

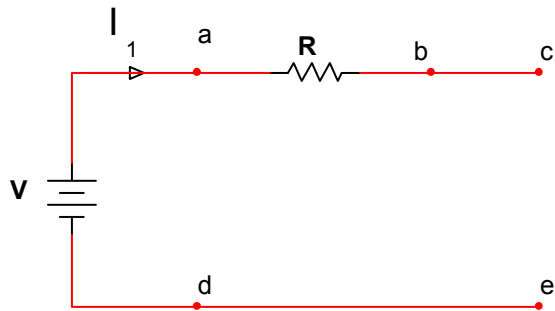
**FLORIDA INTERNATIONAL UNIVERSITY
COLLEGE OF ENGINEERING AND COMPUTING
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING**

EEL 3110L-CIRCUITS LAB

FIRST ACTIVITY Measurements on simple resistive circuits

Set up of elementary resistive circuits, measurements of d.c. voltages, d.c. currents and do the computer simulations before or after the lab (it's recommended that you finish it before).

1-Set up the following circuit.



$$2 \text{ volts} < V < 6.2 \text{ volts}$$

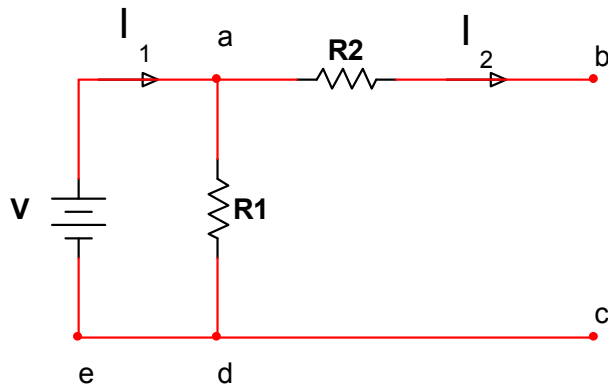
$$R \geq 2.7\text{k}\Omega$$

Measure and tabulate:

$$V_{ab}, V_{bc}, V_{ce}, V_{de}, V_{ad}, I_1$$

Briefly explain your results.

2- Set up the following circuit.



$$1.2 \text{ volts} < V \leq 7.3 \text{ volts}$$

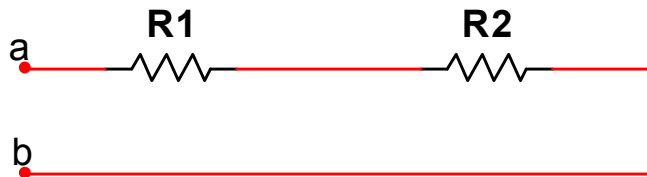
$$R_1 \geq 3.3 \text{ k}\Omega$$

$$R_2 \geq 2R_1$$

Measure and tabulate V_{ab} , V_{bc} , V_{cd} , V_{de} , V_{ad} , I_1 and I_2 .

Briefly explain your results.

3-Using the Ohmmeter, measure and tabulate R_{ab} with the following condition.



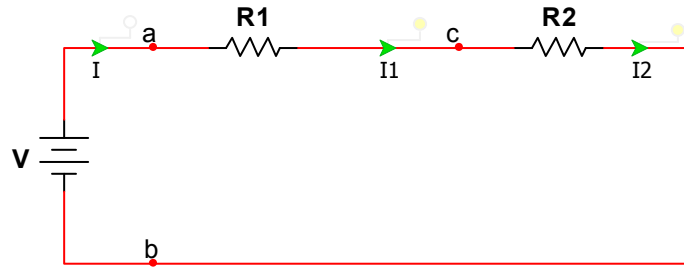
a) $R_1 \gg R_2$

b) $R_1 \ll R_2$

c) $R_1 = R_2$

Briefly explain and comment your results.

4- Set up the following circuit.



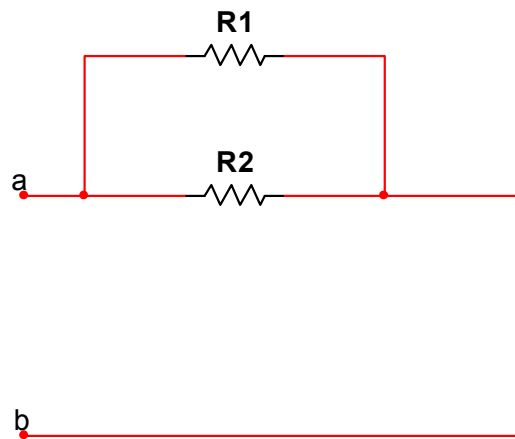
$V > 0$ volts

With the set up above, measure V_{ab} , I and compute $\frac{V_{ab}}{I}$ for the following condition:

- a) $R_1 \gg R_2$
- b) $R_1 \ll R_2$
- c) $R_1 = R_2$

Also measure and tabulate I , I_1 , I_2 , V_{ac} , V_{cb} as well as briefly comment and explain your results for each cases.

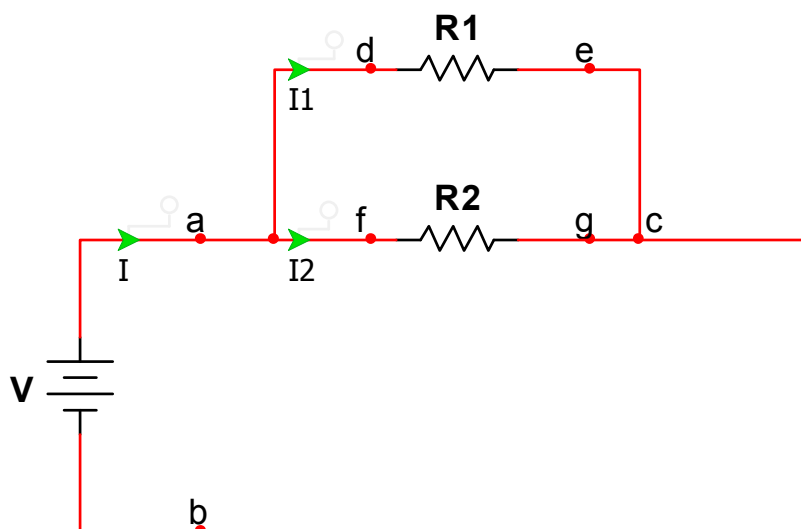
5-Use Ohmmeter, measure and tabulate R_{ab}



- a) $R_1 \gg R_2$
- b) $R_1 \ll R_2$
- c) $R_1 = R_2$

Briefly explain your results.

6- Using the same set of values as before, set up the following circuit.



For the same set up above, measure V_{ab} , I and compute $\frac{V_{ab}}{I}$.

$V > 0$ volts

- a) $R_1 \gg R_2$
- b) $R_1 \ll R_2$
- c) $R_1 = R_2$

Briefly comment and explain your results.

Also measure and tabulate I , I_1 , I_2 , V_{de} , V_{fg} , V_{af} , V_{ad} , and V_{fc} for all of the above conditions as well as briefly comment your results.

Write a brief summary of today activities. Remember to keep your records and own comments in your lab notebook.