

**BRAC UNIVERSITY**  
**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**  
**COURSE NO.: CSE250**  
**Circuits and Electronics Laboratory**

**Experiment No. 03**

**Name of the Experiment:**

**OBSERVATION OF APPLICATION OF A LOAD, AFFECTING THE TERMINAL VOLTAGE OF THE SUPPLY**

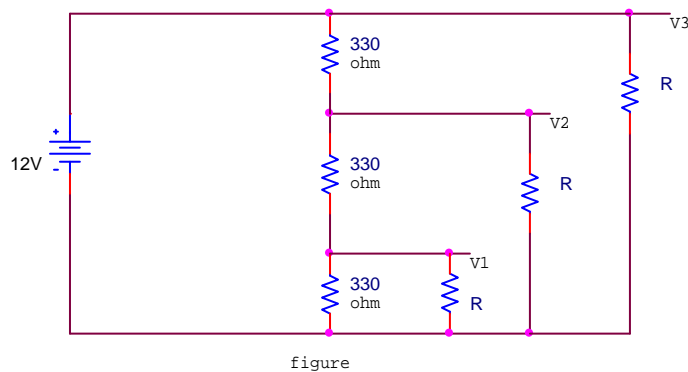
**OBJECTIVE:**

The objective of this experiment is to observe the change in supply voltage according to changing load.

**APPARATUS:**

- 1) DC Power Supply
- 2) Resistor  $330\Omega$  (3),  $5.6k\Omega$  (3),  $10k\Omega$  (3),  $18k\Omega$  (3)
- 3) Trainer Board
- 4) Digital Multimeter
- 5) Wires

**FIGURE:**



**PROCEDURE:**

- Set up the circuit in no load condition. Use 12volt from DC power supply.
- Measure the voltage across each of the series resistances & also measure the current through the closed path.
- Connect the load using  $R=100\Omega$ . Measure voltage  $V_1$ ,  $V_2$  &  $V_3$  & note them down in tabular form. Also measure the current  $I_1$ ,  $I_2$  &  $I_3$  through the three load branches & note them down.
- Replace the  $100\Omega$  load with  $5.6k\Omega$ ,  $10k\Omega$  &  $18k\Omega$  resistance. Repeat step 3.

**TABLE:**

Load Resistance	$V_1$	$V_2$	$V_3$	$I_1 = V_1/R$ (mA)	$I_2 = V_2/R$ (mA)	$I_3 = V_3/R$ (mA)
No Load						
100 $\Omega$						
5.6k $\Omega$						
10k $\Omega$						
18k $\Omega$						

**REPORT:**

1. Compare the different values of voltages obtained in different steps.
2. Compare the different values of current obtained in different steps.
3. What is the main observation in change in voltage or current, while changing load resistance?
4. Let us assume, for the figure given, the value of the series resistances are 220 $\Omega$  each. Find out  $V_1$ ,  $V_2$ ,  $V_3$  &  $I_1$ ,  $I_2$ ,  $I_3$  for  $R=80\Omega$ , 1k $\Omega$ , 100k $\Omega$ .