WBBSE Class 12 Physics Question Paper(Memory Based)

Time Allowed :3 Hours	**Maximum Marks :**100	**Total questions :**35

General Instructions

Read the following instructions carefully and strictly adhere to them:

1. All questions are compulsory and must be answered in complete sentences; one-word or fragmented answers will not be awarded full marks.
2. Graphic organizers such as web diagrams, flow charts, and tables must be drawn neatly and exactly as presented in the question paper with the correct information filled in.
3. In reference to point 2, answers provided without the required diagrams or tables will not be considered for credit.
4. Use only a blue or black ballpoint/gel pen for writing and drawing; the use of pencils for diagrams is permitted, but colour pencils or sketch pens are strictly prohibited.
5. If multiple responses are provided for a single-answer activity, the entire attempt will be treated as invalid and no marks will be assigned.
6. Maintain the chronological sequence of Sections, Question Numbers, and Sub-activities as per the question paper to ensure systematic evaluation.

1. If the distance between two point charges is doubled, the electrostatic force between them becomes— (a) Double (b) Half (c) One-fourth (d) Four times

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2. What is the SI unit of magnetic flux?

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3. A voltmeter of resistance $300\,\Omega$ measures up to $150\,$V. Find the value of the shunt

required to convert it into an ammeter capable of measuring 8 A.

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4. Define the critical angle and state the conditions required for Total Internal Reflection (TIR).

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5. Why can high or very low resistance not be measured accurately using the Wheatstone bridge principle?

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6. State Gauss's Theorem. Use it to derive the electric field intensity due to an infinitely long straight charged wire.

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7. Derive the Lens Maker's Formula for a thin convex lens.

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8. State Lenz's Law. Show that it is a consequence of the Law of Conservation of Energy.
