

MODULUS IIT-JEE ACADEMY PRESENTS


A scholarship-linked aptitude & foundation-level assessment in Mental Ability, Mathematics, Physics and Chemistry.

2 Hr DURATION	10:00 AM-12 PM EXAM SLOT	60 QUESTIONS	240 MAX MARKS
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SECTION 01

Question Break-Up

15 questions per subject, evenly weighted across all four sections.

S.NO.	SUBJECT	NO. OF QUESTIONS
1	Mental Ability	15
2	Mathematics	15
3	Physics	15
4	Chemistry	15
	Total	60

SECTION 02

Marking Scheme

Correct Answer +4 marks	Incorrect Answer -1 mark	Unattempted / Other Case 0 marks
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Registration Fee ■ 500/-

To Register, WhatsApp **"REG MSET"** to 8019170707, 8019270707, 8019370707 or 7993376333.
 Syllabus, sample paper, key and solutions will be shared upon registration.

SECTION 04

Detailed Syllabus — With Sub-Topics

Mental Ability

General Mental Ability	Verbal: Number, Alphabet & Alphanumeric Series · Analogy · Classification (Odd One Out) · Coding–Decoding · Blood Relations · Direction Sense Test · Ranking & Order · Logical & Statement–Conclusion Reasoning · Venn Diagrams · Mathematical Operations (Symbol Substitution) Non-Verbal: Mirror & Water Images · Figure Series & Pattern Completion · Embedded Figures · Paper Cutting & Folding
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Mathematics

Polynomials	Degree & Types of Polynomials · Zeros of a Polynomial · Remainder Theorem · Factor Theorem · Algebraic Identities · Factorisation of Polynomials
Plane and Coordinate Geometry including Circles	Cartesian Plane & Coordinates · Distance Formula & Section Formula · Area of a Triangle · Lines & Angles · Triangles — Congruence & Similarity · Circles — Chords, Tangents & Angle Properties · Cyclic Quadrilaterals
Quadratic Equations	Standard Form & Roots · Solution by Factorisation · Quadratic Formula · Nature of Roots (Discriminant) · Word Problems on Quadratics
Arithmetic Progression	General Term (nth Term) · Sum of n Terms · Word Problems Based on AP
Trigonometry	Trigonometric Ratios of Acute Angles · Trigonometric Identities · Ratios of Complementary Angles · Heights & Distances

Physics

Kinematics (One-Dimensional Motion Only)	Distance & Displacement · Speed & Velocity — Uniform & Non-Uniform · Acceleration · Algebraic Equations of Motion ($v=u+at$, $s=ut+\frac{1}{2}at^2$, $v^2=u^2+2as$) · Distance–Time & Velocity–Time Graphs · Motion Under Gravity (Free Fall) Excludes calculus-based treatment and two-dimensional / projectile motion.
Current Electricity	Electric Current & Circuit Diagrams · Potential Difference & Ohm's Law · Resistance & Factors Affecting It · Series & Parallel Combination of Resistors · Heating Effect of Current (Joule's Law) · Electric Power & Commercial Units of Energy
Electromagnetism	Magnetic Field & Field Lines · Field Due to a Current-Carrying Conductor · Right-Hand Thumb Rule · Force on a Current-Carrying Conductor (Fleming's Left-Hand Rule) · Electric Motor · Electromagnetic Induction & Fleming's Right-Hand Rule · Electric Generator · Domestic Electric Circuits
Human Eye	Structure & Function of the Eye · Power of Accommodation · Defects of Vision — Myopia, Hypermetropia, Presbyopia · Correction Using Lenses
Ray Optics	Reflection & Spherical Mirrors (Concave/Convex) · Mirror Formula & Magnification · Refraction of Light & Refractive Index · Refraction at Plane & Curved Surfaces. Refraction Through Spherical Lenses · Lens Formula & Power of a Lens

Chemistry

Atomic Structure	Discovery of Electron, Proton & Neutron · Thomson, Rutherford & Bohr Models · Atomic Number & Mass Number · Isotopes & Isobars · Electronic Configuration & Valency
Chemical Bonding	Ionic (Electrovalent) Bonding · Covalent Bonding · Properties of Ionic & Covalent Compounds · Octet Rule & Basic Lewis Structures
Acid, Bases & Salt	Properties & Reactions of Acids and Bases · pH Scale & Indicators · Neutralisation Reaction · Common Salts — Washing Soda, Baking Soda, Bleaching Powder, Plaster of Paris
Chemical Reaction & Equations	Writing & Balancing Chemical Equations · Types of Reactions — Combination, Decomposition, Displacement, Double Displacement · Oxidation & Reduction · Corrosion & Rancidity
Carbon & Its Compounds	Covalent Bonding & Catenation · Saturated & Unsaturated Hydrocarbons · Homologous Series & Nomenclature · Chemical Properties — Combustion, Oxidation, Addition, Substitution · Ethanol & Ethanoic Acid · Soaps & Detergents