Aakash BYJU'S

Ranker's Package

Detailed Test Planner
JEE-XI

Daily Test Planner

AIATS Planner

Comprehensive Test Planner

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DAILY TEST SCHEDULE & SYLLABUS (VOLUME 1 — APRIL)	
Test Name	**Test Syllabus**
Physics Daily Test 1	What is physics, Scope & Excitement of physics, Physics technology and society, Fundamental forces in nature, Nature of physical laws
Chemistry Daily Test 1	Nature of Matter, Properties of matter and their measurement SI unit, Mass weight, Volume temperature, Need for standard reference, Scientific notation, Precision and accuracy : (i) Significant figure and calculation involving significant figure.
Mathematics Daily Test 1	Introduction, Sets, Representation of sets, Kinds of Sets, Analysis of two sets : Equal sets, Equivalent sets, Subsets, Intervals as subset of R.
Physics Daily Test 2	Concept of measurement of physical quantity, International system of units, measurement of physical parameters like length, mass and time.
Chemistry Daily Test 2	Law of chemical combination : (i) Law of conservation of mass, (ii) Law of constant combination, (iii) Law of multiple proportion, (v) Gay Lussac's law, (vi) Avagdro law, (vii) Dalton's atomic theory Atomic mass : (i) Relative atomic mass, (ii) Average atomic mass, (iii) Molecular mass calculation using atomic mass.
Mathematics Daily Test 2	Power sets, Universe set, Venn diagram, Operation on sets : Union of sets, intersection of sets, disjoint sets, difference two sets, complement of a set, Algebra on sets.
Physics Daily Test 3	Dimensions of various physical quantities. Principle of Homogeneity
Chemistry Daily Test 3	Formula representation of molecule : (i) Empirical formula, (ii) Molecular formula, (iii) Formula unit, Mole concept : (i) Introduction of mole concept with basic problems
Mathematics Daily Test 3	Wavy Curve Method & Inequalities.
Physics Daily Test 4	Dimensional Analysis and its Application
Chemistry Daily Test 4	Calculation based on mole concept : (i) Mass / Mass relation, Molar mass and concept of gram atom, gram molecule, (ii) Volume / Volume relation
Mathematics Daily Test 4	Wavy Curve Method & Inequalities.

DAILY TEST SCHEDULE & SYLLABUS (VOLUME 1 — APRIL)	
Test Name	**Test Syllabus**
Physics Daily Test 5	Accuracy & Precision of instruments, Errors (with its types), Propagation of errors in different operations like sum, difference, product and division
Chemistry Daily Test 5	Concept of limiting reagent : Use of stoichiometry in balanced equation and limiting reagent concept.
Mathematics Daily Test 5	Practical problems on union and intersection of two sets. Assignment discussions.
Physics Daily Test 6	Significant figures and different operations with significant figures, Rules of Rounding off
Chemistry Daily Test 6	Concentration term : (i) Molarity, (ii) Molality, (iii) Mole fraction.
Mathematics Daily Test 6	Introduction, Cartesian products of sets & Relations, Definition of function.
Physics Daily Test 7	Concept of position, path length, displacement, average velocity & average speed, Instantaneous velocity and speed.
Chemistry Daily Test 7	Stoichiometry : (i) Problem on gravimetric and volumetric analysis, (ii) Principle of atom conservation; (iii) n-factor
Mathematics Daily Test 7	Definition of domain, Range, Methods to find out domain
Physics Daily Test 8	Differentiation, Its physical significance, Important formulae for Differentiation
Chemistry Daily Test 8	Equivalent mass : (i) Equivalent mass and gram equivalent, (ii) Normality, (iii) Relation between molarity and normality. Stoichiometry - Application of gram equivalent concept and percentage of free SO3 in oleum
Mathematics Daily Test 8	Some basic functions and their graphs, Algebra of functions, Identity function constant function, polynomial function,
Physics Daily Test 9	Application of Differentiation
Chemistry Daily Test 9	Atomic Structure: (i) Basic discovery and subatomic particles (Cathode rays, anode rays, Chadwick experiment), (ii) Rutherford experiment, (iii) Introduction to electromagnetic wave and introduce C = vl formula. (iv) Principle of quantization (Plank theory), (v) Black body radiation, (vi) Photoelectric effect
Mathematics Daily Test 9	Rational function, Irrational functions. Modulus function and their properties Signum function, Greatest integer, Fractional function

DAILY TEST SCHEDULE & SYLLABUS (VOLUME 1 — APRIL)	
Test Name	**Test Syllabus**
Physics Daily Test 10	Integration, Its physical significance, Important formulae,Application of Integration,
Chemistry Daily Test 10	(i) Hydrogen spectrum, (ii) Bohr theory with mathematical derivations, (iii) Basic question on Bohr theory.
Mathematics Daily Test 10	Exponential function, logarithmic function and their properties. Algebra of real function, replacement properties of function, Transformations of Graphs
Physics Daily Test 11	Average and Instantaneous acceleration, Kinematics of non uniformly accelerated motion
Chemistry Daily Test 11	(i) Dual Behaviour of matter, (ii) De broglie equation, (iii) Heisenberg uncertainty principle
Mathematics Daily Test 11	Angles, Important terms, system of measurement of angles, trigonometric function, Values of trigonometric function for some specific angles, Trigonometric ratios of allied angles, Domain and ranges of trigonometric function, Graph of trigonometric functions.
Physics Daily Test 12	Uniformly accelerated motion
Chemistry Daily Test 12	(iv) Quantum mechanical model, (i) Introduction of quantum numbers, (iii) Shape of orbital,
Mathematics Daily Test 12	Transformation formulae: trigonometric ratio of the sum and difference of two angles. Transforming product into sum or difference, Transforming the sum or difference into product. Trigonometric ratio of multiple angles, sub-multiple angles.
Physics Daily Test 13	Physics: Motion Under Gravity
Chemistry Daily Test 13	(ii) Introduction to Radial function (y), (i) Aufbau principle, Pauli's exclusion principle, Hund's rule, (ii) Electronic configuration, Electronic configuration of Half-filled and full-filled orbitals
Mathematics Daily Test 13	Trigonometric equation: Types of trigonometric equation, Principal value, General solution of basic trigonometric equation.
Physics Daily Test 14	Graphs between position, velocity, acceleration and time for uniform and nonuniform accelerated motion, Relative velocity in one Dimension only

DAILY TEST SCHEDULE & SYLLABUS (VOLUME 1 — APRIL)	
Test Name	**Test Syllabus**
Chemistry Daily Test 14	Periodic Properties: (i) Introduction to historical development for periodicity, (ii) Modern periodic law and prediction of periodic table, (iii) IUPAC naming of element (Z > 100), Location of element by using atomic number and vice versa, (i) Atomic radius (various types and variation), (ii) Ionic radius and prediction of trend by using isoelectronic species
Mathematics Daily Test 14	Statement of preposition, problem based on proving theorem or identities by the principle of mathematical induction problem based on showing that a given expression is divisible by an integer or by another expression, problem based on proving inequality by the principle of mathematical induction and target discussion
Physics Daily Test 15	Motion in a Plane: Scalars & Vectors, Multiplication of vectors by real numbers, Addition & subtraction of vectors–graphical method (triangle law & paralleogram Law),Resolution of vectors, Vector addition and subtraction using resolution
Chemistry Daily Test 15	(ii) Ionic radius and prediction of trend by using isoelectronic species, (i) Ionisation energy and its general trends, (ii) Ionisation trend by using half-filled / full-filled orbital and screening effect (iii) Electron gain enthalpy, (iv) Electronegativity, (v) Metallic character and valency, (vi) Anomalous behaviour of 2nd period elements, (vii) Periodic trends and chemical reactivity.
Mathematics Daily Test 15	Quadratic equation: Fundamental theorem of algebra nature of roots of quadratic equations ax2 + bx+ c= 0, Properties related to nature of roots of quadratic equations.
Physics Daily Test 16	Motion in a plane with constant acceleration. Projectile motion, Ground to ground Projection, Maximum height, Range, Time of flight,
Chemistry Daily Test 16	(i) What is chemical bond ? (ii) Types of chemical bond (Just introduction), (iii) Lewis dot structure (overview), (iv) Formal charge. (v) Ionic bonding (energetics), (vi) Properties of ionic solid, (i) Bond Parameters (bond length, bond anngle, bond energy), Resonance
Mathematics Daily Test 16	Condition for common roots of quadratic equations.Quadratic expression y = ax2 + bx + c, Location of roots.
Physics Daily Test 17	Equation of trajectory for Ground to Ground projection, Horizontal /Oblique projection from a height

DAILY TEST SCHEDULE & SYLLABUS (VOLUME 1 — APRIL)	
Test Name	**Test Syllabus**
Chemistry Daily Test 17	(ii) Introduce to concept of dipole moment. (iii) Fajan's rule, (iv) Percentage ionic character, (v) VSEPR theory (i) Covalent bonding (valence bond theory), (ii) Type of orbital overlap (s and p bond), (iii) Orbital overlap to explain simple molecules,
Mathematics Daily Test 17	Roots of an equation, analysis of cubic equation, formation of new equations with the help of given equation.Descartes rule, transformation of quadratic equation ax2 + bx + c = 0, Assignment discussion
Physics Daily Test 18	Projectile motion along inclined plane
Chemistry Daily Test 18	(iv) Hybridisation concept in introduction(i) Overlap of hybridised orbital and orbital overlap diagram, (ii) Prediction of hybridisation state and shape of molecule.
Mathematics Daily Test 18	Introduction, square root of negative number, complex number, representation of complex number in an argand plane. Equality of complex number, Algebra of complex number, Identities,
Physics Daily Test 19	Relative motion
Chemistry Daily Test 19	(i) Linear combination of atomic orbitals (ii) Molecular orbital theory (concept of bonding and anti-bonding orbital) and shape of molecular orbitals. (i) Filling of M.O. and energy diagram, (ii) Determine bond order and discuss magnetic property / bond length and bond stability (iii) H-bonding, (iv) Metallic bonding.
Mathematics Daily Test 19	Conjugate of a complex number, Representation of conjugate of a complex number in an Argand plane, properties of conjugate, Modulus of a complex number, representation of modulus of a complex number on the Argand plane, properties of modulus, Properties of arguments of Complex Numbers, Polar representation of a complex numbers
Physics Daily Test 20	Kinematics of uniform and nonuniform circular Motion
Chemistry Daily Test 20	(I) Intermolecular force and thermal energy, (II) Gaseous state-(i) Introduce volume, pressure and temperature their various units and relation among them, (ii) Gas laws — (a) Boyle's law, (b) Charle's law, (c) Gay Lusac's law ; (d) Avogardo's law

DAILY TEST SCHEDULE & SYLLABUS (VOLUME 1 — APRIL)	
Test Name	**Test Syllabus**
Mathematics Daily Test 20	Introduction, inequalities, some rules to solve inequalities, inequalities related to modulus of a real numbers, Graphical solution of linear inequalities in two variables Type-1: Problem based on solution of system of linear inequalities Type-2: Problem based on finding system of linear inequalities when their solution set is given as a shaded region, Assignment discussion
Physics Daily Test 21	Laws of motion: The law of inertia, Newton's first law of motion, Momentum, Newton's second law of motion, Impulse, Newton's third law of motion, Conservation of linear momentum
Chemistry Daily Test 21	(III) Ideal gas introduction and ideal gas equation, Basic problem on them, (I) Ideal gas equation (numericals), (II) Dalton's law of partial pressure
Mathematics Daily Test 21	Introduction, A.P. nth term of AP, properties of A.P. Sum of n term of an AP
Physics Daily Test 22	Common forces in mechanics (Weight, tension, normal reaction, Spring force),Motion of connected bodies,
Chemistry Daily Test 22	(III) Kinetic theory of gases, (IV) Kinetic energy and molecular speeds, (V) Maxwell boltzmann distribution of molecular speeds, (I) Graham's law of diffusion and effusion
Mathematics Daily Test 22	Arithmetic mean, Geometric progression, nth term, sum of n term of GP Geometric mean,
Physics Daily Test 23	Motion of a body on an inclined plane, Pulley block system
Chemistry Daily Test 23	(II) Real gas and van der Waal equation (ideal gas equation correction), (III) Introduction of compressibility factor, (IV) Compressibility factor expression from van der Waal equation and its qualitative explanation.
Mathematics Daily Test 23	Introduction to H.P., Relation between AM, GM and HM, Arithmetic, Geometric series
Physics Daily Test 24	Problems on pulley block system (including movable pulley)
Chemistry Daily Test 24	Liquefaction of gases, (v) Eudiometry. (vi) Liquid state : Vapour pressure, Surface tension, Viscosity
Mathematics Daily Test 24	Sum of n terms of special series, method of difference, Exponential series logarithmic series.
Physics Daily Test 25	Problems involving Movable Wedge

DAILY TEST SCHEDULE & SYLLABUS (VOLUME 1 — APRIL)	
Test Name	**Test Syllabus**
Chemistry Daily Test 25	Introduction to Basic Terms : (i) Types of system, (ii) State of a System, (iii) State function, (iv) State variable, (v) path function, (vi) Extensive intensive property, (vii) Thermodynamic process
Mathematics Daily Test 25	Introduction, Pascal triangle, Binomial theorem for a positive integer index, Some special forms of binomial theorem, problem based on direct expansion, General term in the expansion of (a + x)n, middle term in the expansion of (a + x)n
Physics Daily Test 26	Friction, Static & kinetic friction, Motion on a fixed rough surface
Chemistry Daily Test 26	(viii) Internal Energy as a state function (ix) Pressure volume work (x) First law of thermodynamics with Enthalpy.
Mathematics Daily Test 26	Greatest binomial coefficient, numerically greatest term in the binomial expansion, use of differentiation and integration,
Physics Daily Test 27	Miscellanous problems on friction (one block over the other)
Chemistry Daily Test 27	(i) Heat capacity, (iii) Relation between Cp and Cv for an ideal gas, (iii) Isothermal reversible process, (iv) Reversible adiabatic process.
Mathematics Daily Test 27	Bino-binomial series.Multinomial expansion, binomial theorem for any index.
Physics Daily Test 28	Inertial & non inertial frames, Pseudo force, Solving problems in non-inertial frames
Chemistry Daily Test 28	(i) Measurement of DU and DH, (ii) Enthalpy change of a reaction, (iii) Standard enthalpy of formation (DH°f), (iv) Enthalpy change for different type of reaction.
Mathematics Daily Test 28	Fundamental principle of counting, multiplication principle, addition principle, factorial notation,
Physics Daily Test 29	Circular motion and banking of roads
Chemistry Daily Test 29	(i) Hess's law, (ii) Bond dissociation enthalpy, (iii) Kirchoff's equation.
Mathematics Daily Test 29	Permutation: Permutation of things not all distinct.Different types of problem based on Permutation, circular permutation
Physics Daily Test 30	Scalar product of vectors, Work (Positive, negative and Zero Work), Kinetic energy, Work energy theorem

DAILY TEST SCHEDULE & SYLLABUS (VOLUME 1 — APRIL)	
Test Name	**Test Syllabus**
Chemistry Daily Test 30	(i) Second law of thermodynamics, (ii) Spontaniety and Enthalpy change, (iii) Introduction to Entropy, (iv) Entropy change in various process.
Mathematics Daily Test 30	Combination: Difference between a permutation and combination, Rank of a word in dictionary.Combination of different type of objects Special use of nCr
Physics Daily Test 31	Work done by a cosntant and variable force, Power
Chemistry Daily Test 31	(i) Numericals based on entropy, (ii) Trouton's rule, (iii) Gibbs free energy change and spontaneity, (iv) Calculation of Gibbs energy for a reaction. (i) Thermodynamics of equilibrium state, (ii) Third law of thermodynamics.
Mathematics Daily Test 31	Divisors, sum of the numbers formed by n distinct digits.Division into groups, Equal division of objects, Arrangement into group.
Physics Daily Test 32	Problems based on work-energy theorem, Calculating work using Graphs like F-S, F-t
Chemistry Daily Test 32	Introduction to equilibrium : (i) Physical equilibrium, (ii) Chemical equilibrium, (iii) Law of mass action and equilibrium constant, (iv) Introduce Kc and Kp, (v) Relation between Kc and Kp, (vi) Homogeneous and hetrogeneous equilibria. Applications of equilibrium constant : (i) Predicting the extent of reaction, (ii) Predicting direction of reaction, (iii) Predicting equilibrium concentration, (iv) Solving problems based on them.
Mathematics Daily Test 32	Number of integral solution of on equation, application of multinomial expansion.Exponent of a prime number in a factorial, derangement.
Physics Daily Test 33	Conservative and non conservative forces. Concept of potential energy, Gravitational and spring potential energy
Chemistry Daily Test 33	(i) Relationship between equilibrium constant (K), reaction quotient (Q) and Gibb's free energy (G), (ii) Factors affecting equilibria (Lechatlier principle), (iii) Relative vapour density and degree of dissociation.
Mathematics Daily Test 33	Introduction, distance formula, section formula area of triangle slope of line, Angle between two lines, condition for two lines to be parallel and perpendicular, Collinearly of three points
Physics Daily Test 34	Conservation of mechanical energy, Vertical circular motion

DAILY TEST SCHEDULE & SYLLABUS (VOLUME 1 — APRIL)	
Test Name	**Test Syllabus**
Chemistry Daily Test 34	Ionic equilibrium in solution : (i) Acids, bases and salts, (ii) Acids and bases- Arrhemius concept, Bronsted and Lowry concept and Lewis concept, (iii) Ionisation of water and Kw, pH scale, Effect of temperature on pH scale, (iv) pH of acids and bases (v) Ionisation constants of weak acids and weak bases (pH calculation).
Mathematics Daily Test 34	Various forms of line: (i) Horizontal and vertical line, point slope form, Two point form, Slope intercept form, Intercept form Normal form, Parametric form, General equation and comparison with different form
Physics Daily Test 35	Head on elastic and inelastic collision
Chemistry Daily Test 35	(i) Factors affecting acidic strength, (ii) Common ion effect in the ionisation of weak acids and weak bases, (iii) pH determinations of a (iv) Mixture of two weak acid, (v) Mixture of strong acid and weak acid, (i) Polyprotic weak acid,
Mathematics Daily Test 35	Distance of line from a point, distance between two parallel lines, Image of point with line, foot of perpendicular, Equation of the bisectors, Analysis of three lines, Transformation of axes
Physics Daily Test 36	Oblique elastic & Oblique inelastic collisions
Chemistry Daily Test 36	(ii) introduce the concept of salt hydrolysis, (iii) Salt of strong acid strong base, (i) Salt of weak acid strong base, (ii) Salt of weak base and strong acid, (iii) Salt of weak acid and weak base, (iv) Hydrolysis constant and pH determination. Buffer solution : (i) Types of buffer solution - Acidic buffer, Basic buffers and Salt buffers.
Mathematics Daily Test 36	Transformation of axes , Rotation of axes, Pair of straight line angle between lines, Point of intersection, parallel lines, joint equation of pair of straight lines joining origin and the points of intersection of a curve and a line
Physics Daily Test 37	Centre of mass of discrete particle system, Center of mass for continuous mass distribution
Chemistry Daily Test 37	(i) Buffer action, (ii) pH of a buffer solution, (iii) Buffer capacity. (iv) Acid-base titration-theory of indicators, pH curves.
Mathematics Daily Test 37	Definition, different form of circle, general equation, centre radius, Diameter form parametric form, Circle and point length of intercept on the co-ordinate axes, line and circle, condition for tangency to the circle
Physics Daily Test 38	Motion of centre of mass, Linear momentum of system of particles,

DAILY TEST SCHEDULE & SYLLABUS (VOLUME 1 — APRIL)	
Test Name	**Test Syllabus**
Chemistry Daily Test 38	(v) Solubility and solubility product, (vi) Relation between solubility and solubility product. (i) Common ion effect on solubility of ionic salts, (ii) Different cases of calculating solubilities, (iii) Ionic product and solubility product (Precipitation).
Mathematics Daily Test 38	Equation of tangent normal to a circle, equation at chord having mid-point, equation of tangent drawn from external point, Director circle, equation of pair of tangent
Physics Daily Test 39	Miscellaneous Problems on Conservation of linear momentum and mechanical energy.
Chemistry Daily Test 39	(i) Classical idea of oxidation and reduction reactions, (ii) Oxidising agent and reducing agent, (iii) Electronic concept of redox reactions, (iv) Oxidation numbers, (v) Rules for assigning oxidation number, (vi) Oxidation and reduction in terms of oxidation numbers. Types of redox reactions : (i) Combinations reaction, (ii) Decomposition reactions, (iii) Displacement reactions, (iv) Disproportionation reactions, (v) Fractional oxidation states, (vi) Balancing of redox reactions by oxidation number method and ion electron method
Mathematics Daily Test 39	Analysis of two circles, Radical axis, Locus Problems
Physics Daily Test 40	Rigid body, Rigid body constraint for velocity and acceleration, Vector product of two vectors, Torque
Chemistry Daily Test 40	(i) Equivalent weight, (ii) Normality, Volumetric calculation of simple titrations Back titration, Double titration. Redox reactions as the basis of titrations involving : (i) Acidified KMnO4, (ii) Acidified K2Cr2O7 (iii) Iodo/Iodimetric titration, (iv) Volume strength of H2O2 Redox reactions and Electrode processes : (i) Function of salt bridge, (ii) standard electrode potential, (iii) Applications of electrochemical series.
Mathematics Daily Test 40	Standard equation of parabola, parametric equation line as tangent, condition for tangency, Equation of tangent in different form, point of intersection of tangent
Physics Daily Test 41	Equilibrium of a rigid body, Shifting of normal reaction and toppling,
Chemistry Daily Test 41	(i) Unique position of hydrogen as explained by resemblance with alkali metals and halogens, (ii) Isotopes of hydrogen, (iii) Preparation, properties, both physical and chemical and uses of hydrogen, (iv) Hydride - Ionic, Covalent and metallic, (v) Water- Structure, Physical and Chemical Properties,

DAILY TEST SCHEDULE & SYLLABUS (VOLUME 1 — APRIL)	
Test Name	**Test Syllabus**
Mathematics Daily Test 41	Normal, co-normal points, properties of co-normal points, important points related to parabola, Equation of chord having mid-point (x1, y1) equation of pair of tangent
Physics Daily Test 42	Moment of inertia for discrete particle system, Uniform symmeteric bodies,Theorems of perpendicular and parallel axis.
Chemistry Daily Test 42	(i) Hard and soft water - Types of hardness, softening of water and degree of hardness, (ii) Hydrogen peroxide- Peparations, Structure, Physical and Chemical Properties, (iii) Volume Strength of H2O2, (iv) Heavy Water (D2O), (v) Dihydrogen as a fuel
Mathematics Daily Test 42	Standard equation of ellipse, position of a point, line and ellipse, equation of tangent , Normal equation of chord having mid-point (x1, y1), pair of tangent
Physics Daily Test 43	Dynamics of rotational motion about a fixed axis.
Chemistry Daily Test 43	(i) s-block elements- Alkali and alkaline earth metals: diagnoal relationship, (ii) Group-1 elements: General discussion on physical and chemical properties, (iii) General characteristics of compounds of alkali metals (i) Anomalous properties of Lithium, (ii) Compounds of sodium and potassium,
Mathematics Daily Test 43	Standard equation of hyperbola, Line and hyperbola equation of tangent, Equation of normal.
Physics Daily Test 44	General motion of a rigid body, Kinematics of Rolling motion, Dynamics of Rolling Motion
Chemistry Daily Test 44	(iii) Alkaline earth metals- General discussion on physical and chemical properties (i) General characteristics of compounds of alkaline earth metals, (ii) Anomallous behaviour of beryllium, (iii) Compounds of calcium and magnesium
Mathematics Daily Test 44	Asymptotes, Rectangular hyperbola, Parametric form, Tangent, Normal.
Physics Daily Test 45	Rotational kinetic energy and work energy theorm for rigid body.
Chemistry Daily Test 45	(i) Boron family- Physical and chemical properties, (ii) Anomalous properties of boron, (iii) extraction of boron and its properties, (i) Compounds of boron,

DAILY TEST SCHEDULE & SYLLABUS (VOLUME 1 — APRIL)	
Test Name	**Test Syllabus**
Physics Daily Test 46	Angular momentum of a particle and system of particles. Angular momentum of rigid body
Chemistry Daily Test 46	(ii) Compounds of aluminium, (i) Carbon family- Physical and Chemical properties, (ii) Allotropes of carbon, (iii) Compounds of Carbon and silicon
Physics Daily Test 47	Conservation of angular momentum, Angular Impulse, Instantaneous axis of rotation
Physics Daily Test 48	Universal law of Gravitation, The gravitational constant, Acceleration due to gravity upon the Earth's surface, Variation of g due to height, depth, shape and rotation of the earth.
Physics Daily Test 49	Gravitational field, Gravitational field due to bodies of different shapes: Point mass, thin spherical shell, solid sphere, uniform ring
Physics Daily Test 50	Gravitational potential energy, Gravitatonal Potential energy of an object in the field of earth, Escape velocity
Physics Daily Test 51	Gravitatonal Potential, Relationship between field and potential, Gravitational potential due to different bodies: point mass, spherical shell, Solid sphere, ring
Physics Daily Test 52	Earth's satellite, Energy of satellite, Geostationary & polar satellite, Weightlessness, Kepler's laws of planetary motion.
Physics Daily Test 53	Elastic behaviour of solids, Stress and Strain, Hook's Law, Stress strain curve, Elastic moduli, Elastic potential energy, Poisson's ratio, Application of elastic behaviour of materials.
Physics Daily Test 54	Pressure, density, Pascal's law, Variation of pressure with depth, Hydrostatic paradox, Hydraulic lift, Hydraulic brakes, Force and torque due to hydrostatic pressure.
Physics Daily Test 55	Archimede's principle, Liquids in accelerated containers, Container having vertical acceleration, Container having horizontal acceleration, Horizontally accelerated U-tube, Pressure in a rotating frame.
Physics Daily Test 56	Streamline flow, Equation of continuity, Bernoulli's principle, Applications of Bernoulli's theorem
Physics Daily Test 57	Surface tension, Surface energy, angle of contact, Excess pressure, Capillary rise, Viscosity, Stoke's law, Terminal velocity, Reynolds number, Poiseuille's formula

DAILY TEST SCHEDULE & SYLLABUS (VOLUME 2 — SEPTEMBER)	
Test Name	**Test Syllabus**
Mathematics Daily Test 45	Square root of a complex number. Eular form, de moivre's theorem cube roots of unity.nth roots of unity
Mathematics Daily Test 46	Argument or amplitude Rotation of complex number.Geometry of complex numbers, section formulae, condition, for quadrilateral
Chemistry Daily Test 47	General Introduction; Structural representation and classification of organic compounds; Nomendature: Rules of IUPAC nomenclature of alkanes and unsaturated hydrocarbons.IUPAC nomenclature of (i) Monofunctional and (ii) polyfunctional organic compounds,
Mathematics Daily Test 47	Straight line in Argand plane, circle, Important loci in Argand plane.
Chemistry Daily Test 48	(iii) Monosubstituted benzene compounds and (iv) di, tri or higher substituted benzene compounds. Isomerism: Structural isomerism (i) Chain isomerism, (ii) Position isomerism, (iii) Functional and (iv) Metamerism, Tautomerism: Various types of tautomerism; General machanism of tautomerism; Unsaturation number
Mathematics Daily Test 48	Introduction to 3-D geometry, octant, distance formula, section formula
Chemistry Daily Test 49	Stereoisomerism: (i) Geometrical isomerism (ii) Conformational isomerism Conformations of ethane, butane and cyclohexane; Relative stability of conformers. Concepts of organic reaction machanism: (i) Fission of a covalent bond,
Mathematics Daily Test 49	Definition, idea of limits, indeterminate form limits of polynomial and rational function, 0/0 form, Limits of trigonometric function, 0 × ¥ form, ¥ – ¥ form,
Chemistry Daily Test 50	(ii) Types of reagents : Electrophiles, nucleophiles. Electron displacement in covalent bonds: (i) Inductive effect (+I and –I), (ii) Electromeric effect (+E and –E) Resonance (+R and –R): Resonance energy; Application of inductive and resonance effects. Aromaticity; Hyperconjugation;
Mathematics Daily Test 50	Derivative by first principle, algebra of derivative of function. Derivative of polynomial and trigonometric function.
Chemistry Daily Test 51	Relative stability of (i) Carboncation, (ii) Free radical and (iii) Alkene Reaction intermediates: (i) Carbocations, (ii) Carbanions, (iii) Free radicals; Types of reactions. (i) Addition reaction, (ii) Elimination reaction, (iii) Substitution reaction and (iv) Rearrangement
Mathematics Daily Test 51	L's Hospital rule, Assignment Discussion.

DAILY TEST SCHEDULE & SYLLABUS (VOLUME 2 — SEPTEMBER)	
Test Name	**Test Syllabus**
Chemistry Daily Test 52	Methods of purification of organic compounds (i) Sublimation, (ii) Crystallisation, (iii) Distillation, (iv) Fractional distillation, (v) Distillation under reduced pressure, (vi) Steam distillation and (vii) Chromatography
Mathematics Daily Test 52	Introduction, mathematical statement, New statement from old, negation of statement, compound statement, Special words/phrases AND or 'OR' implication, contra positive and converse
Chemistry Daily Test 53	Qualitative analysis of organic compounds (i) Detection of carbon and hydrogen (ii) Lassaignes test for detection of nitrogen, Sulphur, halogens and phosphorus Quantitative analysis: (i) Estimation of carbon and hydrogen (Liebig's method), (ii) Estimation of nitrogen by dumas method and Kjeldahls method (iii) Estimation of halogens, Sulphur and phosphorus by carius method, (iv) molecular weight determination
Mathematics Daily Test 53	Measure of dispersion, Mean deviation for ungrouped and grouped data, mean deviation about median, mean deviation about mean, Variance and standard deviation standard deviation of discrete frequency distribution, Analysis of frequency distribution
Chemistry Daily Test 54	Introduction; Classification of hydrocarbons; Alkanes: (i) Nomenclature and Isomerism; (ii) Preparation of alkanes from unraturated hydrocarbons, alkyl halides, Carbonyl compounds and carboxylic acids. Properties of alkanes: Physical properties; Chemical properties; (i) Substitution reactions-halogenation, (ii) Combustion, (iii) Controlled oxidation, (iv) Isomerisation, (v) Aromatization and (vi) Pyrolysis
Mathematics Daily Test 54	Basic definition, Random experiment, Types of event exhaustive event, Mutually exclusive event
Chemistry Daily Test 55	Alkenes : Structure of double bond; Isomerism : Structural and geometrial; Preparation of alkenes from alkynes, alkylhalides, vicinal dihalides and alcohols (Saytzeff and Hoffmann rule) Physical properties and chemical properties of alkenes (i) Addition of hydrogen, halogen, hydrogen halides, (ii) Markovnikov addition, (iii) Peroxide effect and (iv) Addition of sulphuric acid and water
Mathematics Daily Test 55	Axiomatic approach of probability addition rule of probability, Miscellaneous problem based on P & C
Chemistry Daily Test 56	Oxidation of alkenes by (i) Baeyer's reagent and (ii) acidified KMnO4; Ozonolysis; Polymerisation. Dienes and their addition reactions with halogen and hydrogen halide Alkynes : (i) Nomenclature, Isomerism, (ii) Structure of triple bond, (iii) Preparation of alkynes and (iv) physical properties and (v) Acidic, character alkynes. Addition reactions of alkynes : Addition of hydrogen, halogen, hydrogen halide, water; Polymerisation; Oxidation; Ozonolysis

DAILY TEST SCHEDULE & SYLLABUS (VOLUME 2 — SEPTEMBER)	
Test Name	**Test Syllabus**
Mathematics Daily Test 56	Important key related half angles, Analysis of the form y = asinx + b cosx.Conditional identities, Sum of trigonometrical series.
Chemistry Daily Test 57	"Aromatic hydrocarbons: Structure of benzene; Resonance in benzene; Molecular orbital theory. Preparation of benzene. Electrophilic Aromatic substitution, General mechanism Nitration, Halogenation and sulphonation of benzene; Friedel craft's alkylation and acylation of benzene; Addition of H2 and Cl2 to benzene Ortho, Meta and para directing groups; Activating groups; Deactivating groups, Orientation in monosubstituted benzene."
Mathematics Daily Test 57	Equation containing more than one variable: trigonometric equation containing more than one function in one variables, Trigonometric equation containing different functions and different variables, Trigonometric equation in which trigonometric function containing large exponent. Trigonometric inequalities, precautions in solving the equation.
Physics Daily Test 58	Introduction, Temperature & Heat, Measurement of temperature, Thermal expansion, Linear expansion, Volume expansion, Relation between volume expansion and linear expansion
Chemistry Daily Test 58	Atmospheric pollution, Gaseous Air pollutants; Greenhouse effect; Particulate pollutants; Smag; Ozone hole; Water pollution, Soil pollution, Industrial waste, Strategies to control environmental pollution.
Mathematics Daily Test 58	Properties of triangle, sine rule and cosine rule, Napier's analogy, projection formulae, Area of triangle in different form.Half angle formula,
Physics Daily Test 59	Specific heat capacity, Latent heat, Calorimetry, Heat transfer – Conduction, Fourier's law of heat conduction, Steady state heat conduction, thermal resistance,
Mathematics Daily Test 59	Circum centre incentre, Ortho centre, Centroid.Escribed circle, Regular polygon
Physics Daily Test 60	Growth of ice in pond, Convection, radiation, Black body, Newtion's law of cooling, Stefan's law, Kirchhoff's law, energy distribution of black body radiation, Wein's displacement law
Physics Daily Test 61	Physics: Introduction, Thermal equilibrium, Zeroth law of thermodynamics, Thermodynamic state variables and equation of state. Heat, internal energy and work, Calculating work done by a gas, Calculating work done by indicator diagram, First law of thermodynamics.

DAILY TEST SCHEDULE & SYLLABUS (VOLUME 2 — SEPTEMBER)	
Test Name	**Test Syllabus**
Physics Daily Test 62	Specific heat capacity, Calculating molar heat capacity of a gas, Various Thermodynamic processes, Polytropic process (Pva = Constant), Heat engines, Refrigerators & heat pumps, Second law of thermodynamics, Reversible and irreversible process,Carnot's Engine.
Physics Daily Test 63	Introduction, Molecular nature of matter, Behaviour of gases, Gas Laws, Kinetic theory of an ideal gas, Pressure exerted by a gas, Law of equipartition of energy, Specific heat capacity, Mean free path.
Physics Daily Test 64	Introduction, Periodic & oscillatory motions, Simple harmonic motion and uniform circular motion, Velocity and acceleration in simple harmonic motion, Force law for simple harmonic motion, Energy in simple harmonic motion, Calculation of time period of spring block system
Physics Daily Test 65	Combination of springs, SHM of two particle system, Angular SHM, Simple pendulum and physical pendulum, Torsion pendulum, Other examples on linear SHM, Damped simple harmonic motion,Forced oscillations & resonance.
Physics Daily Test 66	Progressive wave and it's types [Transverse & longitudinal]; Wave pulse; Wave function and equation of a plane progressive harmonic wave, Phase difference, Path difference; Particle velocity, Particle acceleration, Velocity of transverse wave in string, Velocity of longitudinal waves (sound wave); Intensity and loudness, power transmitted in waves
Physics Daily Test 67	Super Position of Waves, Reflection and refraction of waves, Standing waves and it's wave function; Standing waves in string and Organ pipe, Resonance tube and end correction, Interference of sound waves; Beats; Doppler effect ; Mixed problem on Doppler effect and beats

Version 1.0

Topicwise Test Schedule for Class 11 Studying Students

AIATS for JEE (Main & Advanced) 2024

(Online)

Test No.	Test Date	Date of Display of Answer key and uploading of video	Result Date	Pattern of Test	Subject	Topics of the Test
Practice Test (Online)	31-07-2022	02-08-2022	07-08-2022	JEE (Main)	Phy	Units and Measurement, Motion in a Straight Line, Motion in a Plane
					Chem	Structure of Atom, Classification of Elements and Periodicity in Properties, Some Basic Concepts of Chemistry
					Maths	Basics of Mathematics**, Relations** and Functions (XI Syllabus), Trigonometric Functions Part-I, Quadratic Equations
1	07-08-2022	09-08-2022	14-08-2022	JEE (Main)	Phy	Units and Measurement, Motion in a Straight Line, Motion in a Plane
					Chem	Structure of Atom, Classification of Elements and Periodicity in Properties, Some Basic Concepts of Chemistry
					Maths	Basics of Mathematics**, Relations** and Functions (XI Syllabus), Trigonometric Functions Part-I, Quadratic Equations
1A	**14-08-2022**	**16-08-2022**	**21-08-2022**	**JEE (Advanced) Paper-1 & 2**	PCM	**Syllabus of AIATS 1 (Syllabus of UT-01 & 02)**
2	16-10-2022	18-10-2022	23-10-2022	JEE (Main)	Phy	Laws of Motion, Work, Energy and Power, System of Particles and Rotational Motion
					Chem	Chemical Bonding and Molecular Structure, Redox Reactions (including Volumetric Analysis), Hydrogen, Organic Chemistry-Some Basic Principles and Techniques (including Isomerism)
					Maths	Complex Number Part-I, Sequence and Series, Straight Lines, Limits, Statistics**
2A	**30-10-2022**	**01-11-2022**	**06-11-2022**	**JEE (Advanced) Paper-1 & 2**	PCM	**Syllabus of AIATS 2 (Syllabus of UT-03 & 04)**
3	18-12-2022	20-12-2022	24-12-2022	JEE (Main)	Phy	Gravitation, Mechanical Properties of Solids, Mechanical Properties of Fluids
					Chem	States of Matter : Gases & Liquids, Thermodynamics, Equilibrium
					Maths	Trigonometric Functions Part-II, Linear Inequalities, Binomial Theorem (Including Mathematical Induction), Permutations and Combinations, Conic Section-I (Circle)
3A	**08-01-2023**	**10-01-2023**	**15-01-2023**	**JEE (Advanced) Paper-1 & 2**	PCM	**Syllabus of AIATS 3 (Syllabus of UT-05 & 06)**
4	05-02-2023	07-02-2023	12-02-2023	JEE (Main)	Phy	Thermal Properties of Matter, Thermodynamics, Kinetic Theory of Gases, Oscillations, Waves
					Chem	s-Block Elements, Some p-Block Elements (Group 13 & 14), Hydrocarbons (including Electrophilic Aromatic substitutions), Environmental Chemistry**
					Maths	Conic Section-II (Parabola, Ellipse & Hyperbola), Three Dimensional Geometry, Complex Number Part-II, Mathematical Reasoning**, Derivatives (Class XI), Probability
4A	**12-02-2023**	**14-02-2023**	**19-02-2023**	**JEE (Advanced) Paper-1 & 2**	PCM	**Syllabus of AIATS 4 (Syllabus of UT-07 & 08)**
5	26-03-2023	28-03-2023	02-04-2023	JEE (Main)	PCM	**Complete Syllabus of Class XI for JEE (Main)**
5A	**02-04-2023**	**04-04-2023**	**09-04-2023**	**JEE (Advanced) Paper-1 & 2**	PCM	**Complete Syllabus of Class XI for JEE (Advanced)**

Chapters marked are not in JEE (Advanced) syllabus but are included in JEE (Main) syllabus.**

***Online Mode:** JEE Main: 10:30 AM to 02:00 PM

JEE(Advanced) Paper-1 (10:30 AM - 02:00 PM) & Paper -2 (3:00 PM – 6:30 PM)

*Online mode exam shall be given by the students being at home in the pre-defined window of online test.

Note : Test window of AIATS Test will remain open for 48 Hrs thereafter the link would be disabled

Corporate Office: Aakash Tower, 8, Pusa Road, New Delhi-110005

COMPREHENSIVE TEST PACKAGE (CTP) JEE (MAIN & ADVANCED)-2024 (XI STUDYING)

ONLINE TEST SCHEDULE

Test Date	Day	Test No.	Details
25-06-2022	Saturday	**UT -1 (Main)**	**Physics -** Physical World, Units & Measurement, Motion in a Straight Line, Motion in a Plane **Chemistry** - Structure of Atom, Classification of Elements and Periodicity in Properties, Some Basic Concepts of Chemistry **Maths** - Basics of Mathematics, Relations and Functions, Trigonometric Functions-I
09-07-2022	Saturday	**UT -2 (Main)**	**Physics -** Laws of Motion, Work, Energy and Power **Chemistry** - Chemical Bonding and Molecular Structure, Redox Reactions & Volumetric Analysis, States of Matter **Maths** - Quadratic Equations, Complex Numbers-I : (Algebra of Complex Numbers, Modulus & conjugate of a Complex Number, Polar form), Sequence & Series
30-07-2022	Saturday	**PT-1 (Adv)**	Test on Topics covered in Unit Test -1 & Unit Test -2
17-09-2022	Saturday	**UT -3 (Main)**	**Physics -** System of Particles and Rotational Motion, Gravitation **Chemistry** - Thermodynamics, Equilibrium **Maths** - Linear Inequalities, Binomial Theorem(including Mathematical Induction), Permutations and Combinations, Straight Lines
08-10-2022	Saturday	**CT-1 (M&A)**	Test on Topics covered in Unit Test -1 to Unit Test -3
22-10-2022	Saturday	**UT -4 (Main)**	**Physics -** Mechanical Properties of Solids, Mechanical Properties of Fluids **Chemistry** - Organic Chemistry - Some Basic Principles and Techniques **Maths** - Conic Sections-I, Conic Sections-II
05-11-2022	Saturday	**PT-2 (Adv)**	Test on Topics covered in Unit Test -3 & Unit Test -4
24-12-2022	Saturday	**UT -5 (Main)**	**Physics -** Thermal Properties of Matter, Thermodynamics, Kinetic Theory of Gases **Chemistry** - Hydrocarbons, Environmental Chemistry **Maths** - Introduction to Three Dimensional Geometry, Limits and Derivatives, Statistics, Probability
14-01-2023	Saturday	**UT -6 (Main)**	**Physics -** Oscillations, Waves **Chemistry** - Hydrogen, The s-Block Elements, The p-Block Elements **Maths** - Trigonometric Functions -II, Complex Numbers-II, Mathematical Reasoning
31-01-2023	**Tuesday**	**PT-3 (Adv)**	Test on Topics covered in Unit Test -5 & Unit Test -6
04-02-2023	Saturday	**CT-2 (M&A)**	Test on Topics covered in Unit Test -4 to Unit Test -6
13-02-2023	Monday	**FST-1**	Complete Syllabus Test - Based on JEE (Main) Pattern (Class XI)
20-02-2023	Monday	**FST-2**	Complete Syllabus Test - Based on JEE (Advanced) (Paper-1 & 2) - Pattern (Class XI)
27-02-2023	Monday	**FST-3**	Complete Syllabus Test - Based on JEE (Main) Pattern (Class XI)
06-03-2023	Monday	**FST-4**	Complete Syllabus Test - Based on JEE (Advanced) (Paper-1 & 2) - Pattern (Class XI)

UT- Unit Test | PT- Part Test | CT- Cumulative Test | FST- Full Syllabus Test

The Schedule for 2nd Year (Class XII) shall be Provided in April, 2023

Thank You

ALL THE BEST FOR YOUR EXAMS!!