

AITS-JEE(Main+Advanced): TEST SYLLABUS FOR CLASS XII/XIII

S. No.	Test Dates	Test Code	PHYSICS	MATHS	CHEMISTRY	
1	16-Jul-17	PT-1 (Adv.)	Rectilinear motion, Projectile motion, Relative motion, Geometrical optics (Introduction, Laws of reflection, Plane mirror, Motion of object, Reflection through curve surface and Focal length of mirror, Mirror formula, Examples on spherical mirror, velocity of image and magnification, Combination of curved mirror & Plane mirror, Refraction at plane surface, Slab, Total internal reflection)	Fundamentals of Mathematics, Quadratic Equations	Mole Concept, Quantum Mechanical model of atom (QMM) Periodic Table (PT)	IUPAC Nomenclature & Structural Isomerism
2	06-Aug-17	CT-1 (Adv.)	Rectilinear motion, Projectile motion, Relative motion, Geometrical optics, Newton's Law of Motion (NLM), Friction	Fundamentals of Mathematics, Quadratic Equation, Matrices & Determinant, Statistics, Straight Line (Coordinate System, Distance Formula, Section Formula and associated examples, Notion of slope, Std equation, slope form, two point form, area of triangle, area of quadrilateral, Determinant form, Parametric form of line and its examples, Angle between the lines, Point and Line-position, linear inequalities, perpendicular distance, image and foot, Centroid, orthocenter, circumcenter, incentre, Locus problems, Line and Line-Distance bet parallel lines, angle bisector)	Mole concept, QMM, Periodic Table & Real Gases	IUPAC Nomenclature, Structural isomerism, Structure Identification, Physical organic Chemistry (POC-I), General Organic Chemistry (GOC-1) (I effect, +I, -I, their order and applications, Resonance: Definition, condition and writing resonating structures, Stability of R.S., R.E., application of resonance eg., stability of alkenes, B.L., Mesomeric effect eg., +m, -m effect, Application of m effect i.e., e-density, B.L.)
3	27-Aug-17	PT-2 (Adv.)	Geometrical optics, NLM, Friction, Work, Power, Energy (WPE), Circular motion, Electrostatics (Electric charge, Coulomb's Law, Problems of Coulomb's law)	Matrices & Determinant, Statistics, Straight Line, Circle, Binomial Theorem (Binomial Theorem for positive index Theorem+basic properties, General term, middle term, Coefficient of x^k in $(ax + b)^n$), Num greatest coefficient, Num greatest term, Remainder, Sum of series (upper index is constant)	Real Gases, Chemical Bonding	GOC-I (I effect, +I, -I, their order and applications, Resonance: Definition, condition and writing resonating structures, Stability of R.S., R.E., application of resonance eg., stability of alkenes, B.L., Mesomeric effect eg., +m, -m effect, Application of m effect i.e., e-density, B.L., Hyperconjugation and their application B.L., stability of alkenes, Application of electronic effect, Aromaticity, definition, condition, Aromaticity in cations anions, Annulenes, Azulene anti aromatic compounds) & GOC-II (Carbocations: Structure, shape, hybridization and stability of carbocations, Rearrangement of carbocations, Stability of F.R.'s, Carbanions, Acidic Strength of organic compounds, Basic strength of organic compounds, Definition, Conditions of Tautomerism, Enol content)
4	17-Sep-17	CT-1 (Main)	Rectilinear motion, Projectile motion, Relative motion, Geometrical optics, NLM, Friction, WPE, Circular motion, Electrostatics, Gravitation	Fundamentals of Mathematics, Quadratic Equation, Matrices & Determinant, Statistics, Straight Line, Circle, Binomial Theorem, Permutation & Combination (P&C), Probability (Basics definitions, Classical definition of probability, Addition theorem of probability, Conditional probability)	Mole Concept, QMM, Periodic Table, Real Gases, Chemical Bonding, Chemical Equilibrium, Ionic Equilibrium (Elementary) (Acid base concept, Ostwald dilution law, Properties of water, pH calculation of Acids & Bases, Salt hydrolysis (WA + SB, SA + WB, WA + WB))	IUPAC Nomenclature, Structural Isomerism, Structure Identification, POC-I, GOC-I & II, Basic Inorganic Nomenclature (BIN)
5	08-Oct-17	CT-2 (Adv.)	Rectilinear motion, Projectile motion, Relative motion, Geometrical optics, NLM, Friction, WPE, Circular motion, Electrostatics, Gravitation, Current electricity, Capacitance, Centre of mass (Definition and calculation of COM, Motion of COM, Momentum conservation, Spring mass system & Impulse)	Fundamentals of Mathematics, Quadratic Equation, Matrices & Determinant, Statistics, Straight Line, Circle, Binomial Theorem, P & C, Probability, Sets & Relation, Function & Inverse Trigonometric Function (ITF)	Mole Concept, QMM, Periodic Table, Real Gases, Chemical Bonding, Chemical Equilibrium, Ionic Equilibrium (Elementary), Coordination compounds (General Introduction, ligand & Oxidation Number, Denticity of ligand, Nomenclature of coordination compound, Theory of coordination compounds (Werner theory & Effective atomic number), VBT- Hybridisation/ Geometry/ Magnetic Behaviour, Crystal field theory)	GOC-I & II, BIN, Stereoisomerism (Definition, Conditions of G.I., cis-trans, properties of G.I., Syn-anti, oximes, number of G.I. and E, Z, Plane polarized light, S.R. chirality, P.O.S., C.O.S., Alternating axis of symmetry, axis of symmetry, Application of symmetry operations fischer projection formula, wedge-dash formula enantiomers and their properties, Diastereomers, R/S, D/L, configurations, Racemic mix, resolution, % Enantiomer excess, Total number of optical isomers & optical activity without chiral carbon atom)
6	05-Nov-17	CT-2 (Main)	Rectilinear motion, Projectile motion, Relative motion, Geometrical optics, NLM, Friction, WPE, Circular motion, Electrostatics, Gravitation, Current electricity, Capacitance, Centre of mass, Rigid Body Dynamics (RBD)	Fundamentals of Mathematics, Quadratic Equation, Matrices & Determinant, Statistics, Straight Line, Circle, Binomial Theorem, P & C, Probability, Sets & Relation, Function & ITF, Limits, Continuity & Derivability	Mole concept, QMM, Periodic table, Real Gases, Chemical Bonding, Chemical Equilibrium, Ionic Equilibrium (elementary), Coordination compounds, Surface Chemistry, s-block elements	Stereoisomerism, Organic reaction mechanisms-I (ORM-I) (Electrophile, Nucleophile & Nucleophilicity, Leaving group ability & Solvent, Introduction to reaction mechanism & Reaction of acidic hydrogen, Nucleophilic addition reaction of carbonyl compounds (HCN & GR))

7	26-Nov-17	PT-3 (Adv.)	Electrostatics, Gravitation, Current electricity, Capacitance, Centre of mass, RBD, Simple Harmonic motion (SHM), String wave	P & C, Probability, Sets & Relation, Function & I.T.F., Limits, Continuity & Derivability, Application of Derivatives	Chemical Equilibrium, Ionic Equilibrium (elementary), Coordination compounds, Surface chemistry, s-block elements, p-Block Elements, Qualitative Analysis (anion), Electrochemistry (Writing cell from cell reaction and vice-versa, E, E ⁰ , E _{cell} , E ⁰ _{cell} , Standard Hydrogen Electrode, Electro series & its applications. ΔG & ΔG ⁰ , Calculation of SRP of an electrode from other SRP values, Nernst equation & Questions based on it. Concentration cells)	Stereoisomerism, Organic reaction mechanisms-I (Electrophile, Nucleophile & Nucleophilicity, Leaving group ability & Solvent, Introduction to reaction mechanism & Reaction of acidic hydrogen, Nucleophilic addition reaction of carbonyl compounds (HCN & GR), S _N 2 Th reaction of acid (Estrification), S _N 2 Th reaction of acid derivatives (RCOOH, ROH, NH ₃ , RMgX, CN ⁻ , LiAlH ₄ & Hydrolysis), Electrophilic Aromatic substitution reaction (Halogenation, nitration sulphonation) & ORM-II (Directive influence & o/p ratio, Friedel craft Alkylation, Friedel craft Acylation reaction & its limitations)
8	10-Dec-17	CT-3 (Main)	Rectilinear motion, Projectile motion, Relative motion, Geometrical optics, NLM, Friction, WPE, Circular motion, Electrostatics, Gravitation, Current electricity, Capacitance, Centre of mass, RBD, SHM, String wave, sound wave, Electro Magnetic Effect (EMF) (Magnet, Magnetic field due to moving charge, biot Savart's law, Magnetic field due to straight wire, arc, ring)	Fundamentals of Mathematics, Quadratic Equation, Matrices & Determinant, Statistics, Straight Line, Circle, Binomial Theorem, P & C, Probability, Sets & Relation, Function & I.T.F., Application of Derivatives, Limits, Continuity & Derivability, Indefinite Integration, Definite Integration & Its Application (Newton-Leibnitz formula and graphical interpretation of definite integration, Properties of D.I. (P-1 to P-5))	Mole concept, QMM, Periodic table, Real Gases, Chemical Bonding, Chemical Equilibrium, Ionic Equilibrium (elementary), Coordination compounds, Surface Chemistry, s-block elements, p-Block Elements, Qualitative Analysis (anion), Electrochemistry, Metallurgy	Stereoisomerism, Organic reaction mechanisms-I & ORM-II (Directive influence & o/p ratio, Friedel craft Alkylation, Friedel craft Acylation reaction & its limitations, Free radical substitution of alkane, Free radical substitution by NBS & Free radical addition reaction, Electrophilic addition reaction of alkene (X ₂ , HOX, HX), Electrophilic addition reaction of alkyne (X ₂ , HOX, HX, H ₂ SO ₄ /Hg ²⁺ & B ₂ H ₆ /H ₂ O ₂)
9	17-Dec-17	FST-1 (Main)	Full Syllabus	Full Syllabus	Full syllabus	Full Syllabus
10	24-Dec-17	FST-2 (Adv.)	Full Syllabus	Full Syllabus	Full syllabus	Full Syllabus
11	31-Dec-17	CT-3 (Adv.)	Rectilinear motion, Projectile motion, Relative motion, Geometrical optics, NLM, Friction, WPE, Circular motion, Electrostatics, Gravitation, Current electricity, Capacitance, Centre of mass, RBD, SHM, String wave, sound wave, EMF, Electro Magnetic Induction (EMI), Alternating current (AC)	Fundamentals of Mathematics, Quadratic Equation, Matrices & Determinant, Statistics, Straight Line, Circle, Binomial Theorem, P & C, Probability, Sets & Relation, Function & I.T.F., Limits, Continuity & Derivability, Application of Derivatives, Indefinite Integration, Definite Integration & Its Application	Electrochemistry, Metallurgy, Chemical Kinetics, p-Block Elements (Boron & Carbon Family), Solution & Colligative Properties (Solutions of Solid and Gases in Liquids, General Introduction & types of solution, Vapour Pressure, Completely miscible liquids: Raoult's law)	ORM-I & II, Reduction, Oxidation & Hydrolysis, ORM-III (Nucleophilic Substitution Reaction S _N 1 (Alkyl halide, Alcohol and Ether), Nucleophilic Substitution Reaction S _N 2 (Alkyl Introduction & types of Ether), Nucleophilic Substitution Reaction S _N 2 & S _N i, Nucleophilic Substitution Reaction S _N 2Ar)
12	14-Jan-18	PT-4 (Adv.)	Sound wave, EMF, EMI, AC, Modern Physics-I, Nuclear physics	Application of Derivatives, Indefinite Integration, Definite Integration & Its Application, Differential Equation, Vector & 3-D (Addition of vectors, position vector, distance formula and section formula, Vector equation of straight line, Scalar product of two vector, Vector product of two vectors)	Electrochemistry, Metallurgy, Chemical Kinetics, p-Block Elements (Boron & Carbon Family), Solution & Colligative Properties	Reduction, Oxidation & Hydrolysis, ORM-III, ORM-IV (Elimination Reaction E1 & E2 & E1cb) & Aromatic compound (Preparation of phenol, Chemical reaction of phenol)
13	28-Jan-18	AIOT (Main)	Full syllabus	Full syllabus	Full syllabus	Full syllabus
14	11-Feb-18	PT-5 (Adv.)	Wave optics, Fluid mechanics, Surface tension, Elasticity and viscosity, KTG and thermodynamics (Assumptions of KTG and Internal energy, Work done by gas in different process and indicator diagram, first law of thermodynamics & its application)	Vector & 3-D, Complex Number, Conic Section (Parametric equation of parabola (Standard), Chord joining t ₁ , t ₂ , Position of a point w.r.t. parabola, Position of a line w.r.t. parabola, Length of intercept, Tangent, Normal, Length of tangent, Normal, Subtangent, Subnormal, Pair of Tangents, Director Circle, Chord of contact, Chord with middle point, Important properties of parabola)	Solution & Colligative Properties, p-block elements (13 to 18), Thermodynamic & Thermochemistry	Reduction, Oxidation & Hydrolysis, ORM-III, IV, Aromatic compound, Hydrocarbon, Carbonyl compounds
15	25-Feb-18	AIOT (Adv.)	Full syllabus	Full syllabus	Full syllabus	Full syllabus
16	04-Mar-18	MT (Main)	Full syllabus	Full syllabus	Full syllabus	Full syllabus
17	11-Mar-18	JPT-1 (Main)	Full syllabus	Full syllabus	Full syllabus	Full syllabus
18	18-Mar-18	JPT-2 (Main)	Full syllabus	Full syllabus	Full syllabus	Full syllabus
19	22-Apr-18	MT (Adv.)	Full syllabus	Full syllabus	Full syllabus	Full syllabus
20	29-Apr-18	JPT-1 (Adv.)	Full syllabus	Full syllabus	Full syllabus	Full syllabus
21	13-May-18	JPT-2 (Adv.)	Full syllabus	Full syllabus	Full syllabus	Full syllabus