EXPERIMENT NO-6

AIM: To determine the equivalent resistance of two resistors when connected in parallel.

APPARATUS

Resistors (2), Ammeter dc (0-1.5A), Voltmeter(dc,0-1.5V), Rheostat, plug key, cell, connecting wires, sandpaper.

THEORY

Parallel Combination: When two or more resistances are connected between two common points so that the same potential difference is applied across each of them, they are said to be connected in parallel. The equivalent resistance(R)can be calculated by using the formula: R=1/ R1 +1/R2 + 1/ R3, In this case, the total current flowing through the circuit is equal to the sum of currents flowing through each resistor, that is: I =I1+I2.

PROCEDURE

Circuit diagram was drawn by the students.

The various electrical components were arranged on the laboratory table by students.

These components were connected with small pieces of copper wires as shown in the circuit diagram.

The plug was inserted in the hole of the key and the rheostat was adjusted so that the small current was flowing through the circuit.

The readings of the ammeter and voltmeter were noted down in the tabular form.

All connections should be tight.

Remove the plug as soon as you have taken the reading current in the circuit should be changed smoothly with the help of rheostat.

Observations and Calculations

Range of ammeter-------

Range of voltameter------

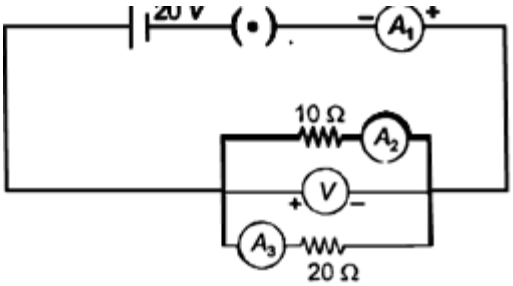
Least count of ammeter---

Least count of voltameter------

S.No.	Ammeter reading (I)(in ampere)	Voltmeter reading (V)(in volts)	Resistance (R)
1.			
2.			
3.			
4.			
5.			

PRACTICAL BASED QUESTIONS

1. How are household connections done?



Refer to the following circuit for Q. 2 to Q. 5

2 What is the reading of voltmeter?

3. What is the reading of ammeter A1?

4. What is the reading of ammeter A2?

5. What is the reading of ammeter A3?

6. In a parallel combination of resistors which quantity is always the same across all resistors?

7. The current flowing through a conductor and the potential difference across its two ends areas per the readings of the ammeter and the voltmeter shown below. What is the resistance of the conductor?