EXPERIMENT: 1.2
EXAMINATION OF KIRCHHOFF'S VOLTAGE LAW

EXPERIMENTAL PROCEDURE:

Plug the Y-0016/002 module make the circuit connections as in figure 2.

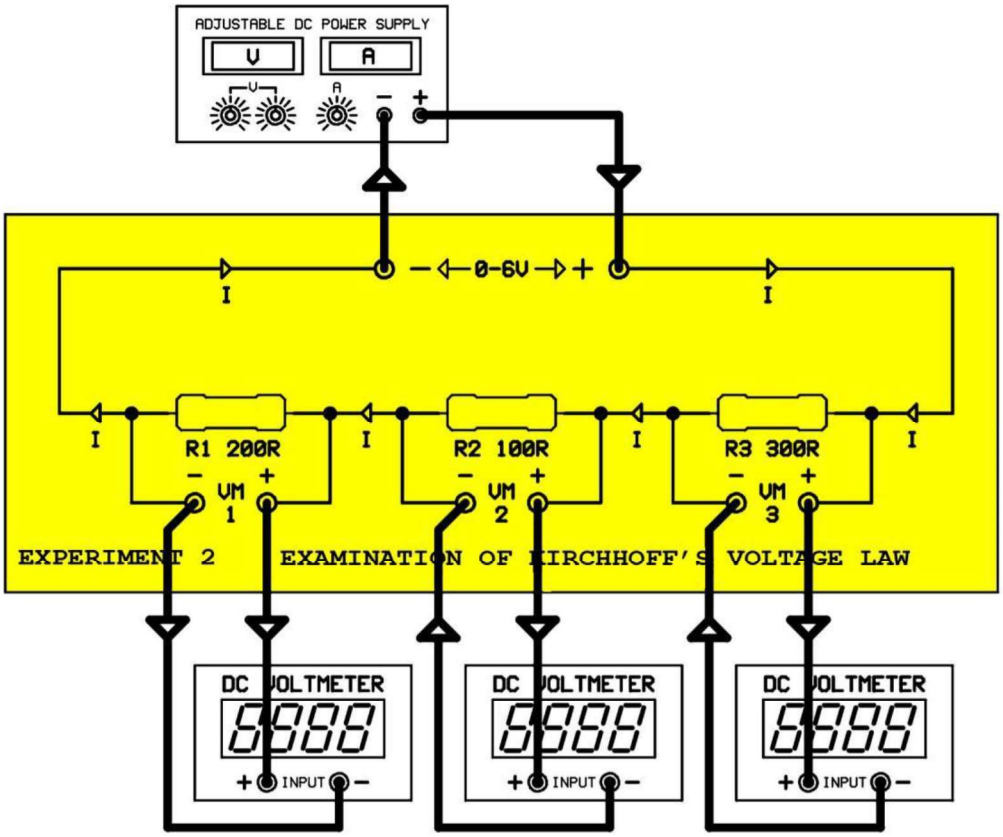

Figure 2

Adjust the power supply's voltage potentiometers to minimum (**to left**), and the current potentiometers to maximum (**to right**). Apply the power to the circuit.

1- Adjust the power to the values in Table 4 and write the voltage values at every stage respectively.

NUMBER	E (VOLT)	E1 (VOLT)	E2 (VOLT)	E3 (VOLT)
1	3			
2	6			

Table 4

2- Does the Kirchhoff' voltage law equation is maintained at every stage? Calculate.

3- Calculate the total resistance of circuit.

4- Unplug the adjustable power supply from the circuit. Measure the total resistance (**between the sockets**) with the help of an ohmmeter. Compare it with the value you previously calculated.

NOTE= The result may be approximate. The reason for this is the tolerances of resistors.

EXPERIMENT: 1.3
EXAMINATION OF KIRCHHOFF'S CURRENT LAW

EXPERIMENTAL PROCEDURE:

Plug the Y-0016/002 module make the circuit connections as in figure 3.

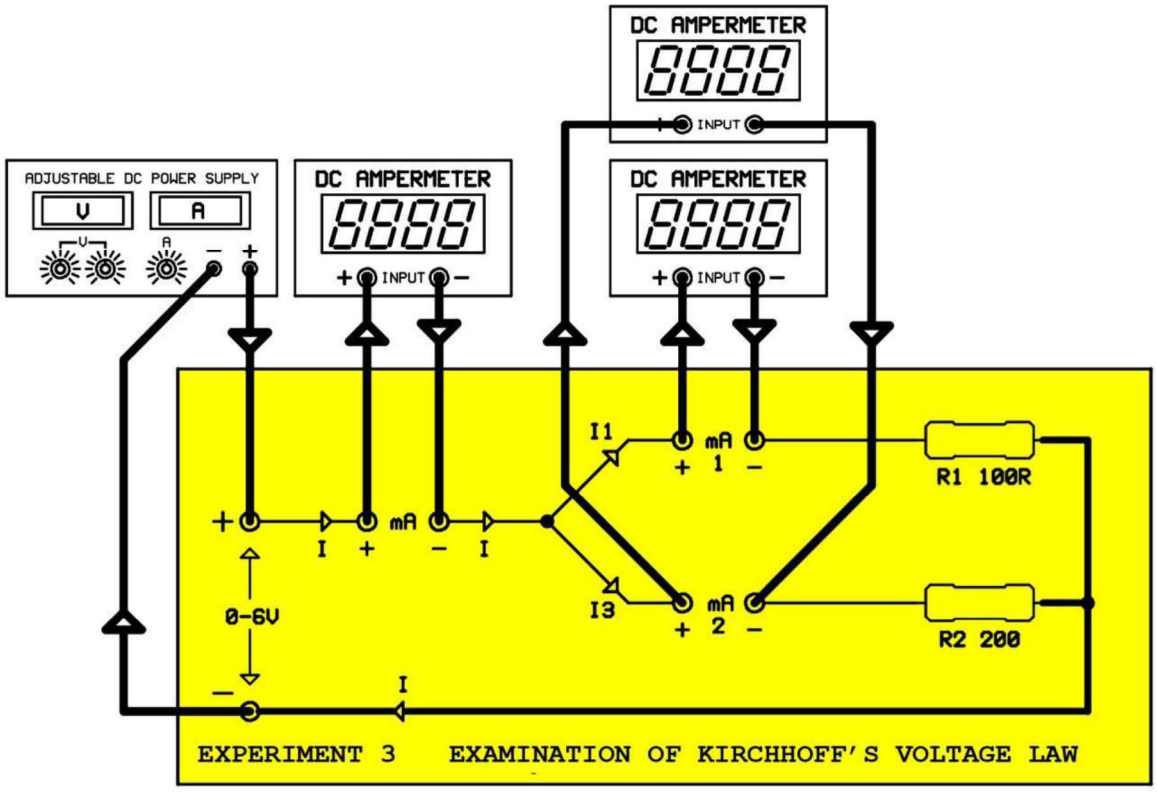

Figure 3

Adjust the power supply's voltage potentiometers to minimum (**to left**), and the current potentiometers to maximum (**to right**). Apply the power to the circuit.

1- Adjust the power to the values in Table 5 and write the current values at every stage respectively.

NUMBER	E (VOLT)	I1 (mA)	I2 (mA)	I (mA)
1	2			
2	4			
3	6			

Table 5

2- Is the total current flowing into node (**I**) equal to the total current flowing out of the node (**I1-I2**)? Calculate for every step.

3- Calculate the total resistance (**R**) of circuit.

4- Calculate the circuit current from Ohm's Law for every step. Compare the results with the results of Kirchhoff's current law.