KUMARIVIDYAVATIANANDD.A.V.COLLEGEFORWOMEN, KARNAL

Lesson Plan for the Even Semester
(January to May, 2026)

Name of the Teacher–Ms.Vandana
Class – B.Sc –III rd year
Subject–Electronics
Paper–B23-PHY-601

3rdWeek 12Jan–17 Jan	Semiconductors: Intrinsic and Extrinsic, P-N Junction diode and its V-I characteristics, Ideal Diode,
18 Jan,2026	**Sunday**
4thWeek 19Jan–24 Jan	Zener and Avalanche Breakdown, Zener Diode and its application as Voltage regulator,
23 Jan,2026 **25 Jan,2026** **26 Jan, 2026**	**Sir Chottu Ram Jayanti/ BasantPanchmi** **Sunday** **Republic Day**
5thWeek 27Jan–31 Jan	Photo-Diode, Light Emitting Diode, Solar Cell.

February,2026 **1st Week** **1Feb, 2026**	**Guru RavidasJayanti,Sunday**
2Feb– 7Feb	P-N Junction as Half Wave and Full Wave Rectifiers: Efficiency and Ripple Factor, Comparison of Rectifiers,
8Feb, 2026	**Sunday**
2nd Week **9Feb-14Feb**	Clipping and Clamping circuits, Voltage Multiplier Circuits: Doubler and Tripler.
15 Feb, 2026	**MahaShivratri , Sunday**
3rd Week **16Feb-21 Feb**	**The Bipolar Transistor:** The Bipolar Junction Transistor, Transistor Action and Working (PNP and NPN transistor), Transistor Circuit configurations: Common Base (CB), Common Emitter (CE) and Common Collector (CC) configurations,
22Feb,2026	**Sunday**
4th Week **23Feb-28Feb**	Current Amplification Factors (α, β and γ) and Relationship between them, Comparison of characteristics of Transistor in different configurations.

March,2026 **1st Week** **1March – 8 March**	**Holi Break**
2ndWeek **9 March– 14 March**	**Amplifiers:** CB, CC and CE amplifiers, Transistor Biasing: selection of operating point, Load line analysis and operating point.
15March, 2026	**Sunday**
3rdWeek **16March–20 March**	Methods of Transistor biasing and stabilization (Fixed Base Bias, Bias with emitter resistor and voltage divider circuit)
21March, 2026 **22March, 2026** **23March, 2026**	**Id-ul-Fitr** **Sunday** **ShaheediDiwas / Martyrdom day of Bhagat Singh/Rajguru&Sukhdev**
4thWeek **24March–28 March**	**Multistage Transistor amplifiers:** RC Coupled amplifier (two-stage, concept of bandwidth, no derivation), Classification of amplifiers: Class A, B, AB and C amplifiers.
26 March, 2026 **29 March, 2026**	**Ram Navmi** **Sunday**
31March, 2026	**MahavirJayanti**

April,2026 1st Week 1April–4 April	**Feedback in Amplifiers:** Principle, Types of feedback, voltage gain, Advantages of negative feedback: Stabilization of gain, reduction in frequency distortion, reduction in non-linear distortions, reduction in noise,
5April,2026	**Sunday**
2ndWeek 6 April-11April	**Sessional Exams**
12April,2026	**Sunday**
3rdWeek 13 April-18April	Effect of negative feedback on Input impedance, output impedance and bandwidth, Emitter follower circuit.
14April,2026 19April,2026	**Dr. B.R.AmbedkarJayanti/Vaisakhi ParshuramJayanti /AkshayTirtiya, Sunday**
4thWeek 20April - 25 April	Oscillations: Damped and Undamped Oscillations, Oscillatory circuit, Principle of Oscillation, Condition for self-sustained oscillation: Barkhausen Criteria for sustained oscillations, Essentials of Transistor oscillator, Selection of an Oscillator, Classification of oscillators,
26April,2026	**Sunday**
5thWeek 27April - 30 April	LC oscillators: Tuned collector, Tuned Base, **CLASS TEST**

May,20261st Week 1May – 2 May2026	Hartley Oscillator, Colpitt's Oscillator, RC oscillators: Phase Shift and Wein Bridge Oscillator.
3May,2026	**Sunday**
6 May, 2026 Onwards	**University Examinations**

KUMARIVIDYAVATIANANDD.A.V.COLLEGEFORWOMEN, KARNAL

Lesson Plan for the Even Semester (January to May, 2026)

Name of the Teacher – Ms.Priya Kamboj
Class- B.sc Ist year
Subject- Electricity,Magnetism and Electromagnectic theory
Paper- B23-PHY-201

3rdWeek 12Jan–17 Jan	**UNIT-I VectorBackground andElectricField** : Gradient of a scalar and its physical significance, Line, Surface and Volume integrals of a vector and their physical significance,
18 Jan,2026	**Sunday**
4thWeek 19Jan–24 Jan	Flux of a vector field, Divergence and curl of a vector and their physical significance, Gauss's divergence theorem, Stoke's theorem. Conservative nature of Electrostatic Field, Electrostatic Potential
23 Jan,2026 **25 Jan,2026** **26 Jan, 2026**	**Sir Chottu Ram Jayanti/ BasantPanchmi** **Sunday** **Republic Day**
5thWeek 27Jan–31 Jan	Potential as line integral of field, potential difference Derivation of electric field E from potential as gradient.

February,2026 **1st Week** **1Feb, 2026**	**Guru RavidasJayanti,Sunday**
2Feb– 7Feb	. 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.
8Feb, 2026	**Sunday**
2nd Week **9Feb-14Feb**	**UNIT-II Magnetic Field:** Biot-Savart law and its simple applications: straight wire and circular loop, Current Loop as a Magnetic Dipole and its Dipole Moment,
15 Feb, 2026	**MahaShivratri , Sunday**
3rd Week **16Feb-21 Feb**	Ampere's Circuital Law and its applications to (1) Solenoid and (2) Toroid, properties of B: curl and divergence, **Magnetic Properties of Matter:** Force on a dipole in an external field, Electric currents in Atoms, Electron spin and Magnetic moment, types of magnetic materials,
22Feb,2026	**Sunday**
4th Week **23Feb-28Feb**	Magnetization vector (M), Magnetic Intensity (H), Magnetic Susceptibility and permeability, Relation between B, H and M, Electronic theory of dia and paramagnetism,

March,2026 **1st Week** **1March – 8 March**	**Holi Break**
2ndWeek **9 March– 14 March**	Domain theory of ferromagnetism (Langevin's theory),Cycle of Magnetization- B-H curve and hysteresis loop: Energy dissipation, Hysteresis loss and importance of Hysteresis Curve **CLASS TEST**
15March, 2026	**Sunday**
3rdWeek **16March–20 March**	**UNIT-III Time varying electromagnetic fields:** Electromagnetic induction, Faraday's laws of induction and Lenz's Law, Self-inductance, Mutual inductance,
21March, 2026 **22March, 2026** **23March, 2026**	**Id-ul-Fitr** **Sunday** **ShaheediDiwas / Martyrdom day of Bhagat Singh/Rajguru&Sukhdev**
4thWeek **24March–28 March**	Energy stored in a Magnetic field,Derivation of Maxwell's equations, Displacement current,.
26 March, 2026 **29 March, 2026**	**Ram Navmi** **Sunday**
5thWeek **30 March**	Maxwell's equations in differential and integral form and their physical significance
31March, 2026	**MahavirJayanti**

April,2026 1st Week 1April–4 April	**Electromagnetic Waves:** Electromagnetic waves,Transverse nature of electromagnetic wave,
5April,2026	**Sunday**
2ndWeek 6 April-11April	**Sessional Exams**
12April,2026	**Sunday**
3rdWeek 13 April-18April	**Electromagnetic Waves:** Electromagnetic waves,Transverse nature of electromagnetic wave, energy transported by electromagnetic waves,Poynting vector, Poynting's theorem. Propagation of Plane electromagnetic waves in free space & Dielectrics
14April,2026 19April,2026	**Dr. B.R.AmbedkarJayanti/Vaisakhi ParshuramJayanti /AkshayTirtiya, Sunday**
4thWeek 20April - 25 April	**UNIT- IV 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.
26April,2026	**Sunday**
5thWeek 27April - 30 April	**Alternating Current Circuits:** A resonance circuit, Phasor, Complex Reactance and Impedance, Analysis for RL, RC and LC Circuits, Series LCR

3May,2026	**Sunday**
2ndWeek 4May-5May	Circuit: (1) Resonance, (2) Power Dissipation (3) Quality Factor and (4) Band Width, Parallel LCR Circuit. **REVISION**
6 May, 2026 Onwards	**University Examinations**

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Lesson Plan for the Even Semester (January to May, 2026)

Name of the Teacher– Dr. Geetanjali
Class- B.SC. 2ND Year/ 4th semester
Subject- Waves and Optics
Paper-B23-PHY-401

3rdWeek 12Jan–17 Jan	**Unit 1: Interference** **Interference by Division of wave front**: Young's double slit experiment, Coherence, conditions of Interference, Fresnel's biprism and its applications to determination of wavelength of sodium light and thickness of a mica sheet
18 Jan,2026	**Sunday**
4thWeek 19Jan–24 Jan	Phase change on reflection **Interference by division of amplitude:** Interference by division of Amplitude, thin films, plane parallel film
23 Jan,2026 **25 Jan,2026** **26 Jan, 2026**	**Sir Chottu Ram Jayanti/ BasantPanchmi** **Sunday** **Republic Day**
5thWeek 27Jan–31 Jan	Interference due to transmitted light and reflected light, wedge shaped Film, Newton's rings

February,2026 **1st Week** **1Feb, 2026**	**Guru RavidasJayanti,Sunday**
2Feb– 7Feb	**Unit 2: Diffraction** **Fresnel diffraction:** Huygens- Fresnel theory, Fresnel assumptions rectilinear propagation of light, diffraction at a straight edge, rectangular slit and diffraction at a circular aperature
8Feb, 2026	**Sunday**
2nd Week **9Feb-14Feb**	Diffraction due to a narrow slit, diffraction due to a narrow wire. **Fraunhoffer diffraction**: Single slit diffraction, double slit diffraction , plane transmission grating spectrum
15 Feb, 2026	**MahaShivratri , Sunday**
3rd Week **16Feb-21 Feb**	Dispersive power of grating, limit of resolution, Rayleigh's criterion, resolving power of telescope and a grating.
22Feb,2026	**Sunday**
4th Week **23Feb-28Feb**	**POLARIZATION** Polarization: Polarisation by reflection, refraction and scattering, Malus Law, Phenomenon of double refraction, Huygens's wave theory of double refraction (Normal and oblique incidence)

March,2026 **1st Week** **1March – 8 March**	**Holi Break**
2ndWeek **9 March– 14 March**	Analysis of polarized Light. Nicol prism, Quarter wave plate and half wave plate, production and detection of (i) Plane polarized light (ii) Circularly polarized light and (iii) Elliptically polarized light.
15March, 2026	**Sunday**
3rdWeek **16March–20 March**	Optical activity, Fresnel's theory of optical rotation, Specific rotation, Polarimeters (half shade and Biquartz)
21March, 2026 **22March, 2026** **23March, 2026**	**Id-ul-Fitr** **Sunday** **ShaheediDiwas / Martyrdom day of Bhagat Singh/Rajguru&Sukhdev**
4thWeek **24March–28 March**	**Lasers:** Basic concept of absorption and emission of radiations, amplification and population inversion; Main components of lasers: (i) Active Medium (ii) Pumping (iii) Optical Resonator; Properties of laserbeam: Monochromaticity, Directionality, Intensity, Coherence (Spatial &Temporal coherence); Metastable state, Excitation mechanism
26 March, 2026 **29 March, 2026**	**Ram Navmi** **Sunday**
31March, 2026	**MahavirJayanti**

April,2026 1st Week 1April–4 April	Types of Lasers (He-Ne Laser & Ruby Laser), Applications of Laser
5April,2026	**Sunday**
2ndWeek 6 April-11April	**Sessional Exams**
12April,2026	**Sunday**
3rdWeek 13 April-18April	**Fibre optics:** Optical fibres and their properties, Principal of light propagation through optical fibre
14April,2026 19April,2026	**Dr. B.R.AmbedkarJayanti/Vaisakhi ParshuramJayanti /AkshayTirtiya, Sunday**
4thWeek 20April - 25 April	Acceptance angle and numerical aperature Numericals **CLASS TEST**
26April,2026	**Sunday**
5thWeek 27April - 30 April	Types of optical fibres: single mode fibres and multimode fibres, Advantages and disadvantages of optical fibres. Applications of optical fibres, Fibre optic sensors: Fibre Bragg Grating.

3May,2026	**Sunday**
1st Week 1May-2May	**Revision**
6 May, 2026 Onwards	**University Examinations**