Processes, Reversible and Irreversible process with examples, Conversion of Work into Heat and Heat into Work, Heat Engines, Carnot's Cycle
14-08-2023 to 19-08-2023	Carnot engine & efficiency, Refrigerator & coefficient of performance, 2nd Law of Thermodynamics: Kelvin-Planck and Clausius Statements and their Equivalence,
21-08-2023 to 26-08-2023	Carnot's Theorem, Test/Revision & Numerical Problem
28-08-2023 to 02-09-2023	Introduction & Concept of entropy
04-09-2023 to 09-09-2023	Clausius theorem, Clausius Inequality, Second Law of Thermodynamics in terms of Entropy
11-09-2023 to 16-09-2023	Entropy of a Perfect Gas and Universe, Entropy Changes in Reversible and Irreversible Processes, Principle of Increase of Entropy
18-09-2023 to 22-09-2023	Third Law of Thermodynamics, T-S Diagrams, Phase Change, Classification of Phase Changes
25-09-2023 to 30-09-2023	Test/Revision & Numerical Problem
03-10-2023 to 07-10-2023	Introduction to Chapter & Extensive and Intensive Thermodynamic Variables
09-10-2023 to 14-10-2023	Internal Energy, Enthalpy, Gibbs, Helmholtz function and Their Definitions, Properties and Applications.
16-10-2023 to 21-10-2023	Derivations of Maxwell's Relations. Applications of Maxwell's Relations: (1) ClausiusClapeyron equation, (2) Values of CP – CV,
23-10-2023 to 28-10-2023	(3) Energy equations (4) Change of temperature during adiabatic process. Numerical problem & test
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17-11-2023 to 18-11-2023	Vapour and Gas, Boyle Temperature,
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28-11-2023 to 02-12-2023	Comparison with Experimental Curves, p-V Diagrams, Joule's Experiment, Free Adiabatic Expansion of a Perfect Gas.
04-12-2023 to 09-12-2023	Revision of syllabus

Signature of Teacher

LESSON PLAN		
Name of Teacher:-	Dr. Venu Mehta	Class: B. Sc. 3rd Semester
Subject: Physics	Nomenclature of Paper: Semiconductor Devices	
		Session: 2023-24
		Paper Code: CPL-303
Month & Year	Topic	
24-07-2023 to 29-07-2023	Semiconductor Diodes and applications: p and n type semiconductors.	
01-08-2023 to 05-08-2023	Barrier Formation in PN Junction Diode, Drift and Diffusion Currents.	
07-08-2023 to 12-08-2023	Current flow mechanism in Forward and Reverse biased PN Junction Diodes mentioning the roles of drift and diffusion currents.	
14-08-2023 to 19-08-2023	V-I characteristics of PN Junction Diode, Static and Dynamic Resistance, Applications of PN Junction Diode as	
21-08-2023 to 26-08-2023	Half-wave rectifier, Full-wave Rectifier (both center-tapped and bridge FWR)	
28-08-2023 to 02-09-2023	Calculation of ripple factor and rectification efficiency, Zener Diode, Applications of Zener Diode as DC voltage Regulator, Principle and structure of LEDs, Photodiode, Solar Cell	
04-09-2023 to 09-09-2023	Semiconductor Transistors: Bipolar Junction transistors: n-p-n and p-n-p Transistors, Biasing of transistors in Active, Cutoff, and Saturation Modes,	
11-09-2023 to 16-09-2023	Circuit configurations of CB, CE and CC transistors,	
18-09-2023 to 22-09-2023	characteristics of transistors in CB, CE and CC.	
25-09-2023 to 30-09-2023	Current gains α and β . Relations between α and β , Current gain and power gain, DC Load line and Q- point,	
03-10-2023 to 07-10-2023	Amplifiers and Their Biasing: Voltage Divider Bias Circuit for CE Amplifier.	
09-10-2023 to 14-10-2023	Bias stabilization, Class-A, B&C amplifiers, RC coupled amplifiers and its frequency response.	
16-10-2023 to 21-10-2023	Feedback in amplifiers, positive and negative feedback in amplifiers, Advantages of negative feedback in amplifiers.	
23-10-2023 to 28-10-2023	Sinusoidal Oscillators: Barkhausen's Criterion for Self-sustained oscillations, Circuit and working of Hartley oscillator	
30-10-2023 to 04-11-2023	Circuit and working of Colpit's oscillator, Uses of oscillator.	
06-11-2023 to 09-11-2023	Operational Amplifiers (Black Box approach): Qualitative idea of differential amplifier, CMRR, Characteristics of an Ideal and Practical Op-Amp (IC 741)	
17-11-2023 to 18-11-2023	Open-loop& Closed-loop Gain. concept of Virtual ground, Applications of Op-Amps as Inverting Amplifier	
20-11-2023 to 25-11-2023	Noninverting Amplifier, Differentiator, Integrator.	
28-11-2023 to 02-12-2023	Revision Practice	
04-12-2023 to 09-12-2023	Revision Practice	

Teacher's Signature

LESSON PLAN		
Name of Teacher:- Ms. Sonia Rani	Class: B. Sc. 3rd Semester	Session: 2023-24
Subject: Physics	Nomenclature of Paper: Semiconductor Devices	Paper Code: CPL-303
Month & Year	Topic	
24-07-2023 to 29-07-2023	Semiconductor Diodes and applications: p and n type semiconductors.	
01-08-2023 to 05-08-2023	Barrier Formation in PN Junction Diode, Drift and Diffusion Currents.	
07-08-2023 to 12-08-2023	Current flow mechanism in Forward and Reverse biased PN Junction Diodes mentioning the roles of drift and diffusion currents.	
14-08-2023 to 19-08-2023	V-I characteristics of PN Junction Diode, Static and Dynamic Resistance, Applications of PN Junction Diode as	
21-08-2023 to 26-08-2023	Half-wave rectifier, Full-wave Rectifier (both center-tapped and bridge FWR)	
28-08-2023 to 02-09-2023	Calculation of ripple factor and rectification efficiency, Zener Diode, Applications of Zener Diode as DC voltage Regulator, Principle and structure of LEDs, Photodiode, Solar Cell	
04-09-2023 to 09-09-2023	Semiconductor Transistors: Bipolar Junction transistors: n-p-n and p-n-p Transistors, Biasing of transistors in Active, Cutoff, and Saturation Modes,	
11-09-2023 to 16-09-2023	Circuit configurations of CB ,CE and CC transistors,	
18-09-2023 to 22-09-2023	characteristics of transistors in CB,CE and CC.	
25-09-2023 to 30-09-2023	Current gains α and β . Relations between α and β , Current gain and power gain, DC Load line and Q- point,	
03-10-2023 to 07-10-2023	Amplifiers and Their Biasing: Voltage Divider Bias Circuit for CE Amplifier.	
09-10-2023 to 14-10-2023	Bias stabilization, Class-A, B&C amplifiers, RC coupled amplifiers and its frequency response.	
16-10-2023 to 21-10-2023	Feedback in amplifiers, positive and negative feedback in amplifiers, Advantages of negative feedback in amplifiers.	
23-10-2023 to 28-10-2023	Sinusoidal Oscillators: Barkhausen's Criterion for Self-sustained oscillations, Circuit and working of Hartley oscillator	
30-10-2023 to 04-11-2023	Circuit and working of Colpit's oscillator, Uses of oscillator.	
06-11-2023 to 09-11-2023	Operational Amplifiers (Black Box approach): Qualitative idea of differential amplifier, CMRR, Characteristics of an Ideal and Practical Op-Amp (IC 741)	
17-11-2023 to 18-11-2023	Open-loop& Closed-loop Gain. concept of Virtual ground, Applications of Op-Amps as Inverting Amplifier	
20-11-2023 to 25-11-2023	Noninverting Amplifier, Differentiator, Integrator.	
28-11-2023 to 02-12-2023	Revision Practice	
04-12-2023 to 09-12-2023	Revision Practice	

Teacher's Signature

LESSON PLAN		
Name of Teacher:- Dr. Bulkesh	Class: B. Sc. 3rd Semester	Session: 2023-24
Subject: Physics	Nomenclature of Paper: Semiconductor Devices	Paper Code: CPL-303
Month & Year	Topic	
24-07-2023 to 29-07-2023	Semiconductor Diodes and applications: p and n type semiconductors.	
01-08-2023 to 05-08-2023	Barrier Formation in PN Junction Diode, Drift and Diffusion Currents.	
07-08-2023 to 12-08-2023	Current flow mechanism in Forward and Reverse biased PN Junction Diodes mentioning the roles of drift and diffusion currents.	
14-08-2023 to 19-08-2023	V-I characteristics of PN Junction Diode, Static and Dynamic Resistance, Applications of PN Junction Diode as	
21-08-2023 to 26-08-2023	Half-wave rectifier, Full-wave Rectifier (both center-tapped and bridge FWR)	
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17-11-2023 to 18-11-2023	Open-loop& Closed-loop Gain. concept of Virtual ground, Applications of Op-Amps as Inverting Amplifier	
20-11-2023 to 25-11-2023	Noninverting Amplifier, Differentiator, Integrator.	
28-11-2023 to 02-12-2023	Revision Practice	
04-12-2023 to 09-12-2023	Revision Practice	

Teacher's Signature

LESSON PLAN (Session: 2023-24)

Name of Teacher: Ms. Priyanka

Class: B. Sc. 5th Semester

Subject: Physics

Nomenclature of Paper: Elements of Modern Physics

Paper Code: CPL-501

Week & Month	Topic
24-07-2023 to 29-07-2023	Properties of Thermal Radiation, Spectral Distribution of Blackbody Radiation,
01-08-2023 to 05-08-2023	Ultraviolet Catastrophe, Planck's Quantum Postulates, Planck's Law of Blackbody Radiation: Experimental Verification.
07-08-2023 to 12-08-2023	Photo-electric effect and Compton scattering; Pair production and annihilation
14-08-2023 to 19-08-2023	Bremsstrahlung effect, Cherenkov radiation, Production of X-rays.
21-08-2023 to 26-08-2023	Drawbacks of Rutherford model, Bohr atomic model; Bohr's quantization rule and atomic stability;
28-08-2023 to 02-09-2023	Calculation of energy levels for hydrogen like atoms and their spectra, Effect of nuclear mass on spectra, Correspondence principle.
04-09-2023 to 09-09-2023	Fundamentals of Wave Mechanics: De Broglie wavelength and matter waves; Wave-particle duality;
11-09-2023 to 16-09-2023	Frank-Hertz, Davison and Germer experiment, phase velocity, group velocity and their relations
18-09-2023 to 22-09-2023	Heisenberg Uncertainty Principle; Estimating minimum energy of a confined particle using uncertainty principle;
25-09-2023 to 30-09-2023	numerical problems /revision and unit test
03-10-2023 to 07-10-2023	Energy-time uncertainty principle, Properties of wave-function, Physical Interpretation of wave-function
09-10-2023 to 14-10-2023	Schrodinger Equation: Momentum and Energy operators, Stationary states, Physical interpretation of a wave function
16-10-2023 to 21-10-2023	probabilities and normalization, Schrodinger Equation, Particle in 1-dimension infinite potential well.
23-10-2023 to 28-10-2023	LASER: Absorption and emission of radiation (qualitative only); Basic features of LASER
30-10-2023 to 04-11-2023	Population inversion; Resonance cavity
06-11-2023 to 09-11-2023	laser pumping; threshold condition for laser emission
17-11-2023 to 18-11-2023	Einstein's Co-efficient, Ruby LASER, Applications of LASER.
20-11-2023 to 25-11-2023	3 level and 4 level system, Basic principle and working of He-Ne LASER
28-11-2023 to 02-12-2023	numerical problems /revision and class test
04-12-2023 to 09-12-2023	revision of syllabus and problems

Signature of Teacher

LESSON PLAN (Session: 2023-24)

Name of Teacher: Mr. Pawan kumar

Class: B. Sc. 5th Semester

Subject: Physics

Nomenclature of Paper: Elements of Modern Physics

Paper Code: CPL-501

Week & Month	Topic
24-07-2023 to 29-07-2023	Properties of Thermal Radiation, Spectral Distribution of Blackbody Radiation,
01-08-2023 to 05-08-2023	Ultraviolet Catastrophe, Planck's Quantum Postulates, Planck's Law of Blackbody Radiation: Experimental Verification.
07-08-2023 to 12-08-2023	Photo-electric effect and Compton scattering; Pair production and annihilation
14-08-2023 to 19-08-2023	Bremsstrahlung effect, Cherenkov radiation, Production of X-rays.
21-08-2023 to 26-08-2023	Drawbacks of Rutherford model, Bohr atomic model; Bohr's quantization rule and atomic stability;
28-08-2023 to 02-09-2023	Calculation of energy levels for hydrogen like atoms and their spectra, Effect of nuclear mass on spectra, Correspondence principle.
04-09-2023 to 09-09-2023	Fundamentals of Wave Mechanics: De Broglie wavelength and matter waves; Wave-particle duality;
11-09-2023 to 16-09-2023	Frank-Hertz, Davison and Germer experiment, phase velocity, group velocity and their relations
18-09-2023 to 22-09-2023	Heisenberg Uncertainty Principle; Estimating minimum energy of a confined particle using uncertainty principle;
25-09-2023 to 30-09-2023	numerical problems /revision and unit test
03-10-2023 to 07-10-2023	Energy-time uncertainty principle, Properties of wave-function, Physical Interpretation of wave-function
09-10-2023 to 14-10-2023	Schrodinger Equation: Momentum and Energy operators, Stationary states, Physical interpretation of a wave function
16-10-2023 to 21-10-2023	probabilities and normalization, Schrodinger Equation, Particle in 1-dimension infinite potential well.
23-10-2023 to 28-10-2023	LASER: Absorption and emission of radiation (qualitative only); Basic features of LASER
30-10-2023 to 04-11-2023	Population inversion; Resonance cavity
06-11-2023 to 09-11-2023	laser pumping; threshold condition for laser emission
17-11-2023 to 18-11-2023	Einstein's Co-efficient, Ruby LASER, Applications of LASER.
20-11-2023 to 25-11-2023	3 level and 4 level system, Basic principle and working of He-Ne LASER
28-11-2023 to 02-12-2023	numerical problems /revision and class test
04-12-2023 to 09-12-2023	revision of syllabus and problems

Signature of Teacher

LESSON PLAN (Session: 2023-24)

Name of Teacher: Ms. Monika

Class: B. Sc. 5th Semester

Subject: Physics

Nomenclature of Paper: Nuclear Physics

Paper Code: CPL-502

Week & Month	Topic
24-07-2023 to 29-07-2023	Nuclear composition, Nuclear properties; Nuclear mass, size, spin, parity, magnetic dipole moment, quadrupole moment (shape concept)
01-08-2023 to 05-08-2023	Binding energy, nuclear binding energy curve, Radioactivity: Law of Radioactive Decay, Half-life, Radioactive Series
07-08-2023 to 12-08-2023	α -decay: Range of α -particles, Geiger-Nuttall law and α -particle Spectra
14-08-2023 to 19-08-2023	β -decay, Energy Spectra and Neutrino Hypothesis, γ -decay : Origin of γ -ray
21-08-2023 to 26-08-2023	Similarity between nuclear matter and liquid drop, Liquid Drop Model, Semi-classical Mass formula. Limitations of liquid drop model
28-08-2023 to 02-09-2023	Magic number, Experimental signature of shell structure in nuclei
04-09-2023 to 09-09-2023	Nuclear Shell Model (qualitative only) and its application, Meson Theory of Nuclear Forces.
11-09-2023 to 16-09-2023	Interaction of heavy charged particles (Proton & Alpha Particle). Energy loss of heavy charged particle, Range of alpha particles
18-09-2023 to 22-09-2023	Interaction of light charged particle (Beta particle), Interaction of Gamma Ray
25-09-2023 to 30-09-2023	numerical problems /revision and unit test
03-10-2023 to 07-10-2023	Passage of Gamma radiations through matter (Photoelectric, Compton and pair production effect)
09-10-2023 to 14-10-2023	Absorption of Gamma rays, Types of nuclear reactions, Concept of reaction cross-section
16-10-2023 to 21-10-2023	Concept of Compound and Direct Reactions.
23-10-2023 to 28-10-2023	Gas filled counters; Ionization chamber, proportional counter
30-10-2023 to 04-11-2023	G.M. Counter (detailed study)
06-11-2023 to 09-11-2023	Basic principle of scintillation counter and semiconductor detectors.
17-11-2023 to 18-11-2023	General aspects of reactor design, Nuclear fission reactor (Principle, construction, working and use)
20-11-2023 to 25-11-2023	Particle Accelerator facilities in India, Linear Accelerator, Cyclotron, Synchrotron
28-11-2023 to 02-12-2023	numerical problems /revision and class test
04-12-2023 to 09-12-2023	revision of syllabus and problems

Signature of Teacher

LESSON PLAN (Session: 2023-24)

Name of Teacher: Dr. kirti

Class: B. Sc. 5th Semester

Subject: Physics

Nomenclature of Paper: Nuclear Physics

Paper Code: CPL-502

Week & Month	Topic
24-07-2023 to 29-07-2023	Nuclear composition, Nuclear properties; Nuclear mass, size, spin, parity, magnetic dipole moment, quadrupole moment (shape concept)
01-08-2023 to 05-08-2023	Binding energy, nuclear binding energy curve, Radioactivity: Law of Radioactive Decay, Half-life, Radioactive Series
07-08-2023 to 12-08-2023	α -decay: Range of α -particles, GeigerNuttal law and α -particle Spectra
14-08-2023 to 19-08-2023	β -decay, Energy Spectra and Neutrino Hypothesis, γ -decay : Origin of γ -ray
21-08-2023 to 26-08-2023	Similarity between nuclear matter and liquid drop, Liquid Drop Model, Semi-classical Mass formula, Limitations of liquid drop model
28-08-2023 to 02-09-2023	Magic number, Experimental signature of shell structure in nuclei
04-09-2023 to 09-09-2023	Nuclear Shell Model (qualitative only) and its application, Meson Theory of Nuclear Forces.
11-09-2023 to 16-09-2023	Interaction of heavy charged particles (Proton & Alpha Particle). Energy loss of heavy charged particle, Range of alpha particles
18-09-2023 to 22-09-2023	Interaction of light charged particle (Betaparticle), Interaction of Gamma Ray
25-09-2023 to 30-09-2023	numerical problems /revision and unit test
03-10-2023 to 07-10-2023	Passage of Gamma radiations through matter (Photoelectric, Compton and pair production effect)
09-10-2023 to 14-10-2023	Absorption of Gamma rays, Types of nuclear reactions, Concept of reaction cross-section
16-10-2023 to 21-10-2023	Concept of Compound and Direct Reactions.
23-10-2023 to 28-10-2023	Gas filled counters; Ionization chamber, proportional counter
30-10-2023 to 04-11-2023	G.M. Counter (detailed study)
06-11-2023 to 09-11-2023	Basic principle of scintillation counter and semiconductor detectors.
17-11-2023 to 18-11-2023	General aspects of reactor design, Nuclear fission reactor (Principle, construction, working and use)
20-11-2023 to 25-11-2023	Particle Accelerator facilities in India, Linear Accelerator, Cyclotron, Synchrotron
28-11-2023 to 02-12-2023	numerical problems /revision and class test
04-12-2023 to 09-12-2023	revision of syllabus and problems

Signature of Teacher