

6th Physics (H) Course 1

- **Optics:** Reflection & Mirrors.
- **Optics:** Refraction & Lenses.
- **Current Electricity:** Circuits, Ohm's Law, Resistivity, Resistance, Wheatstone & Metre Bridges.
- **Circuit Problems:** Resistors, Inductance Coils, Diodes with DC & AC Sources.

6th Physics (H) Course 2

- **Sound:** Sound Intensity, Decibel Scale, Velocity of Sound, Doppler Effect.
- **Sound:** Travelling Waves, Standing Waves, Open & Closed Pipes, Sonometer.
- **Electrostatics:** Coulomb Law, Definition of Charge, Electroscope.
- **Capacitance:** Parrell Plate, Van De Graaf Generator, Energy Heat & Temperature, Calibration, Latent & Specific Heat, Heat Exchangers, Heat Engines, Heat Pumps, Refrigerators.

6th Physics (H) Course 3

- **Atomic Theory:** Rutherford, Millikan, Planck, Bohr, Electromagnetic Radiation & Spectrum, Electron, Photon, Line & Continuous Spectra.
- **Photoelectric Effect:** Importance & Photocells.

- **X- Rays**: Rontgen, X-Ray Tubes, Applications.
- **Cathode Ray Tubes**: Electric & Magnetic Fields, Faraday, Fluorescence.
- **Semiconductors**: Theory, Diodes.
- **Radioactivity**: Detectors, Nuclear Decay Processes.
- **Fission & Fusion**: Nuclear Processes, Reactors, Link to Heat Exchangers & Power.

6th Physics (H) Course 4

- **Vectors**: Addition, Equilibrium.
- **Newton's Laws**: Force, Momentum, Momentum Conservation, Friction.
- **Kinematics**: Equations & Problem Solving.
- **Work**: Energy & Power, Mechanical Energy.
- **Conservation Centripetal Forces**: Types of Centripetal Forces, Radians, Problem Solving.
- **Gravitation**: Satellites, Weightlessness, Earth Spin, Link to Doppler & Speed of Light.
- **Simple Harmonic Motion**: Pendulums, Spring Constants.
- **Moments**: Equilibrium, Couples.
- **Archimedes**: Flotation, Hot Air Ballons, Density, Boyle's Law.

6th Physics (H) Course 5

- Mechanics.
- Electricity.
- Sound.
- Optics.
- Heat.
- Light.