

Narayana's Micro Schedule Tests + AITS ((MST-AITS))

Highlights of Course:

Narayana's Micro Schedule Test Set coupled with the much acclaimed Narayana's All India Test Series is definitively one of the best all round IIT-JEE/AIEEE/PMT Preparation cum Testing Program in the industry.

MST + AITS is a thorough & intensive testing program created by our most experienced faculty for IIT-JEE/AIEEE/PMT preparation. An all through the year program consisting of challenging set of tests at **topic and sub topic** levels on the entire syllabus of IIT-JEE/AIEEE/PMT.

These specially designed tests have been developed to test the Grasp, Depth and Control of the student on each topic/sub topic level pin pointing the student's strength and weakness at micro levels. A clear assessment of one's weak areas allows for a timely remedial actions that could benefit the student highly in his/her board examinations as wells as the competitive examinations.

Hints and Solution of all the tests would be provided along with.

These tests would start right from beginning of the school session and would follow the flow of topics as per the CBSE pattern so that the student is able to test his command over the topic as they complete the topics in school. The end of this series of tests would coincide with the beginning of Narayana All India Test Series.

Narayana's All India Test Series offers students an opportunity to compete and test oneself at a national level gaining a measure of their preparation level among thousands of students with the all important All India Ranking. Narayana AITS consists of a total of **14 tests – 6 Part and 6 Full** Tests.

Detail analysis of NAITS will be provided after each and every test. Test analysis has divided in to Macro (Subject Wise) and Micro (Question-Wise) level analysis to give effective comparison to the student on a national platform.

Now Narayana's Power Packed Micro Scheduled Test Series Comes with Exhaustive Study Package.

- *Great Opportunity for Distance Learners*
- *Micro Schedule Test is design according to individual topic and sub-topic*
- *Know Your Strength Every Week through our Micro Schedule Test.*

NARAYANA IIT ACADEMY

COMMON SCHEDULE FOR THE COURSE OF XII STUDYING [NEW BATCHES][2009-10]

S.No.	Test Date	Physics	Chemistry	Mathematics
1		Motion in Straight line, Projectile Motion	Redox reaction Oxidation no. & Balancing of Redox Reaction	Wavy-curve method, modulus functions, logarithmic functions
2		Relative Velocity , Kinematics of uniform circular and curved linear motion	Mole concepts and Stoichiometry Edudiometry, Molarity, Normality, Acid-Base Titration, Redox Titration	Properties and nature of roots of quadratic equations properties of roots of cubic and biquadratic equations. Condition of two roots/one root common of two quadratic equations
3		Newton's laws of motion – FBD Connected Body Problems	Mole concepts and Stoichiometry Back titration, double titration, Empirical and Molecular Formula	Quadratic expression, maximum and minimum value of quadratic function, Location of roots, value of parameters
4		Friction and Dynamics of circular motion Pseudo force	Atomic Structure Rutherford model of atom – its defect, Bohr's theory derivation of radius and energy, Demerits, Hydrogen Spectrum, De-Broglie's Relation, Quatum Mechanical Model of atom, Quantum number, Heisenberg's uncertainty principle, Photoelectric effect.	AP, GP, AGP & HP, Inequalities (Basic inequality), V_n method
5		Work done by a constant and variable force, Measurement of PE and KE, COE and Work Energy Theorem, Motion in vertical circle	Chemical Bonding Rules for filling electrons, Concept of Bonding Electrovalent, Covalent Bonding, VBT, Hybridisatoin, VSEPR Theory, Dipole moment, Fajan Rule's, Hydrogen Bonding, MOT	Co-ordinates, area of the triangle, different form of straight line, length of perpendicular, foot of perpendicular and image

6		Centre of mass, Conservation of linear momentum	GOC Homolytic and heterolytic bond fission and factors affecting them, inductive effect, Mesomeric effect, Hyper conjugation, Resonance & its application	Equations of Bisectors, family of straight line, Locus, pair of straight lines (only angle between lines & principle of homogenization).
7		Impulse, Collision	GOC Reaction intermediates, Acid base concepts, effect of substituents on the acidity of phenol and carboxylic acids and basicity of amines. Isomerism (Structural and Geometrical)	Circles: Equation of circles in different form, tangents, length of tangent, pair of tangents, intersection of two circles, radical axis and radical center.
8		Rotational Kinematics, Moment of inertia, Torque, Angular momentum, Dynamics of rigid body	Isomerism (Only optical)	Equations of normals, family of circles, locus
9	25/07/09	NMST (1 TO 8 TESTS)		
10		Charge and its properties, Coulomb's Law, Principle of superposition, Electric Field and Strength	Electrophilic Aromatic Substitution	Parabola: Standard equation (different forms) equation tangent and normal, condition for tangent and normal
11		Gauss Law and Applications, Electrostatic potential and potential energy, electric dipole	Hydrocarbon Alkanes, Alkenes (Preparation)	Properties of the parabola (based on tangent and normal), problem based on locus
12		Capacitors and capacitance (with and without dielectric) energy in capacitors, combination of capacitors	Hydro carbon (Reaction of alkenes, alkynes)	Ellipse: Standard equation (different forms) equation tangent and normal, condition for tangent and normal, Properties of ellipse (based on tangent and normals), problem based on locus

13		Definition of electric current, Drift speed, Ohm's law, Kirchhoff's laws, Grouping of resistances and cells	Alkyl Halide, Aryl Halide Preparation of alkyl halides and aryl halides, Nucleophilicity Vs basicity S_N1 and S_N2 reactions.	Hyperbola: Standard equation (different forms) equation tangent and normal, condition for tangent and normal and properties of Hyperbola, Rectangular hyperbola, problem based on locus.
14		Ammeter and Voltmeter, Meter Bridge, Potentiometer, Post office box, RC circuit across DC source	Alcohol, Phenol Ether	Elementary Functions, Functions [one-one , many-one, onto, into, bijective] , Algebra of Fns
15		Source of magnetic field, Biot-Savart's law, Amperes Law and its applications	Aldehydes Ketones Preparation of aldehydes/ketone, Relative Reactivity of carbonyl compounds, Chemical property of aldehydes and ketones	Even and odd Fns, Periodic Fns, Inverse Fns, G.I.F, Fractional part, Composite Fns , Range & Transformation of Graphs
16		Motion of a charged particle in a magnetic field, force on a current carrying wire in a magnetic field, Torque on a current carrying loop in a magnetic field	Aldehydes Ketones Named reaction of aromatic aldehyde and ketone and test	Limits [standard limits & Problems based on standard limits]
		Faraday's laws of EMI, Len's law and motional EMF	CAD Preparation and physical, chemical property of carboxylic acid, Preparation of acid derivatives nucleophilic acyl substitution	Continuity & discontinuity and its applications, Functional Eqns., Differentiability, derivatives
17		Self and Mutual inductance, energy stored in an inductor, RL circuit with a DCs Source	Amines Preparation and property of amines separation of amines, test of amines.	Geometrical applications of derivatives [tangents & normals , etc.], Monotonicity of Functions , local maxima & local minima
		Time varying magnetic field and LC Oscillations	Thermo chemistry and Thermo Dynamics Thermodynamics and First law of thermodynamics, ΔE , ΔH , Different type of reactions, Enthalpies, Bond Energy, Resonance Energy.	Global maxima & Global minima , Mean Value theorems

18		Applications of faradays laws and lenz laws	Thermo chemistry and Thermo Dynamics Calorimetry, Second law of thermodynamics, Spontaneity, ΔG , ΔS , problems.	Indefinite integration [methods of substitutions]
19		Alternating Current	Electrochemistry Electrolytic cell faraday law nerst equation and half cell potential, type of electrode, Concentration cell application measurement conductance; corrosion	Integration by parts & Partial Fractions & other types of integrations
20	20/09/09	NMST 2 (10 TO 19 TESTS)		
21		Reflection on plane and spherical surface	Liquid Solution	Definite integration & its Properties
		Refraction of plane source	Solid State Type of lattice and unit cell, packing fraction, type of voids & radius ratio.	Areas
22		Prism	Solid State Type of crystal and close packing, electrical and magnetic property & type of defect	Order & degree of differential equations, types of D.E. & their solutions
		Refraction on curved surface Lens combination of lenses and lens & mirror	Chemical Kinetics Rate of Reaction and order of Reaction, Calculation of order of reaction	Applications of first degree, first order D.E. only

23		Silvering, Cutting and shifting of lenses	Chemical Kinetics Rate constant and Arrhenius equation	Vectors [addition subtraction , Linear Dependence & Linear Independence], Product of Vectors , Geometrical applications of vectors
		Wave Optics, Young's double slit experiment	Coordination Chemistry	Introductions to 3-D, Cartesian form of planes & their prop., Straight lines [3-D] , locus problems
24		Interference in thin films, Application of Wave Optics	d-block	Complex numbers, properties of arguments, modulus and conjugate, Concept of rotation, n^{th} roots of unity and its application
	01/11/09	NMST- 3 (1 TO 24 TESTS)		
25		De-Broglie wave length, Bohr Theory Photoelectric effect, X-rays	d-block, p-block (Group 13)	Geometrical application of complex numbers
26		Nuclear Physics	p-block (Group 14, 15)	Matrices [all types of matrices upto inverse], Determinants & their properties , system of equations
	15/11/09	NPT-1 (1,2,3 AND 24,25,26 TESTS)		
27		Radioactivity	p-block (Group 16, 17, 18)	Binomial theorem (general term, middle term, greatest term) (no multinomial theorem)

28		Rolling motion and Conservation of angular momentum	Chemical Equilibrium Reaction rate (preliminary concept), Chemical equilibrium, relation between K_p and K_c , Degree of dissociation, Le-Chatelier's principle, Thermodynamic aspects of Chemical Equilibrium, Vant's Hoff equation	Problems based on binomial co-efficient.
	29/11/09	NPT-2 (4,5,6 AND 27,28 TESTS)		
29		Rolling motion and Conservation of angular momentum	Ionic Equilibrium Dissociation equilibria of monoprotic weak acid, mono acidic weakbase, Ostwald dilution law, P_H , P_{OH} , pK_W etc., Dissociation equilibria of diprotic weak acid, Salt hydrolysis.	Permutation and Combination: Counting principles (sum rule, product rule, bijection principle, inclusion -exclusion principle), permutation and Combination.
30	20/12/09	NPT – 3 (7,8, and 29,30 TESTS)		
31		Gravitation	Ionic Equilibrium Buffer solutions, Theory of indicators, Solubility products	Circular permutations, Generating function and its application, Division and Distribution, number of divisors of a number and their sum, exponent of prime p in $n!$.
32		Fluids Statics, Fluid Dynamics, Properties of matter	Gaseous State	Probability [Basic concepts of probability using permutations & combinations]
	03/01/10	NPT – 4 (10,11,12 and 31,32 TESTS)		
33		Thermal expansion, Calorimetry, Thermometry and specific heat, heat transfer	s-block, PPC, Ore & Metallurgy	Bayes theorem , conditional probability & binomial theorem for probability

		First law of thermodynamics	s-block, PPC, Ore & Metallurgy	Properties and solution of triangle: Sine rule, Cosine rule, projection formula, half angles formulae, area of the triangle
34		Simple Harmonic Motion	s-block, PPC, Ore & Metallurgy (QA)	Properties and solution of triangle: Incentre, Centroid, Ortho center, Excentre, Circumcentre (exradii and inradius)
		Application of Simple Harmonic Motion	Surface Chemistry Concepts of adsorption and type of colloids, preparation & property of colloids.	Trigonometric Equation
	10/01/09	NPT – 5 (13, TO 23 and 33, 34 TESTS)		
35		Progressive wave, Wave equation, Speed of Wave, Intensity of wave and interference	Bio-molecules Carbohydrate and amino acids	Inverse Trigonometric Function (principal value only)
36		Standing wave, Beats and Doppler's effect	Polymers Type of polymers & monomer units	Trigonometry Ratio & Identities
	24/01/10	NPT – 6 (16, 17, 18 and 35, 36 TESTS)		
37	07/02/10	NFT 1 (FULL TEST)		
38	14/02/10	NFT 2 (FULL TEST)		

39	28/02/10	NFT 3 (<i>FULL TEST</i>)
40	14/03/10	NFT 4 (<i>FULL TEST</i>)
41	21/03/10	NFT 5 (<i>FULL TEST</i>)
42	28/03/10	NFT 6 (<i>FULL TEST</i>)

Note : CPT- : 100% Current week

CPT-2 : 50% Current week ; 50% Previous week

CPT-3 : 20% Current week ; 50% previous week ; 20% Cumulative week

All test papers will be sent to ur address by courier or post, except for

NMST,NPT,&NFT which shall be written at the specified center.