SCIENCEBEAM SYLLABUS

CLASS VI – MATHEMATICS

- Number system
- HCF, LCM, Prime factorisation
- Whole numbers
- Negative numbers and Integers
- Fractions
- Algebra Ratio and Proportion
- Geometry Mensuration- area and perimeter
- Data handling

CLASS VI - SCIENCE

- Sources of food
- Components of food
- Materials of daily use
- Different kinds of materials
- How things change/ react with one another
- Things around us
- The habitat of the living
- Plants – form and function
- Animals – form and function
- Moving
- Electric current and circuits
- Magnets
- Rain, thunder and lightning
- Light
- Importance of water
- Importance of air
- Waste

CLASS VI – GENERAL KNOWLEDGE

- Colonialism
- India: physical features, Drainage, Climate, Natural Vegetation and population
- Democracy,Electoral Politics and Government.
- Indian national movement 1900 – 1947.
- Industrial revolution.
- Indian Constitution: fundamental rights and fundamental duties.
- India:Forest, Wild life resources, Water resources, Minerals and energy resources, Agriculture and Manufacturing industries.
- Globalisation and the Indian Economy.
- Volcanoes, Earthquakes, Tidal waves, Tsunamis.
- The earth & the Solar System, Continents and Oceans.
- Current events of national and international importance.
- Pollution:water,land,air,noise. Sustainable development.

CLASS VII - MATHEMATICS

- Numbers – Integers, Fractions and Rational numbers, Powers
- Algebraic Expressions
- Ratio and Proportion
- Geometry - Understanding shapes, Properties of triangles, Symmetry, Congruence
- Mensuration - Circumference of Circle, area of a square, rectangle, triangle, parallelogram and circle.
- Data handling - Mean, median and mode, Probability

CLASS VII - SCIENCE

- Food from where
- Utilisation of food
- Materials of daily use
- Different kinds of materials
- How things change/react with one another
- Surroundings affect the living
- The breath of life
- Movement of substances
- Multiplication in plants
- Moving objects
- Electric current and circuits
- Rain, thunder and lightning
- Light
- Scarcity of water
- Forest products
- Waste Management

CLASS VII – GENERAL KNOWLEDGE

- Colonialism
- India: physical features, Drainage, Climate, Natural Vegetation and population
- Democracy,Electoral Politics and Government.
- Indian national movement 1900 – 1947.
- Industrial revolution.
- Indian Constitution: fundamental rights and fundamental duties.
- India:Forest, Wild life resources, Water resources, Minerals and energy resources, Agriculture and Manufacturing industries.
- Globalisation and the Indian Economy.
- Volcanoes, Earthquakes, Tidal waves, Tsunamis.
- The earth & the Solar System, Continents and Oceans.
- Current events of national and international importance.
- Pollution:water,land,air,noise. Sustainable development.

CLASS VIII – MATHEMATICS

- Numbers - *Rational Numbers, Powers, Squares, Square roots, Cubes, Cube roots, Playing with numbers*
- *Algebraic Expressions*
- Ratio and Proportion
- Geometry -Properties of quadrilaterals and parallelogram
- Mensuration - Area of a trapezium and a polygon, Concept of volume, volume of a cube, cuboid and cylinder, Volume and capacity, Surface area of a cube, cuboid, cylinder.
- Data handling - Reading bar-graphs, Simple Pie charts, Probability

CLASS VIII - SCIENCE

- Crop production
- Micro-organisms
- Materials in daily life
- Different kinds of materials and their reactions**.**
- How things change/react with one another
- Why conserve
- The cell
- How babies are formed
- Idea of force
- Friction
- Pressure
- Sound
- Electric current and circuits
- Rain, thunder and lightning
- Light
- Night sky
- Earthquakes
- Man’s intervention in phenomena of nature
- Pollution of air and water

CLASS VIII – GENERAL KNOWLEDGE

- Colonialism
- India: physical features, Drainage, Climate, Natural Vegetation and population
- Democracy,Electoral Politics and Government.
- Indian national movement 1900 – 1947.
- Industrial revolution.
- Indian Constitution: fundamental rights and fundamental duties.
- India:Forest, Wild life resources, Water resources, Minerals and energy resources, Agriculture and Manufacturing industries.
- Globalisation and the Indian Economy.
- Volcanoes, Earthquakes, Tidal waves, Tsunamis.
- The earth & the Solar System, Continents and Oceans.
- Current events of national and international importance.
- Pollution:water,land,air,noise. Sustainable development.

CLASS IX – MATHEMATICS

- Number systems - real numbers
- Algebra- polynomials, Linear equations in two variables
- Coordinate geometry
- Geometry - introduction to euclid's geometry, lines and angles, triangles, quadrilaterals, area, circles
- Mensuration – area of a triangle, surface areas and volumes of cubes, cuboids, spheres (including hemispheres) and right circular cylinders/cones.
- Statistics - frequency polygons. Mean, median and mode, Probability

CLASS IX – SCIENCE

- Matter-Nature and Behaviour - Definition of matter, Nature of matter, Particle nature, basic units, Structure of atoms
- Organization in the Living World - Call-Basic Unit of life, Tissues, Organs, Organ System, Organism, Biological Diversity, Health and Diseases
- Motion, Force and Work – Motion, Force and Newton's laws, Gravitation, Floatation, Work, energy and power, Sound
- Our Environment - Physical resources
- Food Production

CLASS IX – GENERAL KNOWLEDGE

- Colonialism
- India: physical features, Drainage, Climate, Natural Vegetation and population
- Democracy,Electoral Politics and Government.
- Indian national movement 1900 – 1947.
- Industrial revolution.
- Indian Constitution: fundamental rights and fundamental duties.
- India:Forest, Wild life resources, Water resources, Minerals and energy resources, Agriculture and Manufacturing industries.
- Globalisation and the Indian Economy.
- Volcanoes, Earthquakes, Tidal waves, Tsunamis.
- The earth & the Solar System, Continents and Oceans.
- Current events of national and international importance.
- Pollution:water,land,air,noise. Sustainable development.

CLASS X - MATHEMATICS

- Number systems - real numbers
- Algebra –polynomials, pair of linear equations in two variables , quadratic equations, arithmetic progressions
- Coordinate geometry - lines (in two-dimensions)
- Geometry – Triangles, Circles
- Trigonometry - Introduction To Trigonometry, Trigonometric Identities, Heights And Distances
- Mensuration - areas related to circles, Surface areas and volumes of combinations of any two of the following: cubes, cuboids, spheres, hemispheres and right circular cylinders/cones. Frustum of a cone, Problems involving converting one type of metallic solid into another and other mixed problems.
- Statistics - Mean, median and mode, Cumulative frequency graph, Probability

CLASS X - SCIENCE

- Chemical Substances - Nature and Behaviour - Chemical reactions, Acids, bases and salts, Metals and nonmetals, Carbon compounds, Periodic classification of elements
- World of Living - Life processes, Control and co-ordination in animals and plants, Reproduction, Heredity and Evolution
- Natural Phenomena
- Effects of Current - Magnetic effects of current
- Natural Resources - Sources of energy, Out environment, Management of natural resources

CLASS X – GENERAL KNOWLEDGE

- Colonialism
- India: physical features, Drainage, Climate, Natural Vegetation and population
- Democracy,Electoral Politics and Government.
- Indian national movement 1900 – 1947.
- Industrial revolution.
- Indian Constitution: fundamental rights and fundamental duties.
- India:Forest, Wild life resources, Water resources, Minerals and energy resources, Agriculture and Manufacturing industries.
- Globalisation and the Indian Economy.
- Volcanoes, Earthquakes, Tidal waves, Tsunamis.
- The earth & the Solar System, Continents and Oceans.
- Current events of national and international importance.
- Pollution:water,land,air,noise. Sustainable development.

CLASS XI - BIOLOGY

- Diversity of Living Organisms – The Living World, Biological Classification, Plant Kingdom, Animal Kingdom

- Structural Organisation in Animals and Plants - Morphology of Flowering Plants, Anatomy of Flowering Plants, Structural Organisation in Animals

- Cell: Structure and Function - Cell-The Unit of Life, Biomolecules, Cell Cycle and Cell Division

- Plant Physiology - Transport in Plants, Mineral Nutrition, Photosynthesis in Higher Plants, Respiration in Plants, Plant - Growth and Development

- Human Physiology - Digestion and Absorption, Breathing and Exchange of Gases, Body Fluids and Circulation, Excretory Products and Their Elimination, Locomotion and Movement, Neural Control and Coordination, Chemical Coordination and Integration

CLASS XI - CHEMISTRY

- Some Basic Concepts of Chemistry
- Structure of Atom
- Classification of Elements and Periodicity in Properties
- Chemical Bonding and Molecular structure
- States of Matter: Gases and Liquids
- Chemical Thermodynamics
- Equilibrium
- Redox Reactions
- Hydrogen
- s-Block Elements (Alkali and Alkaline Earth Metals) - Preparation and Properties of Some Important Compounds:
- Some p -Block Elements - General Introduction to p -Block Elements, Group 13 Elements, Group 14 Elements
- Organic Chemistry -Some Basic Principles and Technique
- Hydrocarbons - Classification of Hydrocarbons Aliphatic Hydrocarbons
- Environmental Chemistry

CLASS XI - MATHEMATICS

- Sets and Functions – Sets, Relations & Functions, Trigonometric Functions
- Algebra - Principle of Mathematical Induction, Complex Numbers and Quadratic Equations, Linear Inequalities, Permutations and Combinations, Binomial Theorem, Sequence and Series
- Coordinate Geometry - Straight Lines, Conic Sections, Introduction to Three-dimensional Geometry
- Calculus - Limits and Derivatives
- Mathematical Reasoning
- Statistics and Probability

CLASS XI - PHYSICS

- Electrostatics - Electric Charges and Fields, Electrostatic Potential and Capacitance
- Current Electricity
- Magnetic Effects of Current and Magnetism - Moving Charges and Magnetism, Magnetism and Matter
- Electromagnetic Induction and Alternating Currents - Electromagnetic Induction, Alternating Current, Electromagnetic waves
- Optics - Ray Optics and Optical Instruments - Ray Optics, Wave Optics
- Dual Nature of Radiation and Matter
- Atoms and Nuclei
- Electronic Devices - Semiconductor Electronics: Materials, Devices and Simple Circuits
- Communication Systems

CLASS XI – GENERAL KNOWLEDGE

- Colonialism
- India: physical features, Drainage, Climate, Natural Vegetation and population
- Democracy,Electoral Politics and Government.
- Indian national movement 1900 – 1947.
- Industrial revolution.
- Indian Constitution: fundamental rights and fundamental duties.
- India:Forest, Wild life resources, Water resources, Minerals and energy resources, Agriculture and Manufacturing industries.
- Globalisation and the Indian Economy.
- Volcanoes, Earthquakes, Tidal waves, Tsunamis.
- The earth & the Solar System, Continents and Oceans.
- Current events of national and international importance.
- Pollution:water,land,air,noise. Sustainable development.