Experiment of Digital multimeter.

Aim:-

To get the operation with given digital multimeter and to measure the DC voltage AC voltage resistance and hence to verify ohms law.

Apparatus:-

Digital multimeter, Carbon resistor, resistance box, connecting wires function generator.

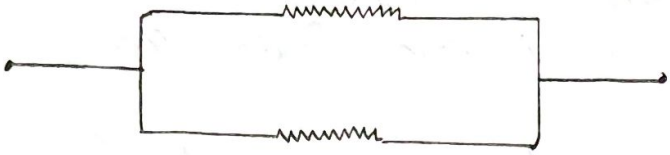
Procedure:-

Digital multimeter can measure AC and DC voltage, diode transmitter and quantity. DC voltage measurements of range are 200mv to 2000mv. In the experiments we measure resistance, voltage and current connect the circuit as shown in fig. first measure resistance with multimeter in series and parallel combination and calculate. Now measure voltage and current with digital multimeter and notedown the readings.

Series Combination:

$R = R_1 + R_2$

Parallel Combination.



$$R = \frac{R_1 R_2}{R_1 + R_2}$$

Resistor	Resistor measure with Digital multimeter	Resistance from color code.	Series Combination		Parallel Combination	
			measured	Calculated $R = R_1 + R_2$.	measured	Calculated $\frac{R_1 R_2}{R_1 + R_2}$
R_1	0.21K	0.21K	0.42K	0.10KΩ	0.10KΩ	0.10KΩ
R_2	(RRB)	(RRB)				
R_3	0.09K		1.06K	1.06K	0.081KΩ	0.082KΩ
R_4	0.97K					

When measuring DC voltage, it is not critical to contact a positive terminal to touch negative with an analog multimeter Red wire should always touch a positive terminal and a black wire touches a negative terminal and then a note down the measurements carefully.

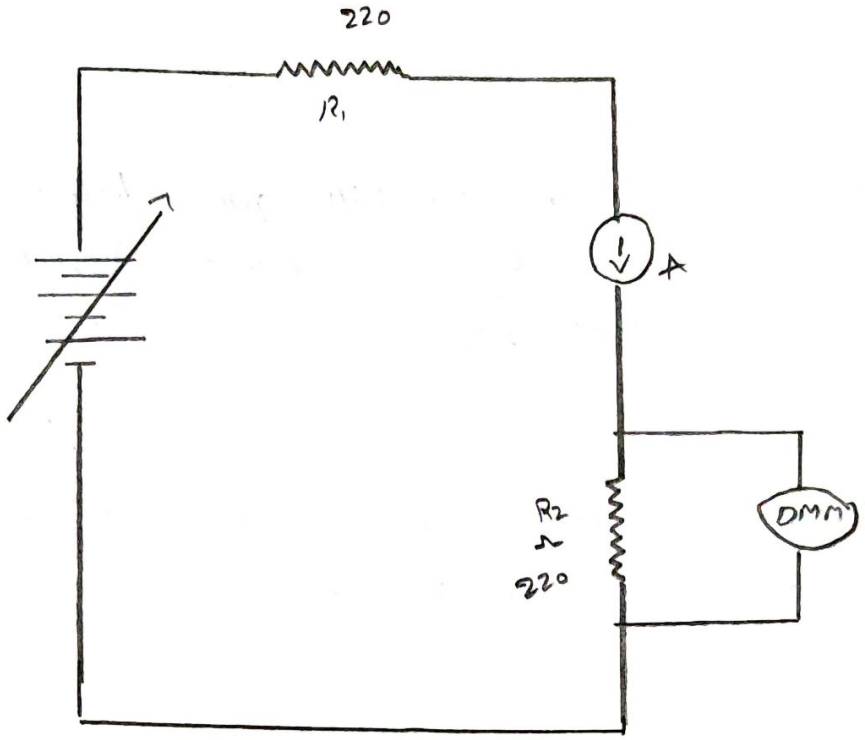


Table:-II To measure DC voltage and current

Input voltage 'E'	voltage measure with DMM volts 'V'	Current in the circuit I MA	Current Calculate I = E/R MA	E = IR volts
1.53	0.75	3.2	0.74	3.4
3	1.46	6	1.408	6.4
4.73	2.31	9.4	2.31	10.50

Result:-

The operation of a given digital multimeter is studied and various parameter like AC voltage and DC voltage current are freavency measured.

Table :- III To measure AC voltage and frequency.

S.NO	Alternating Current Input voltage 'E' volts	Alternating current frequency function Hz.	frequency measured with Digital multimeter (DMM) Hz.
	2	100	199
	2	200	199
	2	300	302