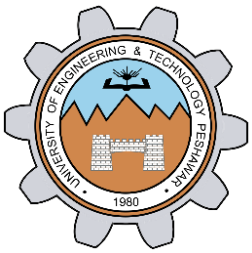
THEVININ THEOREM

LAB # 10



Spring 2023

CSE103L Circuits & Systems-I Lab

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Class Section: **B**

"On my honor, as student of University of Engineering and Technology, I have neither given nor received unauthorized assistance on this academic work."

Student Signature: _____

Submitted to:

Dr. Muniba Ashfaq

Date: 13 June 2023

Department of Computer Systems Engineering

University of Engineering and Technology, Peshawar

TITLE:

Thevenin's theorem.

Objective:

The objective of this lab is,

- To learn about thevenin theorem.
- To solve the problem related to thevenin theorem.
- To learn about Rth, Vth.

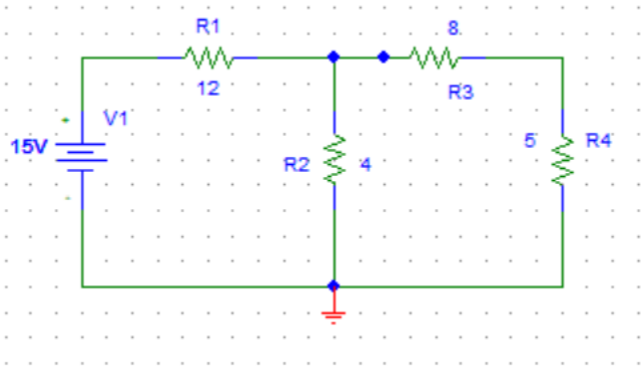
Definition:

Thevenin theorem states that any linear circuit containing several voltage sources and resistors can be simplified to a Thevenin equivalent circuit with a single voltage source and resistance connected in series with a load.

Problem

To find the value of Rth, Vth.

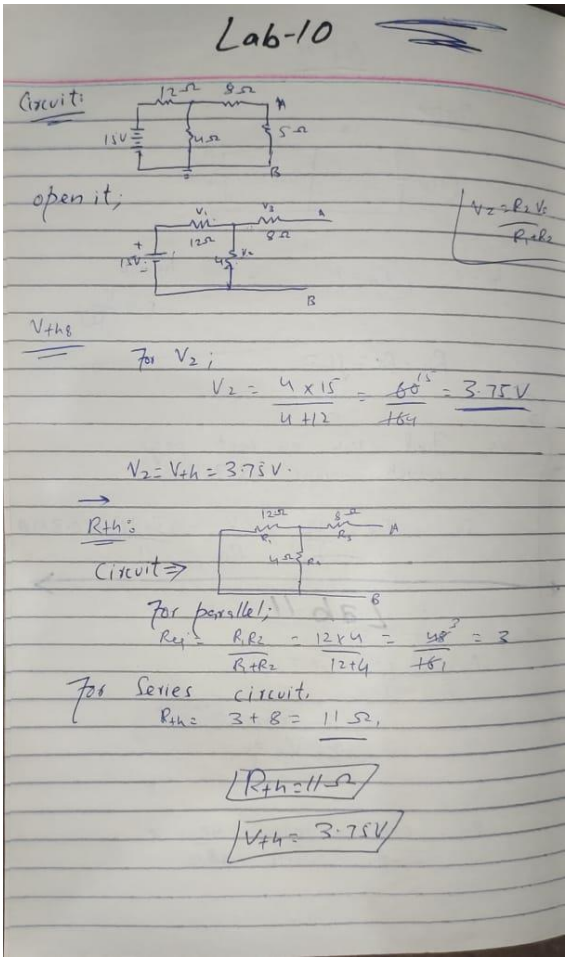
Diagram:



Solution:

We solve this problem in notebook. First we find Vth and then Rth.

Practical



So we will get V_{th} = 3.75 V and R_{th} = 11ohm which is proved in notebook.

Difference between thevenin and Norton theorem:

Thevenin's Theorem utilises a voltage source, while Norton's Theorem uses a current source. Norton's Theorem employs a resistor set in parallel over the source, whereas Thevenin's Theorem utilises a resistor in series. From Thevenin's Theorem, Norton's Theorem can be easily derived.

Conclusion:

We solve the problem related to thevenin theorem.

LAB RUBRICS: (Circuits & Systems-I Lab)

Criteria & Point Assigned	Outstanding 4	Acceptable 3	Considerable 2	Below Expectations 1
Attendance and Attentiveness in Lab PLO10	Attended in proper Time and attentive in Lab	Attended in proper Time but not attentive in Lab	Attended late but attentive in Lab	Attended late not attentive in Lab
Equipment / Instruments Selection and Operation PLO1, PLO2, PLO3, PLO5,	Right selection and operation of appropriate equipment and instruments to perform experiment.	Right selection of appropriate equipment and instruments to perform experiment but with minor issues in operation	Needs guidance for right selection of appropriate equipment and instruments to perform experiment and to overcome errors in operation	Cannot appropriately select and operate equipment and instruments to perform experiment.
Result or Output/ Completion of target in Lab PLO9,	100% target has been completed and well formatted.	75% target has been completed and well formatted.	50% target has been completed but not well formatted.	None of the outputs are correct
Overall, Knowledge PLO10,	Demonstrates excellent knowledge of lab	Demonstrates good knowledge of lab	Has partial idea about the Lab and procedure followed	Has poor idea about the Lab and procedure followed
Attention to Lab Report PLO4,	Submission of Lab Report in Proper Time i.e. in next day of lab., with proper documentation.	Submission of Lab Report in proper time but not with proper documentation.	Late Submission with proper documentation.	Late Submission Very poor documentation