Course No. EEE -132

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20 September, 2023

Experiment Name:

Verification of Superposition Theorem

Objective:

(a) Experimental verification of the Superposition Theorem

Required Instruments:

1. Two variable DC power supply
2. Multi-meter/voltmeter
3. Ammeter
4. Resistors
5. Connecting Wires
6. Breadboard

Circuit Diagram:

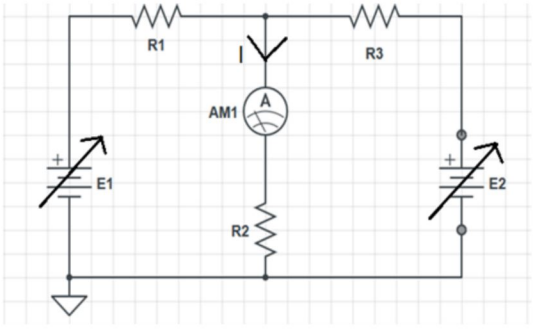

Figure 1: Circuit Diagram to verify superposition theorem

Experimental Data:

No. of Obs.	E1 (Volts)	E2 (Volts)	I (keeping E1 and E2 active) (amp)	I1 (keeping E1 active and E2 inactive) (amp)	I2 (keeping E1 inactive and E2 active) (amp)
01.	20	15	0.83	0.47	0.32
02.	18	13	0.73	0.41	0.26
03.	17	12	0.68	0.38	0.28
04.	16	11	0.63	0.36	0.22
05.	15	20	0.58	0.33	0.20

Figure 2: Table for data sheet

Discussion:

We tried our best to minimize all possible physical and experimental errors while conducting the experiment. We proceeded by connecting all wires properly according to the circuit diagram. But still due to some unfortunate events slight errors took place. The reasons behind this incident are-
Internal voltage drop in the devices used in this experiment.Moreover, the wires were rusty and some were previously damaged.As we used analog ammeter in this experiment,there were possibilities of some improper readings taken by the observer.We observed that,there were difference in the original reading and reading we took due to internal resistance of the electrical devices. Overall the experiment went flawlessly as we expected with some minimal errors.

Date : 30 08 23

Experiment no : 03

Experiment name : Verification of the Superposition Theorem

Student ID : ~~2103128~~, 2103129, 2103130, 2103131, 2103132

2103133, 2103134, 2103135, 2103136

Experimental Data :

No. of obs	E_1 (Volts)	E_2 (Volts)	I (keeping E_1 and E_2 active) (amp)	I' (keeping E_1 active and E_2 inactive) (amp)	I'' (keeping E_1 inactive and E_2 active) (amp)
01	20	15	0.83	0.47	0.32
02	18	13	0.73	0.41	0.26
03	17	12	0.68	0.38	0.28
04	16	11	0.63	0.36	0.22
05	15	20	0.58	~~0.32~~ 0.33	0.20

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Figure 3: Lab performence sheet