

EXPERIMENT: 2.1 ANALYZING THE THEVENIN THEOREM

EXPERIMENTAL PROCEDURE:

Connect the **Y-0016/004** module to its place. Before making the circuit connections, give energy to the set and adjust the power supply voltage to 6V. Cut off the energy of the set. Make the circuit connection as in Figure 1. Give energy to the circuit.

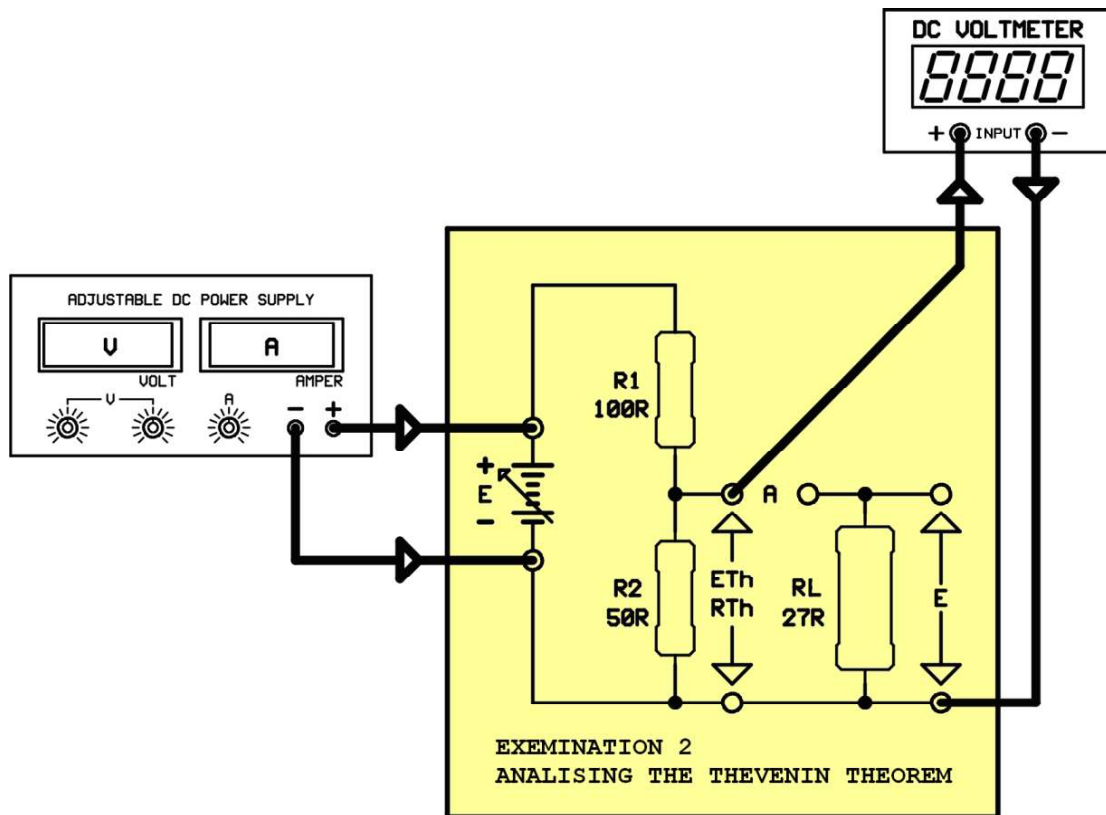


Figure 1

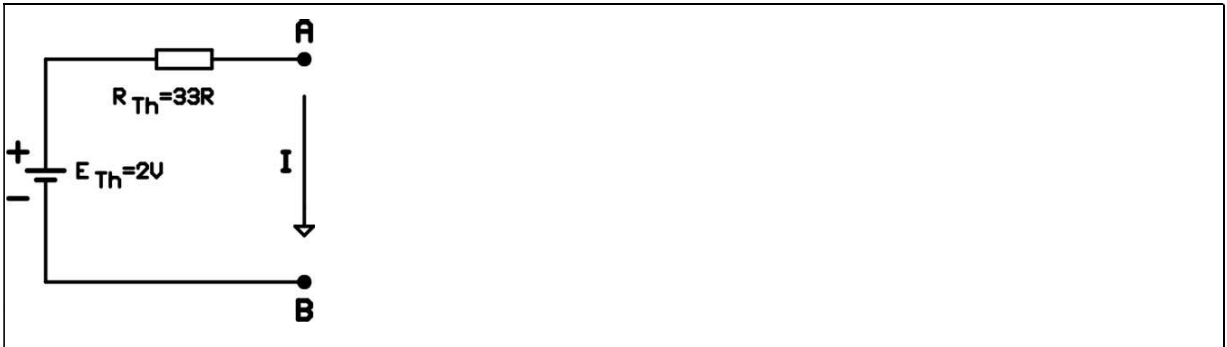
1- What is the voltage seen on the voltmeter in Figure 1 called? Read and note this voltage.

2- Mathematically calculate the Thevenin voltage. Compare the values that you calculated and you measured.

3- Remove the voltmeter and the "E" source from the circuit. Short circuit the source sockets in the circuit. At this moment, measure the resistance of the R2 resistor using an ohmmeter. What is this resistance called? Read and note the value seen on the ohmmeter.

4- Mathematically calculate the Thevenin resistance. Compare the values that you calculated and you measured.

5- Construct the Thevenin Equivalent of the circuit with the values you found.



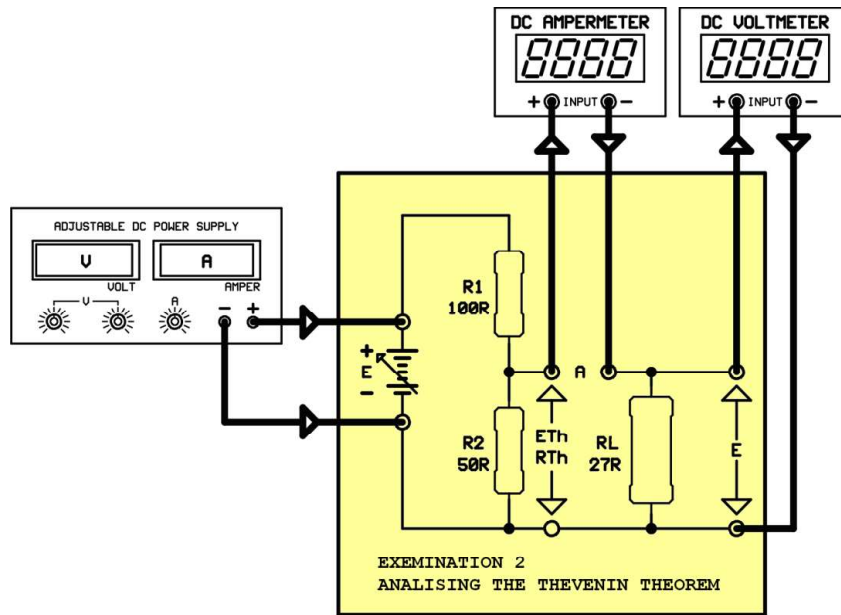


Figure 2

6- Make the circuit connections as in Figure 2. Read and note the voltage on the load and the current passing through the load.

7- Mathematically calculate the voltage on the load and the current passing through the load. Compare the values you measured and you calculated.

8- If we see a mismatch between the value calculated and the value read, what can be the reason for this?