

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

S. No.	Test Dates	Test Code	PHYSICS	MATHS	CHEMISTRY	
1	16-Jul-17	PT-1	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 Equation	Mole concept, Quantum Mechanical model of atom (QMM)	IUPAC Nomenclature & Structural Isomerism
2	06-Aug-17	CT-1	Rectilinear motion, Projectile motion, Relative motion, Geometrical Optics, Newton's laws 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, incenter, Locus problems)	Mole concept, QMM, Periodic table, Real Gases, Chemical Bonding (Ionic Bond & Characteristic of ionic compound. Fajan's rule.)	IUPAC Nomenclature & Structural Isomerism, Structure Identification, Physical organic Chemistry (POC-I), General Organic Chemistry (GOC-1) (I effect: (+I, -I) & their order, Resonance: Definition, condition and writing resonating structures, Stability of Resonance structure & resonance energy, Mesomeric effect: (+m, -m), Application of m effect, electron density in ring and SIR effect)
3	27-Aug-17	PT-2	Geometrical Optics (G.O), 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 $(ax + b)^n$, Remainder, Sum of series (upper index is constant), Upper index is variable, Product of binomial coefficient)	Periodic table, Real Gases, Chemical Bonding (Ionic Bond & Characteristic of ionic compound. Fajan's rule, Types of chemical bond and octet rule, Limitations of octet rule, formal charge, lewis dot structures, resonance, Bond order in oxoanions and corresponding acids, VBT, Overlapping of orbitals, VSEPR theory, Hybridisation, Bond angle, bond length comparison, Multicentered species. Lewis acids, coordinate bond, electron deficient bond, Back bonding, Molecular Orbital Theory (MOT), Application of MOT)	GOC-I (I effect: (+I, -I) & their order, Resonance: Definition, condition and writing resonating structures, Stability of Resonance structure & Resonance energy, Mesomeric effect: (+m, -m), Application of m effect, electron density in ring and SIR effect, Hyperconjugation and their application: bond length, stability of alkenes and heat of hydrogenation, Application of electronic effect, Aromaticity, definition, condition, Aromaticity in cations and anions, Annulenes, Azulene and anti aromatic compounds) & GOC-II (Carbocations: Structure, shape, hybridization and stability of carbocations, Rearrangement of carbocations, Stability of free radical, carbanions & carbene, Acidic strength of organic compounds, Basic strength of organic compounds, Definition & conditions of tautomerism, % Enol content)
4	17-Sep-17	CT-2	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))	Structure Identification, POC-I, GOC-I & II
5	08-Oct-17	PT-3	Current Electricity, Capacitance, Centre of mass	P & C, Probability, Sets & Relations, Function & Inverse Trigonometric Function (ITF)	Chemical Equilibrium, Ionic Equilibrium (Elementary), Coordination compound (General Introduction, ligand & Oxidation Number & Denticity of ligand, Nomenclature of coordination compound, Theory of co-ordination compounds (Werner theory & Effective atomic number)	GOC-I & II, Stereoisomerism
6	05-Nov-17	CT-3	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 Element	Stereoisomerism, Organic reaction mechanisms-I (ORM-I) (Electrophile, Nucleophile & Nucleophilicity, Leaving group ability & Solvent, Introduction to reaction mechanism & Reaction of acidic hydrogen)

7	26-Nov-17	PT-4	Electrostatics, Gravitation, Current electricity, Capacitance, Centre of mass, RBD, Simple Harmonic motion (SHM), String wave	Limits, Continuity & Derivability, Application of Derivatives, Indefinite Integration (Standard Formula, Theorems on integration, Simple problems on substitution), Integration by part	Surface chemistry, s-Block Element, Metallurgy, Electrochemistry	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 (NaBH_4 , LiAlH_4 , HCN), Nucleophilic addition reaction of carbonyl compounds (GR, H_2O , ROH , NaHSO_3 , ammonia derivatives), Beckmann rearrangement and $\text{S}_{\text{N}}2$ reaction of acid (Esterification), $\text{S}_{\text{N}}2$ reaction of acid derivatives with $(\text{RMgX}$, RCOOH , ROH , NH_3 , CN^- , LiAlH_4 & Hydrolysis), Preparation & other reaction of GR, Electrophilic Aromatic substitution reaction (Halogenation, nitration sulphonation)) Organic reaction mechanisms-II (Directive influence & o/p ratio, Friedel craft Alkylation, Friedel craft Acylation reaction & its limitations)
8	10-Dec-17	CT-4	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 & ITF, Limits, Continuity & Derivability, Application of Derivatives, 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, Electrochemistry, Metallurgy	Stereoisomerism, ORM-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 alkene ($\text{H}_2\text{O} / \text{H}^+$, $(\text{CH}_3\text{COO})_2\text{Hg}$, $\text{H}_2\text{O} / \text{NaBH}_4$ & $\text{B}_2\text{H}_6 / \text{H}_2\text{O}_2$), Electrophilic addition reaction of alkyne (X_2 , HOX , HX , $\text{H}_2\text{SO}_4 / \text{Hg}^{2+}$ & $\text{B}_2\text{H}_6 / \text{H}_2\text{O}_2$), Metal hydrides reduction & Miscellaneous reduction, Oxidation reaction of hydrocarbon
9	31-Dec-17	PT-5	String wave, sound wave, EMF	Application of Derivatives, Indefinite Integration, Definite Integration & Its Application	Chemical Kinetics, p-Block (13-14), Solution & colligative properties (Solutions of Solid and Gases in Liquids, General Introduction & types of solution, Osmotic pressure)	ORM-I & II, Reduction, Oxidation & Hydrolysis
10	14-Jan-18	CT-5	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)	Fundamental of Mathematics, Quadratic Equation, Statistics, Matrices and Determinants, Straight Line, Circle, Binomial Theorem, P & C, Probability, Sets & Relations, Function & ITF, Limits, Continuity & Derivability, 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)	Metallurgy, Chemical Kinetics, p-Block (13-14), Solution & colligative Properties. P-Block (15 & 16 groups)	Reduction, Oxidation & Hydrolysis, ORM-III (Nucleophilic Substitution Reaction $\text{S}_{\text{N}}1$ (Alkyl halide, Alcohol and Ether), Nucleophilic Substitution Reaction $\text{S}_{\text{N}}2$ (Alkyl halide, Alcohol and Ether), Nucleophilic Substitution Reaction $\text{S}_{\text{N}}2$ & $\text{S}_{\text{N}}\text{i}$, Aromatic Nucleophilic Substitution Reaction $\text{S}_{\text{N}}2\text{Ar}$, & ORM-IV (Elimination Reaction E1 & E2 & E1cb)
11	28-Jan-18	AIOT	Full Syllabus	Full Syllabus	Full Syllabus	Full Syllabus
12	11-Feb-18	PT-6	Modern Physics-I, Nuclear Physics, Wave optics, Fluid mechanics, Surface Tension	Differential Equation, 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, Definition, Properties i.e. focal property, General Ellipse, Auxiliary Circle, Parametric Equation, Equation chord joining a, b)	Solid State, p-Block (17-18) group, Thermodynamics	ORM-III, ORM-IV, Aromatic Compound, Hydrocarbon, Carbonyl Compounds
13	04-Mar-18	MT	Full Syllabus	Full Syllabus	Full Syllabus	Full Syllabus
14	11-Mar-18	JPT-1	Full Syllabus	Full Syllabus	Full Syllabus	Full Syllabus
15	18-Mar-18	JPT-2	Full Syllabus	Full Syllabus	Full Syllabus	Full Syllabus