

EXPERIMENT NO. 1

AIM:- To determine resistivity of two/three wires by plotting a graph for potential difference versus current.

APPARATUS REQUIRED:- A Voltmeter, an Ammeter (mA), rheostat, two wires, Battery, 1 Key, meter scale.

Theory :-

By Ohm's law

$$V \propto I$$

$$\frac{V}{I} = \text{Constant (R)}$$

$$\therefore R \propto \frac{l}{A} \Rightarrow R = \frac{\rho l}{A}$$

$$\boxed{\rho = \frac{RA}{l}}$$

$$\boxed{\rho = R \frac{A^2}{l}}$$

Resistivity of the wire.

$A$  = Area of wire.

$l$  = length of wire.

$R$  = Resistance of wire.

Observations:-

Range of ammeter = 0-500 (mA)

Range of Voltmeter = 0-500 (mV)

Teacher's Signature \_\_\_\_\_

# Physics Class 12 File Up Board

**Hongru Du**



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