

- I. Write the answers for the following questions in a word or phrase. Each question carries ½ Mark. 4 x ½ = 2
- Which equation represents Ohm's law. A. $V = iR$ B. $i = V / R$ C. $R = V / i$ D. None of the above
 - The reciprocal of resistivity is _____.
 - Unit of Magnetic flux _____.
 - What is the formula for the magnetic flux density ?
- II. Write the answers for the following questions in two sentences. Each Question Carries 1 Mark. 4 x 1 = 4
- What do you mean by electric current?
 - What is 'emf'?
 - On what factors, does the resistance of conductor depends?
 - Let θ be the angle between magnetic field B and normal to the plane with area A . Then write the formula for magnetic flux through the plane?
- III. Write the answers for the following questions in four sentences. Each Question Carries 2 Marks. 3 x 2 = 6
- Are the magnetic lines of force closed? Explain.
 - What are ohmic materials and non-ohmic materials?
 - Write the differences between potential difference and emf.
- IV. Write the answers for the following questions in eight sentences. Each question carries 4 marks. 2 x 4 = 8
- How do you prove that the resistance of a conducting wire depends on the area of cross section of the conductor experimentally? (OR)
How can you verify that current carrying wire produces magnetic field with the help of experiment?
 - State Ohm's law. Suggest an experiment to verify it and explain the procedure. (OR)
- This table gives readings of ammeter and voltmeter in an experiment conducted by a student while proving Ohm's law. Now answer the following questions.
- | | | | | | |
|------------------------|-----|-----|-----|-----|-----|
| Voltmeter Readings (V) | 1.5 | 3.0 | 4.5 | 6.0 | 7.5 |
| Ammeter Readings (amp) | 0.3 | 0.6 | 0.9 | 1.2 | 1.5 |
- What type of a resistor is used in experiment(ohmic or non-ohmic) ?
 - Calculate the resistance used in the circuit ?
 - What is the shape of V-i graph?
 - What will be the current in the circuit, If the potential difference between the terminals of resistor is 15V?

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