Annual & Weekly Syllabus Split-Up - 2025-26

Class- XII Subject-Physics

S.No	Month	No. of Working Days		No. of Days	Topic	Sub Topic	Resources	Activity	Mid April Test	Periodic Test 1	Pre Mid Term	Mid Term	Preboard-1	Preboard-2	Practice Test-1	Preboard-3
1	APRIL	23	Week 1	5	Electric Charges and Fields	Electric charges, Conservation of charge, Coulomb's law-force between two- point charges, forces between multiple charges; Superposition principle and continuous charge distribution.Electric field, electric field due to a point charge, electric field lines, electric dipole, electric field due to a dipole, torque on a dipole in uniform electric field. Electric flux, statement of Gauss's theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell (field inside and outside).	NCERT, Senses Board, You Tube videos, voltmeter, ammeter, rheostat, switch, battery elliminator	To find resistance of a given wire / standard resistor using metre bridge.								
			Week 2	5	Electrostatic Potential and Capacitance	Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; equipotential surfaces, electrical potential energy of a system of two-point charges and of electric dipole in an electrostatic field.Conductors and insulators, free charges and bound charges inside a conductor. Dielectrics and electric polarization, capacitors and capacitance, combination of capacitors in series and in parallel, capacitance of a parallel plate capacitor with and without dielectric medium between the plates, energy stored in a capacitor (no derivation, formulae only).	NCERT, Senses Board,You Tube videos, meter bridge, rheostat, switch, battery elliminator, resistance box	To verify the laws of combination (series) of resistances using a metre bridge.								
			Week 3	4	Current Electricity	Electric current, flow of electric charges in a metallic conductor, drift velocity, mobility and their relation with electric current; Ohm's law, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity, temperature dependence of resistanceInternal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel, Kirchhoff's rules, Wheatstone bridge.	NCERT, Senses Board,		√							
			Week 4	6	Moving Charges and Magnetism	Concept of magnetic field, Oersted's experiment. Biot - Savart law and its application to current carrying circular loop. Ampere's law and its applications to infinitely long straight wire. Straight solenoid (only qualitative treatment), force on a moving charge in uniform magnetic and electric fields.	NCERT, Senses Board, moving coil galvanometer, resistance box ammeter, voltmeter	To determine resistance of a galvanometer by half-deflection method and to find its Figure of merit	√							
			Week 5	3		Force on a current-carrying conductor in a uniform magnetic field, force between two parallel current-carrying conductors-definition of ampere,										

			Week 1	0												
			Week 2	6	Magnetism and Matter	Torque experienced by a current loop in uniform magnetic field; Current loop as a magnetic dipole and its magnetic dipole moment, moving coil galvanometer- its current sensitivity and conversion to ammeter and voltmeter.	NCERT, Senses Board, bar magnet	To convert the given galvanometer (of known resistance and figure of merit) into a voltmeter of desired range and to verify the same.								
2	JUNE	19	Week 3	6		Bar magnet, bar magnet as an equivalent solenoid (qualitative treatment only), magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis (qualitative treatment only), torque on a magnetic dipole (bar magnet) in a uniform magnetic field qualitative treatment only), magnetic field lines.	NCERT, Senses Board,	To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.								
			Week 4	6	Electromagnetic Induction	Magnetic properties of materials- Para-, dia- and ferro - magnetic substances with examples, Magnetization of materials, effect of temperature on magnetic properties.	NCERT, Senses Board,	4. To assemble the components of a given electrical circuit.								
			Week 5	1		Exercise Questions	NCERT, Senses Board,	Numericals		√						
			Week 1	5		Electromagnetic induction; Faraday's laws, induced EMF and current;Lenz's Law, Self and mutual induction.	NCERT, Senses Board,	Notes Preperation		√						
			Week 2	6	Alternating Current	Alternating currents, peak and RMS value of alternating current/voltage; reactance and impedance; LCR series circuit (phasors only), resonancepower in AC circuits, power factor, wattless current. AC generator, Transformer.	NCERT, Senses Board, transformer model	6. To draw the diagram of a given open circuit comprising at least a battery, resistor/rheostat, key, ammeter and voltmeter. Mark the components that are not connected in proper order and correct the circuit and also the circuit diagram.								
3	JULY	27	Week 3	6	Electromagnetic Waves	Basic idea of displacement current, Electromagnetic waves, their characteristics, their transverse nature (qualitative idea only). Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays) including elementary facts about their uses.	NCERT, Senses Board, Electromagnetic spectrum chart	Notes Preperation								
			Week 4	6	Ray Optics and Optical Instruments	Reflection of light, spherical mirrors, mirror formula, refraction of light, total internal reflection and optical fibers refraction at spherical surfaces, lenses, thin lens formula	NCERT, Senses Board, convex and concave mirrors	To find the value of v for different values of u in case of a concave mirror and to find the focal length.								

			Week 5	4		lens maker's formula, magnification, power of a lens, combination of thin lenses in contact, refraction of light through a prism.Optical instruments: Microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers.	NCERT, Senses Board, convex and concave lense straveling microscope	To determine angle of minimum deviation for a given prism by plotting a graph between angle of incidence and angle of deviation.								
4	AUGUST	23	Week 1	2	Wave optics	Wave front and Huygen's principle, reflection and refraction of plane wave at a plane surface using wave fronts. Proof of laws of reflection and refraction using Huygen's principle. Interference, Young's double slit experiment and expression for fringe width (No derivation final expression only)	NCERT, Senses Board, You Tube videos	Notes Preperation			√						
			Week 2	5		coherent sources and sustained interference of light, diffraction due to a single slit, width of central maxima (qualitative treatment only).	NCERT, Senses Board,	Notes Preperation			√						
			Week 3	5	Dual Nature of Radiation and Matter	Dual nature of radiation, Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of light.	NCERT, Senses Board,	To determine refractive index of a glass slab using a travelling microscope.									
			Week 4	6		Experimental study of photoelectric effect Matter waves-wave nature of particles, de-Broglie relation.	NCERT, Senses Board,	To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab.									
			Week 5	5	Revision	Revision	NCERT, Senses Board,										
5	SEPTEMBER	25	Week 1	5	Term 1							√					
			Week 2	6	Term 1							√					
			Week 3	6	Atoms	Alpha-particle scattering experiment; Rutherford's model of atom; Bohr model of hydrogen atom, Expression for radius of nth possible orbit, velocity and energy of electron in nth orbit, hydrogen line spectra (qualitative treatment only).	NCERT, Senses Board,	To study the nature and size of the image formed by a (i) convex lens, or (ii) concave mirror, on a screen by using a candle and a screen (for different distances of the candle from the lens/mirror).									
			Week 4	6	Nuclei	Composition and size of nucleus, nuclear force Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number; nuclear fission, nuclear fusion.	NCERT, Senses Board,	Notes Preperation									
			Week 5	2		Energy bands in conductors, semiconductors and insulators (qualitative ideas only)	NCERT, Senses Board, You Tube videos	To identify a diode, an LED, a resistor and a capacitor from a mixed collection of such items.									

6	OCTOBER	13	Week 1	3	Semiconductor Electronics: Materials, Devices and Simple Circuits	Intrinsic and extrinsic semiconductors- p and n type, p-n junction		Notes Preperation										
			Week 2	6		Semiconductor diode - I-V characteristics in forward and reverse bias,	NCERT, Senses Board,	To draw the I-V characteristic curve for a p-n junction diode in forward andreverse bias.										
			Week 3	4		application of junction diode -diode as a rectifier.	NCERT, Senses Board,	Notes Preperation										
			Week 4	0														
			Week 5	0														
7	NOVEMBER	23	Week 1	0														
			Week 2	5	PB-1		NCERT, Senses Board, Worksheets						√					
			Week 3	6	PB-1		NCERT, Senses Board, Worksheets						√					
			Week 4	6	PB-1		NCERT, Senses Board, Worksheets						√					
			Week 5	6	Revision	Revision	NCERT, Senses Board, Sample Papers											
8	DECEMBER	20	Week 1	6	Revision	Revision	NCERT, Senses Board, Sample Papers											
			Week 2	6	PB-2									√				
			Week 3	6	PB-2									√				
			Week 4	6	Practice Test-1										√			
			Week 5	3	Practice Test-1										√			
9	JANUARY	22	Week 1	0														
			Week 2	6	PB-3											√		
			Week 3	5	PB-3											√		
			Week 4	6	PB-3											√		
			Week 5	5	Board Practical	Board Practical												
10	FEBRUARY	23	Week 1	6	Board Practical	Board Practical												
			Week 2	6	Board Practical	Board Practical												
			Week 3	5														
			Week 4	6														
			Week 5	0														
11	MARCH	22	Week 1	5														
			Week 2	6														
			Week 3	5														
			Week 4	5														
			Week 5	1														