

Vidya Pratishthan's

Dr. Cyrus Poonawalla School (CBSE), Baramati

Sub- Physics

Annual Planning 2024-25

Class -XII

Ch No.	Chapter	Month	Learning Objectives	Practical/ Activity	Assessment
01	<u>Electric Charges & Fields</u>	March	Student will be able to · the concept of charge · Understand concept of electrostatic force and field. · State the Coulomb's law of electrostatic force. · Understand the concept potential. · Understand the electric dipole and electric field due to an electric dipole.	1. To determine resistivity of two / three wires by plotting a graph between potential difference versus current. 2. To find resistance of a given wire / standard resistor using metre bridge.	Weekly Test & DPP
02	Electric Potential & Capacitance	April	Student will be able to ● Understand the concept of capacitor. ● Understand the electric dipole and electric field due to an electric dipole. ● Understand the electric potential and potential gradient. ● Understand the potential energy and torque due to an electric dipole.	3. To measure resistance, voltage (AC/DC), current (AC) and check continuity of a given circuit using multimeter. 4. To assemble the components of a given electrical circuit.	Weekly Test & DPP

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03	<u>Current Electricity</u>	April	<p>Student will be able to</p> <ul style="list-style-type: none"> · Understand the concept of electric current and potential difference. · know the difference between drift velocity and mobility of electrons in a conductor. · State the Ohm's law and understand the Ohmic conductor. · Understand the concept of electric power. · State the Kirchhoff's voltage and current law. · Understand principle of Wheatstone bridge 	5. To verify the laws of combination (series) of resistances using a metre bridge	Weekly Test & DPP

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04	<u>Moving Charges & Magnetism</u>	June	<p>Student will be able to</p> <ul style="list-style-type: none"> · Understand the concept of magnetic field . · State the Biot savart's law. · State the Ampere's law. · Understand the force on a moving charge in uniform magnetic and electric fields· · Understand the force on a current-carrying conductor in a uniform magnetic field. · Understand the torque experienced by a current loop in uniform magnetic field . · Understand the moving coil galvanometer. 	<p>6. To assemble a household circuit comprising three bulbs, three (on/off) switches, a fuse and a power source.</p> <p>7.To assemble the components of a given electrical circuit.</p>	Weekly Test & DPP

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05	<u>Magnetism & Matter</u>	June	<p>Student will be able to</p> <ul style="list-style-type: none"> · Know magnetic dipole and its magnetic dipole moment. · Understand the magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis . · Torque on a magnetic Dipole. · Para-, dia and ferro - Magnetic substances, With examples. <p>Electromagnets and factors affecting their strengths. Permanent magnets..</p>	8.To find the focal length of a convex lens by plotting graphs between u and v or between $1/u$ and $1/v$.	Weekly Test & DPP

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6	<u>Electromagnetic Induction</u>	July	<p>Student will be able to</p> <ul style="list-style-type: none"> · Understand the concept of Faraday's laws · Understand concept of Induced e m f and current · State the Lenz's law · Understand the concept of self-induction & Mutual induction. 	9. To find the value of v for different values of u in case of a concave mirror and to find the focal length.	Weekly Test & DPP
07	<u>Alternating Current</u>	July	<p>Students will be able to</p> <ul style="list-style-type: none"> · use formula $E=nAB\omega$ calculate the induced emf, · calculate rms values of alternating voltage, current, and power, identify the phase relationship between voltage and current in alternating current circuits that are either resistive, capacitive, or inductive. · Understand the concept of resonance, power in AC circuits, power factor, wattless current. <p>AC generator, Transformer</p>	<p>10. To determine angle of minimum deviation for a given prism by plotting a graph</p> <p>11. To identify a diode, an LED, a resistor and a capacitor from a mixed collection of such items.</p>	Weekly Test & DPP

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08	<u>Electromagnetic Waves</u>	July	<ul style="list-style-type: none"> · Understand the concept of displacement current produced between two charged plates and compares it with conduction current · Know and learn the nature of electromagnetic waves in terms of time-varying electric and magnetic fields · Study EM Spectrum in details. 	<p>12. To study effect of intensity of light (by varying distance of the source) on an LDR</p> <p>13. To determine refractive index of a glass slab using a travelling microscope</p>	Weekly Test & DPP

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09	<u>Ray Optics & Optical Instruments</u>	August	<ul style="list-style-type: none"> · Understand the spherical mirrors, mirror formula. · Understand the Refraction of light, TIR · State the laws of reflection and refraction. · Understand thin lens formula, lens-maker's formula. · Understand the magnification , power of a lens · Understand the microscopes and astronomical telescopes (reflecting and refracting) and their magnifying powers. 	<p>14. To draw the I-V characteristic curve for a p-n junction diode in forward and reverse bias.</p> <p>15. To observe refraction and lateral deviation of a beam of light incident obliquely on a glass slab</p>	Weekly Test & DPP

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10	<u>Wave Optics</u>	August	<ul style="list-style-type: none"> · Student will be able to Compares wave theory with corpuscular theory and explains geometrical optics in terms of wave optics. · States Huygens principle, explains Snell's law of refraction, law of reflection · States the superposition principle of waves and derives the expressions for intensity of light for interference from coherent and incoherent light sources · Explains the Young's double slit experiment · diffraction of light waves and the pattern observed for diffraction from a single slit 		Weekly Test & DPP
11	<u>Dual nature of radiation and Matter</u>	September	<p>Student will be able to</p> <ul style="list-style-type: none"> · to photoelectric emission in metals · Explains the variation of photoelectric current as a function of the intensity of incident radiation. · the basic features of Einstein's explanation for photoelectric effect · the outcomes of de-Broglie's equation · Heisenberg uncertainty principle into matter-wave picture of particle 		Weekly Test & DPP



