SAMPLE PRE-BOARD PAPER (SHORT) 2026-27

CLASS XII — PHYSICS (042) | 10 questions | 32 marks

A short sample for trying the paper upload. The full board paper has 33 questions and 70 marks.

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CLASS XII — PHYSICS (THEORY)

Q1. An electric dipole is placed in a uniform electric field. Write the expression for torque. [1]

Q2. Identify the electromagnetic wave used in radar navigation and water purifiers. [2]

Q3. State Kirchhoff's junction and loop rules and find current in the Wheatstone bridge network. [3]

Q4. A metallic rod of length l rotates with angular speed omega in a uniform magnetic field B. Derive the motional EMF induced. [3]

Q5. Draw the circuit diagram of a full-wave rectifier using p-n junction diodes and sketch waveforms. [3]

Q6. Derive the Lens Maker's formula for a thin convex lens and calculate focal length in water. [3]

Q7. Draw the angle of deviation vs angle of incidence graph for a glass prism and derive the refractive index relation at minimum deviation. [3]

Q8. Case Study: In Young's double-slit experiment (YDSE), calculate the fringe width when immersed in liquid. [4]

Q9. Draw a labelled ray diagram of a compound microscope when the final image forms at least distance of distinct vision D. Derive its magnifying power. [5]

Q10. Using a phasor diagram for a series LCR circuit, derive the impedance Z and condition for resonance. [5]