

EXPERIMENT 1

INTRODUCTION TO LAB EQUIPMENT

OBJECTIVE

Be able to measure resistance, voltage, and current.

EQUIPMENT NEEDED

- Digital Multimeter (DMM)
- Power Supply
- Resistors

PRELIMINARY WORK

P1 Calculate R_T , V_{R1} , V_{R2} and I for Figure 1.1.

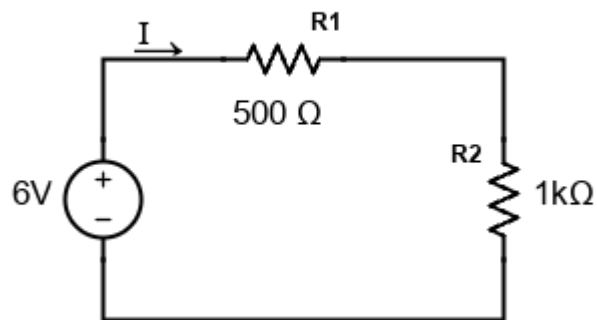


Figure 1.1

Table 1.1

	R_T	V_{R1}	V_{R2}	I
Calculated				

P2 Calculate R_T , V_{R1} , V_{R2} and I for Figure 1.2.

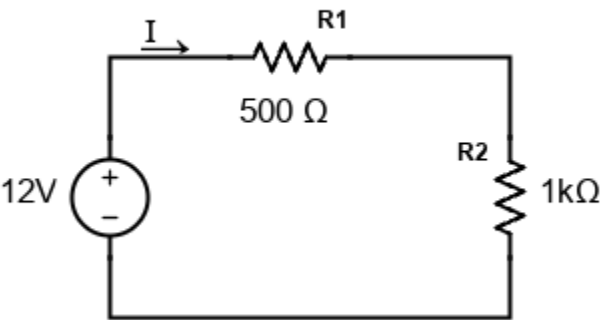


Figure 1.2

Table 1.2

	R_T	V_{R1}	V_{R2}	I
Calculated				

P3 For the circuit given in Figure 1.3, calculate the voltages across and currents through each circuit element. Using these values, determine the power absorbed or delivered by each circuit element. Include your calculations in your laboratory notebook. Record all of your calculated results in Table 2.1 for later comparison with your experimental values.

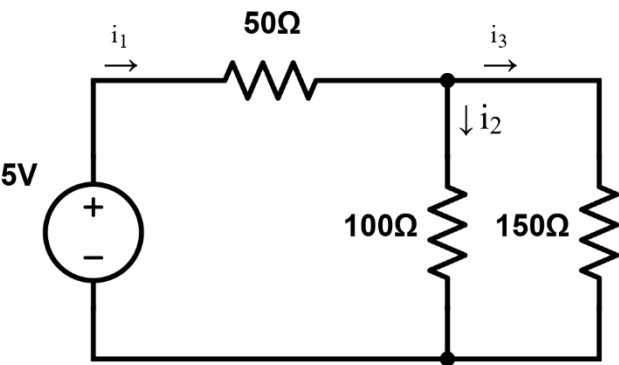


Figure 1.3

Table 1.3

	Voltage (V)	Current (mA)	Power (mW)
50 Ω			
100 Ω			
150 Ω			
V_{source}	5V		

EXPERIMENTAL WORK

E1 Setup the circuit given in Figure 1.1. Verify the theoretical values found in preliminary work.

Table 1.4

	R_T	V_{Source}	V_{R1}	V_{R2}	I
Theoretical					
Measured					
Percent Error					

E2 Setup the circuit given in Figure 1.2. Verify the theoretical values found in preliminary work.

Table 1.5

	R_T	V_{Source}	V_{R1}	V_{R2}	I
Theoretical					
Measured					
Percent Error					

E3 Setup the circuit given in Figure 1.3. Verify the theoretical values found in preliminary work.

Table 1.6

	Theoretical			Experimental		
	Voltage (V)	Current(mA)	Power(mW)	Voltage(V)	Current (mA)	Power(mW)
50 Ω						
100 Ω						
150 Ω						
V_{source}						

