

DELETED PORTION

PHYSICS - 042

CLASS XI

Topics
Chapter-1: Physical World Physics-scope and excitement; nature of physical laws; Physics, technology and society (To be discussed as a part of Introduction and integrated with other topics)
Chapter-3 : Motion in a straight line Frame of reference, Motion in a straight line: Position-time graph, speed and velocity
Chapter-5 Laws of Motion Intuitive concept of force, Inertia, Newton's first law of motion; momentum and Newton's second law of motion; impulse; Newton's third law of motion
Chapter-7 System of Particles and Rotational Motion Statement of parallel and perpendicular axes theorems and their applications.
Chapter-8 Gravitation Kepler's laws of planetary motion, Acceleration due to gravity
Chapter-9 Mechanical Properties of Solids Elastic behaviour, shear modulus of rigidity, Poisson's ratio; elastic energy.
Chapter-11 Thermal properties matter Heat, temperature, Heat transfer-conduction, convection and radiation
Chapter-12 Thermodynamics Heat engine and refrigerator.
Chapter-15 Waves fundamental mode and harmonics, Doppler effect.
Practicals: No investigatory project and Activity to be demonstrated 8 experiments (clubbed based on skills) in place of 12

CLASS XII

Topics
Chapter-1 Electric charges and fields uniformly charged thin spherical shell (field inside and outside).
Chapter-3 Current Electricity Carbon resistors, colour code for carbon resistors; series and parallel combinations of resistors
Chapter-4 Moving Charges and Magnetism Cyclotron
Chapter-5 Magnetism and Matter magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis, torque on a magnetic dipole (bar magnet) in a uniform magnetic field; Para-, dia- and ferro - magnetic substances, with examples. Electromagnets and factors affecting their strengths, permanent magnets.
Chapter-7 Alternating Current power factor, wattless current.
Chapter 8 Electromagnetic Waves Basic idea of displacement current,
Chapter 9 Ray Optics and Optical Instruments Reflection of light, spherical mirrors,(recapitulation) mirror formula , Scattering of light - blue colour of sky and reddish appearance of the sun at sunrise and sunset. resolving power of microscope and astronomical telescope, polarisation, plane polarised light, Brewster's law, uses of plane polarised light and Polaroids.
Chapter-11 Dual Nature of radiation and matter Davisson-Germer experiment

Chapter 13 Nuclei

Radioactivity, alpha, beta and gamma particles/rays and their properties; radioactive decay law, half life and mean life

binding energy per nucleon and its variation with mass number

Chapter 14 Semiconductor Electronics: Materials, Devices and Simple Circuits

Zener diode and their characteristics, zener diode as a voltage regulator.

Practicals: No investigatory project and Activity to be demonstrated

8 experiments (clubbed based on skills) in place of 12