Lesson Plan

Teacher- Anil Kumar
Class- B.Sc. Third Year, 6th Semester
Subject: Atomic and molecular spectroscopy
Session- 2024-25

Week	Topic
01/01/2025 to 04/01/2025	Atomic spectra, Bohr Atomic model, atomic excitation
06/01/2025 to 11/01/2025	Energy levels and spectra, Franck-Hertz experiment.
13/01/2025 to 18/01/2025	Vector atom model, quantum number associated with vector atom model,
20/01/2025 to 25/01/2025	Penetrating and non-penetrating orbits.
27/01/2025 to 01/02/2025	Spectral lines in different series of alkali spectra
03/02/2025 to 08/02/2025	Spin orbit interaction and doublet separation, revision of unit-1
10/02/2025 to 15/02/2025	LS and jj coupling, Zeeman effect, Paschen back effect
17/02/2025 to 22/02/2025	Assignment work
24/02/2025 to 01/03/2025	Stark effect, discrete set of electronic energy levels in molecules
03/03/2025 to 08/03/2025	Rotational spectra, vibrational spectra, Raman effect, test of unit-1.
09/03/2025 to 16/03/2025	Holi break
17/03/2025 to 22/03/2025	Main features of laser, spatial and temporal coherence,
24/03 /2025 to 29/03/2025	Revision of unit-2 and assignment work
31/03/2025 to 05/04/2025	Threshold condition, revision of unit-3
7/04/2025 to 12/04/2025	Application of lasers
14/04/2025 to 19/04/2025	Einstein coefficients and possibility of amplification,
21/04/2025 to 26/04/2025	Ruby laser and helium neon laser.
28/04/2025 to 30/04/2025	Revision of all syllabus

Lesson Plan

Teacher- Praveen Kumar
Class- B.Sc. Third Year, 6th Semester
Subject: Nanomaterials and Applications
Session- 2024-25

Week/Days	Name of Topic
01/01/2025 to 04/01/2025	Basic Idea of Band Structure, Metals, Insulators, Semi-Conductors
06/01/2025 to 11/01/2025	Variation of Density of States and Band Gap With Size of Crystals
13/01/2025 to 18/01/2025	Quantum Confinement, Electron Confinement Into One, Two and Three Dimensions
20/01/2025 to 25/01/2025	Infinitely Deep Square Well Potentials, Quantum Well, Wire and Dot
27/01/2025 to 01/02/2025	Bottom Up and Top Down Approaches for Synthesis of Nanomaterials. Test of Unit-1
03/02/2025 to 08/02/2025	Sol-Gel Process, Core Shell Nanoparticles, Ball Milling
10/02/2025 to 15/02/2025	Chemical Vapour Deposition Techniques,
17/02/2025 to 22/02/2025	Lithography, Two- Dimensional Nanostructures
24/02/2025 to 01/03/2025	Carbon Molecules, New Carbon Structures, Carbon Clusters, C60 and Other Bucky Balls. Test of Unit-2
03/03/2025 to 08/03/2025	Structures of C60 and Larger Fullerenes, Graphene, Carbon Nanotubes,
09/03/2025 to 16/03/2025	Holi break
17/03/2025 to 22/03/2025	Fabrication Techniques, Structure, Properties: Electrical, Mechanical, and Vibrational Properties
24/03 /2025 to 29/03/2025	Applications of Carbon Nanotubes.
31/03/2025 to 05/04/2025	Basic Principle and Idea of Instrumentation for Characterization of Nanostructures
7/04/2025 to 12/04/2025	X-Ray Diffraction Technique, Transmission Electron Microscope (TEM)
14/04/2025 to 19/04/2025	Atomic Force Microscopy
21/04/2025 to 26/04/2025	Scanning Tunnelling Microscopy. Test of Unit- 3.
28/04/2025 to 30/04/2025	Revision of all syllabus

Lesson Plan

Teacher- Anita Yadav
Class- B.Sc. Third Year, 6th Semester
Subject: Atomic and molecular spectroscopy, Nuclear physics
Session- 2023-24

Week	Topic
01/01/2025 to 04/01/2025	Atomic spectra, Bohr Atomic model, energy levels and spectra, correspondence principle, atomic excitation
06/01/2025 to 11/01/2025	Franck-Hertz experiment, vector atom model, quantum number associated with vector atom model, penetrating and non-penetrating orbits,
13/01/2025 to 18/01/2025	Spectral lines in different series of alkali spectra, spin orbit interaction and doublet separation, LS and jj coupling, Zeeman effect
20/01/2025 to 25/01/2025	Paschen back effect, Stark effect, discrete set of electronic energy levels in molecules, rotational spectra, vibrational spectra, Raman effect, test of unit-1.
27/01/2025 to 01/02/2025	Main features of laser, spatial and temporal coherence, Einstein coefficients and possibility of amplification, threshold condition, ruby laser and helium neon laser.
03/02/2025 to 08/02/2025	General Properties of Nuclei: Constituents of nucleus and their Intrinsic properties, quantitative facts about size, mass, charge density (matter energy)
10/02/2025 to 15/02/2025	binding energy, average binding energy and its variation with mass number, main features of binding energy versus mass number curve, N/A plot, angular momentum, parity, magnetic moment, electric moments, nuclear excites states
17/02/2025 to 22/02/2025	Nuclear Models: Liquid drop model approach, semi empirical mass formula and significance of various terms, condition of nuclear stability. Evidence for nuclear shell structure.
24/02/2025 to 01/03/2025	Radioactivity decay:(a) Alpha decay: basics of a-decay processes, theory of a-emission, Gamow factor, Geiger Nuttall law, a-decay spectroscopy.
03/03/2025 to 08/03/2025	β-decay: energy kinematics for β -decay, positron emission, electron capture, neutrino hypothesis. (c) Gamma decay: Gamma rays emission & kinematics, internal conversion).
09/03/2025 to 16/03/2025	Holi break
17/03/2025 to 22/03/2025	Nuclear Reactions: Types of Reactions, Conservation Laws, kinematics of reactions, Q-value, reaction rate, reaction cross section, test of unit-2

24/03 /2025 to 29/03/2025	Concept of compound and direct reaction, resonance reaction, Coulomb scattering (Rutherford scattering). Interaction of Nuclear Radiation with matter: Energy loss due to ionization (Bethe-Block formula)
31/03/2025 to 05/04/2025	Energy loss of electrons, Cerenkov radiation, Gamma ray interaction through matter, photoelectric effect, Compton scattering, pair production, neutron interaction with matter.
7/04/2025 to 12/04/2025	Detector for Nuclear Radiations: Gas detectors: estimation of electric field, mobility of particle
14/04/2025 to 19/04/2025	Ionization chamber and GM Counter. Basic principle of Scintillation Detectors and construction of photo-multiplier tube (PMT).
21/04/2025 to 26/04/2025	Semiconductor Detectors (Si& Ge) for charge particle and photon detection (concept of charge carrier and mobility).
28/04/2025 to 30/04/2025	Revision of all syllabus

Lesson Plan

Teacher- Sheela
Class- B.Sc. Third Year, 6th Semester
Subject: Atomic and molecular spectroscopy, nanomaterials and applications
Session- 2024-25

Week	Topic
01/01/2025 to 04/01/2025	Atomic spectra, Bohr Atomic model, energy levels and spectra, correspondence principle, atomic excitation
06/01/2025 to 11/01/2025	Franck-Hertz experiment, vector atom model, quantum number associated with vector atom model, penetrating and non-penetrating orbits,
13/01/2025 to 18/01/2025	Spectral lines in different series of alkali spectra, spin orbit interaction and doublet separation, LS and jj coupling, Zeeman effect
20/01/2025 to 25/01/2025	Paschen back effect, Stark effect, discrete set of electronic energy levels in molecules, rotational spectra, vibrational spectra, Raman effect,
27/01/2025 to 01/02/2025	Main features of laser, spatial and temporal coherence, Einstein coefficients and possibility of amplification, threshold condition, ruby laser and helium neon laser, test of unit-1.
03/02/2025 to 08/02/2025	Basic idea of band structure, metal, insulator, semi -conductor, variation of density of state and band gap with size of crystal
10/02/2025 to 15/02/2025	Quantum confinement, electron confinement in 1 d ,2d 3d infinite deep square well potentials.
17/02/2025 to 22/02/2025	Quantum wire, well, and dot
24/02/2025 to 01/03/2025	Bottom up and top-down approaches for synthesis of nanomaterials, sol-gel process, core shell nanoparticles, ball milling, and chemical vapour
03/03/2025 to 08/03/2025	Lithography, two- dimensional nanostructures, carbon molecules, new carbon structures, carbon clusters, C60 and other Buckyballs, test of unit-2
09/03/2025 to 16/03/2025	Holi Break
17/03/2025 to 22/03/2025	Structures of C60 and larger Fullerenes, carbon nanotubes, fabrication techniques,
24/03 /2025 to 29/03/2025	Assignment work
31/03/2025 to 05/04/2025	Structural, electrical, mechanical of carbon nanotube
7/04/2025 to 12/04/2025	Vibrational properties of carbon nanotubes.
14/04/2025 to 19/04/2025	Characterization of nanostructures, X-ray diffraction technique, TEM, SEM
21/04/2025 to 26/04/2025	Raman Spectroscopy, atomic force spectroscopy, Test of unit- 3.
28/04/2025 to 30/04/2025	Revision of all syllabus

Lesson Plan

Teacher- Sonia

Class- B.Sc. Second Year, 4thSemester

Subject: Semiconducting devices, quantum mechanics

Session- 2024-25

Week	Topic
01/01/2025 to 04/01/2025	Semiconductor, diodes, barrier formation, drift and diffusion currents, half wave and full wave rectifier
06/01/2025 to 11/01/2025	Ripple factor and rectifier efficiency, BJT characteristics of CB, CE, CC configurations, active, cut off and saturation regions, relation between current gain, load line analysis ad Q point.
13/01/2025 to 18/01/2025	FET: FET, MOSFET, comparison of BJT ad FET, amplifier classification, voltage divider bias circuit
20/01/2025 to 25/01/2025	RC coupled amplifier, feedback in amplifiers, advantages of negative feedback
27/01/2025 to 01/02/2025	Operational amplifier, CMRR, closed loop gain and virtual ground
03/02/2025 to 08/02/2025	Applications of operational amplifier: Differentiator, Integrator, Inverting and noninverting amplifiers
10/02/2025 to 15/02/2025	Black body radiation, photoelectric effect, old quantum theory,
17/02/2025 to 22/02/2025	Compton effect, debroglie hypothesis
24/02/2025 to 01/03/2025	Wave function and its properties, orthogonality and normalization of wave function, time dependent ad independent Schrodinger wave equations, moment energy operators, Test of unit 1.
03/03/2025 to 08/03/2025	Commutator relations of various operators, eigen value and eigen function,
09/03/2025 to 16/03/2025	Holi break
17/03/2025 to 22/03/2025	Stationary states and expectation values of dynamical quantities, 1D potential barrier, reflection and transmission coefficient
24/03 /2025 to 29/03/2025	particle in 1D infinite square well
31/03/2025 to 05/04/2025	Solution of Schrodinger equation for harmonic oscillator,
7/04/2025 to 12/04/2025	spherical harmonics, space quantization,
14/04/2025 to 19/04/2025	stern Gerlach experiment
21/04/2025 to 26/04/2025	Gyromagnetic ratio and bohr magneton, Test of unit 2.
28/04/2025 to 30/04/2025	Revision of all syllabus

Lesson Plan

Teacher:Seema

Class- B.Sc. Second Year, 4thSemester

Subject: Semiconducting devices, quantum mechanics

Session- 2024-25

Week	Topic
01/01/2025 to 04/01/2025	Semiconductor, diodes, barrier formation, drift and diffusion currents, half wave and full wave rectifier
06/01/2025 to 11/01/2025	Ripple factor and rectifier efficiency, BJT characteristics of CB, CE, CC configurations, active, cut off and saturation regions, relation between current gain, load line analysis ad Q point.
13/01/2025 to 18/01/2025	FET: FET, MOSFET, comparison of BJT ad FET, amplifier classification, voltage divider bias circuit
20/01/2025 to 25/01/2025	RC coupled amplifier, feedback in amplifiers, advantages of negative feedback
27/01/2025 to 01/02/2025	Operational amplifier, CMRR, closed loop gain and virtual ground
03/02/2025 to 08/02/2025	Applications of operational amplifier: Differentiator, Integrator, Inverting and noninverting amplifiers
10/02/2025 to 15/02/2025	Black body radiation, photoelectric effect, old quantum theory,
17/02/2025 to 22/02/2025	Compton effect, debroglie hypothesis
24/02/2025 to 01/03/2025	Wave function and its properties, orthogonality and normalization of wave function, time dependent ad independent Schrodinger wave equations, moment energy operators, Test of unit 1.
03/03/2025 to 08/03/2025	Commutator relations of various operators, eigen value and eigen function,
09/03/2025 to 16/03/2025	Holi break
17/03/2025 to 22/03/2025	Stationary states and expectation values of dynamical quantities, 1D potential barrier, reflection and transmission coefficient
24/03 /2025 to 29/03/2025	particle in 1D infinite square well
31/03/2025 to 05/04/2025	Solution of Schrodinger equation for harmonic oscillator,
7/04/2025 to 12/04/2025	spherical harmonics, space quantization,
14/04/2025 to 19/04/2025	stern Gerlach experiment
21/04/2025 to 26/04/2025	Gyromagnetic ratio and bohr magneton, Test of unit 2.
28/04/2025 to 30/04/2025	Revision of all syllabus

Lesson Plan

Teacher- Madan Singh

Class- B.Sc. Second Year, 4thSemester

Subject: Semiconducting devices, quantum mechanics

Session- 2024-25

Week	Topic
01/01/2025 to 04/01/2025	Semiconductor, diodes, barrier formation, drift and diffusion currents, half wave and full wave rectifier
06/01/2025 to 11/01/2025	Ripple factor and rectifier efficiency, BJT characteristics of CB, CE, CC configurations, active, cut off and saturation regions, relation between current gain, load line analysis ad Q point.
13/01/2025 to 18/01/2025	FET: FET, MOSFET, comparison of BJT ad FET, amplifier classification, voltage divider bias circuit
20/01/2025 to 25/01/2025	RC coupled amplifier, feedback in amplifiers, advantages of negative feedback
27/01/2025 to 01/02/2025	Operational amplifier, CMRR, closed loop gain and virtual ground
03/02/2025 to 08/02/2025	Applications of operational amplifier: Differentiator, Integrator, Inverting and noninverting amplifiers
10/02/2025 to 15/02/2025	Black body radiation, photoelectric effect, old quantum theory,
17/02/2025 to 22/02/2025	Compton effect, debroglie hypothesis
24/02/2025 to 01/03/2025	Wave function and its properties, orthogonality and normalization of wave function, time dependent ad independent Schrodinger wave equations, moment energy operators, Test of unit 1.
03/03/2025 to 08/03/2025	Commutator relations of various operators, eigen value and eigen function,
09/03/2025 to 16/03/2025	Holi break
17/03/2025 to 22/03/2025	Stationary states and expectation values of dynamical quantities, 1D potential barrier, reflection and transmission coefficient
24/03 /2025 to 29/03/2025	particle in 1D infinite square well
31/03/2025 to 05/04/2025	Solution of Schrodinger equation for harmonic oscillator,
7/04/2025 to 12/04/2025	spherical harmonics, space quantization,
14/04/2025 to 19/04/2025	stern Gerlach experiment
21/04/2025 to 26/04/2025	Gyromagnetic ratio and bohr magneton, Test of unit 2.
28/04/2025 to 30/04/2025	Revision of all syllabus

Lesson Plan

Teacher- Sheela
Class- PHY HONS, 2nd Semester
Subject: Electricity, Magnetism and Electromagnetic Theory.
B-23 PHY-201
Session- 2024-25

Week	Topic
27/01/2025 to 01/02/2025	Vector Background and Electric Field: Gradient of a scalar and its physical significance, Line, Surface and Volume integrals of a vector and their physical significance. Flux of a vector field. Divergence and curl of a vector and their physical significance,
03/02/2025 to 08/02/2025	Gauss's divergence theorem. Stoke's theorem. Conservative nature of Electrostatic Field. electric field E from potential as gradient. Derivation of Laplace and Poisson equations Electric flux, Gauss's Law. Differential form of Gauss's law and applications of Gauss's law. Mechanical force of charged surface, Energy per unit volume.
10/02/2025 to 15/02/2025	Unit Test -1
17/02/2025 to 22/02/2025	Magnetic Field: Biot-Savart law and its simple applications: straight wire and circular loop, Current Loop as a Magnetic Dipole and its Dipole Moment, Ampere's Circuital Law and its applications to (1) Solenoid and (2) Toroid, properties of B: curl and divergence.
24/02/2025 to 01/03/2025	Magnetic Properties of Matter: Force on a dipole in an external field, Electric currents in Atoms, Electron spin and Magnetic moment
03/03/2025 to 08/03/2025	types of magnetic materials, Magnetization vector (M), Magnetic Intensity (H), Magnetic and permeability, between B, H and M, Electronic theory of dia and paramagnetism, Domain theory of ferromagnetism (Langevin's theory)
09/03/2025 to 16/03/2025	Holi Break
17/03/2025 to 22/03/2025	Electromagnetic induction, Faraday's laws of induction and Lenz's Law, Self-inductance, Mutual inductance, Energy stored in a Magnetic field, Derivation of Maxwell's equations, Displacement current, Maxwell's equations in differential and integral form and their significance.
24/03 /2025 to 29/03/2025	Unit Test-2
31/03/2025 to 05/04/2025	Electromagnetic Waves: Electromagnetic waves, Transverse nature of electromagnetic wave, energy transported by electromagnetic waves
7/04/2025 to 12/04/2025	Poynting vector, Poynting's theorem. Propagation of Plane electromagnetic waves in free space & Dielectrics.
14/04/2025 to 19/04/2025	DC Current Circuits: Electric current and current density, Electrical conductivity and Ohm's law (Review), Kirchhoff's laws for D.C. networks, Network theorems: Thevenin's theorem, Norton theorem, Superposition theorem.
21/04/2025 to 26/04/2025	A resonance circuit, Phasor, Complex Reactance and Impedance, Analysis for RL, RC and LC Circuits, Series LCR Circuit: (1) Resonance,(2) Power Dissipation (3) Quality Factor and (4) Band Width, Parallel LCR Circuit.
28/04/2025 to 30/04/2025	Revision and test

Lesson Plan

Teacher- Nidhi
Class- B.Sc 2nd Semester
Subject: Electricity, Magnetism and Electromagnetic Theory
Session- 2024-25

Week	Topic
27/01/2025 to 01/02/2025	Vector Background and Electric Field: Gradient of a scalar and its physical significance, Line, Surface and Volume integrals of a vector and their physical significance. Flux of a vector field. Divergence and curl of a vector and their physical significance,
03/02/2025 to 08/02/2025	Gauss's divergence theorem. Stoke's theorem. Conservative nature of Electrostatic Field. Electric field E from potential as gradient. Derivation of Laplace and Poisson equations Electric flux, Gauss's Law. Differential form of Gauss's law and applications of Gauss's law. Mechanical force of charged surface, Energy per unit volume.
10/02/2025 to 15/02/2025	Unit Test -1
17/02/2025 to 22/02/2025	Magnetic Field: Biot-Savart law and its simple applications: straight wire and circular loop, Current Loop as a Magnetic Dipole and its Dipole Moment, Ampere's Circuital Law and its applications to (1) Solenoid and (2) Toroid, properties of B: curl and divergence.
24/02/2025 to 01/03/2025	Magnetic Properties of Matter: Force on a dipole in an external field, Electric currents in Atoms, Electron spin and Magnetic moment
03/03/2025 to 08/03/2025	types of magnetic materials, Magnetization vector (M), Magnetic Intensity (H), Magnetic and permeability, between B, H and M, Electronic theory of dia and paramagnetism, Domain theory of ferromagnetism (Langevin's theory)
09/03/2025 to 16/03/2025	Holi Break
17/03/2025 to 22/03/2025	Electromagnetic induction, Faraday's laws of induction and Lenz's Law, Self-inductance, Mutual inductance, Energy stored in a Magnetic field, Derivation of Maxwell's equations, Displacement current, Maxwell's equations in differential and integral form and their significance.
24/03 /2025 to 29/03/2025	Unit Test-2
31/03/2025 to 05/04/2025	Electromagnetic Waves: Electromagnetic waves, Transverse nature of electromagnetic wave, energy transported by electromagnetic waves
7/04/2025 to 12/04/2025	Poynting vector, Poynting's theorem. Propagation of Plane electromagnetic waves in free space & Dielectrics.
14/04/2025 to 19/04/2025	DC Current Circuits: Electric current and current density, Electrical conductivity and Ohm's law (Review), Kirchhoff's laws for D.C. networks, Network theorems: Thevenin's theorem, Norton theorem, Superposition theorem.
21/04/2025 to 26/04/2025	A resonance circuit, Phasor, Complex Reactance and Impedance, Analysis for RL, RC and LC Circuits, Series LCR Circuit: (1) Resonance,(2) Power Dissipation (3) Quality Factor and (4) Band Width, Parallel LCR Circuit.
28/04/2025 to 30/04/2025	Revision and test

Lesson Plan

Teacher- Monika
Class-B.Sc, 2nd Semester
Subject: Electricity, Magnetism and Electromagnetic Theory.
Session- 2024-25

Week	Topic
27/01/2025 to 01/02/2025	Vector Background and Electric Field: Gradient of a scalar and its physical significance, Line, Surface and Volume integrals of a vector and their physical significance. Flux of a vector field. Divergence and curl of a vector and their physical significance,
03/02/2025 to 08/02/2025	Gauss's divergence theorem. Stoke's theorem. Conservative nature of Electrostatic Field. electric field E from potential as gradient. Derivation of Laplace and Poisson equations Electric flux, Gauss's Law. Differential form of Gauss's law and applications of Gauss's law. Mechanical force of charged surface, Energy per unit volume.
10/02/2025 to 15/02/2025	Unit Test -1
17/02/2025 to 22/02/2025	Magnetic Field: Biot-Savart law and its simple applications: straight wire and circular loop, Current Loop as a Magnetic Dipole and its Dipole Moment, Ampere's Circuital Law and its applications to (1) Solenoid and (2) Toroid, properties of B: curl and divergence.
24/02/2025 to 01/03/2025	Magnetic Properties of Matter: Force on a dipole in an external field, Electric currents in Atoms, Electron spin and Magnetic moment
03/03/2025 to 08/03/2025	types of magnetic materials, Magnetization vector (M), Magnetic Intensity (H), Magnetic and permeability, between B, H and M, Electronic theory of dia and paramagnetism, Domain theory of ferromagnetism (Langevin's theory)
09/03/2025 to 16/03/2025	Holi Break
17/03/2025 to 22/03/2025	Electromagnetic induction, Faraday's laws of induction and Lenz's Law, Self-inductance, Mutual inductance, Energy stored in a Magnetic field, Derivation of Maxwell's equations, Displacement current, Maxwell's equations in differential and integral form and their significance.
24/03 /2025 to 29/03/2025	Unit Test-2
31/03/2025 to 05/04/2025	Electromagnetic Waves: Electromagnetic waves, Transverse nature of electromagnetic wave, energy transported by electromagnetic waves
7/04/2025 to 12/04/2025	Poynting vector, Poynting's theorem. Propagation of Plane electromagnetic waves in free space & Dielectrics.
14/04/2025 to 19/04/2025	DC Current Circuits: Electric current and current density, Electrical conductivity and Ohm's law (Review), Kirchhoff's laws for D.C. networks, Network theorems: Thevenin's theorem, Norton theorem, Superposition theorem.
21/04/2025 to 26/04/2025	A resonance circuit, Phasor, Complex Reactance and Impedance, Analysis for RL, RC and LC Circuits, Series LCR Circuit: (1) Resonance,(2) Power Dissipation (3) Quality Factor and (4) Band Width, Parallel LCR Circuit.
28/04/2025 to 30/04/2025	Revision and test

Lesson Plan

Teacher- Manoj

Class-B.Sc, 2nd Semester

Subject: Electricity, Magnetism and Electromagnetic Theory .

Session- 2024-25

Week	Topic
27/01/2025 to 01/02/2025	Vector Background and Electric Field: Gradient of a scalar and its physical significance, Line, Surface and Volume integrals of a vector and their physical significance. Flux of a vector field. Divergence and curl of a vector and their physical significance,
03/02/2025 to 08/02/2025	Gauss's divergence theorem. Stoke's theorem. Conservative nature of Electrostatic Field. electric field E from potential as gradient. Derivation of Laplace and Poisson equations Electric flux, Gauss's Law. Differential form of Gauss's law and applications of Gauss's law. Mechanical force of charged surface, Energy per unit volume.
10/02/2025 to 15/02/2025	Unit Test -1
17/02/2025 to 22/02/2025	Magnetic Field: Biot-Savart law and its simple applications: straight wire and circular loop, Current Loop as a Magnetic Dipole and its Dipole Moment, Ampere's Circuital Law and its applications to (1) Solenoid and (2) Toroid, properties of B: curl and divergence.
24/02/2025 to 01/03/2025	Magnetic Properties of Matter: Force on a dipole in an external field, Electric currents in Atoms, Electron spin and Magnetic moment
03/03/2025 to 08/03/2025	types of magnetic materials, Magnetization vector (M), Magnetic Intensity (H), Magnetic and permeability, between B, H and M, Electronic theory of dia and paramagnetism, Domain theory of ferromagnetism (Langevin's theory)
09/03/2025 to 16/03/2025	Holi Break
17/03/2025 to 22/03/2025	Electromagnetic induction, Faraday's laws of induction and Lenz's Law, Self-inductance, Mutual inductance, Energy stored in a Magnetic field, Derivation of Maxwell's equations, Displacement current, Maxwell's equations in differential and integral form and their significance.
24/03 /2025 to 29/03/2025	Unit Test-2
31/03/2025 to 05/04/2025	Electromagnetic Waves: Electromagnetic waves, Transverse nature of electromagnetic wave, energy transported by electromagnetic waves
7/04/2025 to 12/04/2025	Poynting vector, Poynting's theorem. Propagation of Plane electromagnetic waves in free space & Dielectrics.
14/04/2025 to 19/04/2025	DC Current Circuits: Electric current and current density, Electrical conductivity and Ohm's law (Review), Kirchhoff's laws for D.C. networks, Network theorems: Thevenin's theorem, Norton theorem, Superposition theorem.
21/04/2025 to 26/04/2025	A resonance circuit, Phasor, Complex Reactance and Impedance, Analysis for RL, RC and LC Circuits, Series LCR Circuit: (1) Resonance,(2) Power Dissipation (3) Quality Factor and (4) Band Width, Parallel LCR Circuit.
28/04/2025 to 30/04/2025	Revision and test

Lesson Plan

Teacher- PRIYA AGGARWAL
Class- PHY HONS, 2nd Semester
Subject: WEB DEVELOPMENT
Session- 2024-25

Week	Topic
27/01 to 04/01/2025	INTRODUCTION TO INTERNET, WWW, EVOLUTION
06/01 to 11/01/2025	WEB PAGE, WEB CLIENT, WEB CONTENT, WEB SERVER
13/01 to 18/01/2025	WEB BROWSER, HTTP
20/01 to 25/01/2025	URLS, SEARCH ENGINES
27/01 to 01/02/2025	WEB PUBLISHING
03/02 to 08/02/2025	MARKUP LANGUAGE, HTML DOCUMENTS FEATURES, STYLE AND CREATION
10/02 to 15/02/2025	GRAPHICS AND LAYOUTS
17/02 to 22/02/2025	CHECK BOXES,, FRAME CREATIONS
24/02 to 01/03/2025	INTRODUCTION TO CSS,
03/03 to 08/03/2025	SHEETS AND HTML
09/03 to 16/03/2025	Holi break
17/03 to 22/03/2025	CSS, LAYOUTS, CASCADING, INHERITANCE
24/03 to 29/03/2025	JAVASCRIPT
31/03 to 05/04/2025	EVALUATION , DEFINATION
7/04 to 12/04/2025	PROGRAMMING
14/04 to 19/04/2025	CLINT SIDE PROGRAMMING
21/04 to 26/04/2025	HTML
28/04 to 30/04/2025	STATIC AND DYNAMIC WEB PAGES

Lesson Plan

Teacher- Rahul
Class- B.Sc. PHY HONS, 2nd SEM
Subject: Computational physics
Session- 2024-25

Week	Topic
27/01 to 04/01/2025	Introduction to Programming using Python: Structure of a Python 11 Program, Functions
06/01 to 11/01/2025	Object and method.
13/01 to 18/01/2025	Standard libmries in Python, notion of class
20/01 to 25/01/2025	Logical or Boolean operator, Assignment Operator, Bit wise operator
27/01 to 01/02/2025	Basic operators Arithmetic cperator, Relational operator
03/02 to 08/02/2025	Iklentifiers and keywords, Literals, Strings
10/02 to 15/02/2025	Functions, Interpreter shell, Indentation, unit test-1
17/02 to 22/02/2025	Creating Python Programs: Identifiers and keywords; Literals, numbers, and strings
24/02 to 01/03/2025	Expressions; Input/output statements; Defining functions; Control structures (conditional statements
03/03 to 08/03/2025	loop control statements, break, continue and pass, exit function), default arguments
09/03 to 16/03/2025	Holi break
17/03 to 22/03/2025	Mutable and immutable objects. Testing and debugging a program Stirling's formula.
24/03 to 29/03/2025	Numerical solutions of partial differential equations using Taylors's series method
31/03 to 05/04/2025	Integration: Trapezoidal rule, unit test-2
7/04 to 12/04/2025	Differentiation: Taylor series method, Newton's forward and backward difference formula
14/04 to 19/04/2025	Simpson's1/3 and3/8rule Gaussian Quadrature.
21/04 to 26/04/2025	Legendre-Gauss Quadrature, Numerical double integration.
28/04 to 30/04/2025	Revision of all syllabus

Lesson Plan

Teacher- PRIYA AGGARWAL
Class- PHY HONS, 4thSemester
Subject: MATHEMATICAL PHYSICS II
Session- 2024-25

Week	Topic
01/01/2025 to 04/01/2025	PROBABILITY INTRODUCTION, BIONOMIAL DISTRIBUTION FUNCTION
06/01/2025 to 11/01/2025	GAUSSIAN AND POISSION DISTRIBUTION FUNCTION
13/01/2025 to 18/01/2025	MEAN AND VARIANCE, DEPENDENT EVENTS
20/01/2025 to 25/01/2025	BAYES THEOREM AND HYPOTHESIS TESTING
27/01/2025 to 01/02/2025	ERRORS AND PROPAGATION OF ERRORS
03/02/2025 to 08/02/2025	NORMAL LAWS OF ERRORS
10/02/2025 to 15/02/2025	LEAST SQUARE FIT, INTERCEPT OF FITTED LINE
17/02/2025 to 22/02/2025	SCALER PRODUCT, DUAL VECTOR, CS INEQUALITY
24/02/2025 to 01/03/2025	REAL AND COMPLEX VECTOR SPACE
03/03/2025 to 08/03/2025	MATRIX SPACE, LINEAR OPERATOR
09/03/2025 to 16/03/2025	HOLI BREAK
17/03/2025 to 22/03/2025	SPECIAL OPERATOR, EIGEN VALUE, EIGEN VECTOR ORTHOGONALIZATION, N DIMENTIONAL VECTOR SPACE
24/03 /2025 to 29/03/2025	SECOND ORDER DIFFERENTIAL EQUATION,SINGULARITIES, SERIES SOLUTION
31/03/2025 to 05/04/2025	FROBANIOUS METHOD
7/04/2025 to 12/04/2025	LOCAL ANALYSIS , SPECIAL FUNCTIONS
14/04/2025 to 19/04/2025	1^{ST} ORDER EQUATIONS,2^{ND} ORDER EQUATIONS, LAPLACE EQUATION
21/04/2025 to 26/04/2025	HELMHOLTZ EQUATION,
28/04/2025 to 30/04/2025	BOUNDARY VALUE PROBLEM, GREEN FUNCTION

Lesson Plan

Teacher- Anita Yadav
Class- PHY HONS, 4th Semester
Subject: Classical Mechanics
Session- 2024-25

Week	Topic
01/01/2025 to 04/01/2025	Canonical transformation: Examples of canonical transformations, generating function, condition of canonical transformation
06/01/2025 to 11/01/2025	Poisson and Lagrangian bracket: Poisson brackets
13/01/2025 to 18/01/2025	Special cases of Poisson brackets, Jacobi's identity and its derivation, Lagrange brackets and its properties
20/01/2025 to 25/01/2025	Relationship between Poisson and Lagrange brackets and its derivation, revision of unit-1
27/01/2025 to 01/02/2025	Rotational Dynamics: Equation of motion of a rigid body, Rotational motion of a rigid body in general and that of plane lamina
03/02/2025 to 08/02/2025	Rotation of angular momentum vector about a fixed axis, test of unit-1
10/02/2025 to 15/02/2025	Holi break
17/02/2025 to 22/02/2025	Angular momentum and kinetic energy of a rigid body about principal axis, Torque, Principle of conservation of angular momentum.
24/02/2025 to 01/03/2025	Moment of Inertia (discrete and continuous), Kinetic energy of rotation.
03/03/2025 to 08/03/2025	Motion involving both translation and rotation, elementary Gyroscope, test of unit-2
09/03/2025 to 16/03/2025	Special relativity: Inertial frame of reference, Galilean transformation, ,
17/03/2025 to 22/03/2025	Frame of reference with linear acceleration
24/03 /2025 to 29/03/2025	Test of unit-3
31/03/2025 to 05/04/2025	equation for a frame of reference Rotating frame of reference, Non-inertial frames
7/04/2025 to 12/04/2025	Effect of centrifugal and coriolis forces due to Earth's rotation
14/04/2025 to 19/04/2025	Michelson- Morley's experiment, concept of Einstein's relativity
21/04/2025 to 26/04/2025	Lorentz transformation and physical significance of Lorentz invariance,
28/04/2025 to 30/04/2025	Revision and test of syllabus

Lesson Plan

Teacher- Rajesh
Class- PHY HONS, 4th Semester
Subject: Waves Oscillation and Optics-II

Session- 2024-25

Week	Topic
01/01/2025 to 04/01/2025	Geometrical Optics: Introduction to geometrical optics of lens and mirror, Aberrations in optical systems: Chromatic and monochromatic aberrations
06/01/2025 to 11/01/2025	Imaging and non-imaging optical systems: magnifiers, eyepieces, microscope, telescope and binocular.
13/01/2025 to 18/01/2025	Fraunhofer diffraction: Diffraction: a Single Slit, Double Slit and N-slit (Transmission Grating).. Rayleigh's criterion of resolution, Resolving Power and Dispersive Power of a Plane Diffraction Grating.
20/01/2025 to 25/01/2025	Fresnel diffraction:- Fresnel's Half-Period Zones for Plane Wave, rectilinear Propagation of Light,
27/01/2025 to 01/02/2025	Polarization: Double refraction: Nicol prism, polaroids and their uses. Production and analysis of plane,
03/02/2025 to 08/02/2025	Half-wave and quarter-wave plate, optical activity,
10/02/2025 to 15/02/2025	circularly and elliptically polarized light, assignment work
17/02/2025 to 22/02/2025	Theory of a Zone Plate: Multiple Foci of a Zone Plate. Diffraction due to a Straight Edge and Circular Disc
24/02/2025 to 01/03/2025	Fresnel's explanation of optical activity: Biquartz and half shade polarimeter.
03/03/2025 to 08/03/2025	Lasers: Coherence (Spatial & Temporal coherence) Stimulated emission, and spontaneous emission, Einstein's 'A' and 'B' coefficients and their relationship amplification.
09/03/2025 to 16/03/2025	Holi break
17/03/2025 to 22/03/2025	Assignment work
24/03 /2025 to 29/03/2025	Factor for lasing action: population inversion, active Medium, Pumping and Optical Resonator
31/03/2025 to 05/04/2025	Main Properties of laser beam, Gas laser (He-Ne) and Solid-state laser (Ruby)
7/04/2025 to 12/04/2025	Optical fiber: Critical angle of propagation, Acceptance angle Numerical aperture, Mode of Propagation (V-number)
14/04/2025 to 19/04/2025	Types of optics fiber, Normalized frequency Attenuation
21/04/2025 to 26/04/2025	Applications, Fiber-optic Communication, test of unit-3
28/04/2025 to 30/04/2025	Revision and test of syllabus

Lesson Plan

Teacher- Pawan
Class- PHY HONS, 4th Semester
Subject: Electricity and Magnetism-II

Session- 2024-25

Week	Topic
01/01/2025 to 04/01/2025	Solutions of Poisson and Laplace's equations, Uniqueness theorem, method of images with conducting sphere
06/01/2025 to 11/01/2025	solution of Laplace's equation in Cartesian, spherical and cylindrical coordinates using separation of variables
13/01/2025 to 18/01/2025	Multiple expansion of potential due to charge distribution
20/01/2025 to 25/01/2025	Maxwell's equations: Motional EMF, Faraday's Law of induction Induced electric field
27/01/2025 to 01/02/2025	Lenz's law, Inductance, Self induction of a single Coils
03/02/2025 to 08/02/2025	Transformers, Energy stored in magnetic field
10/02/2025 to 15/02/2025	Maxwell's fixing of Ampere's law, Displacement current, Maxwell's equations in vacuum.
17/02/2025 to 22/02/2025	Wave equation: Sinusoidal waves, Wave equations for E and B fields,
24/02/2025 to 01/03/2025	Maxwell's equations in matter: Boundary Conditions, Continuity equation,
03/03/2025 to 08/03/2025	Poynting Theorem and Poynting vector. Test of unit-1
09/03/2025 to 16/03/2025	Holi break
17/03/2025 to 22/03/2025	Assignment work
24/03 /2025 to 29/03/2025	Electromagnetic wave propagation through vacuum and isotropic dielectric medium
31/03/2025 to 05/04/2025	transverse nature of EM waves
7/04/2025 to 12/04/2025	Energy and momentum in EM waves, Propagation in linear media,
14/04/2025 to 19/04/2025	Reflection and transmission at Normal and Oblique incidence,
21/04/2025 to 26/04/2025	Brewster's angle, Wave guides (Introduction)
28/04/2025 to 30/04/2025	Revision of all syllabus

Lesson Plan

Teacher- Anita Yadav

Class- B.Sc. Second Year, 4thSemester

Subject: Renewable energy and energy harvesting

Session- 2024-25

Week	Topic
01/01/2025 to 04/01/2025	Introduction to fossil fuels and alternative Energy sources
06/01/2025 to 11/01/2025	Detail study of various type of energy sources with their method of conversionand pros and cons: Nuclear energy, wind energy, solar Cell.
13/01/2025 to 18/01/2025	Detail study of various type of energy sources with their method of conversion and pros and cons: Ocean Thermal Energy, Tidal energy, Biomass energy and conversion and Hydroelectricity.
20/01/2025 to 25/01/2025	Detail study of generation of energy of type: solar water heater, Solar cooker, Solar pond, Solar green House and solar distillation.
27/01/2025 to 01/02/2025	Photovoltaic system: need and Characteristics, PV models and equivalent circuitsand sun tracking system and test of Unit-1
03/02/2025 to 08/02/2025	Wind Energy harvesting : fundamental, wind turbines and its type, different electrical machines in wind turbines etc.
10/02/2025 to 15/02/2025	Ocean Energy and Tidal Energy: Its potential against wind and solar, wave characteristics and statistics,
17/02/2025 to 22/02/2025	wave energy devices
24/02/2025 to 01/03/2025	Ocean biomass, Geothermal energy and its resources, geothermal technologiesetc And test of Unit-2
03/03/2025 to 08/03/2025	Hydropower energy: its resources, technologies, Impact on environment etc
09/03/2025 to 16/03/2025	HOLI BREAK
17/03/2025 to 22/03/2025	Physics and characteristics of Piezoelectric energy(PZE) harvesting: mathematical model, PZE generators and applications etc.
24/03 /2025 to 29/03/2025	Human power, Electromagnetic Energy harvesting : genetors
31/03/2025 to 05/04/2025	Assignment work and revision
7/04/2025 to 12/04/2025	Mathematicalmodel and applications etc.
14/04/2025 to 19/04/2025	Carbon captured technologies, cell, batteries, power consumptions,
21/04/2025 to 26/04/2025	Sustainabilities and applications impact on environment.
28/04/2025 to 30/04/2025	Revision of all syllabus

Lesson Plan

Teacher: Monika
Class B.Sc. III (6th Semester)
Subject: Basic Instrumentation Skills
Session: 2024-25

Week	Topic
27-01-25 to 01-02-25	Basics of Measurements: Instrument accuracy, precision, Multimeter: Principle of measurement, Specification of multimeter, Electronic Voltmeter: advantage over conventional multimeter.
03-02-25 to 08-02-25	Specifications of an electronic voltmeter/multimeter and their significance, AC millivoltmeter: Type of AC millivoltmeter, block diagram of AC millivoltmeter, specifications and their significance.
10-02-25 to 15-02-25	Cathode Ray Oscilloscope: block diagram of basic CRO, Construction of CRT, Electron gun, electrostatic focusing and acceleration. Brief discussion on screen phosphor, Time based operation.
17-02-25 to 22-02-25	Front panel controls , Specification of CRO and their significance. Digital Storage Oscilloscope: block diagram and principle of working.
24-02-25 to 01-03-25	Signal generator and analysis Instruments: Block diagram, explanation and specifications, Distortion factor meter.
03-03-25 to 08-03-25	Test of Unit I and II
09-03-25 to 16-03-25	Holy Break
17-03-25 to 22-03-25	Impedance Bridges & Q-Meters: Block diagram of bridge, working principles of basic RLC bridge, specification of RLC bridge
24-03-25 to 29-03-25	Block diagram and working principles of Q meter, digital LCR bridges, characteristic of a digital meter.
31-03-25 to 05-04-25	Working principle of digital voltmeter, Digital Multimeter: Block diagram and working of a digital multimeter, working principle of time interval
07-04-25 to 12-04-25	Frequency and period measurement using universal counter, time based stability, accuracy and resolution
07-04-25 to 12-04-25	Doubt class for Unit I,II,III
07-04-25 to 12-04-25	Revision and test from syllabus

Lesson Plan

Teacher: Nidhi
Class B.Sc. III (6th Semester)
Subject: Physics Workshop Skill
Session: 2024-25

Week	Topic
22-07-24 to 27-07-24	Introduction: Measuring units. conversion to SI and CGS. Familiarization with meterscale, Vernier calliper, Screw gauge and their utility. Measure the dimension of a solid block, volume of cylindrical beaker/glass, Use of Sextant to measure height Of buildings, mountains, etc.
29-07-24 to 03-08-24	Mechanical Skill: Concept of workshop practice. Overview of manufacturing methods: casting, foundry, machining, forming and welding.
05-08-24 to 10-08-24	Types of welding joints and welding defects, Common materials used for manufacturing like steel, copper, iron, metal sheets, composites and alloy, wood.
12-08-24 to 17-08-24	Concept of machine processing, introduction to common machine tools like lathe, shaper, drilling, milling and surface machines.
19-08-24 to 24-08-24	Cutting tools, lubricating oils. Cutting of a metal sheet using blade. Smoothening of cutting edge of sheet using file.
26-08-24 to 31-08-24	Drilling of holes of different diameter in metal sheet and wooden block. Use of bench vice and tools For fitting.
02-09-24 to 07-09-24	Make funnel using metal sheet. Electrical and Electronic Skill: Use of Multimeter.
09-09-24 to 14-09-24	Soldering of electrical circuits having discrete components (R, L, C, diode) and ICs on PCB.
16-09-24 to 21-09-24	Operation of oscilloscope.
23-09-24 to 28-09-24	Making regulated power supply. Timer circuit, Electronic switch using transistor and relay.
30-09-24 to 07-10-24	Introduction to prime movers: Mechanism, gear system, wheel, Fixing of gears with motor axel.
14-10-24 to 19-10-24	Lever mechanism, lifting of heavy weight using lever. braking systems, pulleys, working principle of power generation systems.
21-10-24 to 26-10-24	Demonstration of pulley experiment.
27-10-24 to 03-11-24	Diwali Break
04-11-24 to 09-11-24	Rivision
11-11-24 to 16-11-24	Test

Lesson Plan

Teacher: Sonia
Class B.Sc. II (4th Semester)
Subject: Basic Instrumentation Skills
Session: 2024-25

Week	Topic
27-01-25 to 01-02-25	Basics of Measurements: Instrument accuracy, precision, Multimeter: Principle of measurement, Specification of multimeter, Electronic Voltmeter: advantage over conventional multimeter.
03-02-25 to 08-02-25	Specifications of an electronic voltmeter/multimeter and their significance, AC millivoltmeter: Type of AC millivoltmeter, block diagram of AC millivoltmeter, specifications and their significance.
10-02-25 to 15-02-25	Cathode Ray Oscilloscope: block diagram of basic CRO, Construction of CRT, Electron gun, electrostatic focusing and acceleration. Brief discussion on screen phosphor, Time based operation.
17-02-25 to 22-02-25	Front panel controls , Specification of CRO and their significance. Digital Storage Oscilloscope: block diagram and principle of working.
24-02-25 to 01-03-25	Signal generator and analysis Instruments: Block diagram, explanation and specifications, Distortion factor meter.
03-03-25 to 08-03-25	Test of Unit I and II
09-03-25 to 16-03-25	Holy Break
17-03-25 to 22-03-25	Impedance Bridges & Q-Meters: Block diagram of bridge, working principles of basic RLC bridge, specification of RLC bridge
24-03-25 to 29-03-25	Block diagram and working principles of Q meter, digital LCR bridges, characteristic of a digital meter.
31-03-25 to 05-04-25	Working principle of digital voltmeter, Digital Multimeter: Block diagram and working of a digital multimeter, working principle of time interval
07-04-25 to 12-04-25	Frequency and period measurement using universal counter, time based stability, accuracy and resolution
07-04-25 to 12-04-25	Doubt class for Unit I,II,III
07-04-25 to 12-04-25	Revision and test from syllabus

Lesson Plan

Teacher: Seema
Class B.Sc. II (4th Semester)
Subject: Basic Instrumentation Skills
Session: 2024-25

Week	Topic
27-01-25 to 01-02-25	Basics of Measurements: Instrument accuracy, precision, Multimeter: Principle of measurement, Specification of multimeter, Electronic Voltmeter: advantage over conventional multimeter.
03-02-25 to 08-02-25	Specifications of an electronic voltmeter/multimeter and their significance, AC millivoltmeter: Type of AC millivoltmeter, block diagram of AC millivoltmeter, specifications and their significance.
10-02-25 to 15-02-25	Cathode Ray Oscilloscope: block diagram of basic CRO, Construction of CRT, Electron gun, electrostatic focusing and acceleration. Brief discussion on screen phosphor, Time based operation.
17-02-25 to 22-02-25	Front panel controls , Specification of CRO and their significance. Digital Storage Oscilloscope: block diagram and principle of working.
24-02-25 to 01-03-25	Signal generator and analysis Instruments: Block diagram, explanation and specifications, Distortion factor meter.
03-03-25 to 08-03-25	Test of Unit I and II
09-03-25 to 16-03-25	Holy Break
17-03-25 to 22-03-25	Impedance Bridges & Q-Meters: Block diagram of bridge, working principles of basic RLC bridge, specification of RLC bridge
24-03-25 to 29-03-25	Block diagram and working principles of Q meter, digital LCR bridges, characteristic of a digital meter.
31-03-25 to 05-04-25	Working principle of digital voltmeter, Digital Multimeter: Block diagram and working of a digital multimeter, working principle of time interval
07-04-25 to 12-04-25	Frequency and period measurement using universal counter, time based stability, accuracy and resolution
07-04-25 to 12-04-25	Doubt class for Unit I,II,III
07-04-25 to 12-04-25	Revision and test from syllabus

Lesson Plan

Teacher- Rahul

Class- B.Sc(Medical) 2nd Semester

Subject: Elementary Electricity, Magnetism and Electromagnetic Theory

Session- 2024-25

Week	Topic
27/01 to 04/01/2025	Vector background and electric field: Gradient of a scalar and its physical for significance
06/01 to 11/01/2025	Line, Surface and Volume integrals of a vector and their physical significance. Flux of a vector field.
13/01 to 18/01/2025	Line, Surface and Volume integrals
20/01 to 25/01/2025	Flux of a vector field. Divergence and curlofa vector and their physical significance
27/01 to 01/02/2025	Divergence and curl of a vector
03/02 to 08/02/2025	Gauss's divergence theorem, Stoke's theorem
10/02 to 15/02/2025	**Assignment Work and Revision**
17/02 to 22/02/2025	Divergence and curl of a vector and their physical significance revisio
24/02 to 01/03/2025	Magnetic field and magnetic properties
03/03 to 08/03/2025	Magnetic induction, Magnetic flux
09/03 to 16/03/2025	Solenoidal nature of vector field of induction
17/03 to 22/03/2025	Materials, types, Hysteresis curve and V.B importance of Hysteresis Curve
24/03 to 29/03/2025	Time varying electromagnetic fields and electromagnetic waves: Electromagnetic induction
31/03 to 05/04/2025	Faraday's laws of induction and Lenz's Law
7/04 to 12/04/2025	Derivation of Maxwell's equations and their physical significance.Boundaryconditionsatinterfacebetweentwodifferentmedia,
14/04 to 19/04/2025	Propagation of electromagnetic wave(Basic idea, no derivation), Poynting vectorandPoynting theorem
21/04 to 26/04/2025	D.C. and A.C. circuits :D.C. Network theorems
28/04 to 30/04/2025	Thevenin's theorem, Norton theorem, Superposition theorem

Lesson Plan

Teacher- Manoj

Class- B.Sc(Medical) 2nd Semester

Subject: Elementary Electricity, Magnetism and Electromagnetic Theory

Session- 2024-25

Week	Topic
27/01 to 04/01/2025	Vector background and electric field: Gradient of a scalar and its physical for significance
06/01 to 11/01/2025	Line, Surface and Volume integrals of a vector and their physical significance. Flux of a vector field.
13/01 to 18/01/2025	Line, Surface and Volume integrals
20/01 to 25/01/2025	Flux of a vector field. Divergence and curlofa vector and their physical significance
27/01 to 01/02/2025	Divergence and curl of a vector
03/02 to 08/02/2025	Gauss's divergence theorem, Stoke's theorem
10/02 to 15/02/2025	**Assignment Work and Revision**
17/02 to 22/02/2025	Divergence and curl of a vector and their physical significance revisio
24/02 to 01/03/2025	Magnetic field and magnetic properties
03/03 to 08/03/2025	Magnetic induction, Magnetic flux
09/03 to 16/03/2025	Solenoidal nature of vector field of induction
17/03 to 22/03/2025	Materials, types, Hysteresis curve and V.B importance of Hysteresis Curve
24/03 to 29/03/2025	Time varying electromagnetic fields and electromagnetic waves: Electromagnetic induction
31/03 to 05/04/2025	Faraday's laws of induction and Lenz's Law
7/04 to 12/04/2025	Derivation of Maxwell's equations and their physical significance.Boundaryconditionsatinterfacebetweentwodifferentmedia,
14/04 to 19/04/2025	Propagation of electromagnetic wave(Basic idea, no derivation), Poynting vectorandPoynting theorem
21/04 to 26/04/2025	D.C. and A.C. circuits :D.C. Network theorems
28/04 to 30/04/2025	Thevenin's theorem, Norton theorem, Superposition theorem

Lesson Plan

Teacher- Rahul
Class- B.A. 2nd Semester
Subject: Physics Fundamental
Session- 2024-25

Week	Topic
27/01 to 04/01/2025	Light and optics-Nature and properties of light, its speed, frequency and wavelength.
06/01 to 11/01/2025	Reflection of light-types of reflection and their importance in daily life, laws of reflection, multiple reflection by mirrors and their applications.
13/01 to 18/01/2025	Refraction of light- laws of refraction, refractive index, refraction of light through prism(dispersion of light), formation Rainbow, twinkling of stars, advance Sunrise and delayed Sunset
20/01 to 25/01/2025	Scattering of light and blue colour of the sky; apparent depth, total internal reflection and its important applications
27/01 to 01/02/2025	Image formation through reflection-images formed by plane mirrors, 8 multiple images formed by two flat mirrors and optical illusions; images formed by parabolic mirrors and spherical mirrors
03/02 to 08/02/2025	Concave and convex mirrors, ray diagrams, mirror equation and magnification; applications of plane and curved mirrors in daily life.
10/02 to 15/02/2025	Image formation through refraction-images by convex and concave lenses, ray diagrams and lens equation
17/02 to 22/02/2025	Optical instruments-Camera, eye, telescope and microscope
24/02 to 01/03/2025	Electricity- electric charge, types of charges, unit of charge, frictional 8 electricity, electricity by conduction and electric current, units of electric current, measurement of current, conductors and insulators; resistance
03/03 to 08/03/2025	resistivity and Ohm's law, electric potential and potential difference, emf; Electric circuit- resistor, capacitor, battery, ammeter and voltmeter:
09/03 to 16/03/2025	Holi break
17/03 to 22/03/2025	Series and parallel combinations of resistors, electrical wiring in houses and electrical safety (fuse, hot wire, neutral, ground and short circuit
24/03 to 29/03/2025	electric power and electric power transmission; Heating effect of current and its Practicum applications
31/03 to 05/04/2025	Magnetic effect of electric current Magnetic field and field lines,
7/04 to 12/04/2025	Assignment work
14/04 to 19/04/2025	straight conductor and through a circular loop; solenoid, electromagnet
21/04 to 26/04/2025	Structure of an atom- Rutherford's model of an atom, Bohr's model of an 7 atom and composition of the atom-electron, proton and neutron, orbits or shells (energy levels in anatom),
28/04 to 30/04/2025	Distribution of electrons indifferent shells of the atom, atomic number and atomic mass of an atom, core shell and outer shell

Lesson Plan

Teacher- Rajesh Sharma
Class- B.A. 2nd Semester
Subject: Physics Fundamental
Session- 2024-25

Week	Topic
27/01 to 04/01/2025	Light and optics-Nature and properties of light, its speed, frequency and wavelength.
06/01 to 11/01/2025	Reflection of light-types of reflection and their importance in daily life, laws of reflection, multiple reflection by mirrors and their applications.
13/01 to 18/01/2025	Refraction of light- laws of refraction, refractive index, refraction of light through prism(dispersion of light), formation Rainbow, twinkling of stars, advance Sunrise and delayed Sunset
20/01 to 25/01/2025	Scattering of light and blue colour of the sky; apparent depth, total internal reflection and its important applications
27/01 to 01/02/2025	Image formation through reflection-images formed by plane mirrors, 8 multiple images formed by two flat mirrors and optical illusions; images formed by parabolic mirrors and spherical mirrors
03/02 to 08/02/2025	Concave and convex mirrors, ray diagrams, mirror equation and magnification; applications of plane and curved mirrors in daily life.
10/02 to 15/02/2025	Image formation through refraction-images by convex and concave lenses, ray diagrams and lens equation
17/02 to 22/02/2025	Optical instruments-Camera, eye, telescope and microscope
24/02 to 01/03/2025	Electricity- electric charge, types of charges, unit of charge, frictional 8 electricity, electricity by conduction and electric current, units of electric current, measurement of current, conductors and insulators; resistance
03/03 to 08/03/2025	resistivity and Ohm's law, electric potential and potential difference, emf; Electric circuit- resistor, capacitor, battery, ammeter and voltmeter:
09/03 to 16/03/2025	Holi break
17/03 to 22/03/2025	Series and parallel combinations of resistors, electrical wiring in houses and electrical safety (fuse, hot wire, neutral, ground and short circuit
24/03 to 29/03/2025	electric power and electric power transmission; Heating effect of current and its Practicum applications
31/03 to 05/04/2025	Magnetic effect of electric current Magnetic field and field lines,
7/04 to 12/04/2025	Assignment work
14/04 to 19/04/2025	straight conductor and through a circular loop; solenoid, electromagnet
21/04 to 26/04/2025	Structure of an atom- Rutherford's model of an atom, Bohr's model of an 7 atom and composition of the atom-electron, proton and neutron, orbits or shells (energy levels in anatom),
28/04 to 30/04/2025	Distribution of electrons indifferent shells of the atom, atomic number and atomic mass of an atom, core shell and outer shell

Lesson Plan

Teacher- Pawan
Class- B.A. 2nd Semester
Subject: Physics Fundamental
Session- 2024-25

Week	Topic
27/01 to 04/01/2025	Light and optics-Nature and properties of light, its speed, frequency and wavelength.
06/01 to 11/01/2025	Reflection of light-types of reflection and their importance in daily life, laws of reflection, multiple reflection by mirrors and their applications.
13/01 to 18/01/2025	Refraction of light- laws of refraction, refractive index, refraction of light through prism(dispersion of light), formation Rainbow, twinkling of stars, advance Sunrise and delayed Sunset
20/01 to 25/01/2025	Scattering of light and blue colour of the sky; apparent depth, total internal reflection and its important applications
27/01 to 01/02/2025	Image formation through reflection-images formed by plane mirrors, 8 multiple images formed by two flat mirrors and optical illusions; images formed by parabolic mirrors and spherical mirrors
03/02 to 08/02/2025	Concave and convex mirrors, ray diagrams, mirror equation and magnification; applications of plane and curved mirrors in daily life.
10/02 to 15/02/2025	Image formation through refraction-images by convex and concave lenses, ray diagrams and lens equation
17/02 to 22/02/2025	Optical instruments-Camera, eye, telescope and microscope
24/02 to 01/03/2025	Electricity- electric charge, types of charges, unit of charge, frictional 8 electricity, electricity by conduction and electric current, units of electric current, measurement of current, conductors and insulators; resistance
03/03 to 08/03/2025	resistivity and Ohm's law, electric potential and potential difference, emf; Electric circuit- resistor, capacitor, battery, ammeter and voltmeter:
09/03 to 16/03/2025	Holi break
17/03 to 22/03/2025	Series and parallel combinations of resistors, electrical wiring in houses and electrical safety (fuse, hot wire, neutral, ground and short circuit
24/03 to 29/03/2025	electric power and electric power transmission; Heating effect of current and its Practicum applications
31/03 to 05/04/2025	Magnetic effect of electric current Magnetic field and field lines,
7/04 to 12/04/2025	Assignment work
14/04 to 19/04/2025	straight conductor and through a circular loop; solenoid, electromagnet
21/04 to 26/04/2025	Structure of an atom- Rutherford's model of an atom, Bohr's model of an 7 atom and composition of the atom-electron, proton and neutron, orbits or shells (energy levels in anatom),
28/04 to 30/04/2025	Distribution of electrons indifferent shells of the atom, atomic number and atomic mass of an atom, core shell and outer shell

Lesson Plan

Teacher- Saneh Lata
Class- B.A. 2nd Semester
Subject: Physics Fundamental
Session- 2024-25

Week	Topic
27/01 to 04/01/2025	Light and optics-Nature and properties of light, its speed, frequency and wavelength.
06/01 to 11/01/2025	Reflection of light-types of reflection and their importance in daily life, laws of reflection, multiple reflection by mirrors and their applications.
13/01 to 18/01/2025	Refraction of light- laws of refraction, refractive index, refraction of light through prism(dispersion of light), formation Rainbow, twinkling of stars, advance Sunrise and delayed Sunset
20/01 to 25/01/2025	Scattering of light and blue colour of the sky; apparent depth, total internal reflection and its important applications
27/01 to 01/02/2025	Image formation through reflection-images formed by plane mirrors, 8 multiple images formed by two flat mirrors and optical illusions; images formed by parabolic mirrors and spherical mirrors
03/02 to 08/02/2025	Concave and convex mirrors, ray diagrams, mirror equation and magnification; applications of plane and curved mirrors in daily life.
10/02 to 15/02/2025	Image formation through refraction-images by convex and concave lenses, ray diagrams and lens equation
17/02 to 22/02/2025	Optical instruments-Camera, eye, telescope and microscope
24/02 to 01/03/2025	Electricity- electric charge, types of charges, unit of charge, frictional 8 electricity, electricity by conduction and electric current, units of electric current, measurement of current, conductors and insulators; resistance
03/03 to 08/03/2025	resistivity and Ohm's law, electric potential and potential difference, emf; Electric circuit- resistor, capacitor, battery, ammeter and voltmeter:
09/03 to 16/03/2025	Holi break
17/03 to 22/03/2025	Series and parallel combinations of resistors, electrical wiring in houses and electrical safety (fuse, hot wire, neutral, ground and short circuit
24/03 to 29/03/2025	electric power and electric power transmission; Heating effect of current and its Practicum applications
31/03 to 05/04/2025	Magnetic effect of electric current Magnetic field and field lines,
7/04 to 12/04/2025	Assignment work
14/04 to 19/04/2025	straight conductor and through a circular loop; solenoid, electromagnet
21/04 to 26/04/2025	Structure of an atom- Rutherford's model of an atom, Bohr's model of an 7 atom and composition of the atom-electron, proton and neutron, orbits or shells (energy levels in anatom),
28/04 to 30/04/2025	Distribution of electrons indifferent shells of the atom, atomic number and atomic mass of an atom, core shell and outer shell

Lesson Plan

Teacher- Sheela
Class- B.Sc. 5th semester
Subject: Solid State Physics, Statistical Physics
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Crystalline solid, amorphous solids, liquid crystals, Crystal structure, periodicity, unit cell, primitive cell, Winger-Seitz cell
29/07 to 03/08/2024	symmetry operation for 2D crystal, Bravais lattice in 2-D and 3-D
05/08 to 10/08/2024	Crystal planes, miller indices, interplanar spacing
12/08 to 17/08/2024	Crystal structure of sodium chloride, test of unit-1.
19/08 to 24/08/2024	X-ray diffraction, Bragg law and its experimental proof, X-ray diffraction method, K-space, Bragg law and its experimental proof, X-ray diffraction method.
26/08 to31/08/2024	Reciprocal lattice and its physical significance, reciprocal lattice vector, Reciprocal lattice to simple cubic, body centred cubic
02/09 to 07/09/2024	Free electron gas model, Sommerfeld quantum theory, hall effect, lattice vibration.
09/09 to 14/09/2024	Dulong petit model, Einstein theory, Debye model.
16/09 to21/09/2024	Magnetic properties of matter, classical Langevin theory of dia and paramagnetic domains, Curie law and Weiss theory of ferromagnetism
23/09 to28/09/2024	Superconductivity: Introduction and survey of superconductivity, Superconducting system.
30/09 to05/10/2024	Probability, basic idea of permutations and combinations, distribution of molecule in 2 boxes, phase space, microstate and microstate, statistical fluctuations constraints. Entropy and thermodynamic probability.
07/10 to 12/10/2024	Concept of ensemble, postulate of statistical physics, 1-D harmonic oscillator and free particle, basic approach in three statistics, M.B. Distribution law, classical Entropy expression
14/10 to 19/10/2024	Gibbs paradox, conditions of equilibrium b/w two systems in thermal contact
21/10 to 26/10/2024	Bose Einstein Distribution law, thermodynamic relation of completely degenerate bose gas, Bose-Einstein condensation, liquid He ,photon gas, plank radiation law
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	Fermi Dirac statistics, thermodynamic relation of completely degenerate Fermi gas, Fermi energy, electron gas in metal, zero point energy, specific heat of metal
11/11 to 16/11/2024	Thermodynamic emission, white dwarf star, chandershakher mass limit, comparison of three statistics MB, BE, FD.

Lesson Plan

Teacher- Anil Kumar
Class- B.Sc. 5th semester
Subject: Solid State Physics
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Crystalline solid, amorphous solids, liquid crystals, Crystal structure, periodicity, unit cell, primitive cell, Winger-Seitz cell
29/07 to 03/08/2024	symmetry operation for 2D crystal, Bravais lattice in 2-D and 3-D
05/08 to 10/08/2024	Crystal planes, miller indices, interplanar spacing
12/08 to 17/08/2024	Crystal structure of sodium chloride, test of unit-1.
19/08 to 24/08/2024	X-ray diffraction, Bragg law and its experimental proof, X-ray diffraction method, K-space, Bragg law and its experimental proof, X-ray diffraction method.
26/08 to31/08/2024	Reciprocal lattice and its physical significance, reciprocal lattice vector, Reciprocal lattice to simple cubic, body centred cubic
02/09 to 07/09/2024	Free electron gas model, Sommerfeld quantum theory
09/09 to 14/09/2024	hall effect, lattice vibration. Dulong petit model,
16/09 to21/09/2024	Einstein theory, Debye model.
23/09 to28/09/2024	Magnetic properties of matter
30/09 to05/10/2024	classical Langevin theory of dia and paramagnetic domains,
07/10 to 12/10/2024	Curie law and Weiss theory of ferromagnetism
14/10 to 19/10/2024	Assignment work and test of unit-3
21/10 to 26/10/2024	Superconductivity: Introduction and survey of superconductivity,
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	Superconducting system
11/11 to 16/11/2024	Revision of all syllabus

Lesson Plan

Teacher- Parveen Kumar
Class- B.Sc. 5th semester
Subject: Statistical Physics
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Probability, basic idea of permutations and combinations, distribution of molecule in 2 boxes, phase space
29/07 to 03/08/2024	Microstate and microstate, statistical fluctuations constraints.
05/08 to 10/08/2024	Entropy and thermodynamic probability.
12/08 to 17/08/2024	Concept of ensemble, postulate of statistical physics
19/08 to 24/08/2024	1-D harmonic oscillator and free particle and test of unit-1
26/08 to31/08/2024	basic approach in three statistics, M.B. Distribution law, classical Entropy expression
02/09 to 07/09/2024	Gibbs paradox, conditions of equilibrium b/w two systems in thermal contact
09/09 to 14/09/2024	Bose Einstein Distribution law, thermodynamic relation of completely degenerate bose gas
16/09 to21/09/2024	Bose-Einstein condensation, liquid He ,photon gas, plank radiation law
23/09 to28/09/2024	Assignment work and revision
30/09 to05/10/2024	Fermi Dirac statistics, thermodynamic relation of completely degenerate Fermi gas
07/10 to 12/10/2024	Fermi energy, electron gas in metal, zero point energy,
14/10 to 19/10/2024	Thermodynamic emission, white dwarf star
21/10 to 26/10/2024	chandershakher mass limit
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	specific heat of metal
11/11 to 16/11/2024	Comparison of three statistics MB, BE, FD.

Lesson Plan

Teacher- Anita Yadav
Class- B.Sc. 5th semester
Subject: Solid State Physics and Digital Electronics and Microcontroller
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Crystalline solid, amorphous solids, liquid crystals, Crystal structure, periodicity, unit cell, primitive cell, Winger-Seitz cell
29/07 to 03/08/2024	symmetry operation for 2D crystal, Bravais lattice in 2-D and 3-D
05/08 to 10/08/2024	Crystal planes, miller indices, interplanar spacing, Crystal structure of sodium chloride, test of unit-1.
12/08 to 17/08/2024	X-ray diffraction, Bragg law and its experimental proof, X-ray diffraction method, K-space, Bragg law and its experimental proof, X-ray diffraction method
19/08 to 24/08/2024	Reciprocal lattice and its physical significance, reciprocal lattice vector, Reciprocal lattice to simple cubic, body centred cubic
26/08 to31/08/2024	Free electron gas model, Sommerfeld quantum theory, hall effect, lattice vibration.
02/09 to 07/09/2024	Dulong petit model, Einstein theory, Debye model, Magnetic properties of matter, classical Langevin theory of dia and paramagnetic domains, Curie law and Weiss theory of ferromagnetism
09/09 to 14/09/2024	Superconductivity: Introduction and survey of superconductivity, Superconducting system
16/09 to21/09/2024	Difference between Analog and Digital Circuits. Binary Numbers. Decimal to Binary and Binary to Decimal Conversion, AND, OR and NOT Gates (Realization using Diodes and Transistor). NAND and NOR Gates as Universal Gates. XOR and XNOR Gates. De Morgan's Theorems, Boolean Laws.
23/09 to28/09/2024	Simplification of Logic Circuit using Boolean Algebra. Fundamental Products. Minterms and Maxterms. Conversion of a Truth Table into an Equivalent Logic Circuit by (1) Sum of Products Method and (2) Karnaugh Map. Binary Addition. Binary Subtraction using 2's Complement Method). Half Adders and Full Adders and Subtractors, 4-bit binary Adder-Subtractor.
30/09 to05/10/2024	Embedded system introduction: Introduction to embedded systems and general purpose computer system architecture of embedded system, classifications, applications and purpose of of embedded systems, delay subroutines, hardware and software interrupts.
07/10 to 12/10/2024	Challenges an design issues in embedded systems, operational and non-operational quality attributes of embedded systems, elemental description of embedded processors and microcontrollers. Review of microprocessors: Organization of Microprocessor based system, 8085µp pin diagram and architecture, concept of data bus and address bus, 8085 programming model, instruction classification, subroutines, stacks and its implementation,
14/10 to 19/10/2024	8051 microcontroller: Introduction and block diagram of 8051

	microcontroller, architecture of 8051, overview of 8051 family, 8051 assembly language programming, Program Counter and ROM memory map,
21/10 to 26/10/2024	Data types and directives, Flag bits and Program Status Word (PSW) register, Jump, loop and call instructions. 8051 I/O port programming: Introduction of I/O port programming, pin out diagram of8051 microcontroller, I/O port pins description and their functions, I/O port programming in 8051, (Using Assembly Language), I/O programming:
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	Programming of 8051: 8051addressing modes and accessing memory using various addressing modes, assembly language instructions using each addressing mode
11/11 to 16/11/2024	Arithmetic & logic instructions, 8051 programming in C: - for time delay and I/O operations and manipulation, for arithmetic & logic operations, for ASCII and BCD conversions

Lesson Plan
Teacher- Saneh Lata
Class- B.Sc. Second Year, 3rd Semester
Subject: Thermodynamics and optics
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Zeroth law,first and second law,internal energy,convert heat into work
29/07 to 03/08/2024	Applications of first law and different types of process,general law between specific heats,
05/08 to 10/08/2024	Work done in isothermal and adiabatic process,compressibility and expansion coefficients
12/08 to 17/08/2024	Reversible and irreversible process ,entropy and its aspects,carnot cycle and theorem
19/08 to 24/08/2024	Entropy changes in reversible and irreversible process, T-S diagram
26/08 to 31/08/2024	Numericals on carnot cycle ,revision of unit 1
02/09 to 07/09/2024	Third law of thermodynamics, unattainability of absolute zero, thermodynamic potentials, gibbs and helmoltz functions
09/09 to 14/09/2024	Maxwell relations and applications,clausius and clapyeron equation, TdS equations
16/09 to 21/09/2024	Kinetic theory theory of gases derivation of Maxwell law of distribution of velocities,mean free path,Brownian motion
23/09 to 28/09/2024	Vanderwall equations,law of equipartition of energy,blackbody radiation,its spectral distribution,planks law,wein's displacement law
30/09 to 05/10/2024	Wave optics,properties of wavefront, youngs double slit experiment,Lloyd mirror ,Fresnel biprism
07/10 to 12/10/2024	Phase change on reflection,fringes of equal thickness,and equal inclination,newtons rings measurement of wavelength and refractive index
14/10/ to 19/10/2024	Fresnels theory theory of zone plate,and its applications,frsnel diffraction pattern for straight edge and a slit and wire.
21/10 to 26/10/2024	Fraunhoffer diffraction single slit,double slit and N slit, Resolving power of grating,Rayleigh criteria of resolution,resolving poer of prism and telescope
27/10 to 03/10/2024	Diwali Break
04/11 to 09/11/2024	Polarization,,double refraction,production and analysis of plane polarized light,half and full wave plates,optical fibre construction and working
11/11 to 16/11/2024	Modes of propagation,advantages of optical fibres and terst of unit3.

Lesson Plan

Teacher- Sonia
Class- B.Sc. Second Year, 3rd Semester
Subject: Thermodynamics and optics
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Zeroth law,first and second law,internal energy,convert heat into work
29/07 to 03/08/2024	Applications of first law and different types of process,general law between specific heats,
05/08 to 10/08/2024	Work done in isothermal and adiabatic process,compressibility and expansion coefficients
12/08 to 17/08/2024	Reversible and irreversible process ,entropy and its aspects,carnot cycle and theorem
19/08 to 24/08/2024	Entropy changes in reversible and irreversible process, T-S diagram
26/08 to 31/08/2024	Numericals on Carnot cycle ,revision of unit 1
02/09 to 07/09/2024	Third law of thermodynamics, unattainability of absolute zero, thermodynamic potentials, gibbs and helmoltz functions
09/09 to 14/09/2024	Maxwell relations and applications,clausius and clapyeron equation, TdS equations
16/09 to 21/09/2024	Kinetic theory theory of gases derivation of Maxwell law of distribution of velocities,mean free path,Brownian motion
23/09 to 28/09/2024	Vanderwall equations,law of equipartition of energy,blackbody radiation,its spectral distribution,planks law,wein's displacement law
30/09 to 05/10/2024	Wave optics, properties of wavefront, youngs double slit experiment, Lloyd mirror ,Fresnel biprism
07/10 to 12/10/2024	Phase change on reflection,fringes of equal thickness,and equal inclination,newtons rings measurement of wavelength and refractive index
14/10/ to 19/10/2024	Fresnels theory theory of zone plate,and its applications,frsnel diffraction pattern for straight edge and a slit and wire.
21/10 to 26/10/2024	Fraunhoffer diffraction single slit,double slit and N slit, Resolving power of grating,Rayleigh criteria of resolution,resolving poer of prism and telescope
27/10 to 03/10/2024	Diwali Break
04/11 to 09/11/2024	Polarization,,double refraction,production and analysis of plane polarized light,half and full wave plates,optical fibre construction and working
11/11 to 16/11/2024	Modes of propagation,advantages of optical fibres and terst of unit3.

Lesson Plan

Teacher- Madan Singh
Class- B.Sc. Second Year, 3rd Semester
Subject: Thermodynamics and optics
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Zeroth law,first and second law,internal energy,convert heat into work
29/07 to 03/08/2024	Applications of first law and different types of process,general law between specific heats,
05/08 to 10/08/2024	Work done in isothermal and adiabatic process,compressibility and expansion coefficients
12/08 to 17/08/2024	Reversible and irreversible process ,entropy and its aspects,carnot cycle and theorem
19/08 to 24/08/2024	Entropy changes in reversible and irreversible process, T-S diagram
26/08 to 31/08/2024	Numericals on carnot cycle ,revision of unit 1
02/09 to 07/09/2024	Third law of thermodynamics, unattainability of absolute zero, thermodynamic potentials, gibbs and helmoltz functions
09/09 to 14/09/2024	Maxwell relations and applications,clausius and clapyeron equation, TdS equations
16/09 to 21/09/2024	Kinetic theory theory of gases derivation of Maxwell law of distribution of velocities,mean free path,Brownian motion
23/09 to 28/09/2024	Vanderwall equations,law of equipartition of energy,blackbody radiation,its spectral distribution,planks law,wein's displacement law
30/09 to 05/10/2024	Wave optics,properties of wavefront, youngs double slit experiment,Lloyd mirror ,Fresnel biprism
07/10 to 12/10/2024	Phase change on reflection,fringes of equal thickness,and equal inclination,newtons rings measurement of wavelength and refractive index
14/10/ to 19/10/2024	Fresnels theory theory of zone plate,and its applications,frsnel diffraction pattern for straight edge and a slit and wire.
21/10 to 26/10/2024	Fraunhoffer diffraction single slit,double slit and N slit, Resolving power of grating,Rayleigh criteria of resolution,resolving poer of prism and telescope
27/10 to 03/10/2024	Diwali Break
04/11 to 09/11/2024	Polarization,,double refraction,production and analysis of plane polarized light,half and full wave plates,optical fibre construction and working
11/11 to 16/11/2024	Modes of propagation,advantages of optical fibres and terst of unit3.

Lesson Plan
Teacher- Sheela
Class- B.Sc. PHY HONS, 1st Semester
Subject: Mechanics -1,
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Rigid body, Moment of Inertia, Radius of Gyration, Theorems of perpendicular and parallel axis (with proof), Moment of Inertia of ring, Disc, Angular Dise, Solid cylinder, Solid sphere
29/07 to 03/08/2024	Solid cone, Triangular plate, Torque, Rotational Kinetic Energy, Angular momentum, Law of conservation of angular momentum, Rolling motion, condition for pure rolling, acceleration of body rolling down an inclined plane, Fly wheel, Moment of Inertia of an irregular body.
05/08 to 10/08/2024	Deforming force, Elastic limit, stress, strain and their types, Hooke's law, Modulus of rigidity, Relation between shear angle and angle of twist, elastic energy stored/volume in an elastic body
12/08 to 17/08/2024	Elongation produced in heavy rod due to its own weight and elastic potential energy stored in it, Tension in rotating rod, Poisson's ratio and its limiting value, Elastic Constants and their relations. Torque required for twisting cylinder,
19/08 to 24/08/2024	Hollow shaft is stiffer than solid one. Bending of beam, bending moment and its magnitude, Flexural rigidity, Geometrical moment of inertia for beam of rectangular cross-section.
26/08 to31/08/2024	Bending of cantilever (loaded by a weight W at its free end), weight of cantilever uniformly distributed over its entire length. Dispersion of a centrally loaded beam supported at its ends, determination of elastic constants for material of wire by Searle's method
02/09 to 07/09/2024	Michelson's Morley experiment and its outcomes, Postulates of special theory of relativity, Lorentz Transformations, Simultaneity and order of events, Lorentz contraction, Time dilation, Relativistic transformation of velocity, relativistic addition of velocities,
09/09 to 14/09/2024	variation of mass-energy equivalence, relativistic Doppler effect, relativistic kinematics
16/09 to21/09/2024	Transformation of energy and momentum, transformation of force, Problems of relativistic dynamics.
23/09 to28/09/2024	Unit – Test
30/09 to05/10/2024	Law of gravitation, Potential and field due to spherical shell
07/10 to 12/10/2024	Motion of a particle under central force field, Two body problem and its reduction to one body problem and its solution, compound pendulum
14/10 to 19/10/2024	physical pendulum in form of elliptical lamina and expression of time period ,bar pendulum,
21/10 to 26/10/2024	Normal coordinates and normal modes Normal modes of vibration for spring mass system
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	possible angular frequencies of oscillation of two identical simple pendulums of length and small bob of mass joined together with spring of spring constant
11/11 to 16/11/2024	revision

Lesson Plan
Teacher- Manoj
Class- B.Sc. 1st Semester
Subject: Mechanics -1,
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Rigid body, Moment of Inertia, Radius of Gyration, Theorems of perpendicular and parallel axis (with proof), Moment of Inertia of ring, Disc, Angular Dise, Solid cylinder, Solid sphere
29/07 to 03/08/2024	Solid cone, Triangular plate, Torque, Rotational Kinetic Energy, Angular momentum, Law of conservation of angular momentum, Rolling motion, condition for pure rolling, acceleration of body rolling down an inclined plane, Fly wheel, Moment of Inertia of an irregular body.
05/08 to 10/08/2024	Deforming force, Elastic limit, stress, strain and their types, Hooke's law, Modulus of rigidity, Relation between shear angle and angle of twist, elastic energy stored/volume in an elastic body
12/08 to 17/08/2024	Elongation produced in heavy rod due to its own weight and elastic potential energy stored in it, Tension in rotating rod, Poisson's ratio and its limiting value, Elastic Constants and their relations. Torque required for twisting cylinder,
19/08 to 24/08/2024	Hollow shaft is stiffer than solid one. Bending of beam, bending moment and its magnitude, Flexural rigidity, Geometrical moment of inertia for beam of rectangular cross-section.
26/08 to31/08/2024	Bending of cantilever (loaded by a weight W at its free end), weight of cantilever uniformly distributed over its entire length. Dispersion of a centrally loaded beam supported at its ends, determination of elastic constants for material of wire by Searle's method
02/09 to 07/09/2024	Michelson's Morley experiment and its outcomes, Postulates of special theory of relativity, Lorentz Transformations, Simultaneity and order of events, Lorentz contraction, Time dilation, Relativistic transformation of velocity, relativistic addition of velocities,
09/09 to 14/09/2024	variation of mass-energy equivalence, relativistic Doppler effect, relativistic kinematics
16/09 to21/09/2024	Transformation of energy and momentum, transformation of force, Problems of relativistic dynamics.
23/09 to28/09/2024	Unit – Test
30/09 to05/10/2024	Law of gravitation, Potential and field due to spherical shell
07/10 to 12/10/2024	Motion of a particle under central force field, Two body problem and its reduction to one body problem and its solution, compound pendulum
14/10 to 19/10/2024	physical pendulum in form of elliptical lamina and expression of time period ,bar pendulum,
21/10 to 26/10/2024	Normal coordinates and normal modes Normal modes of vibration for spring mass system
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	possible angular frequencies of oscillation of two identical simple pendulums of length and small bob of mass joined together with spring of spring constant
11/11 to 16/11/2024	revision

Lesson Plan
Teacher- Monika
Class- B.Sc. 1st Semester
Subject: Mechanics -1,
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Rigid body, Moment of Inertia, Radius of Gyration, Theorems of perpendicular and parallel axis (with proof), Moment of Inertia of ring, Disc, Angular Dise, Solid cylinder, Solid sphere
29/07 to 03/08/2024	Solid cone, Triangular plate, Torque, Rotational Kinetic Energy, Angular momentum, Law of conservation of angular momentum, Rolling motion, condition for pure rolling, acceleration of body rolling down an inclined plane, Fly wheel, Moment of Inertia of an irregular body.
05/08 to 10/08/2024	Deforming force, Elastic limit, stress, strain and their types, Hooke's law, Modulus of rigidity, Relation between shear angle and angle of twist, elastic energy stored/volume in an elastic body
12/08 to 17/08/2024	Elongation produced in heavy rod due to its own weight and elastic potential energy stored in it, Tension in rotating rod, Poisson's ratio and its limiting value, Elastic Constants and their relations. Torque required for twisting cylinder,
19/08 to 24/08/2024	Hollow shaft is stiffer than solid one. Bending of beam, bending moment and its magnitude, Flexural rigidity, Geometrical moment of inertia for beam of rectangular cross-section.
26/08 to31/08/2024	Bending of cantilever (loaded by a weight W at its free end), weight of cantilever uniformly distributed over its entire length. Dispersion of a centrally loaded beam supported at its ends, determination of elastic constants for material of wire by Searle's method
02/09 to 07/09/2024	Michelson's Morley experiment and its outcomes, Postulates of special theory of relativity, Lorentz Transformations, Simultaneity and order of events, Lorentz contraction, Time dilation, Relativistic transformation of velocity, relativistic addition of velocities,
09/09 to 14/09/2024	variation of mass-energy equivalence, relativistic Doppler effect, relativistic kinematics
16/09 to21/09/2024	Transformation of energy and momentum, transformation of force, Problems of relativistic dynamics.
23/09 to28/09/2024	Unit – Test
30/09 to05/10/2024	Law of gravitation, Potential and field due to spherical shell
07/10 to 12/10/2024	Motion of a particle under central force field, Two body problem and its reduction to one body problem and its solution, compound pendulum
14/10 to 19/10/2024	physical pendulum in form of elliptical lamina and expression of time period ,bar pendulum,
21/10 to 26/10/2024	Normal coordinates and normal modes Normal modes of vibration for spring mass system
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	possible angular frequencies of oscillation of two identical simple pendulums of length and small bob of mass joined together with spring of spring constant
11/11 to 16/11/2024	revision

Lesson Plan
Teacher- Nidhi
Class- B.Sc. 1st Semester
Subject: Mechanics -1,
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Rigid body, Moment of Inertia, Radius of Gyration, Theorems of perpendicular and parallel axis (with proof), Moment of Inertia of ring, Disc, Angular Dise, Solid cylinder, Solid sphere
29/07 to 03/08/2024	Solid cone, Triangular plate, Torque, Rotational Kinetic Energy, Angular momentum, Law of conservation of angular momentum, Rolling motion, condition for pure rolling, acceleration of body rolling down an inclined plane, Fly wheel, Moment of Inertia of an irregular body.
05/08 to 10/08/2024	Deforming force, Elastic limit, stress, strain and their types, Hooke's law, Modulus of rigidity, Relation between shear angle and angle of twist, elastic energy stored/volume in an elastic body
12/08 to 17/08/2024	Elongation produced in heavy rod due to its own weight and elastic potential energy stored in it, Tension in rotating rod, Poisson's ratio and its limiting value, Elastic Constants and their relations. Torque required for twisting cylinder,
19/08 to 24/08/2024	Hollow shaft is stiffer than solid one. Bending of beam, bending moment and its magnitude, Flexural rigidity, Geometrical moment of inertia for beam of rectangular cross-section.
26/08 to31/08/2024	Bending of cantilever (loaded by a weight W at its free end), weight of cantilever uniformly distributed over its entire length. Dispersion of a centrally loaded beam supported at its ends, determination of elastic constants for material of wire by Searle's method
02/09 to 07/09/2024	Michelson's Morley experiment and its outcomes, Postulates of special theory of relativity, Lorentz Transformations, Simultaneity and order of events, Lorentz contraction, Time dilation, Relativistic transformation of velocity, relativistic addition of velocities,
09/09 to 14/09/2024	variation of mass-energy equivalence, relativistic Doppler effect, relativistic kinematics
16/09 to21/09/2024	Transformation of energy and momentum, transformation of force, Problems of relativistic dynamics.
23/09 to28/09/2024	Unit – Test
30/09 to05/10/2024	Law of gravitation, Potential and field due to spherical shell
07/10 to 12/10/2024	Motion of a particle under central force field, Two body problem and its reduction to one body problem and its solution, compound pendulum
14/10 to 19/10/2024	physical pendulum in form of elliptical lamina and expression of time period ,bar pendulum,
21/10 to 26/10/2024	Normal coordinates and normal modes Normal modes of vibration for spring mass system
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	possible angular frequencies of oscillation of two identical simple pendulums of length and small bob of mass joined together with spring of spring constant
11/11 to 16/11/2024	revision

Lesson Plan

Teacher- PRIYA AGGARWAL
Class- B.Sc. PHY HONS, 1ST SEM
Subject: PROBLEM SOLVING THROUGH C
Session- 2024-25

Week	Topic
22/070 to 27/07/2024	OVERVIEW OF C LANGUAGE, STRUCTURE OF C PROGRAMMING,CHARACTER SET
29/07 to 03/08/2024	CONSTANT, VARIABLE, IDENTIFIER,KEYWORDS
05/08 to 10/08/2024	DATA TYPE, ASSINGMENT STATEMENT
12/08 to 17/08/2024	SYMBOLIC CONSTANT, INPUT OUTPUT FUNCTIONS
19/08 to 24/08/2024	OPERATORS AND EXPRESSIONS
26/08 to 31/08/2024	TYPE CASTING AND CONVERSION
02/09 to 07/09/2024	ARRAYS
09/09 to 14/09/2024	FUNCTIONS
16/09 to 21/09/2024	STRINGS AND STRING MANIPULATION FUNCTIONS
23/09 to 28/09/2024	POINTERS IN C
30/09 to 05/10/2024	USER DEFINED DATA TYPES
07/10 to 12/10/2024	ARRAY OF STRUCTURES
14/10/ to 19/10/2024	UNIONS AND DEFINAIONS OF STRUCTURES
21/10 to 26/10/2024	DIFFERENCE BETWEEN STRUCTURES AND UNION
27/10 to 03/10/2024	DIWALI BREAK
04/11 to 09/11/2024	POINTERS AND ARRAY,RECURSIVE FUNCTIONS
11/11 to 16/11/2024	DOUBTS DISCUSSION

Lesson Plan

Teacher- PRIYA AGGARWAL
Class- B.Sc. PHY HONS, 3rd Semester
Subject: MATHEMATICAL PHYSICS II
Session- 2024-25

Week	Topic
22/07/2024 to 27/07/2024	VECTOR ALGEBRA, BASIC VECTORS, LINEAR INDEPENDENCE
29/07/2024 to 03/08/2024	SCALER AND DOT PRODUCT, SCALER AND VECTOR FIELDS,NORMAL DERIVATIVES, ,
05/08/2024 to 10/08/2024	VECTOR DERIVATIVES, GRADIENT OF VECTORS, DIVERGENCE
12/08 /2024 to 17/08/2024	CURL OF VECTORS, LAPLACIAN IN CARTESIAN COORDINATES, LAPLACIAN IN CYLINDRICAL AND SPHERICAL COORDINATES, VECTOR INTEGRATION(LINE, SURFACE, VOLUME)
19/08/2024 to 24/08/2024	GREENS THEOREM, STOKES THEOREM, GAUSS DIVERGENCE THEOREM, PARTIAL,
26/08/2024 to 31/08/2024	RECAPITULATION, CONTINUOUS DIFFERENTIAL FUNCTION,
02/09/2024 to 07/09/2024	REAL ANALYTIC FUNCTION, FIRST ORDER DERIVATIVES,
09/09/2024 to 14/09/2024	HOMOGENEOUS EQUATION, WRONSKIEN AND SOLUTION
16/09/2024 to 21/09/2024	STATEMENT OF EXISTANCE AND UNIQUENESS
23/09/2024 to 28/09/2024	THEOREM FOR INITIAL VALUE PROBLEM
30/09/2024 to 05/10/2024	PARTICULAR INTEGRALS
07/10/2024 to 12/10/2024	RICCATI EQUATIONS
14/10/2024 to 19/10/2024	EXACT AND INXACT DIFFERENTIALS CONSTRAINTS USING LM
21/10/2024 to 26/10/2024	PLOTTING OF CURVE, TALOR AND BIONOMIAL SERIES
27/10/2024 to 03/10/2024	DIWALI BREAK
04/11/2024 to 09/11/2024	CURVILINEAR COORDINATES PARTIAL DERIVATIVES, INTEGRATING FACTOR
11/11/2024 to 16/11/2024	DOUBTS DISCUSSION

Lesson Plan

Teacher- Anita Yadav
Class- B.Sc. PHY HONS, 3rd Semester
Subject: Classical Mechanics
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Review of Classical mechanics: Newton's law of motion Mechanics of single and system of particles, Conversion law of linear momentum, Angular momentum and mechanical energy for a particle and a system of particles
29/07 to 03/08/2024	Constrained Motion, Degrees of freedom and generalized coordinates, Principle of virtual work done
05/08 to 10/08/2024	D'Alembert principle, Generalized Displacement, Velocity, Acceleration, Momentum, Force and Potential.
12/08 to 17/08/2024	Lagrangian & Hamiltonian Dynamics: Lagrangian equation from D'Alembert Principle
19/08 to 24/08/2024	Lagrangian equation from conservative (examples: Lincar Harmonic oscillator)
26/08 to31/08/2024	Revision of unit-1 and test of unit-1
02/09 to 07/09/2024	Symmetry properties of space and time (quantitative Idea), Hamiltonian Principle
09/09 to 14/09/2024	Simple pendulum, compound pendulum and Atwood's machine) and non-conservative system
16/09 to21/09/2024	Legendre transformation and Hamiltonian equation of motion, Legendre transformation and Hamiltonian equation of motion,
23/09 to28/09/2024	Generalized momentum and cyclic coordinates
30/09 to05/10/2024	Example in Hamiltonian dynamics: Harmonic Oscillator, charged particle moving in an electric field
07/10 to 12/10/2024	Derivation of Hamilton's equations from a variational principle, The principle of Least Action.
14/10 to 19/10/2024	Two-body central force problem and Hamiltonian Dynamics: Virial theorem
21/10 to 26/10/2024	Differential equation for the orbit, stability of orbit under central force, conditions for closed orbits
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	The Kepler's laws of planetary motion and their deduction, Scattering in a central force field.
11/11 to 16/11/2024	Revision of all syllabus

Lesson Plan

Teacher- Rajesh Sharma
Class- B.Sc. PHY HONS, 3rd Semester
Subject: Wave Oscillation and Optics I
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Wave Motion: Wave Equation, Solution of wave equation, Plane and Spherical Waves
29/07 to 03/08/2024	Particle and Wave Velocities, The string as a force oscillator,
05/08 to 10/08/2024	Waves Velocity of Transverse vibrations of Stretched Strings, Reflections and transmission of waves on a string at a boundary,
12/08 to 17/08/2024	Velocity of Longitudinal Waves in a Fluid in a Pipe, Newton's Formula for Velocity of Sound,
19/08 to 24/08/2024	Longitudinal and Transverse Reflections and transmission of sound waves at a boundary, Energy distribution in sound waves, Phase and Group Velocities
26/08 to31/08/2024	Simple Harmonic Oscillations SHM: Differential equation of SHM and its solution, Simple pendulum and compound pendulum
02/09 to 07/09/2024	Assignment work and revision
09/09 to 14/09/2024	Superposition of Collinear Harmonic oscillations: Linearity and Superposition Principle,
16/09 to21/09/2024	Superposition of two collinear oscillations having (1) equal frequencies and (2) different frequencies (Beats)
23/09 to28/09/2024	Superposition of N Collinear Harmonic Oscillations with (1) equal phase differences and (2) equal frequency differences.
30/09 to05/10/2024	Superposition of two perpendicular Harmonic Oscillations: Graphical and Analytical Methods,
07/10 to 12/10/2024	Lissajous Figures with equal and unequal frequency and their uses.
14/10 to 19/10/2024	Damped Harmonic Oscillations: Damped motion of mechanical and electrical oscillators,
21/10 to 26/10/2024	critical damping, amplitude decay, energy decay, logarithmic decrement, relaxation time, Q-value,
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	Forced Harmonic Oscillations: Transient and steady state behaviour of a forced oscillator
11/11 to 16/11/2024	Q-Value-as a measure of power absorption band width, a measure of power absorption bandwidth, as amplification factor of low frequency response; Coupled Oscillation,

Lesson Plan
Teacher- Pawan Singh
Class- B.Sc. PHY HONS, 3rd Semester
Subject: Electricity & Magnetism-1
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Electrical Circuits: AC Circuits: Kirchhoff's laws for AC circuits, Complex Reactance and Impedance,
29/07 to 03/08/2024	Series LCR Circuit: (1) Resonance, (2) Power Dissipation and (3) Quality Factor, and (4) Band Width, Parallel LCR Circuit.
05/08 to 10/08/2024	Electrostatics: superposition principle for continuous charge distribution, Gauss's law in integral and differential form
12/08 to 17/08/2024	electric potential, energy of electrostatic field, Poisson's and Laplace's equations, properties of conductors
19/08 to 24/08/2024	Method of images, polarization and bound charges, vectors D and P.
26/08 to31/08/2024	Dielectric Properties: Dielectric medium, Polarization
02/09 to 07/09/2024	Bound charges in a polarized dielectric and their physical interpretation, Electric displacement
09/09 to 14/09/2024	Revision and assignment work
16/09 to21/09/2024	Gauss's theorem in dielectrics,
23/09 to28/09/2024	Parallel plate capacitor completely filled with dielectric, dielectric constant.
30/09 to05/10/2024	Maguetostatics: Lorentz force,
07/10 to 12/10/2024	Ampere's and Biot-Savart's law, divergence and curl of B
14/10 to 19/10/2024	vector potential and concept of gauge, charged particle in electromagnetic field
21/10 to 26/10/2024	magnetism in matter, volume and surface currents, magnetization vector M and vector H.
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	Magnetic Properties of Matter: Magnetization vector (M), Magnetic Intensity (H)
11/11 to 16/11/2024	Magnetic Susceptibility and permeability, Relation between B, H, M, Para-, Dia- and Ferromagnetism, B-H curve and hysteresis

Lesson Plan

Teacher- Sonia
Class- B.Sc. first year first sem
Subject: Computational physics
Session- 2024-2025

Week	Topic
22/07 to 27/07/2024	What is computational physics,need of computational physics,discussion about computer hardware,
29/07 to 03/08/2024	Basic computer architecture,heirarchial memory,RAM,ROM
05/08 to 10/08/2024	Discussion about cache,latency and bandwidth,revision of first unit
12/08 to 17/08/2024	Machine representation,precision and errors,difference between integer and floating point representation,examples of floating point numbers
19/08 to 24/08/2024	Errors and their types
26/08 to 31/08/2024	Round off errors, approximation errors examples of errors
02/09 to 07/09/2024	Errors of third kind,detailed explanation of truncation errors and their examples
09/09 to 14/09/2024	Taken test of unit 1 and revised unit 2
16/09 to 21/09/2024	Algorithms definition and the properties of algorithm and how to develop algoirithm for various situations
23/09 to 28/09/2024	Flowchart concept and various symbols and guidelines to follow the rules of flowchart
30/09 to 05/10/2024	Flowchart on roots of quadratic equation,sum of two matrices
07/10 to 12/10/2024	Flowchart on sum and product of a finite series ,algorithm for plotting trajectory of projectile
14/10/ to 19/10/2024	Some fundamental linux, commands, development of FORTRAN,
21/10 to 26/10/2024	Basic elements of fortran ,character set and constantsand its types
27/10 to 03/10/2024	Variables and their types, operators
04/11 to 09/11/2024	Arithematic and relational operators
11/11 to 16/11/2024	Revision of complete fortran

Lesson Plan

Teacher- Saneh Lata
Class- B.Sc. first year first sem
Subject: Computational physics
Session- 2024-2025

Week	Topic
22/07 to 27/07/2024	What is computational physics,need of computational physics,discussion about computer hardware,
29/07 to 03/08/2024	Basic computer architecture,heirarchial memory,RAM,ROM
05/08 to 10/08/2024	Discussion about cache,latency and bandwidth,revision of first unit
12/08 to 17/08/2024	Machine representation,precision and errors,difference between integer and floating point representation,examples of floating point numbers
19/08 to 24/08/2024	Errors and their types
26/08 to 31/08/2024	Round off errors, approximation errors examples of errors
02/09 to 07/09/2024	Errors of third kind,detailed explanation of truncation errors and their examples
09/09 to 14/09/2024	Taken test of unit 1 and revised unit 2
16/09 to 21/09/2024	Algorithms definition and the properties of algorithm and how to develop algoirithm for various situations
23/09 to 28/09/2024	Flowchart concept and various symbols and guidelines to follow the rules of flowchart
30/09 to 05/10/2024	Flowchart on roots of quadratic equation,sum of two matrices
07/10 to 12/10/2024	Flowchart on sum and product of a finite series ,algorithm for plotting trajectory of projectile
14/10/ to 19/10/2024	Some fundamental linux, commands, development of FORTRAN,
21/10 to 26/10/2024	Basic elements of fortran ,character set and constantsand its types
27/10 to 03/10/2024	Variables and their types, operators
04/11 to 09/11/2024	Arithematic and relational operators
11/11 to 16/11/2024	Revision of complete fortran

Lesson Plan
Teacher- Rahul
Class- B.A. 1st Semester
Subject: Physics Fundamental
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Physics-Nature, scope & excitement, Major discoveries in physics, major contribution by Indian Physicists
29/07 to 03/08/2024	Fundamental physical constants, Physics in relation to other sciences, impact of physics on society and on latest development in science & technology.
05/08 to 10/08/2024	System of Measuring Units-Need for measurement, measuring process, concept of mass, length, time; Fundamental and derive units, system of units,
12/08 to 17/08/2024	concepts of error, types of error (only definition), Accuracy and precision in measurement,
19/08 to 24/08/2024	least count and applications of measuring instruments-Vernier caliper, Screw Gauge
26/08 to31/08/2024	Motion of objects in one dimension- position of the object, origin/reference 8 point, frame of reference, definitions and examples of motion in one, two and three dimension
02/09 to 07/09/2024	Scalar and Vector quantities, description of motion along a straight line distance and displacement
09/09 to 14/09/2024	uniform motion and non- uniform motion, average and instantaneous speed,
16/09 to21/09/2024	average andinstantaneous velocity, acceleration; graphical analysis of straight line motion-distance-time graph, velocity-time graph, equation of motions and their applications.
23/09 to28/09/2024	Universal law of gravitation and its importance, acceleration due to gravity and free fall of a body; mass and weight of an object on carth and moon,
30/09 to05/10/2024	concept of thrust and pressure and importance in daily life, buoyancy and Archimedes principle-the physics behind floating of objects on water.
07/10 to 12/10/2024	Causes of motion- concept of force, Newton's Ist law of motion, inertia and mass.
14/10 to 19/10/2024	Newton's2nd law of motion, momentum and force; 3d law of motion, daily life applications of Newton's laws of motion
21/10 to 26/10/2024	Work, energy, types of energy-Kinetic energy and Potential energy, P.E. of 7 an object at a height; law of conservation of energy and its applications.
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	Conservation of linear and angular momentum, collision (elastic and inelastic) and conservation laws in collisions
11/11 to 16/11/2024	Importance in daily life; concepts of center of mass-Physics behind cycling, rock climbing and skating.

Lesson Plan
Teacher- Rajesh
Class- B.A. 1st Semester
Subject: Physics Fundamental
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Physics-Nature, scope & excitement, Major discoveries in physics, major contribution by Indian Physicists
29/07 to 03/08/2024	Fundamental physical constants, Physics in relation to other sciences, impact of physics on society and on latest development in science & technology.
05/08 to 10/08/2024	System of Measuring Units-Need for measurement, measuring process, concept of mass, length, time; Fundamental and derive units, system of units,
12/08 to 17/08/2024	concepts of error, types of error (only definition), Accuracy and precision in measurement,
19/08 to 24/08/2024	least count and applications of measuring instruments-Vernier caliper, Screw Gauge
26/08 to31/08/2024	Motion of objects in one dimension- position of the object, origin/reference 8 point, frame of reference, definitions and examples of motion in one, two and three dimension
02/09 to 07/09/2024	Scalar and Vector quantities, description of motion along a straight line distance and displacement
09/09 to 14/09/2024	uniform motion and non- uniform motion, average and instantaneous speed,
16/09 to21/09/2024	average andinstantaneous velocity, acceleration; graphical analysis of straight line motion-distance-time graph, velocity-time graph, equation of motions and their applications.
23/09 to28/09/2024	Universal law of gravitation and its importance, acceleration due to gravity and free fall of a body; mass and weight of an object on carth and moon,
30/09 to05/10/2024	concept of thrust and pressure and importance in daily life, buoyancy and Archimedes principle-the physics behind floating of objects on water.
07/10 to 12/10/2024	Causes of motion- concept of force, Newton's Ist law of motion, inertia and mass.
14/10 to 19/10/2024	Newton's2nd law of motion, momentum and force; 3d law of motion, daily life applications of Newton's laws of motion
21/10 to 26/10/2024	Work, energy, types of energy-Kinetic energy and Potential energy, P.E. of 7 an object at a height; law of conservation of energy and its applications.
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	Conservation of linear and angular momentum, collision (elastic and inelastic) and conservation laws in collisions
11/11 to 16/11/2024	Importance in daily life; concepts of center of mass-Physics behind cycling, rock climbing and skating.

Lesson Plan
Teacher- Pawan
Class- B.A. 1st Semester
Subject: Physics Fundamental
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Physics-Nature, scope & excitement, Major discoveries in physics, major contribution by Indian Physicists
29/07 to 03/08/2024	Fundamental physical constants, Physics in relation to other sciences, impact of physics on society and on latest development in science & technology.
05/08 to 10/08/2024	System of Measuring Units-Need for measurement, measuring process, concept of mass, length, time; Fundamental and derive units, system of units,
12/08 to 17/08/2024	concepts of error, types of error (only definition), Accuracy and precision in measurement,
19/08 to 24/08/2024	least count and applications of measuring instruments-Vernier caliper, Screw Gauge
26/08 to31/08/2024	Motion of objects in one dimension- position of the object, origin/reference 8 point, frame of reference, definitions and examples of motion in one, two and three dimension
02/09 to 07/09/2024	Scalar and Vector quantities, description of motion along a straight line distance and displacement
09/09 to 14/09/2024	uniform motion and non- uniform motion, average and instantaneous speed,
16/09 to21/09/2024	average andinstantaneous velocity, acceleration; graphical analysis of straight line motion-distance-time graph, velocity-time graph, equation of motions and their applications.
23/09 to28/09/2024	Universal law of gravitation and its importance, acceleration due to gravity and free fall of a body; mass and weight of an object on carth and moon,
30/09 to05/10/2024	concept of thrust and pressure and importance in daily life, buoyancy and Archimedes principle-the physics behind floating of objects on water.
07/10 to 12/10/2024	Causes of motion- concept of force, Newton's Ist law of motion, inertia and mass.
14/10 to 19/10/2024	Newton's2nd law of motion, momentum and force; 3d law of motion, daily life applications of Newton's laws of motion
21/10 to 26/10/2024	Work, energy, types of energy-Kinetic energy and Potential energy, P.E. of 7 an object at a height; law of conservation of energy and its applications.
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	Conservation of linear and angular momentum, collision (elastic and inelastic) and conservation laws in collisions
11/11 to 16/11/2024	Importance in daily life; concepts of center of mass-Physics behind cycling, rock climbing and skating.

Lesson Plan
Teacher- Seema
Class- B.A. 1st Semester
Subject: Physics Fundamental
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Physics-Nature, scope & excitement, Major discoveries in physics, major contribution by Indian Physicists
29/07 to 03/08/2024	Fundamental physical constants, Physics in relation to other sciences, impact of physics on society and on latest development in science & technology.
05/08 to 10/08/2024	System of Measuring Units-Need for measurement, measuring process, concept of mass, length, time; Fundamental and derive units, system of units,
12/08 to 17/08/2024	concepts of error, types of error (only definition), Accuracy and precision in measurement,
19/08 to 24/08/2024	least count and applications of measuring instruments-Vernier caliper, Screw Gauge
26/08 to31/08/2024	Motion of objects in one dimension- position of the object, origin/reference 8 point, frame of reference, definitions and examples of motion in one, two and three dimension
02/09 to 07/09/2024	Scalar and Vector quantities, description of motion along a straight line distance and displacement
09/09 to 14/09/2024	uniform motion and non- uniform motion, average and instantaneous speed,
16/09 to21/09/2024	average andinstantaneous velocity, acceleration; graphical analysis of straight line motion-distance-time graph, velocity-time graph, equation of motions and their applications.
23/09 to28/09/2024	Universal law of gravitation and its importance, acceleration due to gravity and free fall of a body; mass and weight of an object on carth and moon,
30/09 to05/10/2024	concept of thrust and pressure and importance in daily life, buoyancy and Archimedes principle-the physics behind floating of objects on water.
07/10 to 12/10/2024	Causes of motion- concept of force, Newton's Ist law of motion, inertia and mass.
14/10 to 19/10/2024	Newton's2nd law of motion, momentum and force; 3d law of motion, daily life applications of Newton's laws of motion
21/10 to 26/10/2024	Work, energy, types of energy-Kinetic energy and Potential energy, P.E. of 7 an object at a height; law of conservation of energy and its applications.
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	Conservation of linear and angular momentum, collision (elastic and inelastic) and conservation laws in collisions
11/11 to 16/11/2024	Importance in daily life; concepts of center of mass-Physics behind cycling, rock climbing and skating.

Lesson Plan
Teacher- Manoj
Class- B.Sc(MEDICAL) 1st Semester
Subject: Elementary Mechanics -1,
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Fundamentals of Dynamics: Rigid body
29/07 to 03/08/2024	Radius of Gyration, Theorems of perpendicular and parallel axis (with proof)
05/08 to 10/08/2024	Moment of Inertia, Moment of Inertia of ring,
12/08 to 17/08/2024	Moment of Inertia of Disc, Angular Disc, Solid cylinder.
19/08 to 24/08/2024	**Assignment Work and Revision**
26/08 to31/08/2024	Elasticity: Deforming force, Elastic limit, stress, strain and their types
02/09 to 07/09/2024	Hooks law, Module of elasticity
09/09 to 14/09/2024	Relation between shear angle and angle of twist,
16/09 to21/09/2024	Poisson's ratio and its limiting value
23/09 to28/09/2024	Torque required for twisting cylinder.
30/09 to05/10/2024	relativistic addition of velocities, variation of mass-energy equivalence
07/10 to 12/10/2024	Special Theory of Relativity: Michelson's Morley experiment and its outcomes, TEST OF UNIT-2
14/10 to 19/10/2024	Postulates of special theory of relativity, Lorentz Transformations,
21/10 to 26/10/2024	Lorentz contraction, Time dilation, Relativistic transformation of velocity,
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	Gravitation and central force motion: Law of gravitation, Potential and field due to spherical shell and solid sphere.
11/11 to 16/11/2024	Motion of a particle under central force field, Normal coordinates and normal modes, Normal modesof vibration for given spring mass system
	Possible angular frequencies of oscillation of two identical simple pendulums of length and small bob of mass

Lesson Plan
Teacher- Rahul
Class- B.Sc(MEDICAL) 1st Semester
Subject: Elementary Mechanics -1,
Session- 2024-25

Week	Topic
22/07 to 27/07/2024	Fundamentals of Dynamics: Rigid body
29/07 to 03/08/2024	Radius of Gyration, Theorems of perpendicular and parallel axis (with proof)
05/08 to 10/08/2024	Moment of Inertia, Moment of Inertia of ring,
12/08 to 17/08/2024	Moment of Inertia of Disc, Angular Disc, Solid cylinder.
19/08 to 24/08/2024	**Assignment Work and Revision**
26/08 to31/08/2024	Elasticity: Deforming force, Elastic limit, stress, strain and their types
02/09 to 07/09/2024	Hooks law, Module of elasticity
09/09 to 14/09/2024	Relation between shear angle and angle of twist,
16/09 to21/09/2024	Poisson's ratio and its limiting value
23/09 to28/09/2024	Torque required for twisting cylinder.
30/09 to05/10/2024	relativistic addition of velocities, variation of mass-energy equivalence
07/10 to 12/10/2024	Special Theory of Relativity: Michelson's Morley experiment and its outcomes, TEST OF UNIT-2
14/10 to 19/10/2024	Postulates of special theory of relativity, Lorentz Transformations,
21/10 to 26/10/2024	Lorentz contraction, Time dilation, Relativistic transformation of velocity,
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	Gravitation and central force motion: Law of gravitation, Potential and field due to spherical shell and solid sphere.
11/11 to 16/11/2024	Motion of a particle under central force field, Normal coordinates and normal modes, Normal modesof vibration for given spring mass system
	Possible angular frequencies of oscillation of two identical simple pendulums of length and small bob of mass

Lesson Plan

Teacher: Monika
Class B.Sc. III (5th Semester)
Subject: Basic Instrumentation Skills
Session: 2024-25

Week	Topic
22/07 to 27/07/2024	Basics of Measurements: Instrument accuracy, precision, Multimeter: Principle of measurement, Specification of multimeter, Electronic Voltmeter: advantage over conventional multimeter.
29/07 to 03/08/2024	Specifications of an electronic voltmeter/multimeter and their significance, AC millivoltmeter:.
05/08 to 10/08/2024	Cathode Ray Oscilloscope: block diagram of basic CRO, Construction of CRT, Electron gun, electrostatic focusing and acceleration.
12/08 to 17/08/2024	Front panel controls , Specification of CRO and their significance. Digital Storage Oscilloscope: block diagram and principle of working.
19/08 to 24/08/2024	Signal generator and analysis Instruments: Block diagram, explanation and specifications, Distortion factor meter.
26/08 to31/08/2024	Test of Unit I and II
02/09 to 07/09/2024	Type of AC millivoltmeter, block diagram of AC millivoltmeter, specifications and their significance
09/09 to 14/09/2024	Impedance Bridges & Q-Meters: Block diagram of bridge, working principles of basic RLC bridge, specification of RLC bridge
16/09 to21/09/2024	Block diagram and working principles of Q meter, digital LCR bridges, characteristic of a digital meter.
23/09 to28/09/2024	Working principle of digital voltmeter, Digital Multimeter: Block diagram and working of a digital multimeter, working principle of time interval
30/09 to05/10/2024	Frequency and period measurement using universal counter,
07/10 to 12/10/2024	Brief discussion on screen phosphor, Time based operation.
14/10 to 19/10/2024	Revision and test from syllabus
21/10 to 26/10/2024	time based stability, accuracy and resolution of multimeter
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	Doubt class for Unit I,II,III
11/11 to 16/11/2024	Test

Lesson Plan

Teacher: Nidhi
Class B.Sc. III (5th Semester)
Subject: Physics Workshop Skill
Session: 2024-25

Week	Topic
22/07 to 27/07/2024	Introduction: Measuring units. conversion to SI and CGS. Familiarization with meterscale, Vernier calliper, Screw gauge and their utility. Measure the dimension of a solid block, volume of cylindrical beaker/glass, Use of Sextant to measure height Of buildings, mountains, etc.
29/07 to 03/08/2024	Mechanical Skill: Concept of workshop practice. Overview of manufacturing methods: casting, foundry, machining, forming and welding.
05/08 to 10/08/2024	Types of welding joints and welding defects, Common materials used for manufacturing like steel, copper, iron, metal sheets, composites and alloy, wood.
12/08 to 17/08/2024	Concept of machine processing, introduction to common machine tools like lathe, shaper, drilling, milling and surface machines.
19/08 to 24/08/2024	Cutting tools, lubricating oils. Cutting of a metal sheet using blade. Smoothening of cutting edge of sheet using file.
26/08 to31/08/2024	Drilling of holes of different diameter in metal sheet and wooden block. Use of bench vice and tools For fitting.
02/09 to 07/09/2024	Make funnel using metal sheet. Electrical and Electronic Skill: Use of Multimeter.
09/09 to 14/09/2024	Soldering of electrical circuits having discrete components (R, L, C, diode) and ICs on PCB.
16/09 to21/09/2024	Operation of oscilloscope.
23/09 to28/09/2024	Making regulated power supply. Timer circuit, Electronic switch using transistor and relay.
30/09 to05/10/2024	Introduction to prime movers: Mechanism, gear system, wheel, Fixing of gears with motor axel.
07/10 to 12/10/2024	Lever mechanism, lifting of heavy weight using lever..
14/10 to 19/10/2024	Demonstration of pulley experiment.
21/10 to 26/10/2024	braking systems, pulleys, working principle of power generation systems
27/10 to 03/11/2024	Diwali Break
04/11 to 09/11/2024	Doubt class for Unit I,II,III
11/11 to 16/11/2024	revision