Number of days	Date	Day	Mock Tests (1 hour) / Discussion Sessions(2 hours)	Topics to be Covered in 1 hours (Theory + Exercise)	Distribution of Subtopic
1	21 November	Tuesday	Daily Mock Test 1	Kinematics	Frame of Reference, Motion in a straight line: Position- time graph, speed and velocity. Uniform and non- uniform motion, average speed and instantaneous velocity. Uniformly accelerated motion, velocity-time, position time graphs, Relations for uniformly accelerated motion.
2	22 November	Wednesday	Daily Mock Test 2	Motion in two Dimension (Part 1)	Scalars and Vectors, Vector addition and Subtraction, Scalar and Vector products, Unit Vector, Resolution of a Vector.
3	23 November	Thursday	Daily Mock Test 3	Motion in two Dimension (Part 2)	Relative Velocity, Motion in a plane, Projectile Motion
4	24 November	Friday	Daily Mock Test 4	Electrostatics (Part 1)	Electric charges, Conservation of charge, Coulomb's law-forces 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 a uniform electric field.
5	25 November	Saturday	Daily Mock Test 5	Electrostatics (Part 2)	Electric flux, Gauss's law and its applications to find field due to infinitely long, uniformly charged straight wire, uniformly charged infinite plane sheet and uniformly charged thin spherical shell.
6	26 November	Sunday	Weekly Mock Test 1 + Discussion Session of WMT 1	Electric Potential, Dipole and Properties of Conductor	Electric potential and its calculation for a point charge, electric dipole and system of charges; Equipotential surfaces, Electrical potential energy of a system of two point charges in an electrostatic field. Conductors and insulators, Dielectrics and electric polarization, capacitor, 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.
7	27 November	Monday	Daily Mock Test 6	Capacitance, Capacitors and Dielectric	Dielectrics and electric polarization, capacitor, 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.
8	28 November	Tuesday	Daily Mock Test 7	Current Electricity (Part 1)	Electric current, Drift velocity, Ohm's law, Electrical resistance, Resistances of different materials, V-I characteristics of Ohmic and nonohmic conductors, Electrical energy and power, Electrical resistivity. Temperature dependence of resistance.
9	29 November	Wednesday	Daily Mock Test 8	Current Electricity (Part 2)	Electric Cell and its Internal resistance, Potential difference and emf of a cell, combination of cells in series and in parallel. Kirchhoff's laws and their applications. Wheatstone bridge, Metre bridge.
10	30 November	Thursday	Daily Mock Test 9	Units and Measurement	Sl units, Fundamental and derived units. Least count, accuracy and precision of measuring instruments, Errors in measurement, Significant figures. Dimensions of Physical quantities, dimensional analysis and its applications.
11	1 December	Friday	Daily Mock Test 10	Fluid Mechanics	Pressure due to a fluid column; Pascal's law and its applications. Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, Reynolds number. Bernoulli's principle and its applications.
12	2 December	Saturday	Daily Mock Test 11	Atomic Physics	Alpha-particle scattering experiment Rutherford's model of atom: Bohr model, energy levels, Hydrogen Spectrum. Dual nature of radiation.
13	3 December	Sunday	Weekly Mock Test 2 + Discussion Session of WMT 2	Photoelectric effect	Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation, Particle Nature of Light
14	4 December	Monday	Daily Mock Test 12	Dual Nature of Radiation and X-rays	Matter waves-wave nature of particle, de Broglie relation. Basic properties of X-rays, Production of continuos X-rays, Spectrum of continuos X-rays, Moseley's Law
15	5 December	Tuesday	Daily Mock Test 13	Newton's Laws of Motion	Force and Inertia, Newton's First Law of motion; Momentum, Newton's Second Law of motion; Impulse; Newton's Third Law of motion. Law of conservation of linear momentum and its applications, Equilibrium of concurrent forces.
16	6 December	Wednesday	Daily Mock Test 14	Friction	Static & Kinetic friction, laws of friction, Rolling friction.
17	7 December	Thursday	Daily Mock Test 15	Circular Motion	Dynamics of uniform circular motion, Centripetal force and its applications.
18	8 December	Friday	Daily Mock Test 16	Heat Transfer and Thermal Physics	Heat, temperature, thermal expansion; specific heat capacity, calorimetry, change of state, latent heat. Heat transfer-conduction, convection and radiation.
19	9 December	Saturday	Daily Mock Test 17	Ray Optics (Part 1)	Reflection of light, spherical mirrors, mirror formula. Refraction of light at plane and spherical surfaces, thin lens formula, and lens maker formula.
20	10 December	Sunday	Weekly Mock Test 3 + Discussion Session of WMT 3	Ray Optics (Part 2)	Total internal reflection and its applications. Magnification. Power of a Lens. Combination of thin lenses in contact. Refraction of light through a prism.
21	11 December	Monday	Daily Mock Test 18	Ray Optics (Part 3)	Microscope and Astronomical Telescope (reflecting and refracting) and their magnifying powers.
22	12 December	Tuesday	Daily Mock Test 19	Gravitation	The universal law of gravitation. Acceleration due to gravity and its variation with altitude and depth. Kepler's laws of planetary motion. Gravitational potential energy; gravitational potential. Escape velocity. Orbital velocity of a satellite. Geo-stationary satellites.
23	13 December	Wednesday	Daily Mock Test 20	Work, Energy and Power	Work done by a constant force and a variable force; kinetic and potential energies, work-energy theorem, power. Potential energy of a spring, conservation of mechanical energy, conservative and nonconservative forces;
24	14 December	Thursday	Daily Mock Test 21	Conservation of Momentum and Collision	Conservation of Momentum, Elastic and inelastic collisions in one and two dimensions.
25	15 December	Friday	Daily Mock Test 22	Magnetic Effect of Electric Current	Biot-Savart law and its application to current carrying circular loop. Ampere's law and its applications to infinitely long current carrying straight wire and solenoid.
26	16 December	Saturday	Daily Mock Test 23	Moving Charges and Magnetism	Force on a moving charge in uniform magnetic and electric fields. Force on a current-carrying conductor in a uniform magnetic field, Force between two parallel current- carrying conductors-definition of ampere,Torque experienced by a current loop in uniform magnetic field, Moving coil galvanometer, its current sensitivity and conversion to ammeter and voltmeter.
27	17 December	Sunday	Weekly Mock Test 4 + Discussion Session of WMT 4	Magnetism and Matter	Current loop as a magnetic dipole and its magnetic dipole moment. Bar magnet as an equivalent solenoid, magnetic field lines, Para, dia and ferro-magnetic substances Magnetic susceptibility and permeability. Effect of temperature on magnetic Properties

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28	18 December	Monday	Daily Mock Test 24	Nuclei	Composition and size of nucleus, atomic masses, Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number, nuclear fission, and fusion.
29	19 December	Tuesday	Daily Mock Test 25	Oscillations	Periodic motion period, frequency, displacement as a function of time. Periodic functions.
30	20 December	Wednesday	Daily Mock Test 26	SHM (Part 1)	Simple harmonic motion (S.H.M.) and its equation; phase; oscillations of a spring restoring force and force constant.
31	21 December	Thursday	Daily Mock Test 27	SHM (Part 2)	Energy in S.H.M.-kinetic and potential energies; Simple pendulum-derivation of expression for its time period.
32	22 December	Friday	Daily Mock Test 28	Electromagnetic Waves	Electromagnetic waves and their characteristics. Transverse nature of electromagnetic waves. Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays). Applications of EM Waves.
33	23 December	Saturday	Daily Mock Test 29	Semiconductor (Part 1)	Semiconductors; semiconductor diode: I-V characteristics in forward and reverse bias; diode as a rectifier; I-V characteristics of LED. the photodiode, solar cell.
34	24 December	Sunday	Weekly Mock Test 5 + Discussion Session of WMT 5	Semiconductor (Part 2)	Zener diode; Zener diode as a voltage regulator. Logic gates (OR. AND. NOT. NAND and NOR).
35	25 December	Monday	Daily Mock Test 30	Kinetic Theory of Gases (KTG)	Equation of state of a perfect gas, work done on compressing a gas Kinetic theory of gases assumptions, concept of pressure. Kinetic energy and temperature: rms speed of gas molecules; Degrees of freedom, Law of equipartition of energy, applications to specific heat capacities of gases; Mean free path, Avogadro's number.
36	26 December	Tuesday	Daily Mock Test 31	Thermodynamics	Thermal equilibrium, zeroth law of thermo-dynamics, concept of temperature. Heat, work and internal energy. First law of thermodynamics. Second law of thermodynamics: reversible and irreversible processes.
37	27 December	Wednesday	Daily Mock Test 32	Waves	Wave motion Longitudinal and transverse waves, speed of a wave. Displacement relation for a progressive wave. Principle of superposition of waves, reflection of waves, Standing waves in strings and organ pipes, fundamental mode and harmonics Beats.
38	28 December	Thursday	Daily Mock Test 33	Wave Optics (Part 1)	Wavefront and Huygens' principle. Laws of reflection and refraction using Huygens principle. Interference, Young's double-slit experiment, and expression for fringe width, coherent sources, and sustained interference
39	29 December	Friday	Daily Mock Test 34	Wave Optics (Part 2)	Diffraction due to a single slit, width of central maximum. Polarization, plane-polarized light: Brewster's law, uses of plane polarized light and Polaroid
40	30 December	Saturday	Daily Mock Test 35	Rotational Motion Part 1	Centre of the mass of a two-particle system, Centre of the mass of a rigid body; Basic concepts of rotational motion; moment of a force; torque, angular momentum, conservation of angular momentum and its applications;
41	31 December	Sunday	Mock Test 1 + Discussion session of MT 1	Rotational Motion Part 2	The moment of inertia, the radius of gyration, values of moments of inertia for simple geometrical objects, parallel and perpendicular axes
42	1 January	Monday	Mock Test 2 + Discussion session of MT 2	Electromagnetic Induction	Electromagnetic induction; Faraday's law, induced enf and current, Lenz's Law, Eddy currents. Self and mutual Inductance
43	2 January	Tuesday	Mock Test 3 + Discussion session of MT 3	Alternating Current	Alternating currents, peak and rms value of alternating current/voltage: reactance and impedance; LCR series circuit, resonance, power in AC circuits, wattless current. AC generator and Transformer.
44	3 January	Wednesday	Mock Test 4 + Discussion session of MT 4	Properties of matter and Elasticity	Elastic behaviour, Stress-strain relationship, Hooke's. Law, Young's modulus, bulk modulus, modulus of rigidity.
45	4 January	Thursday	Mock Test 5 + Discussion session of MT 5	Surface tension	Surface energy and surface tension, angle of contact, application of surface tension drops, bubbles and capillary rise.