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Admission Test to Class XI (2020-21)

SYLLABUS

PHYSICS

i) Idea of physical quantity and unit, conversion between one unit system to another unit system.

Dimension, Basic knowledge of Vector Quantity.

ii) Basic knowledge of Calculus, Trigonometry, Coordinate system, Reference Frame.

iii) Idea of Mass, Weight, Heat, Temperature, Centre of Mass.

iv) Idea of Motion (Linear and Circular).
Application of equation of Kinematics to find out different parameters of motion.
Idea of reference frame for understanding of motion and relative motion.
Idea of acceleration due to gravity.
Idea of force from Newton's Law of motion.
Force calculation.
Idea of inertia and momentum.
Application of force.
Some idea of frictional, centripetal and centrifugal force.

v) Linear momentum

vi) Torque

vii) Concept of latent heat and specific heat.

CHEMISTRY

i) Basic concepts of Stoichiometry -Molality, Molarity, Normality etc., Gas laws.

ii) Atomic structure—quantum number and Electronic configuration.

iii) Periodic table—Basic Periodic properties, concept of ionisation enthalpy, Electron gain enthalpy.

iv) Chemical bonding and Molecular structure—ionic, convalent bond, basic concepts on hybridization and VSEPR theory and Hydrogen bond.

v) Ideal gases, real gases, Ideal gas equation.

vi) Organic Chemistry—Nomenclature and IUPAC name.

MATHEMATICS

i) Concept of set theory and idea of function and concept of Logarithm.

ii) Sequence and series, Arithmetic progression, Geometric progression and related properties and sums.

iii) Idea of Quadratic Equation.

iv) Concept of Associated Angle.

v) Compound angles and transformation of sums and differences into product.

vi) Fundamental idea about Co-ordinate Geometry; Locus, Cartesian Coordinate, Polar Coordinate, Equation of Straight line in different forms.

vii) Concept of Limit, Algebra of Limit, Standard Limit and their simple application.

viii) Fundamental idea of Derivatives, Derivative as a rate measure, Some standard Derivatives.

ix) Use of Rules of Differentiation to solve problems on Mechanics.

x) Basic knowledge of Integration for dealing problems on Mechanics.