

## CLASS XII

| Topics   |
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| Chapter-1 Electric charges and fields<br>uniformly charged thin spherical shell (field inside and outside).  |
| Chapter-3 Current Electricity<br>Carbon resistors, colour code for carbon resistors; series and parallel combinations of resistors   |
| Chapter-4 Moving Charges and Magnetism<br>Cyclotron  |
| Chapter-5 Magnetism and Matter<br>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;<br>Para-, dia- and ferro - magnetic substances, with examples. Electromagnets and factors affecting their strengths, permanent magnets.                                 |
| Chapter-7 Alternating Current<br>power factor, wattless current.   |
| Chapter 8 Electromagnetic Waves<br>Basic idea of displacement current,   |
| Chapter 9 Ray Optics and Optical Instruments<br>Reflection of light, spherical mirrors,(recapitulation) mirror formula ,<br>Scattering of light - blue colour of sky and reddish appearance of the sun at sunrise and sunset.<br>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<br>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