ISLAMIC UNIVERSITY OF TECHNOLOGY

Organization of Islamic Cooperation

Board Bazar, Gazipur

Course Name: Physics II Lab

Course No. PHY 4242

Experiment No. 03

Name of Experiment:

Verification of Thevenin’s Theorem and Superposition Theorem

Date of Performance: 29 July, 2019

Date of Submission: 16 September, 2019

Task 3A

Name of Experiment:

Verification of Thevenin’s Theorem

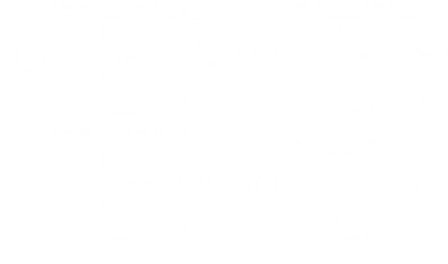
Objective:

* To be familiarized with Thevenin’s theorem and know its applicability.
* To verify this theorem with the help of a simple network.

Equipment Used:

Jumpers, Multi-meter, Ammeter, Bread Board, Variable Voltage Source, Resistors

Circuit Diagram:



Data Table:

|  |  |  |  |
| --- | --- | --- | --- |
| (Theoretical) / | / | / | (Practical) / |
|  |  |  |  |

Percentage Error

Result:

The obtained results do not verify Thevenin’s theorem.

Discussions:

All connections were thoroughly checked to avoid loose connections. All readings were checked multiple times.

Task 3B

Name of Experiment:

Verification of Superposition Theorem

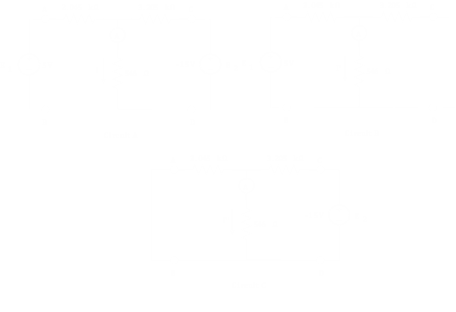
Objective:

* To be familiarized with the Superposition Theorem and know its applicability.
* To verify this theorem, which is an analytical technique of determining currents in a circuit with more than one source.

Equipment Used:

Jumpers, Multi-meter, Ammeter, Bread Board, Variable Voltage Source, Resistors

Circuit Diagram:



Data Table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Values of ,  and / | / | / | / | / |
| , , |  |  |  |  |

Percentage Error

Result:

The obtained results perfectly verify the superposition theorem, with no discrepancies.

Discussions:

All connections were thoroughly checked to avoid loose connections. Readings were taken multiple times. These steps ensured the accuracy of the results.

Questions and Answers:

* Find theoretically the current with reference to Circuit A, applying the superposition theorem, considering and and , and with their recorded values.

From Circuit A, we derive the following circuits:

