

Basic Electrical and Electronics Engineering Lab (BEEE102P)

EXPERIMENT 7

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BEEE102P
Basic Electrical and Electronics Engineering Lab
List of Experiments

Cycle-1 Software Experiments

S.No	Experiment Title
1	Verification of Mesh current analysis and node voltage analysis using ORCAD/Capture CIS
2	Verification of Thevenin's theorem using ORCAD/Capture CIS
3	Verification of Maximum power transfer theorem using ORCAD/Capture CIS
4	Verification of Resonance phenomenon in a series RLC circuit using ORCAD/Capture CIS using AC Parametric Sweep Analysis
5	Design of single-phase half-wave and full wave rectifier

Cycle-II Hardware Experiments

6	Verification of Kirchhoff's current law
7	Verification of Thevenin's Theorem
8	Line and Load regulation using Zener diode
9	Design of half adder circuit using logic gates
10	Wiring circuit for Single lamp and Fan with regulator/ Staircase wiring circuit layout of multi storage building

EXPERIMENT 7
VERIFICATION OF THEVENIN'S THEOREM

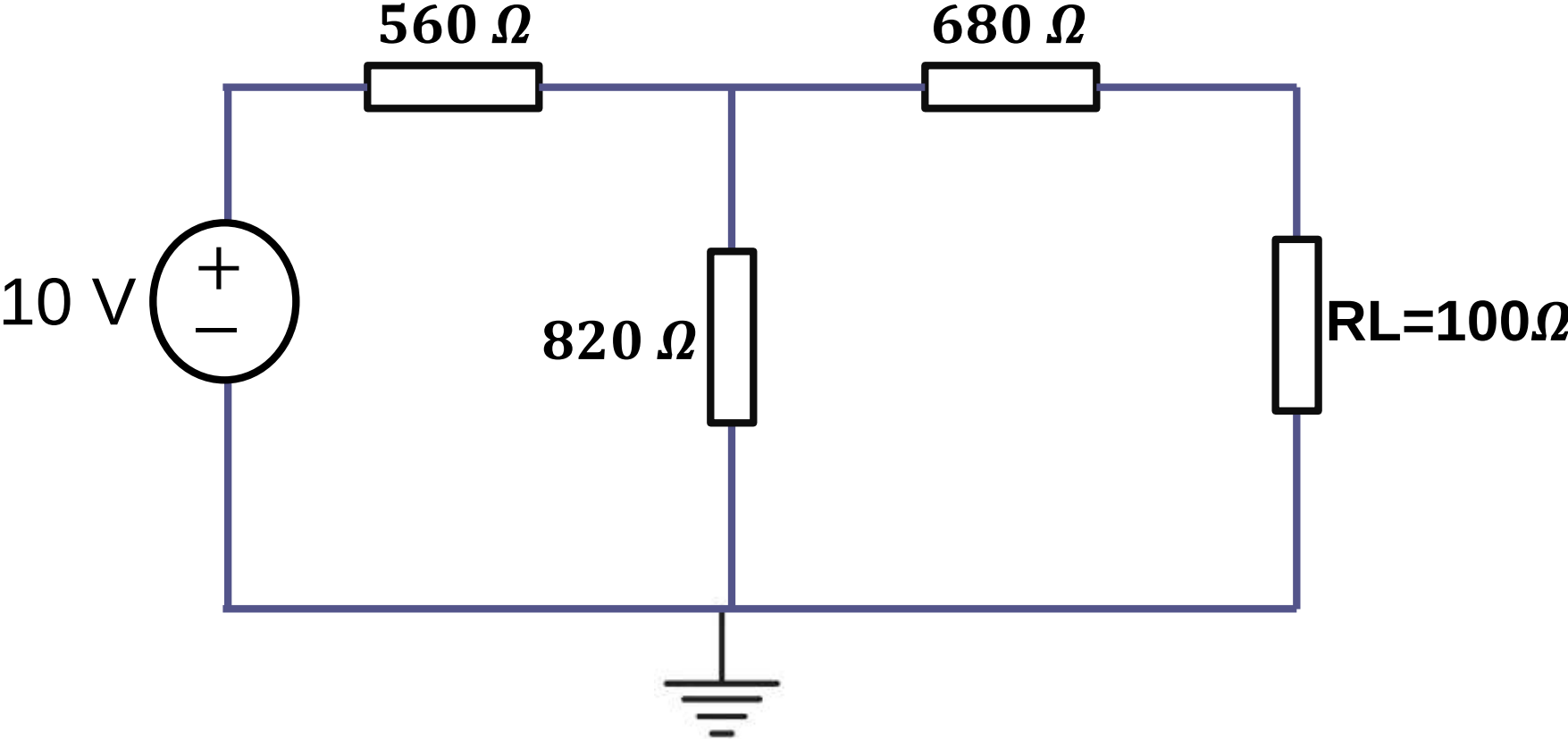
Aim:

Find the thevenin's equivalent circuit for the network given and find the load current.

Materials Required:

Sl. No.	Components Name	Range	Quantity
1	Resister	560 Ω , 680 Ω , 820 Ω , 100 Ω	Each 1 No.
2	Ammeter	0-50mA (DC)	1 No.
3	Voltmeter	0-30V (DC)	1 No.
4	RPS	0-32 V (DC)	1 No.
5	Connecting Wires	-	Few
6	Bread Board	-	1 No.

CIRCUIT DIAGRAM



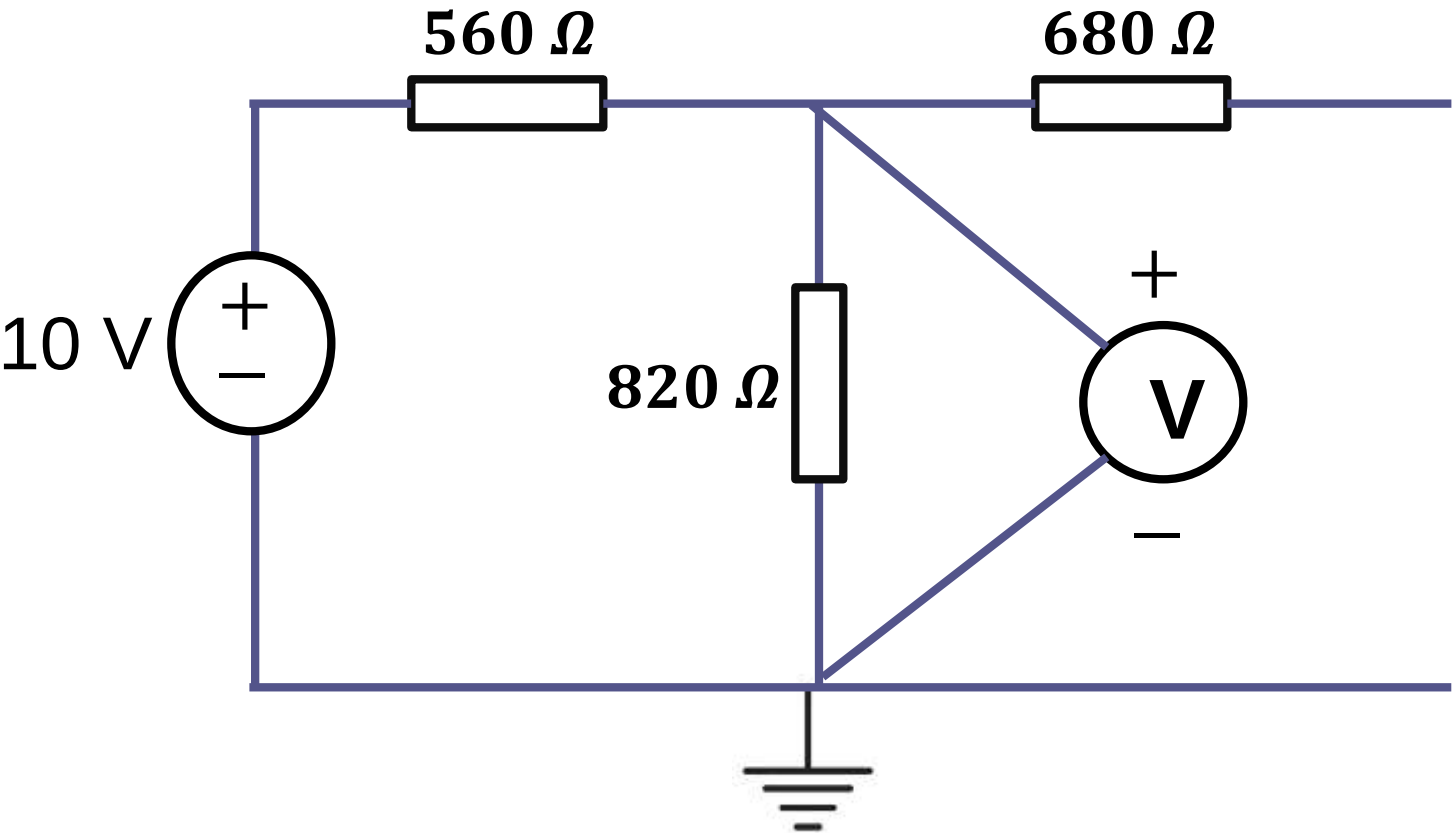
Manual Calculations:

$$V_{TH} = 5.9 \text{ Volts}$$

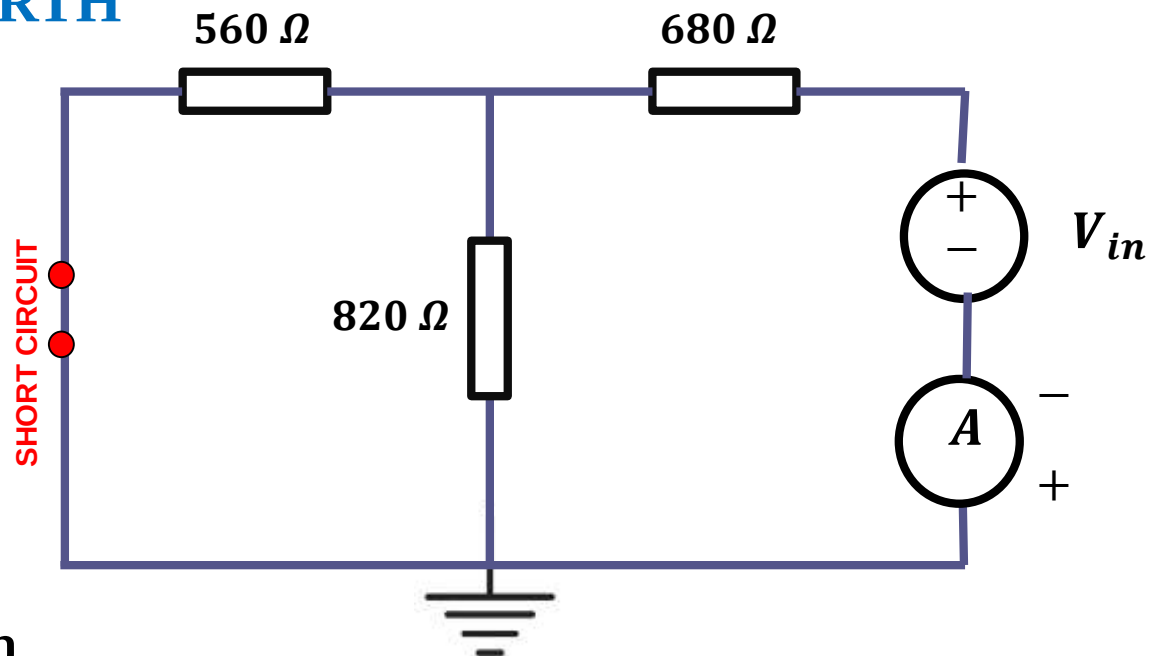
$$R_{TH} = 1012.75 \, \Omega$$

$$I_{LOAD} = 5.3 \text{ mA}$$

CIRCUIT DIAGRAM FOR VTH



CIRCUIT DIAGRAM FOR RTH

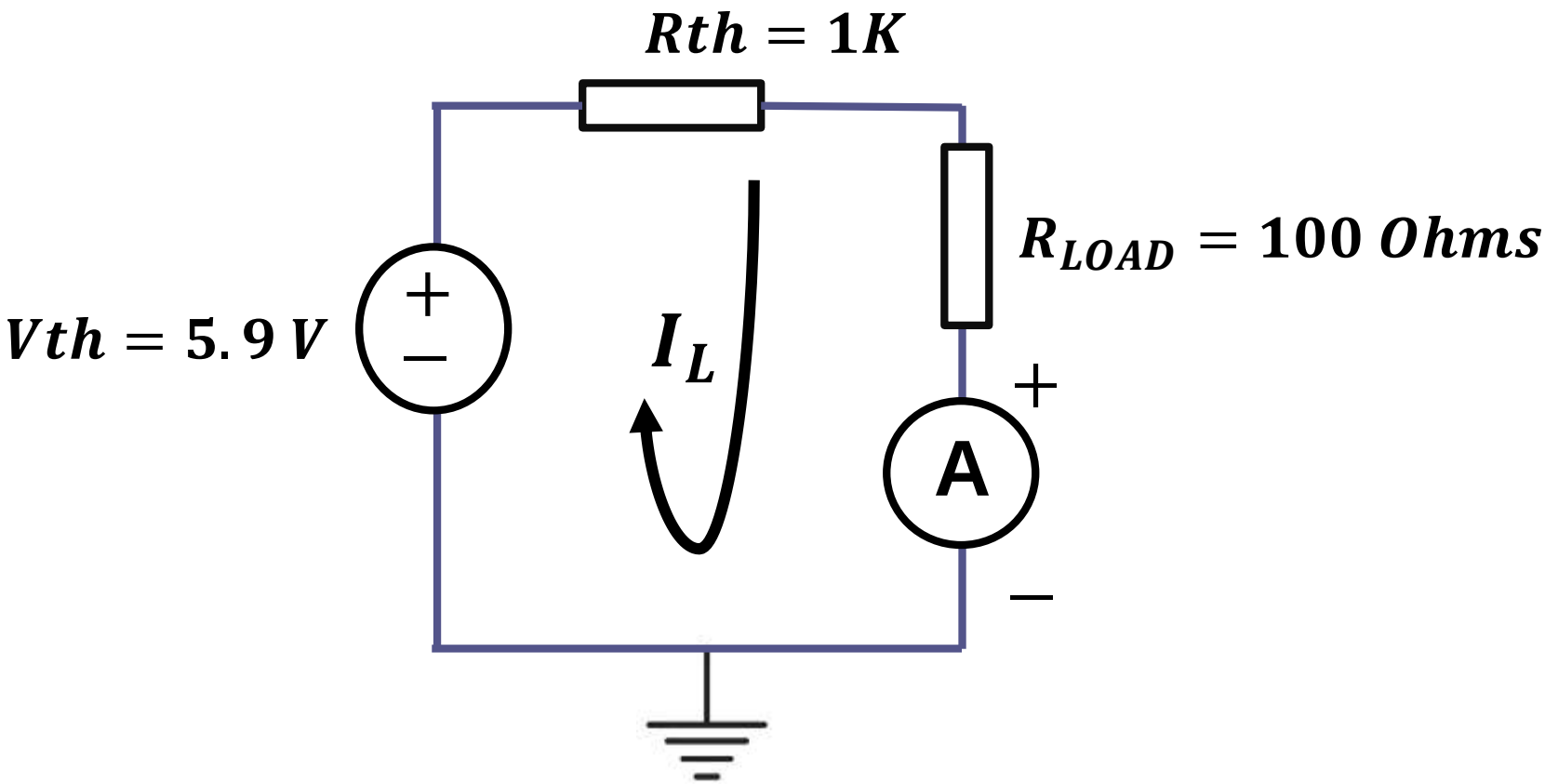


Observation Table for Rth

S. No.	V_{in} (Volts)	Ammeter Reading (A)	$V_{in}/A = R_{th}$ (Ohms)
1	2		
2	4		
3	6		
4	8		
5	10		

AVERAGE RTH=

CIRCUIT DIAGRAM FOR I_{LOAD}



Conclusions: