Test Series for IIT-JAM

Test Pattern

1. Chapter wise (CT), there are 25 questions in each test and time duration is 1:30 Hour. Total number of test is 23.

2. Topic wise (PT), there are 40 questions in each test and time duration is 2:30 Hour. Total number of test is 07.

3. Full length test (FT), there will be 60 questions and time duration of each test is 03:00 Hour. Total number of test is 05.

4. Student can attempt approximately 1200 number of questions. If students need details solutions then one should pay fees Rs. 1500/-

Test Schedule and Syllabus

Mathematical Physics		
Date	**Test**	**Topic**
10-11-22	**Premium CT - 1**	Calculus of single and multiple variables, partial derivative, Jacobean imperfect and perfect differential
12-11-22	**Premium CT-2**	Complex number, Fourier series , first order and second order linear differential equation with constant coefficient
14-11-22	**Premium CT-3**	Vector algebra, vector calculus, multiple integral, divergence theorem, green theorem, stokes theorem, matrices and determinant
16-11-22	**Part Test - 01**	Above Mentioned

Mechanics and General Properties of Matter		
Date	**Test**	**Topic**
18-11-22	Premium CT-4	Newton's law, velocity and acceleration In Cartesian coordinate, conservation of linear momentum, variable mass systemeleastic and inelastic collision
20-11-22	Premium CT-5	velocity and acceleration in polar coordinate, uniformly rotating frame, centrifugal and corioaliis forces, motion under central force kepler's law gravitational law and field conservative and non conservative forces
22-11-22	Premium CT-6	Centere of mass, equation of motion of center of mass, conservation of momentum and angular momentum, rigid body motion fixed axis rotation, moment of inertia product of inertia, parallel and perpendicular axes theorem principle moment axes
24-11-22	Premium CT-7	kinematics of fluids, equation of continuity, Euler equation and Bernoulli's theorem
26-11-22	Part Test - 02	Above Mentioned

Oscillations Wave and Optics		
Date	**Test**	**Topic**
28-11-22	Premium CT-08	Differential equation for simple harmonic oscillator, and its general solution, superposition of two or more simple harmonic oscillator, lissajous figure damped and forced oscillation
30-11-22	Premium CT-09	Wave equation traveling and standing waves in one dimension, energy density and energy transmission in waves group and phase velocity, sound wave in media, Doppler effect
02-12-22	Premium CT-10	Fermats principle, the general theory of image formulation, thick lens, thin lens, and lens combination
04-12-22	Premium CT-11	Interference, optical path retardation, Fraunhofer diffraction, rayleigh criterion and resolving power, Diffraction gratting, polarization linear, circular and elliptical polarization, Double refraction and optical rotation
06-12-22	Part Test - 03	**Above Mentioned**

Electromagnetic Theory		
Date	**Test**	**Topic**
08-12-22	**Premium CT-12**	Coulomb's law, Gauss's law. Electric field and potential. Electrostatic boundary conditions, Solution of Laplace's equation for simple cases. Conductors, capacitors, dielectrics, dielectric polarization, volume and surface charges, electrostatic energy.
10-12-22	**Premium CT-13**	Biot-Savart law, Ampere's law, Faraday's law of electromagnetic induction, Self and mutual inductance.
12-12-22	**Premium CT-14**	Alternating currents. Simple DC and AC circuits with R, L, and C components. Displacement current, Maxwell's equations, and plane electromagnetic waves, Poynting's theorem, reflection and refraction at a dielectric interface, transmission and reflection coefficients (normal incidence only). Lorentz Force and motion of charged particles in electric and magnetic fields.
14-12-22	**Part Test - 04**	**Above Mentioned**

KTG and Thermodynamics		
Date	**Test**	**Topic**
16-12-22	**Premium CT-15**	Kinetic Theory, Thermodynamics: Elements of Kinetic theory of gases. Velocity distribution and Equipartition of energy. Specific heat of Mono-, di- and tri-atomic gases. Ideal gas, van-der-Waals gas, and equation of state. Mean free path.
18-12-22	**Premium CT-16**	Laws of thermodynamics. Zeroth law and concept of thermal equilibrium. First law and its consequences. Isothermal and adiabatic processes. Reversible, irreversible, and quasi-static processes. Second law and entropy. Carnot cycle.
20-12-22	**Premium CT-17**	Maxwell's thermodynamic relations and simple applications. Thermodynamic potentials and their applications. Phase transitions and Clausius-Clapeyron equation.
22-12-22	**Part Test - 05**	Above Mentioned

Modern Physics		
Date	**Test**	**Topic**
24-12-22	**Premium CT -18**	Inertial frames and Galilean invariance. Postulates of special relativity. Lorentz transformations. Length contraction, time dilation. Relativistic velocity addition theorem, mass-energy equivalence
26-12-22	**Premium CT -19**	Blackbody radiation, photoelectric effect, Compton effect, Bohr's atomic model, X-rays. Wave-particle duality, Uncertainty principle
28-12-22	**Premium CT -20**	The superposition principle, calculation of expectation values, Schrödinger equation and its solution for one, two, and three-dimensional boxes. Solution of Schrödinger equation for the one-dimensional harmonic oscillator. Reflection and transmission at a step potential, Pauli exclusion principle
30-12-22	**Premium CT -21**	Structure of atomic nucleus, mass, and binding energy. Radioactivity and its applications. Laws of radioactive decay.
01-01-23	**Part Test - 06**	Above Mentioned

Solid State Physics and Devices Electronics		
Date	**Test**	**Topic**
03-01-23	Premium CT-22	Crystal structure, Bravais lattices and basis, Miller indices, X-Ray diffraction and Bragg's Law.
05-01-23	Premium CT-23	Intrinsic and extrinsic semiconductors, variation of resistivity with temperature. Fermi level, p-n junction diode, IV characteristics, Zener diode and its applications.
07-01-23	Premium CT-24	BJT: Characteristics in CB, CE, CC modes, Amplifier, Oscillator.
09-01-23	Premium CT-25	Boolean algebra: Binary number systems; conversion from one to another systems; binary addition and subtraction, Logic gates AND, OR, NOT, NAND, NOR, exclusive OR, Truth table, de Morgan's theorem, combination of gates.
11-01-23	Part Test - 07	Above Motioned

Full Length Test		
Date	Full Test	Syllabus
15-01-23	FT – 01	Full Syllabus of JAM
20-01-23	FT - 02	Full Syllabus of JAM
25-01-23	FT - 03	Full Syllabus of JAM
30-01-23	FT - 04	Based on Previous Year Question
04-02-23	FT - 05	Based on Previous Year Question

- **Date and Schedule can be modified according to notification of examination**