

KVPY STREAM SA CLASS 11 SYLLABUS

* Refer page 4 for the Important Topics



PHYSICS:

IGNITING INGENIOUS MINDS

| | Must Know Topics |
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| 1 | Kinematics |
| | 1.1: Rectilinear motion |
| | 1.2: Projectile motion |
| 2 | 1.3: Relative motion |
| | Laws of Motion |
| | 2.1: Newton's law of motion |
| | 2.2: Friction |
| 3 | 2.3: Circular motion |
| | 2.4: Work, power and energy |
| | Motion of system of particles and Rigid Body |
| 4 | 3.1: Centre of mass |
| | 3.2: Rigid body dynamics |
| | Properties of Bulk Matter |
| 5 | 4.1: Calorimetry and thermal expansion |
| | 4.2: Heat transfer |
| | 4.3: Fluid mechanics |
| 6 | Physical World and Measurements |
| | 5.1: Measurement error & experiment |
| 7 | 5.2: Unit & Dimension |
| | Oscillations and Waves |
| 8 | 6.1: Simple harmonic motion |
| | 6.2: Sound wave |
| 9 | Behaviour of Perfect gas and Kinetic Theory |
| | 7.1: Kinetic theory of gases and thermodynamics |
| Revision Topics (Based on Class 12 Syllabus - Important) | |
| 10 | Electrostatics |
| 11 | Gravitation |
| 12 | Current electricity |
| 13 | Magnetic effect of current & magnetic force on charge or current |
| 14 | Electromagnetic induction |
| 15 | Alternating current |
| 16 | Geometrical optics |
| 17 | Wave optics |
| 18 | Modern physics-I |
| 19 | Nuclear physics |

CHEMISTRY:

| | Must Know Topics |
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| | Physical Chemistry |
| 1 | Basic concepts of chemistry |
| 2 | Structure of Atom |
| 3 | States of matter (Gases and Liquids) |
| 4 | Thermodynamics |
| 5 | Ionic equilibrium |
| 6 | Chemical equilibrium |
| 7 | Chemical Kinetics |
| 8 | Redox Reaction (Chemical Reactions and Equations-Class 10) |
| | In-Organic Chemistry |
| | Acids and Bases (OP Tendon) (Acids Bases and Salt - Class 10) |
| 8 | Classification of Elements and Periodicity in Properties (Periodic Classification of Elements-Class 10) |
| 9 | Chemical bonding and Molecular Structure (Carbon and its Compounds - Class 10) |
| 10 | s-block (Metals)(Metals and Non Metals - Class 10) |
| 11 | p-block 13,14 (Non-Metals) (Metals and Non-Metals - Class 10) |
| | Organic Chemistry |
| 12 | Basics of organic chemistry (Carbon and its Compounds - Class 10) |
| 13 | Hydrocarbon (Alkane, Alkene & Alkyne), |
| 14 | Environmental Chemistry (Class XI / X) |
| | Practicles |
| 15 | Qualitative analysis |
| 16 | Purification of chemistry |
| | Revision Topics (Based on Class 12 Syllabus - Important) |
| | Physical Chemistry |
| 17 | Solutions |
| 18 | Electrochemistry |
| | In-Organic Chemistry |
| 19 | p-block: 15,16,17,18 |
| 20 | Biomolecules |
| 21 | General Principles and Processes of Isolation of Elements (Metallurgy) |
| 22 | Coordination compounds |
| | Organic Chemistry |
| 23 | Amines (Nitrogen compounds) |
| 24 | Haloalkanes and haloarenes |
| 25 | Alcohols, phenols, ethers |
| 26 | Aldehydes and ketones & carboxylic acid |
| 27 | Chemistry in everyday life |

MATHEMATICS:

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|----|------------------------------|
| 1 | Real Number |
| 2 | Polynomials |
| 3 | Geometry |
| 4 | Introduction to Trigonometry |
| 5 | Statistics |
| 6 | Quadratic Equations |
| 7 | Probability |
| 8 | Surface Areas & Volumes |
| 9 | Coordinate Geometry |
| 10 | Mathematical Reasoning |
| 11 | Statistics and Probability |
| 12 | Trigonometric Functions |
| 13 | Relation and Functions |
| 14 | Calculus |
| 15 | Linear Programming |
| 16 | Vectors and 3-D Geometry |

BIOLOGY:

| | |
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| 1 | Control and Coordination in Animals and Plants |
| 2 | Heredity and Evolution |
| 3 | Reproduction |
| 4 | Life Processes/Human Physiology |
| 5 | Our environment |
| 6 | Plant Physiology |
| 7 | Diversity of Living Organisms |
| 8 | Cell: Structure and Function |

IMPORTANT TOPICS OF KVPY

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|--------------------|------------------------------|
| PHYSICS | Ray Optics |
| | Electromagnetism |
| | Thermodynamics |
| | Simple Harmonic Motion |
| Chemistry | Atomic Structure |
| | Chemical Bonding |
| | Chemical Energetics |
| | Stoichiometry |
| | Gaseous State |
| | Basic Organic Chemistry |
| Mathematics | Quadratic Equations, |
| | Progression and series |
| | Permutation and combination |
| | Basic Geometry |
| | Coordinate Geometry |
| Biology | Plant and Human Physiology |
| | Diversity in Living Organism |
| | Our Environment |
| | Reproduction |
| | Heredity and Evolution |