

Resistance in Series and Parallel arrangements

Aim: - [1]

Apparatus :- [1]

Circuit diagram 1 [1]

Circuit diagram 2 [2]

Circuit diagram 3 [2]

procedure:

1. Set up the **Circuit diagram 1**, turn the power supply on and close the switch.
2. Record the voltmeter and ammeter readings and calculate the resistance of the resistor using $R = V/I$, where R is resistance, V is potential difference and I is current.
3. Change the resistor and repeat step two to find the resistance of a second resistor.
4. Arrange the two resistors in series as shown in **Circuit diagram 2 and** close the switch.
5. Record the voltmeter and ammeter readings once again and determine the total resistance of both resistors in series using $R = V/I$.
6. Arrange the two resistors in parallel as shown in **Circuit diagram 3** and close the switch.
7. Record the voltmeter and ammeter readings once again and calculate the total resistance of both resistors in parallel.

Observation table. [12]

Resistor	Potential difference / V	Current / A	Resistance / Ω
R ₁			
R ₂			
In series			
In parallel			

Result :- [1]