

Syllabus For
[IIT Advanced Type Test]
For Target Batch
PART TEST – VIII

Date : 25.02.2018

PHYSICS

Units and dimensions, measurement and error, vector, motion in one dimension; two dimension and three dimension, straight line motion with constant acceleration, projectile motion, relative velocity, relative acceleration and their application, graphs, Newton's laws of motion, friction, circular motion, work power and energy, centre of mass and conservation of linear momentum, Fluid statics and dynamics, Elasticity, electric field, electric potential and Gauss's Law, Capacitor, A.C., L-R ckt, kinetic theory of gas, motion of charged particle in magnetic field and force on a current carrying conductor, magnetic dipole, Biot-Savart's Law, Self induction, mutual induction and R.C. circuit, ray and wave optics, Photon and photoelectric effect, de-Broglie wave, Hydrogen atom, X-rays, nucleus and nuclear phenomena.

CHEMISTRY

- Some basic concept of chemistry: Chemical formula, Element, compound, mixture, homogeneous and heterogeneous mixture, Atomic & molecular masses, Mole concept, Percentage composition, Empirical formula, Limiting reagent, stoichiometric calculation, Equivalent weights.
Isomerism in organic chemistry, Nomenclature of organic compounds, Some important reaction, Biomolecule, solution, volumetric calculation.
- alkane, alkene, alkyne, aromatic, alkyl/aryl halide, alcohol, phenol, ether, aldehyde and ketones,
- Chemical kinetics and nuclear chemistry, gaseous state, surface chemistry, atomic structure, chemical equilibrium.
- Solid state, electro chemistry.
- Chemical bonding, Transition metals, Co-ordination compound, Lanthanides, Metallurgy, group-1,2, 13, 14, 15, 16, 17, 18.

MATHEMATICS

A.P., G.P., H.P. miscellaneous series, determinant and matrix, sets, relations, functions, Applications of derivative, complex number, quadratic equations, vector addition, vector product, three dimensional geometry, permutation and combination, binomial theorem, probability.

Trigonometry : Identities and equation, solution of triangles, Limit, continuity and differentiability, straight lines, circle, parabola, ellipse, hyperbola, indefinite and definite integration. Area between curve.

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