Shri Vile Parle Kelavani Mandal's
DWARKADAS J. SANGHVI COLLEGE OF ENGINEERING
(Autonomous College Affiliated to the University of Mumbai)
NAAC Accredited with "A" Grade (CGPA : 3.18)

First Year (Semester I) B.Tech.

Basic Electrical and Electronics Engineering

Experiment No. : 01

DC Circuit Analysis

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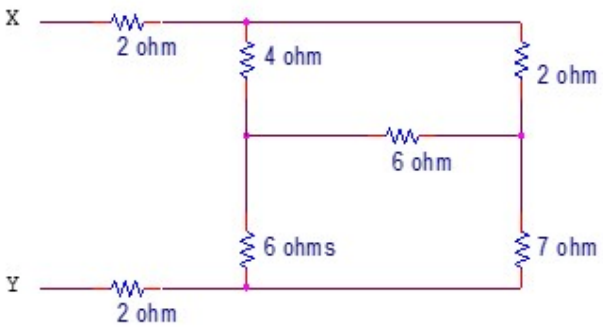
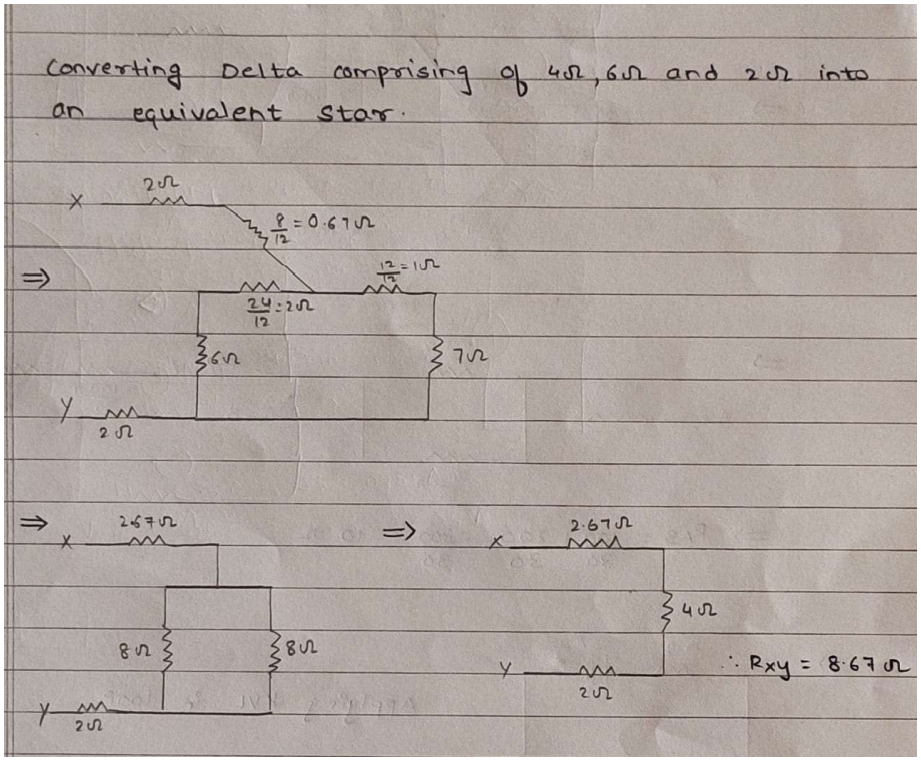
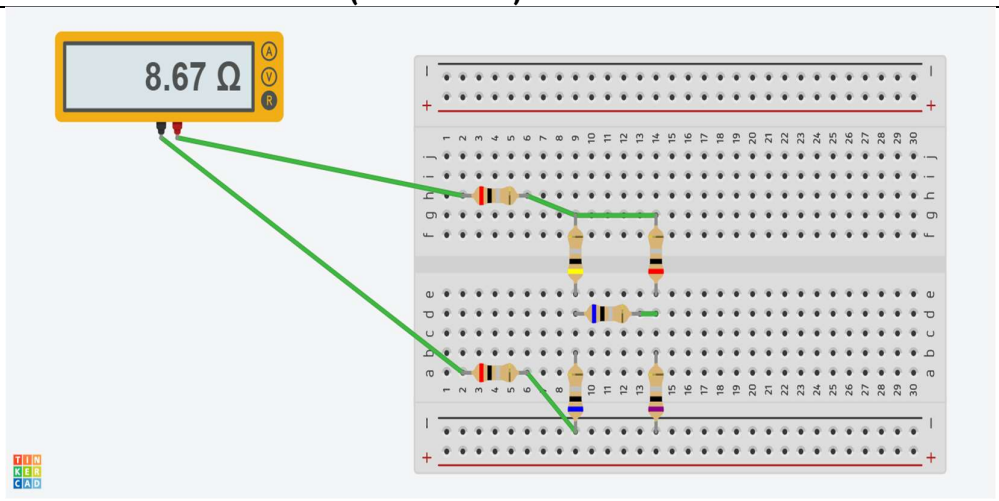
Date of performance : 6/3/2021

Signature of teacher-in-charge : _____

First Year (Semester I) B.Tech.

Aim:	To determine resistor, voltage and current value in a circuit.
Apparatus :	Online simulation tools (Tinkercad)
Theortical Analysis:	 read ***Fig. 1(a) Resistor equivalent across X and Y*** ***<u>Theoretical Calculations:</u>*** ***Resistor equivalent across X and Y*** 



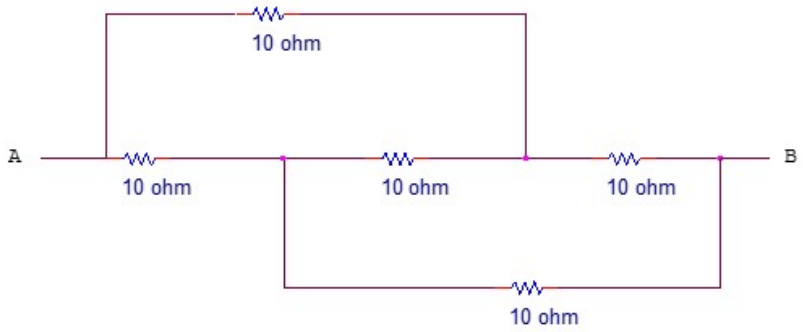
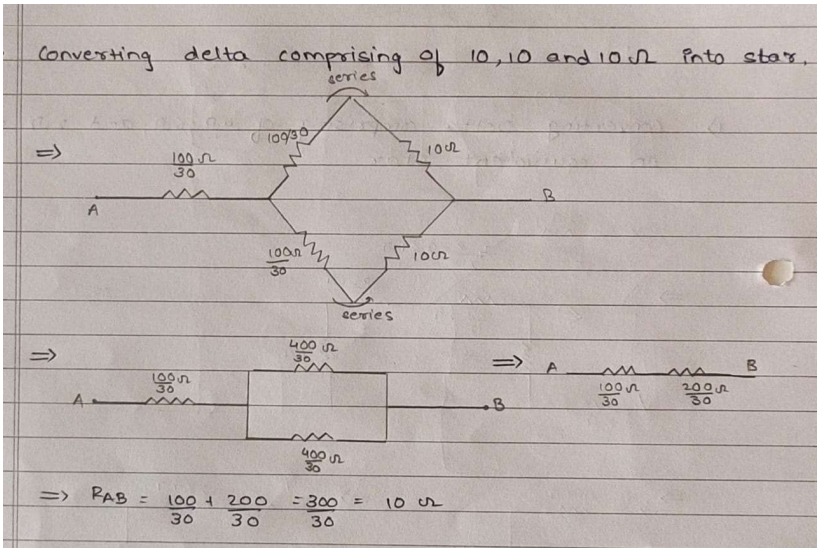
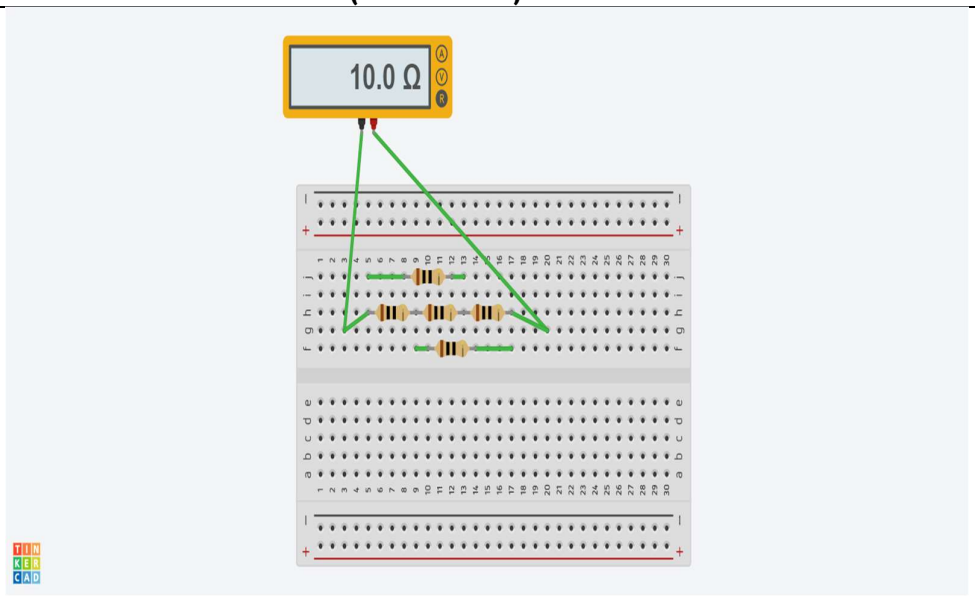


Fig. 1(b) Resistor equivalent across A and B

<u>Theoretical Calculations:</u>

Resistor equivalent across A and B





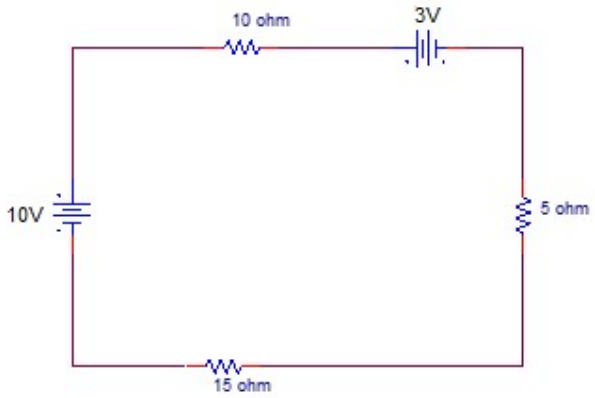
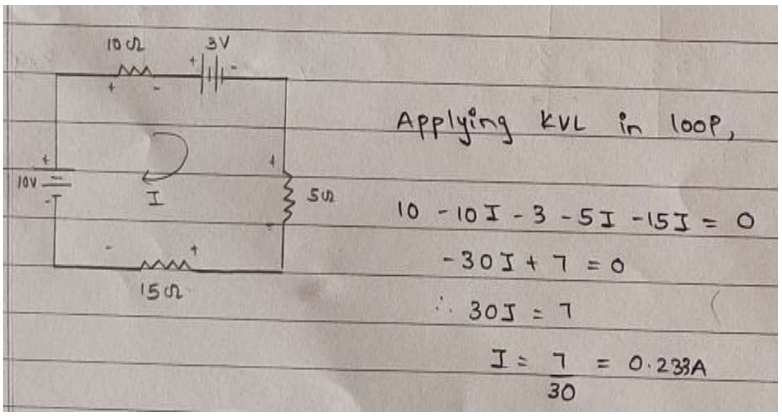
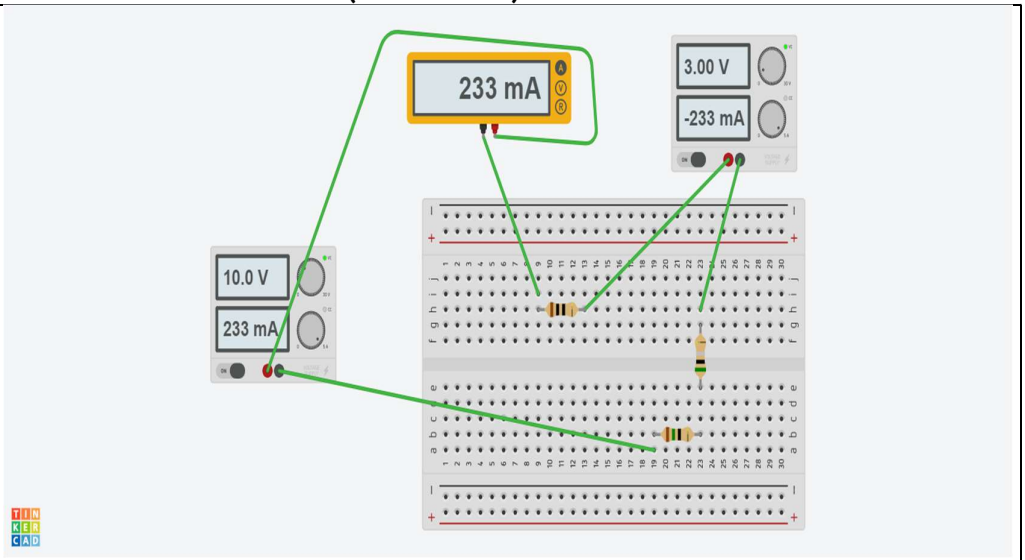


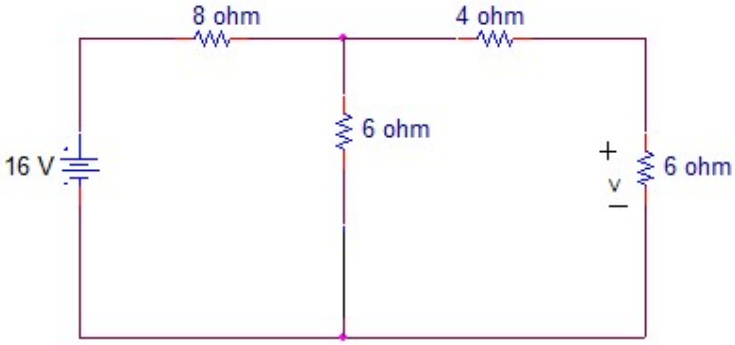
Fig. 1(c) Current in the circuit

<u>Theoretical Calculations:</u>

Current in the circuit

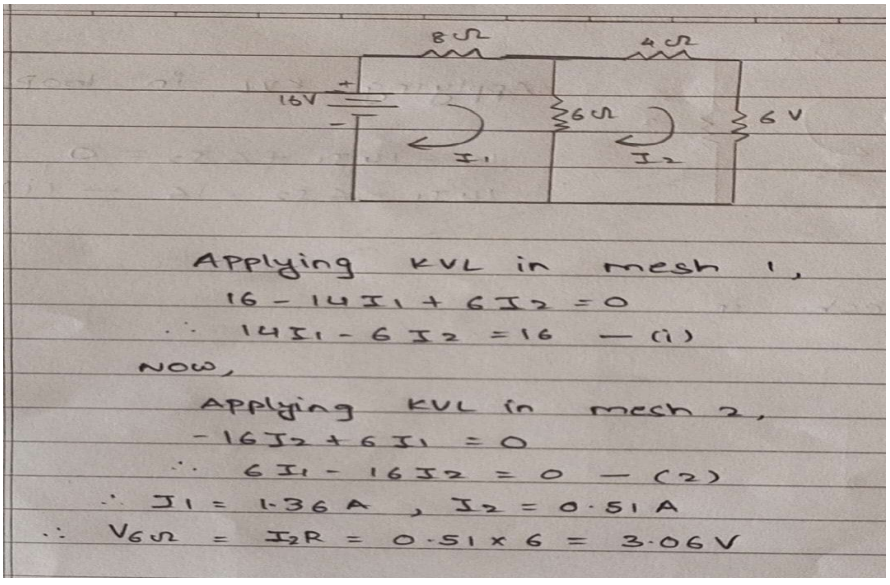


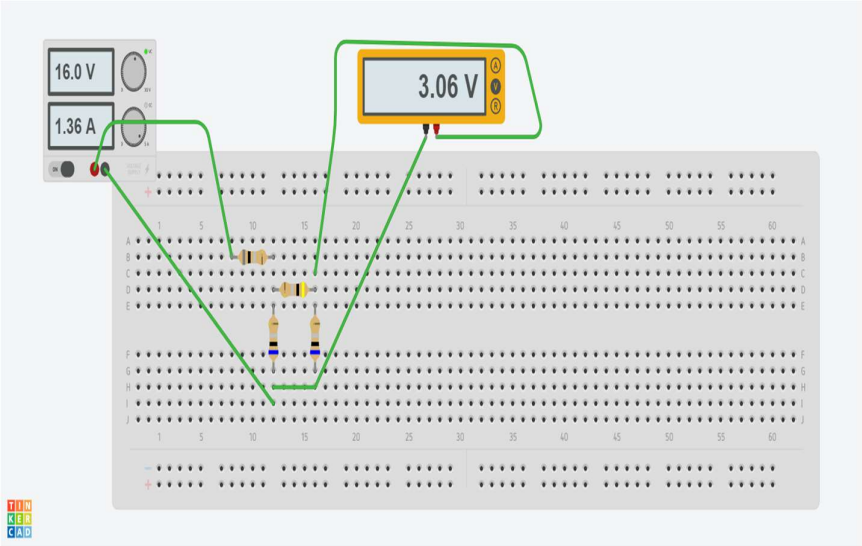




Theoretical Calculations:

Voltage across 6ohm



		Theoretical values	**Practical values**
Observation Table	Equivalent resistor R_{XY} (Fig 1.a)	8.67 Ω	8.67 Ω
	Equivalent resistor R_{AB} (Fig 1.b)	10 Ω	10 Ω
	Current in the circuit I (Fig 1.c)	0.233A	0.233A
	Voltage $V_{6\Omega}$ (Fig 1.d)	3.06V	3.06V

Conclusion:

1. We used Star-Delta transformation to simplify the circuit.
2. The practical values has been attained using an online simulator tool, Tinkercad
3. The theoretical values and practical values are equal to each other.