ENTRY TEST OUTLINES
ADMISSION TO CLASS XI

ENGLISH

- Short Essay Writing
- Application Writing
- Formal Letter Writing
- Vocabulary (Synonyms and Antonyms)
- Parts of Speech
- Tenses
- Conditional Sentences
- Active and Passive Voice
- Direct and Indirect Narration

MATHEMATICS

- Sets and Functions
- Variations
- Matrices and Determinants
- Theory of Quadratic Equations
- Partial Fractions
- Basic Statistics
- Pythagoras's Theorem
- Ratio and Proportion
- Chords of a Circle
- Tangents of a Circle
- Chords and Arcs
- Angle in a Segment of a Circle
- Fraction Geometry Circles
- Introduction to Trigonometry

BIOLOGY

- Branches of Biology
- Level of Biological Organization
- Classification of Living things into Kingdoms
- Binomial Nomenclature
- Conservation of Biodiversity
- Endangered Species
- Cell structure and its Functions
- Cellular Organelles
- Animal and Plant Tissues
- Enzymes and its Characteristics
- Cell Division (Mitosis and Meiosis
- Light Reaction and Dark Reaction Photosynthesis
- Aerobic & Anaerobic Respiration
- Macro and Micro Nutrients
- Digestive System of Human
- Respiratory System of Human
- Blood Components and Cells
- Transport in Man (Circulatory System)
- Transport in Plants
- Human Brain and Human Ear
- Plant Tissues & Growth in Plants
- Asexual and Sexual Reproduction (Plants & Animals)
- Fungi and its Classes
- Chromosomes and its types
- Mendels Law of Inheritance
- Ecosystem (Abiotic & Biotic Components

PHYSICS

- Physical quantities.
- Measuring instruments (vernier caliper, micrometer screw gauge, physical balance)
- Equations of motion.
- Force
- Newton's law of Motion
- Mass & Weight
- Momentum
- Introduction (Scalar, vectors)
- Vector Representation
- Resolutions of Vectors
- Torque or moment of a force
- Conditions of equilibrium
- States of equilibrium
- Uniform circular motion
- Centripetal acceleration
- Centripetal Force
- Law of universal Gravitation
- Mass of Earth
- Work
- Power
- Energy
- Kinetic Energy
- Hooks law applied to a helical spring
- Pressure
- Pascal law
- Application of Pascal law (hydraulic lift)
- Archimedes Principle
- Temperature
- Thermal Expansion
- Linear thermal expansions of solids
- Volume thermal expansion
- Boyles law
- Charles law

- General Gas equation
- Simple harmonic motion
- Example of simple harmonic motion(simple pendulum)
- Wave motion
- Characteristic of wave
- Reflection of light
- laws of reflection
- Regular & irregular reflection
- Mirror formula (equation for spherical mirrors)
- Refraction of light
- Refraction of light through prism
- Lenses
- Thin lens formula
- Quantum theory & dual nature of light
- Insulator & conductor
- Coulombs law
- Electric field
- Capacitor
- Electromagnetic force(e.m.f)
- Electric current
- Resistance
- Ohms law
- Magnetic force
- Magnetic field
- N-type and P-type substances
- P-n junction diode
- Natural radioactivity
- Alpha beta & gamma rays
- Nuclear fission
- Nuclear fusion

CHEMISTRY

- Reversible Reaction
- Dynamic Equilibrium
- Law of Mass Action
- Equilibrium constant and Its Units
- Importance of Equilibrium Constant
- Concepts of Acids, Bases
- Concept of pH and pOH
- Salts and their importance
- Organic Compounds
- Sources of Organic Compounds
- Uses of Organic Compounds
- Alkanes and Alkyl Radicals
- Nomenclature of simple Alakne, alkenes and Alkynes
- Introduction to Functional Groups
- Carbohydrates
- Proteins
- Lipids
- Nucleic acids
- Vitamins
- Composition of Atmosphere
- Layers of Atmosphere
- Pollutants
- Acid rain and its effects
- Ozone depletion and its effects
- Greenhouse effect
- Water
- Soft and Hard Water
- Water Pollutants
- Water Borne Diseases
- Qualitative and Quantitative Analysis
- Important Parameters
- Classical Methods
- Advanced Instrumental Methods

- Preparation of soap
- Preparation of sugar from sugar cane
- Preparation of soft drinks
- Petroleum Industry
- Pharmaceutical Industry