IIT-JEE Course

Advance Course

Physics

Module 1 (11 Class or equivalent)-

Basic Mathematics, Vector, Kinematics (1D and 2D motion, Projectile motion, Relative Motion), Newton's Laws of Motion and friction, Work Energy Power, Circular Motion (Kinematics and Dynamics), Center of mass, Collision and Momentum, Rigid body dynamics, Gravitation

Module 2 (11 Class or equivalent)-

Simple harmonic motion, Wave and sound, Mechanical properties of material, Thermal properties of material (Thermal Expansion and heat conduction), Kinetic theory of gases, Thermodynamics, Fluid dynamics

Module 3 (12 Class or equivalent)-

Electrostatics, Current Electricity, Capacitor, Magnetic effect of current and magnetism, Electromagnetic induction, Alternating current, EM waves

Module 4 (12 Class or equivalent)-

Geometrical optics, Wave optics, Modern Physics (De Brogli matter wave, Photo Electric Effect, Atomic structure, Nuclear physics, X ray), Semi-conductor and logic Gates, Communication System.

Chemistry

Module 1 (11 Class or equivalent)-

Some Basic Concept of Chemistry, Mole Concept, Redox Reactions, Atomic Structure, Periodic Properties, Chemical Bonding, States of Matter, Thermodynamics, Equilibrium.

Module 2 (11 Class or equivalent)-

s-Block and Hydrogen Compounds, p- Block (13,14 Group), General Organic Chemistry, Hydrocarbons, Environmental Chemistry

Module 3-(12 Class or equivalent)-

Solid State, Liquid Solutions, Surface Chemistry, Electrochemistry, Chemical Kinetics, Ores and Metallurgy, p-Block (15 to 18 Group), d and f- Block, Coordination Chemistry.

Module 4 (12 Class or Equivalent)-

Alkyl halide, Oxygen containing Organic compounds, Nitrogen containing Organic Compounds, biomolecules and polymers, Chemistry of Everyday life.

Mathematics

Module 1 (11 class or equivalent)

Basic Mathematics, Trigonometric ratios and identities, Straight line, circles, Parabola, Quadratic Expression, Logarithm, Ellipse. Hyperbola

Module 2 (11 class or equivalent)

Progression and series, Mathematical Induction, Permutation and Combination, Binomial Theorem, Complex Number, Solution of triangle, Height and distance, Inverse trigonometry function, Statistics

Module 3 (12 class or equivalent)

Sets and Relations, Function, Limits and continuity and differentiation. Application of derivatives, Indefinite integration, Definite integration

Module 4 (12 class or equivalent)

Area under the curve, Differential Equations, Probability, Matrices, Determinants, Vector algebra ,3-dimensional Geometry